PARAMOUNT COLLEGIATE ACADEMY

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Founding Board and Development Team

DAWN CONTRERAS DOUGLAS

[redacted]

Objective: Chief Executive Officer or Superintendent

Qualifications: Strong inspiring leadership and team-building skills; innovative and energetic problem-solver; organized, detail and goal-oriented; broad administrative and financial experiences

PROFESSIONAL EXPERIENCE

Founder/Chief Executive Officer, Paramount Education Incorporated: 2013-Present
Founder and Developer of Paramount Education, a 501c3 non-profit charter management organization, including formulation of the founding board of directors and over 30 development team members from across California, representing the highest quality skills and practices in science, technology, engineering, arts, and mathematics education; Founder and developer of the first STEAM charter school in the Sacramento region

DCD Consulting: 2012 – Present
Various private consulting projects with local agencies and non-profit corporations. Assisting Sacramento County Sheriff's Youth Impact Program, Mission Oaks Parks and Recreation District, Fifty-5 Five, and Touchstone Kids in annual reviews, standards, evaluation measures, curriculum development, teacher trainings, monthly teaching, revenue generation, grant research, and non-profit fundraising.

Chief Accountability Officer, Gateway Community Charters: 2011 - 2012
Director of Categorical Programs: 2009 – 2011
High School Principal, Futures High School: 2008 - 2009
Assistant Superintendent Duties-Support oversight of six charter schools (site-based and independent study programs); Uniform Complaint Officer; Grant Writing and Administration; Human Resources Oversight; Consolidated Applications for State & Federal Funding; Risk Management; WASC Accreditations; Charter Renewals; Mentor principals, vice-principals, curriculum coaches, counselors; fiscal oversight-categorical grant programs; After School Programs; Manage Single School District Plans, DELAC, ELAC, SSC; School Improvement; EL programs; Designed EL Master Plan; Professional Development; Manage Student Support Services, Counseling Programs, Health Services, Section 504/Special Education; Designed and implemented Athletic Fundraiser; Designed and instructed CTEL training; Supervised programs, facilities of charter high school; Directed extra-curricular programs, activities; Designed school website; Supervised/evaluated certificated teachers, classified staff; Developed, monitored school budget; Designed, implemented instructional improvement, staff development, honors program; Developed master schedule.
Student Achievement Highlights: Futures HS-45 point API Gain, 2008-09; HLA-128 point API Gain 2009-10; Sacramento Academic & Vocational Academy-48 point API Gain, 2010-11

Director of Instruction, North Sacramento School District: 2007 – 2008
Supervised federal categorical programs-monitoring, data reporting, and compliance; Program Improvement, School Improvement; Oversight and Leadership of District Charter Schools, including Start Up 7-8 Charter Academy; Mentored principals and vice-principals, budget development, and school plans; Supervised/evaluated district staff; Directed district EL programs, assessment, staff development; DELAC, ELAC, SSC; Revised District EL Master Plan, EL reclassification; Implemented instructional program for ELs

Middle School Principal, Coalinga M.S., Coalinga-Huron JUSD: 2004 - 2007
District English Learner Coordinator: 2007
Supervised and monitored instructional programs and services of 6th-8th grade middle school-700 pupil enrollment; Directed extra-curricular programs and activities; Supervised and evaluated 32 certificated teachers and 15 classified staff; Monitored school budget; Designed instructional improvement and staff development plans; Directed site safety and facilities; Managed district independent study high school program; Mentored principals and assistant principals; District Expulsion Hearing Officer and Panel Member. CHUSD District Instructional Leadership Team; Managed/developed district programs and services for EL compliance, DELAC, ELAC; Rewrote CHUSD EL Master Plan; Managed EL

programs and budgets; Designed district Categorical Program Monitoring System; Mentored principals in program improvement-instructional modifications, budgetary support; Staff Development-EL strategies; Implemented Primary Language Assessment and Academic Assessment for ELs; Implemented district ELD curriculum; Teacher training in Explicit Direct Instruction (EDI); Revised district instructional models
Student Achievement Highlights: ELA and Math CST scores doubled 2004/2005 and 2005/2006

Adjunct Faculty, Chapman University: 2000 - 2002
Taught graduate courses in teacher preparation and credentialing program

Assistant Principal, Curriculum and Instruction, Green Acres M.S., Visalia USD: 2000 – 2004
Middle School Learning Director, Visalia USD: 1996 – 2000
Science Teacher, Grade 8, Visalia USD: 1994 – 1996
Teacher, Grade 6; Mentor Teacher, Visalia USD: 1985 – 1994
Staff development; Supervised site and district assessments; Served on VUSD Curriculum, Instruction, Assessment Committee-developed district assessments, essential standards, rubrics, benchmarks, implemented technology standards-based reporting system, including performance assessments, portfolio evaluations; Created/managed Master Schedule of Courses; Wrote School Plan, Parent Involvement Policies; Supervised/evaluated certificated and classified staff; Coordinated Program Quality Review; Coordinated Compliance Reviews; Curriculum development and implementation; Grant Writer; Supervised AVID, GATE, Special Education/Section 504, advisement programs and budgets; Coordinated parent involvement activities; Supervised and disciplined students; Directed curriculum mapping; VUSD High School Exit Exam Committee; Fundraising; Established Career Fair, Parent Point Programs; VUSD Expulsion Panel Member; AVID Demonstration School Development; Developed/implemented integrated science curriculum; Science Olympiad Coach; Leadership Team; Taught After-School Assistance Program; TESA Trainer of Teachers; Site consultant-Special Education and ELs; Editor, School Newsletter; Advisor-Student Council; Advisor, School Site Council Member; Established work scholarship program
Student Achievement Highlights: School moved from lowest to highest performing middle school in VUSD; Awarded California Governors' Performance Award, 2000/2001-84 point API Gain

EDUCATION

University of California, Davis & California State University, Fresno
Joint Doctoral Program, Educational Leadership, May, 2002
California State University, Fresno
Master of Arts, Education Administration, Administrative Services Credential, May, 2000
Master of Science Degree, Counseling-Marriage, Family, and Child, May 1992
Bachelor of Arts Degree, Liberal Studies Education, Multiple Subject Teaching Credential, May, 1984
Fresno Pacific University
Language Development Specialist Credential Program, May 1987

VOLUNTEER WORK

2012-Present	Union Gospel Mission-Serving Homeless Adults
2011-Present	Sacramento County Sheriffs Impact Program-Youth Development Program
2012-Present	Touchstone Kids-Teaching, Curriculum Development, Teacher Training
2012-Present	Fifty-5 Five, Non-Profit Corporation-Revenue Generation Projects, Education Consulting
2011-Present	Mission Oaks Parks & Recreation District-Grant Writing Consulting, Fundraising, Annual Review
2008-Present	Grace Works-Community Development Projects,
2008-2011	Senior Outreach in Assisted Care Facilities, Sunrise Assisted Living Center

AWARDS & HONORS

2013-California State Assembly, Ninth Assembly District, Outstanding Volunteer Award
2011-State Superintendent Torlakson's Appointment-California STEM Task Force
2011-National Development Team, New Generation Science Standards (NGSS)
2011-2012-ACSA State Curriculum, Instruction, & Accountability Council

2011-ACSA Silver Star Award, Administrator of the Year, Region III
2009-Bronze Medal, US News & World Report, America's Best High Schools
2002-State Superintendent Eastin's Appointment, California Student Aid Commission, Outreach Committee
2001-California Governor's Performance Award
2001-California Certificated Staff Performance Award
1995-Program Quality Review Consultant, Tulare County Office of Education

PROFESSIONAL DEVELOPMENT HIGHLIGHTS

ACSA Superintendent's Academy-2011
"Capturing Kids Hearts"-2011
ACSA Categorical Director's Academy-2009
DataWORKS Research Workshop Series-2002, 2008
AVID Summer Institutes-2005, 2003, 2000, 1999
Northwest Evaluation Association Institute-2001, 2002
TESA Trainer of Teachers Series-1994
CASBO CBO Boot Camp-2011
ACSA Leadership Summit-2011
Data Director Training-2010
ACSA Principal's Academy-2005
AB75 Administrator Training Program-2004
Differentiation of Instruction Training-1995
Reading Recovery Training-1991

REFERENCES

William McDermott, PhD, Superintendent, Windsor USD & Coalinga-Huron JUSD
George Manthey, EdD, Assistant Executive Director, ACSA, Educational Services
Julie Koozer, Director, Educational Services, Stanislaus COE
Joseph Castro, PhD, President, CSU Fresno (Dissertation Chairman)
LeeAnn Lanning, Assistant Superintendent, Eureka City School District
Rob Gerig, Director Student Support Services, Sacramento City USD
Mike Novak, President and CEO, Educational Media Foundation, EMF Broadcasting
Mike McLaughlin, EdD, Superintendent, Redding SD, Exeter SD
James Harrell, Superintendent, Gateway Unified School District
Walter Buster, EdD, Superintendent, Clovis USD (Retired)
Sharon Brown-Welty, PhD, Director Doctoral Program, Educational Leadership, CSU Fresno
Donald Wise, PhD, Education Administration Program Coordinator, CSU Fresno
Judy Eppler, Assistant Superintendent of Instruction, Mariposa County USD (Retired)
Debbie Blake, Superintendent/Principal, Stony Creek Joint USD
Silvia Ybarra, EdD, Executive Director & Co-Founder, DataWORKS Educational Research

Robert C. Gerig

[redacted]

EDUCATION

1971 Bachelor Of Arts, Sacramento State University

1984 Pupil Personnel Services Credential, University of LaVerne

1984 Masters Degree School Counseling, University of LaVerne

1987 Administrative Services Credential, Cal State Hayward

EXPERIENCE

1974-1984 Middle School Teacher, Vallejo Unified School District.

1985-1987 Middle School Counselor, Vallejo Unified School District.

1988 High School Assistant Principal, Vallejo Unified School District.

1989-1994 Coordinator, Child Welfare and Attendance, Vallejo Unified School Disrict.

1995-2005 Director, Student Services, Sacramento Unified School District.

2006-2007 Principal, Sacramento Academic and Vocational Academy.

2008-2009 Coordinator, Gateway Community Charter Schools.

ELAINE M MAYS
[redacted]

Professional Profile

Owner of Viking Tax Service since 1987 in the Sacramento area. Business provides services to small businesses which include preparation of financial statements, bookkeeping services, payroll services, new business set up, various government reporting requirements. In 1992 I purchased an income tax business which has blossomed during the past 22 years to over 400 individual clients.

My expertise is working with small businesses to guide them to be financially successful using standard accounting procedures to produce reports that are useful in that purpose. I have experience in preparing corporation tax returns, partnerships returns and trust returns. On a few occasions I have prepared non-profit returns for small non-profit organizations.

I am a licensed tax preparer for the State of California and registered with the CTEC (California Tax Education Council) I am also a member of the National Association of Tax Professionals.

Education

I attended a college preparatory High School in Cleveland, Ohio and went on to attend Cleveland Community College where I took accounting classes. I attended Valley College in the Los Angeles area while working for a CPA firm. I attended two different income tax preparation schools and maintain my license by attending seminars and classes for income tax preparation and accounting updates.

During my career I also became a licensed real estate agent actively selling real estate in the Los Angeles area during the 1980's. Also during that time I became a licensed insurance agent selling insurance for Prudential Insurance Agency. I attended schools for both these professions and joined industry related organizations.

Various Experiences

For a 10 year period I sat on the board of the Eldorado County Competition Soccer Club. I acted in the capacity of the Treasurer for that period of time. My responsibilities were to maintain all financial records of the club as well as handle all deposits for each team. Monthly reporting to the board was required. During this period of time the club grew from 5 teams to 12 teams. As a board member decisions for the club were made in an administrative capacity. Decisions were always made with the well- being of the children in mind. Fundraising was a significant means of attaining funds to maintain the club. Spearheading these fundraisers was a major part of my job.

I was an active participant in the Boys and Girls club of Napa. This organization maintained a facility in Napa for young boys and girls to have a place to "hang out". This facility was funded by fundraisers as well as donations by various people and organizations. Fundraising and solicitation of donations was a major part of my participation in that organization.

My time has been volunteered over the years to different church organizations. I have acted as a facilitator for various church groups, children's teacher, and most recently bookkeeper for my current church.

ELAINE M MAYS
PAGE 2

Job Experience

Early in my career I worked for two different CPA firms as a secretary and bookkeeper. I received on the job training which allowed me to find a job with Stouffer Foods as Administrative Assistant to the Vice President of Finance. When my boss was promoted to the CFO, he took me with him and we were then part of the financial board of Nestle Corporation which was the parent company.

During a period of approximately five years I chose to sell real estate and insurance as stated previously. However, economics turned my career back to finance. I worked for a small beverage company in which I acted as a bookkeeper and sales rep. After relocating to the Sacramento area as the sale rep for this company, I decided to start a bookkeeping business which has grown to be my primary business.

My husband owns a small dental laboratory in which I am an active participant in. In addition to maintaining all the financial aspects of the business, I step in wherever I am needed.

Personal

I am married with a blended family of six adult children and ten grandchildren. Children and grandchildren have been the focus of my life and I am very involved in their lives. It is important to me that our grandchildren have educational options, which is why I have accepted the opportunity to work with PCA.

DAVID COX

PERSONAL INFORMATION

P[redacted]

PROFESSIONAL INFORMATION

Degrees: Juris Doctorate (2010), Bachelor of Arts (2005)
Associations: California State Bar, Active Member in Good Standing, Bar # 273692

EMPLOYMENT

2011 - Present

COALITION FOR RENEWABLE NATURAL GAS, INC.
Director of Operations
Vice President and General Counsel
Member, Board of Directors

Employer Description

- The Coalition For Renewable Natural Gas is a renewable energy non-profit and trade association. The company advocates for favorable environmental public policy on behalf of dues paying members that include utilities, waste-to-energy companies, developers, labor unions, marketers, and transporters of natural gas.

Responsibilities

- Manage daily business operations and budget
- Build non-profit membership and strategic coalitions
- Provide legal counsel to members and executive director
- Draft official correspondence to regulatory agencies
- Meet with elected and appointed public officials to advocate for coalition positions on public policy

Key Achievements

- Successfully led coalition efforts to pass legislation and overturn a twenty-year-old law that restricted the transportation of high-btu biomethane in common carrier pipelines within California

- Successfully led coalition efforts to defeat legislation that would have invalidated utility contracts with renewable natural gas developers for purposes of California's renewable portfolio standard
- Grew non-profit membership from four to twenty members; members include Shell Energy North America, Clean Energy Renewable Fuels, and many of the largest waste-to-energy companies in North America
- Submitted comments on regulatory proceedings in California, Connecticut and British Columbia

2011 - 2013 GARY, TILL & BURLINGHAM, LAW PARTNERSHIP
Associate Attorney

Employer Description
- Gary, Till & Burlingham is a law firm in Sacramento, California.

Responsibilities
- Counsel firm clients with business, insurance or litigation needs
- Negotiate and settle lawsuits and insurance claims
- Draft letters and contracts
- Appear in court hearings on behalf of firm clients

Key Achievements
- Won plaintiff's lawsuit at arbitration on property damage case
- Negotiated favorable settlement in wrongful death case
- Oversaw discovery on successful multi-million dollar receivership and annulment case
- Organized corporations, limited liability companies and nonprofit companies

2005 - 2011 CALIFORNIA STATE ASSEMBLY
Chief of Staff
Capitol Director
Legislative Director
Legislative Aide

Employer Description
- The State Assembly is California's lower house of representative government. The State Senate is the upper house. Each Assemblymember represents a district of approximately 500,000 Californians. Assemblymembers vote on legislation, oversee state government operation, and may propose new laws.

Responsibilities

- Held jobs of increasing responsibility on the personal staff of three Assemblymembers
- Served as chief policy advisor
- Made recommendations of key votes
- Met with lobbyists, interest groups and constituents
- Managed office staff and budget
- Oversaw introduction of legislation, hearings and votes

Key Achievements
- Staffed legislation that was signed into law, creating 40,000 jobs and doubling the capacity of a major freeway in Southern California
- Staffed billion dollar transportation and levee infrastructure bond legislation that became statewide initiatives and were approved by a vote of the people of California in a general election
- Provided high-level staff support for elected representatives who served on the key policy committees that oversaw the establishment of California's Global Warming Solutions Act and expansion of California's renewable portfolio standard

EDUCATION

2006 - 2010 UNIVERSITY OF THE PACIFIC, MCGEORGE SCHOOL OF LAW
Sacramento, California

Degree Earned
- Juris Doctor, May 2010

Honors
- Traynor Honor Society
- Dean's Honor List
- Legislative Process, Strategy & Ethics Honors
- Mediation Certificate

Publication
- *California Initiative Review*, 2008 & 2009

2005 - 2006 CALIFORNIA STATE UNIVERSITY
Sacramento, California

Honors
- Jesse M. Unruh Assembly Fellowship

2001 - 2005 WESTMONT COLLEGE

Santa Barbara, California

Degree Earned
- Bachelor of Arts

Honors
- Dean’s Honor List
- President, Westmont College Student Association
- Editor-in-Chief, The Westmont Horizon

1997 - 2001 SAN GORGONIO HIGH SCHOOL
San Bernardino, California

Degree Earned
- High School Diploma

DEBORA SUE WALKER

S[redacted]

Home Town, Lodi, California ***Weigum and Berndt Family Vineyards***

EDUCATION

California State University, Sacramento
B.A. Degree ~ Recreation Administration, with honors
Minor - Psychology

WORK EXPERIENCE

District Administrator 2003 – present
Mission Oaks Recreation and Park District

Director of Planning and Facilities 1989 – 2003

Director of Recreation Services 1979 –1989

Recreation Supervisor 1974 -1979
Mission Oaks Recreation and Park District

Summer Recreation Supervisor 1974
North Highlands Recreation and Park District

Teen Program and Youth Development Director 1972-1974
Fulton-El Camino Recreation and Park District

PUBLIC SPEAKING

Lecturer, California State University, Sacramento (7 semesters)
California Park and Recreation Society – State Conference Presenter

PROFESSIONAL EXPERIENCE

National Park and Recreation Association Member & Congress Participant

California Recreation and Park Society Member (CPRS)
CPRS Legislative Committee Advocacy and sub-committee chair

AWARDS & HONORS

- Pat O'Brien Professional Legislative Award, CPRS
- California Park and Recreation Society State Presidential Award
- CSUS 40th Anniversary Alumni Award – RPTA Department
- CPRS District 2, J. R. Needy Professional Award
- Outstanding Young Women of America
- Boy Scouts of America Golden Empire Council Spark Plug Award

VOLUNTEER SERVICE

- Sacramento Parks Foundation Board Member
- Sacramento Sheriff's Community Impact Program Board Member
- Touchstone Christian Fellowship - Board of Directors & Women's Ministry Team
- CSUS Recreation Park Tourism Administration Curriculum Advisory Committee
- Weigum and Berndt Family Vineyards - Bookkeeping & Financial Records
- CPRS District 2 Hall of Honor - Founding Committee Member

Past Involvement:

- J. R. Needy Scholarship Foundation (CSUS) – President
- CPRS District 2 Board Member and Administration Section Representative
- Mentor for Eagle Scout Candidate Projects – Arden Arcade and Carmichael Area
- BSA Troop 802 Camping and Service Project Coordinator – six years
- SJUSD Camp Winthers Associates, Founding Board Member – High Sierra Camp
- Neighborhood Association Board Member

INTERESTS & ACTIVITIES

Photography, cross-country and downhill skiing, camping, walking-hiking, & reading

GAIL J. WASHINGTON

[redacted]

PROFESSIONAL SUMMARY

Deadline oriented and compliance driven business professional with more than 20 years of experience in the preparation and review of legal commercial loan and commercial real estate documentation. Possesses excellent verbal, written and interpersonal communications skills and a detailed knowledge of organizational operations and procedures with a strong attention to detail and accuracy. Proven professionalism and dependability while maintaining confidentiality. Works within established guidelines, making independent decisions regarding planning, organizing, and scheduling work to meet deadlines. Advanced user of various PC software packages such a spreadsheets, word processing, graphics, data bases, etc. to produce high quality reports, presentations, or other documents, and able to navigate internal systems and procedures to accomplish non-routine tasks in an effective and efficient manner.

EXPERIENCE

SEARCH PROS STAFFING, Citrus Heights, CA – *various temporary assignments* 04/12 – present

- Safe Credit Union – *Clerical Support* – Prep/scan files for archive, prep Reconveyances & notarize (current)
- N. American Title Co. – *Title Specialist* – Request and follow for HOA docs (2014)
- Direct Marketing Partners – *Data Entry* – Input contacts into data system (2014)
- 5-Star Bank – *Documentation Clerk* – Post loan payments and scan documents (2013)
- Sierra Pacific Mortgage –*Records Clerk* – Audit HUD statements, scan documents (2013)
- Nationwide Posting & Publication –*Typesetter* – Proof, type and format legal notices (2012)

U. S. SMALL BUSINESS ADMINISTRATION, Citrus Heights, CA – *Loan Specialist- Temp.* 12/12 - 04/13

- Successfully process and submitt applications within 14 day timeframe
- Interview applicants, evaluate credit history and financial resources for qualifications
- Analyze and submit disaster home repair loan applications for approval

AMERICAN RIVER BANK, Rancho Cordova, CA – *Administrative Loan Assistant* 11/10 - 06/11

- Initial setup of client profile on data system and assemble hard file
- Timely follow-up of client financial exhibits for compliance of loan covenants
- Coordinate, compile, and maintain data for submission in monthly/quarterly/annual reports
- Maintain 40+ bank-approved appraiser portfolio for valid insurance and licenses

PROFESSIONAL STAFFING RESOURCES, Fair Oaks, CA - *Temporary assignment* 06/10 - 09/10

Bank of the West – *Loan Doc Clerk* – Prepare and distribute over 500 Assignment of Deed documents, with 100% accuracy, and file with appropriate county recorder in various states; input and monitor delinquent property tax notices; update and maintain borrower information on data system

GREATER SACRAMENTO CDC, North Highlands, CA - *Closing Specialist* 07/04 - 03/08

- Prepare, with 100% accuracy, SBA 504 commercial real estate documents, schedule signing and notarize same, managing 15-20 files at any given time, averaging 29 days to close
- Compose escrow instructions, follow for recorded documents, obtain accurate title policy
- Request and review appraisals, environmental reports, and flood certifications
- Obtain and analyze credit reports, financial exhibits and hazard insurance policies
- Prepare Deed of Trust, UCC, Subordination and Assignments to file with state/county

PRIOR PERMANENT EMPLOYMENT HISTORY

FIRST BANK, Financial Institution - *Administrative Assistant* – Comm'l Documentation – 2 yrs
BALLANTYNE, Technology recruiting firm - *Office Administrator* - 1 yr
HELLER FIRST CAPITAL, SBA 7a Lender- *Loan Admin.* - Comm'l Documentation – 4 yrs
TRANSAMERICA INFO. TECHNOLOGY – Software Dev. (CoreLogic was MetroScan) –*Test Lab Tech*–2 yrs
CALIFORNIA VALLEY BANK, Financial Institution -*Comm'l Admin Assistant*–Comm'l Documentation–5yrs
BANK OF ALEX BROWN, Financial Institution – *Note Dept. Clerk* – Comm'l Lending - 2 yrs.
CROCKER NATIONAL BANK, Financial Institution – *Loan Admin.* – Comm'l Lending – 8 yrs.

SOFTWARE/OPERATING SYSTEM PROFICIENCY

MS Windows	MS Word	MS Excel
MS PowerPoint	MS Outlook	MS Publisher
Internet Explorer	Adobe Acrobat & Reader	WordPerfect
Mozilla Firefox	Imaging software (various)	MS Access
LMS (SBA 504 lenders)	DCMS (U.S. SBA)	FAST (Escrow)

EDUCATION and CERTIFICATIONS

Notary - California - expires May 2015
U. S. Small Business Administration - CSR Disaster Field Rep (Reservist)
American InterContinental University Online – Bachelor Degree - Business Admin. (anticipated in 2015)
Business Administration coursework 07/11-03/12
Business Administration coursework 04/08-05/10
American River College, Sacramento, CA, Business Administration & Computer Info. Science (self-development)
Cosumnes River College, Sacramento, CA, Business Administration (self-development)
San Joaquin Delta College, Stockton, CA, Business Administration (self-development)

COMMUNITY INVOLVEMENT

Board of Directors, Secretary – since 2001
Creekside Homeowners Association

Animal Outreach of the Mother Lode – since 2007
Adoptions and pet care

Touchstone Christian Fellowship – since 2009
Tear-Down Team Lead / Office Assistance

BYLAWS
OF
PARAMOUNT EDUCATION INC.
(A California Nonprofit Public Benefit Corporation)

ARTICLE I
NAME

Section 1. NAME. The name of this corporation is Paramount Education Inc. (or "Corporation").

ARTICLE II
PRINCIPAL OFFICE OF THE CORPORATION

Section 1. PRINCIPAL OFFICE OF THE CORPORATION. The principle office for the transaction of the activities and affairs of this corporation is Roseville, State of California. The Board of Directors may change the location of the principal office. Any such change of the location must be noted by the Secretary on these bylaws opposite this Section; alternatively, this Section may be amended to state the new location.

Section 2. OTHER OFFICES OF THE CORPORATION. The Board of Directors may at any time establish branch or subordinate offices at any place or places where this corporation is qualified to conduct its activities.

ARTICLE III
GENERAL AND SPECIFIC PURPOSES; LIMITATIONS

Section 1. GENERAL AND SPECIFIC PURPOSE. The purpose of this corporation is to manage, operate, guide, direct, and promote one or more public charter schools. Also in the context of these purposes, the Corporation shall not, except to an insubstantial degree, engage in any other activities or exercise of power that do not further the purposes of the Corporation.

The Corporation shall not carry on any other activities not permitted to be carried on by: (a) a corporation exempt from federal income tax under section 501(c)(3) of the Internal Revenue Code, or the corresponding section of any future federal tax code; or (b) a corporation, contribution to which are deductible under section 170(c)(2) of the Internal Revenue Code, or the corresponding section of any future federal tax code. No substantial part of the activities of the Corporation shall consist of the carrying on of propaganda, or otherwise attempting to influence legislation, and the Corporation shall not participate in, or intervene in (including the publishing or distributing of statements) any political campaign on behalf of or in opposition to any candidate for public office.

ARTICLE IV
CONSTRUCTION AND DEFINITIONS

Section 1. CONSTRUCTION AND DEFINITIONS. Unless the context indicates otherwise, the general provisions, rules of construction and definitions in the California Nonprofit Corporation Law shall govern the construction of these bylaws. Without limiting the generality of the preceding sentence, the masculine gender includes the feminine and neuter,

the singular includes the plural, and the plural includes the singular, and the term "person" includes both a legal entity and a natural person.

ARTICLE V
DEDICATION OF ASSETS

Section 1. DEDICATION OF ASSETS. This corporation's assets are irrevocably dedicated to public benefit purposes. No part of the net earnings, properties, or assets of the corporation, on dissolution or otherwise, shall inure to the benefit of any private person or individual, or to any director or officer of the corporation. On liquidation or dissolution, all properties and assets remaining after payment, or provision for payment, of all debts and liabilities of the corporation shall be distributed to a nonprofit fund, foundation, or corporation that is organized and operated exclusively for charitable purposes and that has established its exempt status under Internal Revenue Code section 501(c)(3).

ARTICLE VI
CORPORATIONS WITHOUT MEMBERS

Section 1. CORPORATIONS WITHOUT MEMBERS. This corporation shall have no voting members within the meaning of the Nonprofit Corporation Law. The corporation's Board of Directors may, in its discretion, admit individuals to one or more classes of nonvoting members; the class or classes shall have such rights and obligations as the Board of Directors finds appropriate.

ARTICLE VII
BOARD OF DIRECTORS

Section 1. GENERAL POWERS. Subject to the provisions and limitations of the California Nonprofit Public Benefit Corporation Law and any other applicable laws, and subject to any limitations of the articles of incorporation or bylaws, the corporation's activities and affairs shall be managed, and all corporate powers shall be exercised, by or under direction of the Board of Directors ("Board").

Section 2. SPECIFIC POWERS. Without prejudice to the general powers set forth in Section 1 of these bylaws, but subject to the same limitations, the Board of Directors shall have the power to:

a. Appoint and remove, at the pleasure of the Board of Directors, all corporate officers, agents, and employees; prescribe powers and duties for them as are consistent with the law, the articles of incorporation, and these bylaws, fix their compensation; and require from the security of faithful service.
b. Change the principal office or the principal business office in California from one location to another; cause the corporation to be qualified to conduct its activities in any other state territory, dependency, or country; conduct activities in or outside California; and designate a place in or outside California for holding any corporate meetings.
c. Borrow money and incur indebtedness on the corporation's behalf and cause to be executed and delivered for the corporation's purposes, in the corporate name,

promissory notes, bonds, debentures, deeds of trust, mortgages, pledges, hypothecations, and other evidences of debt and securities.

d. Adopt and use a corporate seal.
e. Actively pursue outside resources and funding for the purposes of improving, maintaining, or expanding the services provided by the corporation.

Section 3. DESIGNATED DIRECTORS AND TERMS. The number of directors shall be no less than four (4) and no more than seven (7), unless changed by amendments to these bylaws. In addition, one voting representative may be appointed by any Paramount Education charter authorizer, on an annual basis. Board members shall be sought who have experience in one or more of the following areas: education, government, law, business, finance/accounting, facilities, or public relations. All directors, except for the Authorizer Representatives, shall be designated by the existing Board of Directors. The purpose of the Board is to assume responsibility for the governance, not day to day operations of its charter schools. All directors shall have full voting rights.

The initial Board of Directors shall serve staggered terms of service of either two (2) or three (3) years each. The initial Board of Directors shall be as follows:

NAME	EXPIRATION OF TERM	
David Cox	Chairman	2017
Debora Walker	Vice-Chairman	2017
Gail Washington	Secretary	2016
Elaine Mays	Treasurer	2016
Rob Gerig	Director	2016

Section 4. RESTRICTION ON INTERESTED PERSONS AS DIRECTORS. No more than 49 percent of the persons serving on the Board of Directors may be interested persons. An interested person is (a) any person compensated by the corporation for services rendered to it within the previous 12 months, whether as a full-time or part-time employee, independent contractor, otherwise, excluding any reasonable compensation paid to a director as director; and (b) any brother, sister, ancestor, descendant, spouse, brother-in-law, sister-in-law, son-in-law, daughter-in-law, mother-in-law, or father-in-law of such person. However, any violation of this paragraph shall not affect the validity or enforceability of transactions entered into by the corporation.

Section 5. DIRECTORS' TERM. Except for the initial Board members serving an initial staggered two (2) or three (3) year term of service, each director shall hold office for three (3) years and until a successor director has been designated and qualified.

Section 6. USE OF CORPORATE FUNDS TO SUPPORT NOMINEE. If more people have been nominated for director than can be elected, no corporation funds may be expended to support a nominee with the Board's authorization.

Section 7. EVENTS CAUSING VACANCIES ON BOARD. A vacancy or vacancies on the Board of Directors shall occur in the event of (a) the death or resignation of any director; (b) the declaration by resolution of the Board of Directors of a vacancy in the office of a director who has been convicted of a felony, declared of unsound mind by court order, or found by final order

or judgment of any court to have breached a duty under California Nonprofit Public Benefit Corporation Law, Chapter 2, Article 3; or (c) the increase of the authorized number of directors.

Section 8. RESIGNATION OF DIRECTORS. Except as provided below, any director may resign by giving written notice to the Chairman of the Board, President, Secretary, or the Board. The resignation shall be effective when the notice is given unless the notice specifies a later time for the resignation to become effective. If a director's resignation is effective at a later time, the Board of Directors may elect a successor to take office as of the date when the resignation becomes effective.

Section 9. DIRECTOR MAY NOT RESIGN IF NO DIRECTOR REMAINS. Except on notice to the California Attorney General, no director may resign if the corporation would be left without a duly elected director or directors.

Section 10. REMOVAL OF DIRECTORS. Any director may be removed, with or without cause, by a 2/3rd's vote of the members of the entire Board of Directors at any regular or special meeting of the Board, provided that notice of that meeting and of the removal questions are given in compliance with the provisions of the Ralph M. Brown Act (Chapter 9 (commencing with Section 54950) of Division 2 of Title 5 of the Government Code.) Any vacancy caused by removal of a director shall be filled as provided in Section 11.

Section 11. VACANCIES FILLED BY BOARD. Vacancies on the Board of Directors may be filled by approval of the Board of Directors or, if the number of directors then in office is less than a quorum, by (1) the affirmative vote of a majority of the directors then in office at a regular or special meeting of the Board, or (2) a sole remaining director.

Section 12. NO VACANCY ON REDUCTION OF NUMBER OF DIRECTORS. Any reduction of the authorized number of directors shall not result in any directors being removed before his or her term of office expires.

Section 13. PLACE OF BOARD OF DIRECTORS MEETINGS. Meetings shall be held at the principal office of the Corporation. The Board of Directors may also designate that a meeting be held at any place within California that has been designated by resolution of the Board or in the notice of the meeting. All meetings of the Board of Directors shall be called, held and conducted in accordance with the terms and provisions of the Ralph M. Brown Act, California Government Code Sections 54950, et seq., as said chapter may be modified by subsequent legislation.

Section 14. MEETINGS; ANNUAL MEETINGS. All meetings of the Board of Directors and its committees shall be called, noticed, and held in compliance with the provisions of the Ralph M. Brown Act ("Brown Act"). (Chapter 9 (commencing with 54950) of Division 2 of Title 5 of the Government Code). The Board of Directors shall meet annually for the purpose of organization, appointment of officers, and the transaction of such other business as may properly be brought before the meeting. This meeting shall be held at a time, date, and place as noticed by the Board of Directors in accordance with the Brown Act.

Section 15. REGULAR MEETINGS. There shall be no less than five (5) regular meetings of the Board of Directors in any given calendar year and may be fixed by the Board of Directors. At least 72 hours before a regular meeting, the Board of Directors, or its designee shall post an agenda containing a brief general description of each item of business to be transacted or discussed at the meeting.

Section 16. SPECIAL MEETINGS. Special meetings of the Board of Directors for any purpose may be called at any time by the Chairman of the Board of Directors, or a majority of the Board of Directors. The party calling a special meeting shall determine the place, date, and time thereof.

Section 17. NOTICE OF SPECIAL MEETINGS. In accordance with the Brown Act, special meetings of the Board of Directors may be held only after twenty-four (24) hours' notice is given to the public through the posting of an agenda. Directors shall also receive at least twenty-four (24) hours' notice of the special meeting, in the following manner:

a. Any such notice shall be addressed or delivered to each director at the address as it is shown on the records of the Corporation, or as may have been given to the Corporation by the director for purposes of notice.
b. Notice by mail shall be deemed received at the time a properly addressed written notice is deposited in the United States mail, postage prepaid. Any other written notice shall be deemed received at the time it is personally delivered to the recipient or is delivered to a common carrier for transmission, or is actually transmitted by the person giving the notice by electronic means to the recipient. Oral notice shall be deemed received at the time it is communicated, in person or by telephone or wireless, to the recipient or to a person at the office of the recipient whom the person giving the notice has reason to believe will promptly communicate it to the receiver.
c. The notice of special meeting shall state the time of the meeting, and the place if the place is other than the principal office of the Corporation, and the general nature of the business proposed to be transacted at the meeting. No business, other than the business the general nature of which was set forth in the notice of the meeting, may be transacted at a special meeting.

Section 18. QUORUM. A majority of the directors then in office shall constitute a quorum. All acts or decisions of the Board of Directors will be by majority vote of the directors in attendance, based upon presence of a quorum. Should there be less than a majority of the directors present at any meeting, the meeting shall be adjourned. Directors may not vote by proxy.

Section 19. TELECONFERENCE MEETINGS. Members of the Board of Directors may participate in teleconference meetings so long as all of the following requirements in the Brown Act are complied with:

a. At a minimum, a quorum of the members of the Board of Directors shall participate in the teleconference meeting from locations within the authorizing agency's boundaries;
b. All votes taken during a teleconference meeting shall be by roll call;

c. If the Board elects to use teleconferencing, it shall post agendas at all teleconference locations with each teleconference location being identified in the notice and agenda of the meeting;
d. All locations where a member of the Board participates in a meeting via teleconference must be fully accessible to members of the public and shall be listed on the agenda;[1]
e. Members of the public must be able to hear what is said during the meeting and shall be provided with an opportunity to address the Board of Directors directly at each teleconference location; and
f. The agenda shall indicate that members of the public attending a meeting conducted via teleconference need not give their name when entering the conference call.[2]

Section 20. ADJOURNMENT. A majority of the directors present, whether or not a quorum is present, may adjourn any Board of Directors meeting to another time or place. Notice of such adjournment to another time or place shall be given, prior to the time of the adjournment, and to the public in the manner prescribed by any applicable public open meeting law.

Section 21. COMPENSATION AND REIMBURSEMENT. Directors may not receive compensation for their services as directors, only such reimbursement of expenses as the Board of Directors may establish by resolution to be just and reasonable as to the corporation at the time that the resolution is adopted.

Section 22. CREATION AND POWERS OF COMMITTEES. The Board, by resolution adopted by a majority of the directors then in office, may create one or more committees of the Board, each consisting of two or more directors and no one who is not a director, to serve at the pleasure of the Board. Appointments to committees of the Board shall be by majority vote of the authorized number of directors. The Board of Directors may appoint one or more directors as alternate members of any such committee, who may replace any absent member at any meeting. Any such committee shall have all the authority of the Board, to the extent provided in the Board of Directors' resolution, except that no committee may:

a. Take any final action on any matter that under the California Nonprofit Public Benefit Corporation Law, requires approval of a majority of the board;
b. Fill vacancies on the Board or any committee of the Board;
c. Fix compensation of the directors serving on the Board or on any committee;
d. Amend or repeal bylaws or adopt new bylaws;
e. Amend or repeal any resolution of the Board that by its express terms is not so amendable or subject to repeal;
f. Create any other committees of the Board or appoint the members of committees of the Board;

[1] This means that members of the Board of Directors who choose to utilize their homes or offices as teleconference locations must open these locations to the public and accommodate any members of the public who wish to attend the meeting at that location.
[2] The Brown Act prohibits requiring members of the public to provide their names as a condition of attendance at the meeting.

g. Expend corporate funds to support a nominee for director if more people have been nominated for director than can be elected; or
h. Approve any contract or transaction to which the corporation is a party and in which one or more of its directors has a material financial interest.

The Board may also create one or more advisory committees composed of directors and non-directors. It is the intent of the Board to encourage the participation and involvement of faculty, staff, parents, students, and administrators through attending and participating in open committee meetings. The Board may establish, by resolution adopted by a majority of the directors then in office, advisory committees to serve at the pleasure of the Board.

Section 23. MEETINGS AND ACTION OF COMMITTEES. Meetings and actions of committees of the Board shall be governed by, held, and taken under the provisions of these bylaws concerning meetings, other Board actions, and the Brown Act, if applicable, except that the time for general meetings of such committees and the calling of special meetings of such committees may be set either by Board resolution or, if none, by resolution of the committee. Minutes of each meeting shall be kept and shall be filed with the corporate records. The Board may adopt rules for the governance of any committee as long as the rules are consistent with these bylaws. If the Board has not adopted rules, the committee may do so.

Section 24. NON-LIABILITY OF DIRECTORS. No director shall be personally liable for the debts, liabilities, or other obligations of this corporation.

Section 25. COMPLIANCE WITH LAWS GOVERNING STUDENT RECORDS. The Corporation, Board of Directors, and all charter schools managed by the Corporation shall comply with all applicable provisions of the Family Education Rights Privacy Act ("FERPA") as set forth in Title 20 of the United States Code Section 1232g and attendant regulations as they may be amended from time to time.

ARTICLE VIII
OFFICERS OF THE CORPORATION

Section 1. OFFICES HELD. The officers of the Corporation shall be a Chairman of the Board, Vice-Chairman, Secretary, and Treasurer.

Section 2. DUPLICATION OF OFFICE HOLDERS. Any number of offices may be held by the same person, except that neither the Secretary nor the Treasurer may serve concurrently as the Chairman of the Board.

Section 3. ELECTION OF OFFICERS. The officer shall be chosen annually by the Board of Directors and shall serve at the pleasure of the Board, subject to the rights of any officer under any employment contract.

Section 4. REMOVAL OF OFFICERS. Without prejudice to the rights of any officer under an employment contract, the Board may remove any officer with or without cause.

Section 5. RESIGNATION OF OFFICERS. Any officer may resign at any time by giving written notice to the Board. The resignation shall take effect on the date the notice is received or at any later time specified in the notice. Unless otherwise specified in the notice, the resignation

need not be accepted to be effective. Any resignation shall be without prejudice to any rights of the corporation under any contract to which the officer is a party.

Section 6. VACANCIES IN OFFICE. A vacancy in any office because of death, resignation, removal, disqualification, or any other cause shall be filled in the manner prescribed in these bylaws for normal appointment to that office, provided, however, that vacancies need not be filled on an annual basis.

Section 7. CHAIRMAN OF THE BOARD. The Chairman of the Board of Directors shall also be the chief executive officer and shall have the powers and duties of the chairman of the corporation set forth in these bylaws. Subject to the control of the board, the Chairman shall be the general manager of the corporation and shall supervise, direct, and control the corporation's activities, affairs, and officers as fully described in any applicable employment contract, agreement, or job specification. The chairman shall have such other powers and duties as the board of directors or the bylaws may require.

Section 8. VICE-CHAIRMAN. The Vice-Chairman will perform all duties and exercise all powers of the Chairman when the Chairman is absent or is otherwise unable to act. When so acting, the Vice-Chairman shall have all powers of and be subject to all restrictions on the Chairman. The Vice-Chairman will perform any other duties that may be prescribed by the Board of Directors.

Section 9. SECRETARY. The Secretary shall keep or cause to be kept, at the corporation's principal office or such other place as the Board may direct, a book of minutes of all meetings, proceedings, and actions of the Board, and of committees of the Board. The minutes of meetings shall include the time and place that the meeting was held; whether the meeting was annual, regular, special, or emergency and, if special or emergency, how authorized; the notice given; and the names of the directors present at Board and committee meetings.

The Secretary shall keep or cause to be kept, at the principal California office, a copy of the articles of incorporation and bylaws, as amended to date. The Secretary shall give, or cause to be given, notice of all meetings of the Board and of committees of the Board that these bylaws require to be given. The Secretary may have such other powers and perform such other duties as the Board or the bylaws may require.

Section 10. TREASURER. The Treasurer shall keep and maintain, or cause to be kept and maintained, adequate and correct books and accounts of the corporation's properties and transactions. The Treasurer shall send or cause to be given to the members and directors such financial statements and reports as are required to be given by law, by these bylaws, or by the Board. The books of account shall be open to inspection by any director at all reasonable times. The Treasurer shall (a) deposit, or cause to be deposited, all money and other valuables in the name and to the credit of the Corporation with such depositories as the Board may designate; (b) disburse the Corporation's funds as the Board may order; (c) render to the Chairman of the Board and the Board, when requested, an account of all transactions as Treasurer and of the financial condition of the Corporation; and (d) have such other powers and perform such other duties as the Board, contract, job specifications, or the bylaws may require.

If required by the Board, the Treasurer shall give the Corporation a bond in the amount and with the surety or sureties specified by the Board of Directors for faithful performance of the duties of the office and for restoration to the Corporation of all of its books, papers, vouchers,

money, and other property of every kind in the possession or under the control of the Treasurer on his or her death, resignation, retirement, or removal from office.

ARTICLE IX
CONTRACTS WITH DIRECTORS AND OFFICERS

Section 1. CONTRACTS WITH DIRECTORS AND OFFICERS. The Corporation shall not enter into a contract or transaction in which any director or officer directly or indirectly has a material financial interest (nor any other corporation, firm, association, or other entity in which one or more of this Corporation's directors or officers have a material financial interest).

ARTICLE X
CONTRACTS WITH NON-DIRECTOR DESIGNATED EMPLOYEES

Section 1. CONTRACTS WITH NON-DIRECTOR DESIGNATED EMPLOYEES. The Corporation shall not enter into a contract or transaction in which a non-director designated employee (e.g., officers and other key decision-making employees) directly or indirectly has a financial interest.

ARTICLE XI
LOANS TO DIRECTORS AND OFFICERS

Section 1. LOANS TO DIRECTORS AND OFFICERS. This corporation shall not lend any money or property to or guarantee the obligation of, any director or officer.

ARTICLE XII
INDEMNIFICATION

Section 1. INDEMNIFICATION. To the fullest extent permitted by law, this corporation shall indemnify its directors, officers, employees, and other persons described in Corporations Code Section 5238(a), including persons formerly occupying any such positions, against all expenses, judgments, fines, settlements, and other amounts actually and reasonably incurred by them in connection with any "proceeding," as that term is used in that section, and including an action by or in the right of the corporation by reason of the fact that the person is or was a person described in that section. "Expenses," as used in this bylaw, shall have the same meaning as in that section of the Corporations Code.

On written request to the Board of Directors by any person seeking indemnification under Corporations Code Section 5238 (b) or Section 5238 (c) the Board of Directors shall promptly decide under Corporations Code Section 5238 (e) whether the applicable standard of conduct set forth in Corporations Code Section 5238 (b) or Section 5238 (c) has been met and, if so, the Board of Directors shall authorize indemnification.

ARTICLE XIII
INSURANCE

Section 1. INSURANCE. This corporation shall have the right to purchase and maintain insurance to the full extent permitted by law on behalf of its directors, officers, employees, and other agents, to cover liability asserted against or incurred by any director, officer, employee, or agent in such capacity or arising from the director's, officer's, employee's, or agent's status as such.

ARTICLE XIV
MAINTENANCE OF CORPORATE RECORDS

Section 1. MAINTENANCE OF CORPORATE RECORDS. This corporation shall keep:

a. Adequate and correct books and records of account;
b. Written minutes of the proceedings of the Board and committees of the Board; and
c. Such reports and records as required by law.

ARTICLE XV
INSPECTION RIGHTS

Section 1. DIRECTORS' RIGHT TO INSPECT. Every director shall have the right at any reasonable time to inspect the corporation's books, records, documents of every kind, physical properties, and the records of each subsidiary as permitted by California and federal law. The inspection may be made in person or by the director's agent or attorney. The right of inspection includes the right to copy and make extracts of documents as permitted by California and federal law. This right to inspect may be circumscribed in instances where the right to inspect conflicts with California or federal law (e.g., restrictions on the release of educational records under FERPA) pertaining to access to books, records, and documents.

Section 2. ACCOUNTING RECORDS AND MINUTES. On written demand on the corporation, any director may inspect, copy, and make extracts of the accounting books and records and the minutes of the proceedings of the Board of Directors and committees of the Board of Directors at any reasonable time for a purpose reasonably related to the director's interest as a director. Any such inspection and copying may be made in person or by the director's agent or attorney. This right of inspection extends to the records of any subsidiary of the corporation.

Section 3. MAINTENANCE AND INSPECTION OF ARTICLES AND BYLAWS. This corporation shall keep at its principal California office the original or a copy of the articles of incorporation and bylaws, as amended to the current date, which shall be open to inspection by the directors at all reasonable times during office hours.

ARTICLE XVI
REQUIRED REPORTS

Section 1. ANNUAL REPORTS. The Board shall cause an annual report to be sent to itself (the members of the Board of Directors) within 120 days after the end of the corporation's fiscal year. That report shall contain the following information, in appropriate detail:

a. The assets and liabilities, including the trust funds, or the corporation as of the end of the fiscal year;
b. The principal changes in assets and liabilities, including trust funds;
c. The corporation's revenue or receipts, both unrestricted and restricted to particular purposes;
d. The corporation's expenses or disbursement for both general and restricted purposes;
e. Any information required under these bylaws; and
f. An independent accountant's report or, if none, the certificate of an authorized officer of the corporation that such statements were prepared without audit from the corporation's books and records.

Section 2. ANNUAL STATEMENT OF CERTAIN TRANSACTIONS AND INDEMNIFICATIONS. As part of the annual report to all directors, or as a separate document if no annual report is issued, the corporation shall, within 120 days after the end of the corporation's fiscal year, annually prepare and mail or deliver to each director and furnish to each director a statement of any transaction or indemnification of the following kind:

a. Any transaction (i) in which the corporation, or its parent or subsidiary, was a party, (ii) in which an "interested person" had a direct or indirect material financial interest, and (iii) which involved more than $50,000 or was one of several transactions with the same interested person involving, in the aggregate, more than $50,000. For this purpose, and "interested person" is either:

   (1) Any director or officer of the corporation, its parent, or subsidiary (but mere common directorship shall not be considered such an interest); or
   (2) Any holder of more than 10 percent of the voting power of the corporation, its parent, or its subsidiary. The statement shall include a brief description of the transaction, the names of interested persons involved, their relationship to the corporation, the nature of their interest, provided that if the transaction was with a partnership in which the interested person is a partner, only the interest of the partnership need by stated.

ARTICLE XVII
BYLAW AMENDMENTS

Section 1. BYLAW AMENDMENTS. The Board of Directors may adopt, amend, or repeal any of these Bylaws by a 2/3rd's vote of the directors present at a meeting duly held at which a quorum is present, except that no amendment shall change provisions of the charters that created the charter schools or make any provisions of these Bylaws inconsistent with any of those charters, the corporation's Articles of Incorporation, or any laws.

ARTICLE XVIII
FISCAL YEAR

Section 1. FISCAL YEAR OF THE CORPORATION. The fiscal year of the Corporation shall begin on July 1st and end on June 30th of each year.

CERTIFICATE OF SECRETARY

I certify that I am the duly elected and acting Secretary of Paramount Education Inc., a California nonprofit public benefit corporation; that these bylaws, consisting of 12 pages, are the bylaws of this corporation as amended by the Board of Directors on December 15, 2014 and that these bylaws have not been amended or modified since that date.

Executed on December 15, 2014, at Roseville, California.

Gail J. Washington, Secretary

APPENDIX B

Teacher Signatures

TEACHERS
PETITION FOR THE ESTABLISHMENT OF
PARAMOUNT COLLEGIATE ACADEMY

The petitioners listed below certify that they are teachers meaningfully interested in employment with Paramount Collegiate Academy. As such, petitioners believe that the charter merits consideration and herby petition the governing board of the San Juan Unified School District to grant approval of the charter pursuant to Education Code 47600 et seq. The petitioners authorize the Leadership Team to negotiate any amendment to the charter necessary to secure approval by the District Board and certify they were given the opportunity to review the attached petition.

Name	Signature	Credential Number	Date
James Clemmer		[redacted]	3/4/14
Rachel Defer			3/11/14
Dawn Contreras Douglas	Dawn Contreras Douglas		3/11/14
Sharon Miles	Sharon Miles		3/22/14
Heidi Spiess	Heidi Spiess		3/25/14
Jayme Massey	Jayme Massey		3/26/14
Jennifer Dithridge-Saiegon			3/26/14
Ieina Petreashishin			8/28/14
Kathleen Lauten	Kathleen Lauten		8/28/14

APPENDIX C

Parent Signatures

PARENTS
PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY
Peticion para establecer Paramount Collegiate Academy

The petitioners listed below certify that they are meaningfully interested in enrolling their student(s) at Paramount Collegiate Academy. As such, petitioners believe that the charter merits consideration and hereby petition the governing board of the San Juan Unified School District to grant approval of the charter pursuant to Education Code 47600 et seq. The petitioners authorize the Leadership Team to negotiate any amendments to the charter necessary to secure approval by the District Board. Signature page is attached to petition upon signature.

Las personas que aqui dan su firma certifican que son padres de familia con su interes autentico en inscribir a su(s) estudiante(s) en Paramount Collegiate Academy. Por lo tanto, los suscritos a esta peticion afirman que esta merece consideracion y piden que la Junta Directiva Escolar del San Juan distrito apruebe esta peticion charter, sequn lo prove a Ley Educative 47600 et seq . Los suscritos autorizan al Equipo Fundador de dicha escuela para negociar las enmiendas a esta peticion que sean necesarias para asegurar la aprobacion de la Junta Directiva Escolar. Esta pagina de firmas esta adjunta a la peticion cuando se firmo.

NAME *Nombre*	**SIGNATURE** *Firma*	**ADDRESS** *Direccion*	**PHONE NUMBER** *Numero del Telefono*	**STUDENT GRADE IN 2015-16 SCHOOL YEAR** *Grado del Estudiante*	**NAME OF NEIGHBORHOOD DISTRICT SCHOOL** *Nombre de la escuela distrito*	**DATE** *Fecha*
Elisha Madigan		[redacted]				
M-Ann Krentzke						
Kelly Thomas						
Cynthia M. Hines						
Markell D. Gallow						
Lisa Trent						
Norma Garcia						
Rusty Nunez						
Sandra Valdez						
Marie Walton						

PARENTS
PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY
Peticion para establecer Paramount Collegiate Academy

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Stephanie Divias		[redacted]				
James Divias						
Arlene Huerta						
Maria Aguirre						
Fidelina Suarez						
Yolanda Ac.						
Violet. Ort.						
Gorda Zafari						
Jessika Mendez						
Fariba						
Manela						

PARENTS
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NAME *Nombre*	**SIGNATURE** *Firma*	**ADDRESS** *Direccion*	**PHONE NUMBER** *Numero del Telefono*	**STUDENT GRADE IN 2015-16 SCHOOL YEAR** *Grado del Estudiante*	**NAME OF NEIGHBORHOOD DISTRICT SCHOOL** *Nombre de la escuela distrito*	**DATE** *Fecha*
VERONICA MORE		[redacted]				
Tracy Yang	Tracy Yang					
Maria Mentez	Maria Mentez					
Maria Marquez	Maria Marquez					
Maria Marquez	Maria Marquez					
MONICA AMEZCUA	M. Amezcua					
MICHAEL CURRY						
Gloria Gonzalez	Gloria					
Stephanie Castaneda						
Catalina Gomez	Catalina					

PARENTS
PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY
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NAME *Nombre*	SIGNATURE *Firma*	ADDRESS *Direccion*	PHONE NUMBER *Numero del*	STUDENT GRADE IN 2015-16 SCHOOL YEAR	NAME OF NEIGHBORHOOD DISTRICT SCHOOL	DATE *Fecha*
marca Dominguez	maria Dominguez	[redacted]				
Maria Lopez	Maria Lopez					
Jose Garcia	Jose Garcia					
Redacted	Redacted					
Crescencia Lopez	Crescencia L					
Celina Baca	Celina Baca					
Orlando Garcia						
Araceli Medina	~~Araceli~~					
Patricia Cruz	Patricia Cruz					
Luis Madrigal						
David Esquivel						

PARENTS
PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY
Peticion para establecer Paramount Collegiate Academy

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Yelva Tepox		[redacted]				
Maria Aguilar						
Michael T. Cameron						
Graciela Vivar						
Luis Haro						
Srividya Sundaram						
Gerardo Sandoval						
Gerald Schill						
Ron Moss						
Kerstin Beckman						
Dana THOR						

PARENTS
PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY
Peticion para establecer Paramount Collegiate Academy

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Ken Firl	KFirl	[redacted]				
Kim Sellards	K					

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Felix Granados		[redacted]				
Ivan Gonzalez						
Amy Bavera						
Sommer Gonzales						
Bonniece Garner						
Jessica Monroe						
Shavon Miles						
Ruanikas						
Jasmine Denson						
Loreto Zawkiewicz						

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PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY
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LaKerma Brooks	LaKerma Br	[redacted]				
Tawana Johnson	Tawana Johnson					
Cheryl Henley	Cheryl Henley					
Howard Chavez	H Chavez					
Theresa Boyhillier	Theresa Boyhillier					
Viane'y Lee						
Antionette Jones	Antionette Jones					
Sandra Chavez	Sandra Chavez					
Carolyn Tenio	Carolyn Tenio					

PARENTS

PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY

Peticion para establecer Paramount Collegiate Academy

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Constance Buchanan		[redacted]				
Gabi B						
Derek Ross	DEREK ROSS					
Maria Mendez	Maria Mendez					
Fisseha Feleke						
Jerry Alvarez						

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Christina Ricci	Ricci	[redacted]				
Waynisha Keene	W. Keene					
Dumitru						
Denise Camacho	Denise Camacho					
Martina	Reyes					
Deyanira G	Deyanira					
Carol Marie	Carol Marie					
Stella C	Silvagon					
Trew Smith						
Santesmit						

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Kebrissa Richards	C. Richards	[redacted]				
Bryan Aguilar	Pabla Morales					
Sonia Jaramillo						
Estela D	Estela D.					
Nancy Garcia						
Armando Campos						
Faviola Lopez	Faviola L					
Olivia Perez	Olivia Perez					
Shannon Hay	Shannon Hay					
CESARIE						

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David Lopez	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tracy Strong						
Alaric Quebey						
Matt Bluegrame						
Mac Allen						
Marcia	Barrera					

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Dion Durham		[redacted]				
Regina Ai						
Esmeralda						
Deidra Michlicks						
Steve Woods						
Tausher Manning						
Mary Cuyno						
Seema						
Mark Russell						
Maria Sanchez						

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Julie Hammon		[redacted]		7		
Scott Brown						
Oksana Kordyak						
Dmytro Konstantynov						
Tiffany Santos						
Amber Gilbert						
Toni A Johnson						
Jaeleen Hamick						
Ferdisa	Pakdlani					
Juesa Sanders						

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JOHN JORDAN		[redacted]				
SONIA JORDAN						
Lily Prillwitz						
Genoveva Oropeza						
LA Drake Ellis						
Zubeda Dizdarevic						
Karen Junk						
Donnica MOSS						
Vyacheslav Kritsuna						
Pang Moua						

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Anzhela Simin	[redacted]					
Cita Searcy	Cita Searcy					
Alba Estrella	Alba Estrella					
Emmett Fletcher	Emmett Fletcher					
Christina Spanos	[redacted]					
Juan Lara	Juan C. Lara					
Nancy Schrist	Nancy Schrist					
Cielo Lara	Cielo Lara					

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[redacted]						
Lacey Buell						
Edit Gorman						
Julia Romero						
Cynthia Jones						
Pamela McCampbell						
MARTIN BERNARD						
ZACH TREADWAY						
Claudia Monarrez						
Jeri Powers						

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Jessica Stacy		[redacted]				
Lillian Lopez						
Claudia Rios						
Shelly Eckelboom						
Francisco Ruiz						
Rogelio						
Maria Lopez						
Chelveet Pettit						
Kim Haley						
Holly Spring						

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Ingrin Bartlett	Ingrin B.	[redacted]				
Mana Montiel	Mana N Montiel					
Rocio Navarro	Rocio Navarro					
Mariam Brown						
* Dawn Wallis	Dawn Wallis					
Victoria Maugeri						
Molly Thomas						
* Heathere Muir						
Shane Peoples						
Carmela Sperito						

PA NTS

PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY

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Christine Moses	Christine Mos	[redacted]				

PARENTS

PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY

Peticion para establecer Paramount Collegiate Academy

The petitioners listed below certify that they are meaningfully interested in enrolling their student(s) at Paramount Collegiate Academy. As such, petitioners believe that the charter merits consideration and hereby petition the governing board of the San Juan Unified School District to grant approval of the charter pursuant to Education Code 47600 et seq. The petitioners authorize the Leadership Team to negotiate any amendments to the charter necessary to secure approval by the District Board. Signature page is attached to petition upon signature.

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Megan Table		[redacted]				
Lastisha Anderson						
Merlin Forrest						
Luis Coronado						
Pamela Swindle						
Christina Cruz						
" "						
Stephany Harris						
Julia Bear						
Christine Bear						
PHIL RICHARDS						

PARENTS

PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY

Peticion para establecer Paramount Collegiate Academy

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Michelle Parker	M Parker	[redacted]				
Michelle Parker	M Parker					
Julya Yurcisk						
Heidi Spess	H Spess					

PARENTS

PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY

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Amanda Hefton		[redacted]				
Nadia Mendez						
Marlen Gomez						
Angelica Martinez						
Rosa Pasos						
Judy Hensley						
Raquel						
Maria Medina						
Cindy Tackett						
Darlene Abbott						

PARENTS
PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY
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Maria	Maria Escobe	175 - [redacted]				8.23.14
Florinda	FS					
Charlotte						
Corinth						
Diana García						
Ariel						
Jesse Sabala						
Aleja						
Star Smith						
Tiffany						
Dolores Hernandez						

PARENTS
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ERICA VARGAS	ERICA VARGAS	[redacted]				
Rosita Rosales	Rosita Rosales					
nicole kados						
griselda godinez	griselda godinez					
Gloria Vazquez						
Katheryn Zarif						
Tammy Rapp						
Maria Hernandez						
Sarah Sutherland						

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Klara Tsurkoru		[redacted]				
Natalya Manlievs						
Alex Pyankov						
Marbek firman						
Irina Popkov						

PARENTS
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Gina Cudia	Gina Cudia	[redacted]				
Paula Muller	Paula Muller					
Leah Wilson	Leah Wilson					
Nildamae Guardamano						
Andre Dawkins						
Ragina Smith						
Philip DeTore						
Sandra Chappell						
Patty Hawkins						
Maria Fernandez						

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Janet Blackburn		[redacted]				
Kate Beckner						
Erin Garton						

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Lynnae Ewerson	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

PARENTS
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YOROSLAV Fedun		[redacted]				
Kostyantyn Strotsyuk						
Meliqua Tatiana Mrelets						
Yelena Kurmanvitiy						
Svetlana Nedorezov						
Licina Kalinyuk						
Valentina Sivinski						
Larissa Vallyuskaya						
Luba Kravchuk						

APPENDIX D

Letters of Support

March 25, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Petition

Dear Board Members of the San Juan Unified School District:

Advanced Tax & Accounting Firm is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the success of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

Slavik Shchirov, ERO
Advanced Tax & Accounting Firm.

ARCHER
FINANCIAL
SERVICES

3301 Watt Avenue, Suite 300 • Arden Arcade, CA • 95821
(916) 482-2005 • Fax: (877) 801-2788 • joel.archer@archerfinancial.net

August 27, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

Archer Financial Services is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

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Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

Joel E Archer, Owner of
Archer Financial Services

BANC Home Loans

March 13th, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

The Hinkey Team at Banc Home Loans is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

Erika Pilimai Team Lead
Banc Home Loans
1420 Rocky Ridge #250
Roseville, CA 95661

BE ONE

BE ONE PROMOTIONS

3208 MERRYWOOD DRIVE
SACRAMENTO, CA 95825

August 8, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

Be One Promotions is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

Blane Walker
Owner - Be One Promotions

STATE CAPITOL
P.O. BOX 942849
SACRAMENTO, CA 94249-0006
(916) 319-2006
FAX (916) 319-2106

Assembly
California Legislature

BETH GAINES
ASSEMBLYWOMAN, SIXTH DISTRICT

DISTRICT OFFICE
8799 AUBURN-FOLSOM RD., STE. A
GRANITE BAY, CA 95746
(916) 774-4430
FAX (916) 774-4433

July 14, 2014

San Juan Unified School District
3738 Wainut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

I am proud to support the addition of charter schools by the San Juan Unified School District. Including charter schools within the district will create additional options for parents and increase competition to improve education for all students in our community. Charter schools have the freedom to utilize innovative and creative techniques in their classrooms that build upon the successes of proven models. Every child learns differently and charter schools provide yet another opportunity for parents to find a school best suited to their child's learning needs.

Charter schools dedicated to serving children from across Sacramento & Placer Counties in partnership with the San Juan Unified School District can only improve the education of our community's children. Charter schools have a strong community focus, both in and outside the classroom, which leads to more engaged and productive students. I support charter schools as an excellent public education option that will equip children to lead fulfilling and productive lives in our global, dynamic, and technology-driven world.

We need charter school options for our children and our community. Thank you for your consideration of charter schools as another opportunity for the children of our community.

Sincerely,

BETH GAINES
Assemblywoman, 6th District

California Charter Schools Association
1107 9th Street, Suite 200 • Sacramento, CA 95814 • p 916-448-0995 • f 916-448-0998 • www.calcharters.org
250 East 1st Street, Suite 1000 • Los Angeles, CA 90012 • p 213-244-1446 • f 213-244-1448

August 28, 2014

Lucinda Luttgen, President
Board of Education
San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

RE: Support for the Paramount Collegiate Academy Charter Petition

Dear President Luttgen,

I'm writing in support of the Paramount Collegiate Academy (PCA) charter petition, which would offer a project-based curriculum emphasizing science, technology, engineering, arts, and math (STEAM) to all students in grades 6 – 12.

The PCA team is a member of the California Charter Schools Association. We have reviewed the petition and worked closely with the lead petitioner, Dawn Contreras Douglas. The petition meets the requirements of law, and the founding team has the skills and experience to open and lead a new school.

Paramount Collegiate Academy will offer an excellent public education option that will equip students to be self-motivated, life-long learners who are prepared for the demands of college and career in the 21st century.

Please approve the Paramount Collegiate Academy charter petition. If you have any questions, please feel free to contact me directly at lkerr@calcharters.org or (916) 230-7496

Sincerely,

Laura Kerr

Laura Kerr
Managing Regional Director, Northeast & Central Valley

cc: Dawn Contreras Douglas, Paramount Collegiate Academy

May 6, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

I am proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. I support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. If you have any questions regarding my support of this school, please contact me by phone at (916) 247-7761 or and/or email at gilzeanm@yahoo.com.

Sincerely,

Mary Gilzean
Division Training Coordinator,
California Department of Social Services,
Disability Determination Service Division

CARMICHAEL
CHAMBER OF COMMERCE

March 14, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

The Carmichael Chamber of Commerce is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12 grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills.* Paramount will utilize best researched based practices that integrate Science, Technology, Engineering, Art and Mathematics (STEAM), building upon the successes of proven models such as High Tech High and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento Region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and the community.

Best regards,

Connie Aaron
Carmichael Chamber Board President

6825 Fair Oaks Blvd., Suite 100, Carmichael, CA 95608 • Office: 916-481-1002/FAX: 916-481-1003
admin@carmichaelchamber.com • www.carmichaelchamber.com

CORNERSTONE COMMUNITY CHURCH

3245 Cottage Way
Sacramento, CA 95825

Phone: 916.482.4088
Email: earl@cccsac.org

August 21, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

Cornerstone Community Church is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for a 6th-12th grade Charter School in Arden Arcade. In speaking extensively with PCA representatives and reading their prospectus, it is clear to me that they are committed to providing an innovative and creative college preparatory opportunity for children of all ages, races and socio-economic backgrounds.

I am familiar with the project-based interdisciplinary model and the foundational skills developed by the *Partnership for 21st Century Skills* and am pleased that PCA is utilizing their STEAM model that integrates Science, Technology, Engineering, Art, and Mathematics.

I am further convinced that Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region, and I look forward to partnering with them and the San Juan Unified School District. As a member of the Arden Arcade community for over twenty years, I appreciate PCA's proven strong community focus, both in and outside the classroom.

Thus, the Pastoral Staff and Church Board of Cornerstone Community Church whole-heartedly support Paramount Collegiate Academy as an excellent public education option to equip children to lead fulfilling and productive lives in our global, dynamic, and technology-driven world. On behalf of Cornerstone, I respectfully ask that you approve the Paramount Collegiate Academy charter petition. We need it for our children and our community. Thank you for your thorough consideration.

Sincerely,

Earl Heverly

Earl Heverly
Senior Pastor

Daniels & Company, Inc.
Certified Public Accountants

1004 River Rock Drive
Suite 140
Folsom, CA 95630-2095

(916) 988-0236
FAX 988-6638
Email: srdcpa@aol.com

February 28, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

Steven R Daniels and Daniels and Company Inc. is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

Steven R Daniels CPA, MST
Daniels and Company Inc.

Srd

fast break tech INC
www.fastbreaktech.com
1337 Howe Avenue, Suite 250
Sacramento, CA 95825
(916) 247-2500 Phone
(916) 290-0563 Fax
support@fastbreaktech.com
CA BEAR Lic# 84467
SAC COUNTY Lic# 343722

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

March 15, 2014

Dear Board Members of the San Juan Unified School District:

Re: Support for the Paramount Collegiate Academy Charter Petition

Fast Break Tech is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. The field of technology needs far more students prepared with this type of innovative and creative training as envisioned in the *Partnership for 21st Century Skills*.

I understand that Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy. The Paramount Collegiate Academy will help fill the educational gap for students from across the Sacramento region and business such as mine look forward to doing so in partnership with the San Juan Unified School District. This charter will allow San Juan to include an educational opportunity not available in any of the other school districts in Sacramento County or any of the adjacent counties.

I am a graduate of the Eagle Polytechnic Institute program at El Camino High School, Class of 1999. In 2000 I launched my own Computer Technology business. I applaud you for the program you developed at El Camino and highly encourage you to approve this charter petition which will further prepare students for successful futures like mine. PCA will have a strong community focus, both in and outside the classroom. I support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world. My firm has hired several students from both El Camino and Rio High Schools, first as interns during their college years and then as full-time employees. I look forward to the opportunity to work with this Charter as well as developing our future technology leaders.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

Steven M. Walker
President, Fast Break Tech, Inc.

Ministering to children
fifty 5 five
throughout the world

Providing Teacher Training &
Vacation Bible Schools

August 7, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

Fifty5five is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills.* Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

Linda Giroux

Linda Giroux, Vice President
Fifty5five, Inc.

916.351.5644 • info@fifty5five.com
3389 Folsom Blvd. #330-141 • Folsom, California 95630

Surely you will summon nations you know not, and nations that do not know you will hasten to you, because of the Lord your God, the Holy One of Israel *Isaiah 55:5*

Lisa L. Hernandez
Environmental Scientist

August 26, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

This is my letter in support for the Paramount Collegiate Academy (PCA) Charter School Petition. As a science professional, working in the environmental testing industry, I am aware of the importance of raising up the next generation of skillfully trained science and technology professionals. Using excellence as a standard, PCA teachers will challenge students to engage fully in a curriculum that will prepare them with the knowledge, skills and integrity to meet the challenges of a changing global society in a positive and productive manner.

The proposed teaching model of PCA integrates a project-based learning style combining the six key 21st century components (ascribed by the Partnership for 21st Century Skills), with a strong core curriculum emphasizing the Science, Technology, Engineering, Arts and Mathematics (STEAM) disciplines. This model will help students develop the necessary skills such as reflective thinking, critical analysis, problem solving, innovation, creativity, communication and self-direction to name a few, enabling them to be successful in college and careers in a highly technological society. The use of real-world applications and experiences in conjunction with 21st century teaching tools and technologies, will provide a unique learning environment that is engaging, relevant, meaningful, exciting and inspiring.

PCA is committed to discovering and nurturing the gifts and talents unique to each student. Their educational model allows the learning process to be adapted to the learning style of the individual thus ensuring the success of all students. The incorporation of the "Love and Logic" program as a school-wide philosophy will enhance the learning environment as character and responsibility are modeled, valued and enforced. Disciplinary issues will be valuable opportunities for teaching important life-skills such as integrity, accountability, compassion, forgiveness and acceptance. The program will help build student-teacher and student-parent relationships as students learn to own and solve their own problems, an invaluable life-skill.

I am a strong supporter of the Paramount Collegiate Academy Charter School as I am confident it will adequately prepare students with the 21st century competencies to be successful in college and beyond. A PCA education model has the potential to inspire lifelong learning, to awaken the desire to transform society and to provide the necessary skills to tackle the challenging issues that face our highly technological world. Please approve the PCA Charter School Petition so students in our community can have access to this unique transformative educational opportunity.

Warm Regards,

Lisa L. Hernandez
Environmental Scientist

TestAmerica Inc. 850 Riverside Parkway West Sacramento, CA 95605 Phone: (916) 214-5894

Material Damage Appraisal

Phone (916) 925-8522
FAX (916) 925-1485
Email: mdaone@pacbell.net

P.O.Box 214043 ☐ 2221 El Camino Avenue ☐ Sacramento, CA 95821

08/21/2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

Material Damage Appraisal is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

James L Drulias

James Drulias Owner/Proprietor
Material Damage Appraisal

NORTH AREA DENTAL LABORATORY
4415 EL CAMINO AVE
SACRAMENTO CA 95821
916-483-5166

March 24, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

North Area Dental Laboratory is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

Thomas A Mays

Owner

RIVER CITY OFFICE SUPPLY INC
1230 T STREET
SACRAMENTO CA 95814

March 24, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

River City Office Supply Inc is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

Helen Gillingham

President

Russian Baptist Church

March 20, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

Russian Baptist Church is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

Pavel Khakimov
Senior Pastor

RUSSIAN CHURCH OF EVANGELICAL CHRISTIAN BAPTISTS
1000 Sacramento Avenue
West Sacramento, CA 95605
916-375-1855

Sheriff's Community Impact Program
2350 Northrop Avenue | Sacramento, CA 95825
916.333.6464 ext 3106
sacscip.org

March 26, 2014

Dear Distinguished Board Members,

This letter is written in support of Paramount Collegiate Academy (PCA). The school's focus on integrated project-based learning promises an appealing alternative to traditional lecture-based education. Offering students an opportunity to apply Science, Technology, Engineering, Arts/Design and Math (STEAM) knowledge to real-life learning situations displays the forward-thinking needed when designing schools for future generations of students.

PCA is committed to educating a diverse population of 6^{th}-12^{th} grade students and equipping them with academic and life skills which will serve them the rest of their lives. The Sacramento Sheriff's Community Impact Program (SCIP) supports this goal and welcomes this school to the Carmichael area. In addition to the academic goals of its charter, PCA's emphasis on community service projects, personal responsibility building and parent volunteerism help grow stronger communities. These are only a few of the many reasons SCIP looks forward to working with and supporting Paramount Collegiate Academy.

If there should be any questions or further information is needed, please do not hesitate to contact me at 916.333.6464 x 3106.

Sincerely,

Mike Saigeon
Founder / Director

MS/ms

EDUCATIONAL SERVICES

July 30, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

This letter is to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. It has great promise to be a positive addition for the children and families in the community.

Sincerely,

Julie Koozer

Julie Koozer
Director of Educational Services

Stanislaus County Office of Education - Educational Options Division
1100 H Street, Modesto, CA 95354
209.238.1511 office - 209.238.4216 fax

www.touchstonecf.org
p. 916-481-7772
4441-A Auburn Blvd.
Sacramento, CA 95841

Touchstone
CHRISTIAN FELLOWSHIP

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

Touchstone Christian Fellowship is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills.* Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside of the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

Sharon Miles

Sharon Miles
Women's Ministry Administrator
Touchstone Christian Fellowship

TRODFIRE INC
Dba MASTER COLOR
1780 VERNON ST
ROSEVILLE CA 95670

March 6, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

Trodfire Inc is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

Brian C. Trombley

Brian Trombley

President

WILLIAM JESSUP
UNIVERSITY

August 18, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

William Jessup University is pleased to support the public schools within our region. We strongly believe in the partnership that has developed between our University and the surrounding school districts. Not only are our graduates serving in many of the schools in the area, but we are pleased to offer conferences and host educators from across the region.

In the context of our support for public education, William Jessup University is pleased to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy has committed to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Because our communities need stronger public schools and more options for families, we are supportive of this exciting new public education option. Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

John Jackson, Ph.D.
President

Main Campus 333 Sunset Boulevard, Rocklin, California 95765 | TEL 916.577.2200 | FAX 916.577.2203 | info@jessup.edu | www.jessup.edu
Bay Area Campus 1190 Saratoga Avenue, Suite 210, San Jose, California 95129 | TEL 669.400.7107 | FAX 669.400.7118 | info@jessup.edu | www.jessup.edu

XLeration Services

August 18, 2014

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

XLeration Services, a local, award-winning techology company, is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

Susan K. Dakuzaku

Susan Dakuzaku, Principal
XLeration Services

APPENDIX E

Parent and Community Outreach

COMMUNITY RECRUITMENT AND OUTREACH

OUTREACH A: Sacramento Area Education Agencies and Service Organizations

Name	Address	Phone	Website
American River College	4700 College Oak Dr Sacramento, CA 95841	916-484-8568	www.arc.losrios.edu
Brighton Schools	777 Levy Rd. Folsom, CA 95630 8544 Auburn Folsom Rd. Granite Bay , CA 95746	916-353-0777 916-791-8050	brightonschools.com
California Education Partners	1130 K Street Sacramento, CA 95814	916-441-2917	caedpartners.org
California Endowment	1414 K Street Ste 500 Sacramento, CA 95814	916-558-6778	calendow.org
California Montessori Project	5325 Engle Rd. Ste 200 Carmichael, CA 95608	916-971-2430	www.cacmp.org
County of Sacramento Health & Human Services	3331 Power Inn Rd Ste 190 Sacramento, CA 95826	916-875-9864	www.saccounty.net
El Rancho School	5636 El Camino Ave Carmichael, CA 95609	916-482-8656	www.elranchoschool.com
HUB – Building Healthy Communities	5709 Stockton Bd. Sacramento, CA 95824	916-454-1892	www.sacBHC.org
Job Corps of Sacramento	3100 Meadowview Rd. Sacramento, CA 95832	916-395-0770	jobcorps.gov
John Adams Academy	1 Sierra Gate Plaza Roseville, CA 95678	916-780-6800	johnadamsacademy.com
Kiwanis Club of Carmichael	5631 Cypress Carmichael, CA 95608	916-944-2137	carmichaelkiwanis.org
Learning Solutions	3031 C Street Sacramento, CA 95816	916-442-2396	www.learningsolutionskids.com
Sacramento City Youth Commission	700 H Street Ste. 7650 Sacramento, CA 95814	916-874-9547	youthcommission.saccounty.net
Sacramento County office of Education	10474 Mather Bd. Sacramento, CA 95826	916-228-2715	scoe.net
Sacramento County ROP School	10474 Mather Bd. Sacramento, CA 95826	916-228-2507	services.scoe.net
Sierra College Outreach	5000 Rocklin Rd Rocklin, CA 95677	916-660-7374	www.sierracollege.edu
West Pioneer Academy (private K-8)	7723 Old Auburn Rd. Citrus Heights, CA 95610	916-723-1400	westpioneeracademy.com
916INK Youth Literacy	PO Box 162605 Sacramento, CA 95816	916-284-7560	916inksacramento.wordpress.com

OUTREACH B: Sacramento Area Neighborhoods

City/Region	Contact	Area / Zip Code
Antelope	Antelope News 7909 Walerga Rd #112-123, Antelope CA 95843 Antelopenews.com / 916-727-6393	95843
Carmichael	Carmichael Times PO Box 14, Carmichael, CA 95609 Carmichaeltimes.com / 916-773-1111	95608, 95609
	Carmichael Community Council 5605 Marconi Ave, Carmichael, CA 95608	916-874-1650
	KYDS-FM 91.5 Radio 4300 El Camino Ave, Sacramento, CA 95857 916-971-7453	Arden-Arcade
Citrus Heights / Orangevale	Citrus Heights Messenger / Orangevale Sun 7405 Greenback Lane #129 Citrus Heights, CA 95610 www.citrusheightsmessenger.com orangevalesun.com / 916-7731111	95610, 95611, 95621, 95622
North Highlands	The North Sacramento News PO Box 904 , North Highlands, CA 95660 www.northsacnews.com / 916-334-6700	95660
Roseville	The Press Tribune 188 Cirby Way, Roseville, CA 95678 www.thepresstribune.com / 916-786-8746	95678, 95661, 95746, 95747
	Woodcreek News 5098 Foothills Bd. Ste 3-504, Roseville, CA 95747 www.egnews.com / 916-727-6384	95747 West Roseville
	Roseville Coalition of Neighborhood Assoc. 5098 Foothills Bd. Ste 3, Roseville, CA 95757 www.rcona.org / 916-248-4878	Roseville
Sacramento	The Sacramento Bee 2100 Q Street, Sacramento, CA 95816 webmaster@sacbee.com / 916-321-1000	94203-94209, 94211, 94299, 94230, 94232, 94234-94237, 94239, 94240, 94244-94250, 94252, 94254, 94256-94259, 94261-94263, 94267-94269, 94271, 94273, 94274, 94277-94280, 94282-94288
	Inside Publications 3104 O Street #120, Sacramento, CA 95816 www.insidepublications.org / 916-224-1604	East Sacramento, Land Park, Arden, Pocket, Carmichael
	Sacramento County Alliance of Neighborhoods PO Box 191257 Sacramento, CA 95819	www.neighborhoodlink.com
	Neighbors in Action Council District 2 440 Las Palmas Ave, Sacramento, CA 95815	cityofsacramento.org

OUTREACH C: Sacramento Area Religious Organizations

Name	Address/City Area	Phone	Website
New Community Christian Church	7909 Walerga Road Antelope, CA 95843	916-992-1997	
Seventh-Day Adventist Church	4219 Antelope Rd Antelope, CA 95843	916-721-3121	www.antelopehills.sda.org
St. Andrew's Episcopal Church	7850 Watt Avenue Antelope, CA 95843	916-332-1476	www.standrewsantelope.org
Carmichael Baptist Church	3210 California Ave Carmichael, CA 95608	916-481-2911	carmichaelbaptist.org
Carmichael Bible Church	7100 Fair Oaks Bd. Carmichael, CA 95608	916-486-8611	www.thecbcfamily.org
Carmichael Presbyterian Church	5645 Marconi Ave Carmichael, CA 95608	916-483-9232	www.carmichaelpres.org
The Church on Cypress	5709 Cypress Ave Carmichael, CA 95608	916-972-8200	www.churchoncypress.org
Christ Community Church	5025 Manzanita Ave Carmichael, CA 95608	916-344-2382	www.cccnow.com
Bayside Church	6540 Sylvan Road Citrus Heights, CA 95610	916-726-2100	www.baysidech.com
Christ Fellowship	7227 Canelo Hills Drive Citrus Heights, CA 95610	916-725-7600	www.cfcch.org
St. Mark's Lutheran Church	7869 Kingswood Drive Citrus Heights, CA 95610	916-961-7891	
Sylvan Oaks Christian Church	6540 Sylvan Oaks Road Citrus Heights, CA 95610	916-726-2100	www.sylvanoaks.org
Fair Oaks Presbyterian	11427 Fair Oaks Bd. Fair Oaks, CA 95628	916-967-4784	
Sunrise Community Church	8321 Greenback Lane Fair Oaks, CA 95628	916-726-4642	www.scconline.cc
First Baptist Church of Folsom	216 Persiter Street Folsom, CA 95630	916-985-3345	
Mount Olive Lutheran Church	320 Montrose Dr Folsom, CA 95630	916-985-2984	
Family Community Church	6331 Watt Ave North Highlands, CA 95660	916-334-7700	www.familycc.org
Zion Lutheran Church	3644 Bolivar Ave North Highlands, CA 95660	916-332-4001	www.zionlutherannh.org
Orangevale Church of Christ	5915 Main Ave Orangevale, CA 95662	916-988-2011	www.ovchurch.org

OUTREACH C: Area Religious Organizations (Cont'd)

Name	Address/City Area	Phone	Website
First Baptist Church of Orangevale	8998 Central Ave Orangevale, CA 95662	916-988-1139	www.lifewaylink.com
Bridgeway Christian Church	3785 Placer Corporate Dr. Rocklin, CA 95765 Ste. 560	916-791-8341	bridgewaychristian.org
Adventure Christian Church	6401 Stanford Ranch Rd Roseville, CA 95678	916-771-5683	info@adventurechurch.org
Bayside Church	8191 Sierra college Bd. Roseville, CA 95746	916-791-1244	baysideonline.com
Life Community Church	10020 Foothill Bd. Roseville, CA 95747	916-788-2697	www.LifeCConline.com
Pleasant Grove Community Church	1730 Pleasant Grove Bd. Roseville, CA 95747	916-771-4447	www.pgcc.ws
St. Clare Parish	1950 Junction Bd. Roseville, CA 95747	916-772-4717	stclareroseville.com
St. John's Episcopal Church	2351 Pleasant Grove Bd. Roseville, CA 95747	916-786-6911	www.stjohnsroseville.org
Capital Christian Center	9470 Micron Ave Sacramento, CA 95827	916-856-5683	capitalonline.cc
Parkview Presbyterian	727 T Street Sacramento, CA 95811	916-443-4464	www.parkviewpc.org
Town and Country Lutheran Church	4049 Marconi Ave Sacramento, CA 95821	916-481-2542	www.buildinguplives.com
Trinity Life Center	5225 Hillsdale Bd. Sacramento, CA 95842	916-348-4673	www.tlcsac.org
Touchstone Christian Fellowship	4441 Auburn Bd. Sacramento, CA 95841	916-481-7772	Touchstone.cf.org
Warehouse Christian Ministries	9933 Business Park Drive Sacramento, CA 95827	916-361-0861	www.warehouseministries.org
Westminster Presbyterian Church	1300 N Street Sacramento, CA 95814	916-442-8939	www.westminsac.org
Russian Baptist Church	1000 Sacramento Ave W. Sacramento, CA 95605	916-375-1855	www.brytecchurch.org

OUTREACH D: Sacramento Area Community Organizations

Name	Address	Phone	Website
Boys and Girls Club of Greater Sacramento	1117 G Street Sacramento, CA 95814	916-442-2582	www.bgcsac.org
Carmichael Chamber of Commerce	6825 Fair Oaks Bd. Ste 100 Carmichael, CA 95608	916-481-1002	www.carmichaelchamber.com
Carmichael Elks Lodge	5631 Cypress Ave Carmichael, CA 95608	916-489-2103	www.elks.org
Carmichael Recreation and Parks District	5750 Grant Ave Carmichael, CA 95608	916-485-5322	carmichaelpark.com
Clunie Community Center	601 Alhambra Bd. Sacramento, CA 95816	916-452-8011	mckinleyparkcenter.org
Gibbons Community Center	4701 Gibbons Drive Carmichael, A 95608	916-972-0336	www.morpd.com
Girl Scouts Heart of Central California	6601 Elvas Ave Sacramento, CA 95819	916-452-9181	www.girlscoutshoc.org
Golden Empire Council (Boy Scouts of America)	251 Commerce Circle Sacramento, CA 95815	916-929-1417	gec-bsa.org
La Sierra Community Center	5325 Engle Road Ste. 100 Carmichael, CA 95608	916-485-5322	carmichaelpark.com
Maidu Community Center	1550 Maidu Drive Roseville, CA 95661	916-774-5950	www.roseville.ca.us
Mission Oaks Parks & Recreation District	3344 Mission Ave Carmichael, CA 95608	916-488-2810	www.morpd.com
Mission Oaks Community Center	4701 Gibbons Drive Carmichael, C A 95608	916-972-0336	www.morpd.com
Roseville Sports Center	1545 Pleasant Grove Bd. Roseville, CA 95747	916-774-5990	roseville.ca.us/parks
Sacramento Fine Arts Center	5330B Gibbons Drive Carmichael, CA 95608	916-971-3713	www.sacfinearts.org
Sacramento Parks and Recreation	915 I Street Sacramento, CA 95814	916-808-5200	www.cityofsacramento.org
Slavic Community Center	2999 Fulton Ave Sacramento, CA 95821	916-485-6410	www.sccmn.org
Swanston Community Center	2350 Northrop Ave Sacramento, CA 95825	916-333-6464	www.morpd.com
Sylvan Community Center	7521 Community Drive Citrus Heights, CA 95621	916-727-5400	sylvancommunitycenter@citrus heights.net
West Sacramento Community Center	1110 West Capitol Ave West Sacramento, CA 95691	916-617-5320	www.westsacfun.org

OUTREACH E: Sacramento Area Businesses

Name	Address	Phone	Website
California Family Fitness	6314 Fair Oaks Bd. Carmichael, CA 95608	916-482-9100	www.californiafamilyfitnes.com
	7941 Fair Oaks Bd. Carmichael, CA 95608	916-944-2900	
	7700 Sunrise Bd. Citrus Heights, CA 95610	916-242-4400	
	700 Oak Ave Parkway Folsom, CA 95630	916-932-1000	
	5839 Dudley McClellan, CA 95652	916-643-8890	
	8680 Greenback Lane Orangevale, CA 95662	916-988-7900	
	1975 Zinfandel Drive Rancho Cordova, CA 95670	916-631-8880	
	2165 Sunset Bd. Rocklin, CA 95765	916-435-2141	
	2511 Warren Drive Rocklin, CA 95677	916-625-9100	
	5001 Foothills Bd. Roseville, CA 95747	916-781-2323	
	428 J Street Sacramento, CA 95814	916-442-9090	
	985 Enterprise Drive Sacramento, CA 95825	916-239-3500	
	3880 Innovator Drive Sacramento, CA 95834	916-239-4455	
	4804 Madison Ave Sacramento, CA 95841	916-339-3800	
Kohl's (Kohl's Cares Program)	5030 Antelope Rd. Antelope, CA 95843	916-338-0655	kohlscorporation.com
	6135 San Juan Ave Citrus Heights, CA 95610	916-721-0777	
	1013 Riley Street Folsom, CA 95630	916-983-9970	
	10375 Fairway Drive Roseville, CA 95678	916-773-1991	
	4700 Natomas Bd. Sacramento, CA 95835	916-928-4260	

OUTREACH E: Sacramento Area Businesses (Cont'd)

Name	Address	Phone	Website
Safeway	4040 Manzanita Ave Carmichael, CA 95608	916-481-2005	www.safeway.com
	7301 Greenback Ln. Citrus Heights, CA 95621	916-727-2424	
	5450 Dewey Drive Fair Oaks, CA 95628	916-904-5356	
	8925 Madison Ave Fair Oaks, CA 95628	916-965-1034	
	1850 Prairie City Way Folsom, CA 95630	916-608-2450	
	10635 Folsom Bd. Rancho Cordova, CA 95670	916-364-4940	
	4805 Granite Drive Rocklin, CA 95677	916-624-0669	
	2220 Sunset Bd. Rocklin, CA 95677	916-789-0101	
	1080 Pleasant Grove Bd. Roseville, CA 95678	916-783-2119	
	8640 Sierra College Bd. Roseville, CA 95661	916-783-2225	
	989 Sunrise Bd. Roseville, CA 95661	916-773-4001	
	9045 Woodcreek Oaks Bd. Roseville, CA 95747	916-780-9919	
	2851 Del Paso Rd Sacramento, CA 95835	916-285-8840	
	5345 Elkhorn Bd. Sacramento, CA 95842	916-331-2987	
	424 Howe Ave Sacramento, CA 95825	916-483-9574	
	3320 Arden Way Sacramento, CA 95825	916-483-9329	
	1025 Alhambra Bd. Sacramento, CA 95816	916-456-0852	
	1814 19th Street Sacramento, CA 95814	916-492-9967	
	1298 W. Capital Ave West Sacramento, CA 95691	916-371-5205	

OUTREACH E: Sacramento Area Businesses (Cont'd)

Name	Address	Phone	Website
Starbucks	4241 Elverta Rd. Antelope, CA 95843	916-721-5082	www.starbucks.com
	4005 Manzanita Ave Carmichael, CA 95608	916-488-4932	
	5149 Manzanita Ave Carmichael, CA 95608	916-332-6927	
	6908 Fair Oaks Bd. Carmichael, CA 95608	916-485-6798	
	7088 Auburn Bd. Citrus Heights, CA 95621	916-723-1827	
	6711 Madison Ave Fair Oaks, CA 95628	916-965-6985	
	4332 Watt Ave North Highlands, CA 95660	916-974-1539	
	8904 Greenback Lane Orangevale, CA 95662	916-987-4722	
	1228 Galleria Bd. Roseville, CA 95678	916-784-7004	
	4000 Foothills Bd. Roseville, CA 95747	916-797-1458	
	4700 College Oak Dr. Sacramento, CA 95815	916-925-5639	
	1140 Exposition Bd. Sacramento, CA 95815	916-925-5639	
	2119 Fulton Ave Sacramento, CA 95825	916-483-7029	
	6306 Garfield Ave Sacramento, CA 95841	916-331-5238	
	2648 Watt Ave Sacramento, CA 95821	916-483-7433	
	4301 Arden Way Sacramento, CA 95864	916-482-1205	
	1 Adobe Ct/ Towne &Country Sacramento, CA 95821	916-485-6922	
	2121 Natomas Crossing Dr Sacramento, CA 95834	916-515-0837	
	1401 Alhambra Bd. Sacramento, CA 95815	916-452-1707	

OUTREACH E: Sacramento Area Businesses (Cont'd)

Name	Address	Phone	Website
Target	5837 Sunrise Blvd Citrus Heights, CA 95610-6866	(916) 966-5267	www.target.com
	1925 Douglas Blvd Roseville, CA 95661-3834	(916) 786-8787	
	10451 Fairway Dr Roseville, CA 95678-1987	(916) 780-1020	
	1919 Fulton Ave Sacramento, CA 95825-1905	(916) 483-6093	
	5001 Madison Ave Sacramento, CA 95841-2604	(916) 348-3701	
Walmart Stores, Inc.	8961 Greenback Ln Orangevale, CA 95662	(916) 989-5800	www.walmart.com
	900 Pleasant Grove Blvd. Roseville, CA 95678	(916) 786-6768	
	5821 Antelope Rd Sacramento, CA 95842	916-729-6162	
	7901 Watt Ave. Sacramento, CA 95843	(916) 332-3173	

OUTREACH F: Sacramento Area Libraries

Name	Address	Phone	Website
Placer Libraries	6475 Douglas Bd. Granite Bay, CA 95661	916-791-5590	www.placer.ca.gov
	6050 Library Drive Loomis, CA 95650	916-652-7061	
	4890 Granite Drive Rocklin, CA 95677	916-624-3133	
Roseville Libraries	225 Taylor Rd Roseville, CA 95678	916-774-5221	www.roseville.ca.us/library
	1530 Maidu Drive Roseville, CA 95611		
	1501 Pleasant Grove Bd. Roseville, CA 95747		
Sacramento Public Libraries	Arcade: 2443 Marconi Ave Sacramento, CA 95821	916-264-2700	www.saclibrary.org
	Arden-Dimick: 891 Watt Ave Sacramento, CA 95846	916-264-2700	
	Carmichael: 5605 Marconi Ave Carmichael, CA 95608	916-264-2700	
	Central: 828 I Street Sacramento, CA 95814	916-264-2700	
	Del Paso Heights: 920 Grand Ave Sacramento, CA 95838	916-264-2700	
	Fair oaks: 11601 Fair Oaks Bd. Fair Oaks, CA 95628	916-264-2700	
	Folsom: 411 Stafford Street Folsom, CA 95630	916-355-7374	
	McKinley: 601 Alhambra Bd. Sacramento, CA 95816	916-264-2700	
	North Natomas: 4460 Via Ingoglia Sacramento, CA 95834	916-264-2700	
	North Highlands: 4235 Antelope Rd. Antelope, CA 95843	916-264-2700	
	North Sacramento: 2109 Del Paso Bd. Sacramento, CA 95815	916-264-2700	
	Orangevale: 8820 Greenback Lane Ste L Orangevale, CA 95662	916-264-2700	
	South Natomas: 2901 Truxel Rd Sacramento, CA 95833	916-264-2700	
	Sylvan Oaks: 6700 Auburn Bd. Citrus Heights, CA 95621	916-264-2700	

Paramount Education Inc.
Founding Board of Directors

Dawn Contreras Douglas
Founder/CEO/Chairman
Education reformer with nearly 30 years of teaching and administrative experience at all levels of K-12 traditional and charter public schools; Appointed by State Superintendent Torlakson to serve on the Next Generation Science Standards Development Committee and STEM Task Force; Winner-Governors Performance Award for school achievement and turnaround; Appointed California Department of Education Representative, California Student Aid Commission

David A. Cox
Vice-Chairman
Sacramento attorney and owner of Cox Law-areas of practice include contract, business and non-profit law; Expertise in renewable energy/fuels and public policy; Awarded prestigious Jesse Marvin Unruh Fellowship; Served as Legislative Director and Chief of Staff, California State Assembly; Co-founder of Coalition for Renewable Natural Gas, currently serving as General Counsel and Director of Operations.

Elaine Mays
Secretary/Treasurer
Accountant and Owner of Viking Tax Service serving the greater Sacramento area for over two decades; Two decades of non-profit fundraising

Debby Walker
Administrator, & Director, Mission Oaks Parks and Recreation District; Serves as Board Member, Sacramento County Sheriffs Impact Program

Rob Gerig
Former school administrator, counselor, coach, and teacher with over 30 years experience at all levels of education; Founder of SAVA charter school in S. Sacramento area

PROUD PARTNERS:

CCSA California Charter Schools Association

Carmichael Chamber of Commerce

Paramount Education

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Fax: 916.757.1479
E-mail: dcdouglas@pcaeducation.org

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Paramount Collegiate Academy admits students of any race, color, and national or ethnic origin.

STEAM
Science
Technology
Arts
Engineering
Math

PCA

PARAMOUNT COLLEGIATE ACADEMY

21st Century Readiness for All Students

Development Team

PCA's Founding Board is joined by: Tom Montgomery-Technical Solutions Architect, ***CISCO Systems, Inc.***; David Brown-Computer Analyst, ***Western Dental***; Kyle Hayes-Computer Software Designer, ***The Disney Corporation***; Dr. Sharon Tucker-Retired Superintendent, ***Fairfield-Suisun School District/Visalia School District,*** Sr. Program Associate, ***WestEd***; John Wight-***CLMS Educator of the Year;*** Writer, ***AIMS Math/Science,*** Dr. John McNeil-Internationally Renown Professor & Author, ***UCLA,*** James Sellards-Sr. Engineering Technician, ***Fehr & Peers***; Sharon Miles-Teacher, National Trainer, ***Goals 2000***; Amber McConnell-Graphic Designer, Brandon McConnell-***Coca Cola*** Management/Computer Technician; Edric Cane-Math Expert & Author; Parker Anderson-Computer Networker, Graduate ***American River College***; Jon Bookout-Math Specialist, ***College of the Sequoias***; Rachel Defer-Artist/Teacher; Sommer Gonzalez-Teacher Intern, Charter Paraprofessional, Parent; Cat Kaslan-Business Entrepreneur, College/Career Counselor; James Clemmer -Special Education Teacher; Heidi Speiss-Admissions/Teacher; Rachel Radekin-Teacher, Parent., Jennifer Dithridge-Saigeon-Teacher, Arts Specialist, Community & Youth Programs; Richard Ellwood-***EMC Corp.***, Partner Manager; Bianey Ruiz-*Marriott Hotels*, Manager, Hotel and Hospitality Industry; Amy Baquera-***CALPERS*** Retirement Analyst, and Stephanie and James Drulias-Parents.

21st Century Learning Model

The curricular and instructional learning model for Paramount Collegiate Academy will utilize the six key elements of 21st Century learning ascribed by the *Partnership for 21st Century Skills*. These six key components are:

⇒ Emphasizing core subjects at higher levels of understanding

⇒ Emphasizing information and technology skills, thinking and problem solving skills, and interpersonal and self-directional skills

⇒ Use of 21st century tools such as digital technology and communication to enable students to access, manage, integrate and evaluate new information, as well as construct new knowledge, and communicate with others in order to develop learning skills

⇒ Use of real-world applications, experiences, and contexts, making learning relevant and meaningful

⇒ Teaching global awareness, financial, economic, business, and civic literacy

⇒ Use of 21st century assessments via both standardized and classroom assessments

School Design

Paramount Collegiate Academy is a **free 6-12th grade public college preparatory charter school.** PCA will offer **small class sizes and is open to all students,** including residents of Carmichael, Roseville, North Highlands, Antelope, Citrus Heights and all areas of the Sacramento region. Integrated project-based learning will focus on *STEAM-Science, Technology, Engineering, Arts/Design, and Mathematics* using real world applications.

Mission

To equip all students for fulfilling and productive lives in the 21st Century

Paramount Education Inc.
Consejo de Administración de Fundación

Dawn Contreras Douglas
Fundadora/Directora General/Presidenta
Reformadora de la educacion con casi 30 anos de ensenanza y experiencia administrative a todos los niveles de K-12 tradicional y escuelas publicas Charter; designado por el superintendente estatal Torlakson server en el Comite de desarrollo de Estandares de Ciencia de Proxima generacion y el Grupo de trabajo del STEAM de Torlakson; Winner-Governors Performance Award para logro escolar y vuelta; Administrador de la Estrella de Plata del Ano; representante de Ministerio de Educacion de California Designado, Comisio de Ayuda Estudiantil de California.

David A. Cox
Vice-Presidente
Abogado de Sacramento y dueno de Cox Law. Areas de practica incluyen contratos, negocios y derecho y non-profit law; Experto en energias renovables y politicas publicas; Otorgado el prestigioso Jesse Marvin Unruh Fellowship; Servio como Director Legislativo y Jefe de Estado Mayor, California State Assembly; Co-fundador de Coalicion para Renovar Gas Natural, actualmente serviendo como Consejero General y Director de Operaciones.

Elaine Mays
Secretaria/Treasurer
Contadora y Propietaria de Viking Tax Service Sirviendo el area metropolitan de Sacramento por mas de doz decadas; Doz decadas de recaudacion de fondos sin fines de lucro.

Debby Walker
Administratora, & Directora, Mission Oaks Parks and Recreation District; Sirve como miembre de la junta–Programa de Sacramento County Sheriffs

Rob Gerig
Administrador de escuela, consejero, entrenador, y professor con mas de 30 anos de experiencia en todos los niveles de educacion; fundador de la escuela charter SAVA en la area Sur de Sacramento

Nuestros Socios:

California Charter Schools Association

Carmichael Chamber of Commerce

Paramount Education

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dcdouglas@pcaeducation.org

Siguenos a:
www.pcaeducation.org

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Paramount Collegiate Academy admite estudiantes de cualquier raza, color y origen nacional o étnico.

STEAM

Matemáticas
Tecnología
Ciencia
Ingeniería
Arte

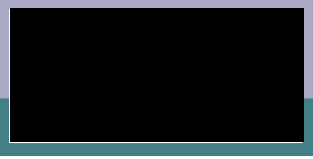
PCA

PARAMOUNT
COLLEGIATE ACADEMY

Preparacion Del Siglo 21 Para Todos Los Estudiantes

Equipo de Desarollo

El equipo de desarrollo de PCA incluye profesionales calificados y expertos en ensenanza,curriculo, administracion, tecnologia, desarrollo de software, sin fines de lucro y derecho empresarial, contabilidad, ciencias, ingenieria, gestion empresarial y matematicas desde el area de Sacramento y a traves de California. En adicion a los directores del consejo de fundacion, PCA es unido con miembros: Tom Montgomery-Arquitecto de Soluciones Tecnicos, ***CISCO Systems, Inc.***; David Brown-Analizador de Computadoras, ***Western Dental***; Kyle Hayes-Desinador de Software para Computadoras, ***The Disney Corporation***; Dr. Sharon Tucker, Superintendente Retirada, ***Fairfield-Suisun Unified School District/Visalia Unified School District,*** Associada de Senior Program, ***WestEd***; John Wight-***California League of Middle School's Educator of the Year;*** Writer of ***AIMS Math and Science***; Dr. John McNeil, Educacion internacionalmente reconocida y professor de estudios, ***UCLA***, Autor de varios publicaciones, incluyendo, ***"Curriculum, The Teacher's Initiative"***; James Sellards, Tecnico Superior de Ingenieria, ***Fehr & Peers***; Sharon Miles-Mentora y Maestra Y Entrenadora Nacional,, ***Goals 2000***; Amber McConnell- Disenadora de Graficos por Computadora/Propietaria de *Crazeeadesigns4u;* Brandon McConnell-Gestion Empresarial, Tecnico de la Tecnologia Informatica; Edric Cane-Experto de Matematicas y Autor de ***"Teaching to Intuition, Constructive Implementation of the Common Core State Standards In Mathematics"***; Parker Anderson-Networker de Computadoras, Graduante de ***American River College***; Jon Bookout-Especialista de Matematicas, ***College of the Sequoias***; Rachel Defer-Artista y Maestra; Sommer Gonzalez-Interna de Ensenansa y Desarollo Infantil, Profesional de Charter School, Padre; Cat Kaslan-Empresaria de Negocios, Consejera de Colegio y Careras; James Clemmer-Maestro de Educacion Especial; Heidi Speiss-Administradora de de Admisiones y Maestra; Rachel Radekin- Entrenadora de Curiculo, Maestra, Padre;Amy Bacquera- CAPLERS analysta de retiros y Stephanie y James Drulias- Padres



Modelo de Aprendizaje Siglo 21

El modelo de aprendizaje curricular y educacional para Paramount Collegiate Academy utilizaran los seis elementos claves de aprendizaje del Siglo 21 asignado por of el *Partnership for 21st Century Skills*. Estos seis componentes:

⇒ La acentuacion de materias basicas a niveles mas altos de comprension

⇒ La acentuacion de informacion habilidades de la tecnologia, el pensamiento y tecnicas de resolucion de problemas y habilidades interpersonales y autodireccionales

⇒ El uso de instrumentos del Siglo 21 como la tecnologia digital y la comunicacion para permitir a los estudiantes accesar, administrar, integrar y evaluar nueva informacion, asi como construir nuevos conocimientos y comunicarse con otros para desarrollar habilidades de aprendizaje

⇒ Uso de aplicaciones del mundo real, experiencias y contextos, hacer el aprendizaje relevante y significativo

⇒ Ensenanza de la conciencia global, financiera, economica, comercial y alfabetizacion civica

⇒ Uso de evaluaciones del Siglo 21 a traves de la escuela y tambien en el modo estandarizadas

Disegno de Escuela

Paramount Collegiate Academy es una **escuela gratis de carta preparatoria colegio público para grados 6-12**. PCA ofrecerá clases pequeñas y está abierto a todos los estudiantes, incluyendo los residentes de Carmichael, Roseville, North Highlands, Antelope y todas las áreas de la región de Sacramento. Aprendizaje basado en proyectos integrado se centrará en Ciencia, Tecnología, Ingeniería, Artes y Diseño y Matemáticas usando las aplicaciones del mundo real.

Mision

Para equipar a todos los estudiantes para vidas satisfactorias y productivas en el Siglo 21.

Paramount Education Inc.
Founding Board of Directors

Dawn Contreras Douglas
Основатель/CEO/Председатель
Педагогическое образование, почти 30 лет педагогического и административного опыта на уровнях K-12 традиционных и чартерных школах; назначена Государственным Суперинтендентом *Torlakson* для работы со следующим поколением. Победитель Премии работы в школах; Серебряная звезда Администратор года; Назначена Калифорнийским Департаментом в комиссию по помощи студентам.

David A. Cox
Заместитель Председателя
Адвокат Сакраменто и владелец «*Buzz*»
В его адвокатскую практику включает: контракт бизнеса и некоммерческие законы. Экспертиза в области источников энергии и топлива и государственной политики. Награжден престижной Джесси Марвин Уиру стипендией. Работал директором Законодательного Департамента штата Калифорния. В настоящее время выступает в качестве главного юридического консультанта.

Elaine Mays
Секретарь/Казначей
Двадцатилетний стаж работы Бухгалтера по всем областям Сакраменто; владелец налоговой службы Викинг и десятать лет по сбору некоммерческих средств.

Debby Walker
Администратор и Директор парка "*Magic Oaks*" и Зон отдыха; Состоит членом в "*Sacramento County Sheriffs Impact*" программе.

Rob Gerig
Бывший школьный администратор, капсультант, тренер и учитель больше чем 30лет стажа в образовании. Основатель SAVA чартерной

ПАРТНЕРЫ:

CCSA
California Charter Schools Association

CARMICHAEL CHAMBER OF COMMERCE

Paramount Education

Paramount Education Inc.
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Roseville, California 95747

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Fax: 916.757.1479
E-mail: dcdouglas@pcaeducation.org
Follow us at:
www.pcaeducation.org

Paramount Collegiate Academy это бесплатная чартерная школа всех расс, цветов кожи, национальностей и происхождений.

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PCA

PARAMOUNT COLLEGIATE ACADEMY

21st Century Readiness for All Students

[redacted]

Development Team

PCA состоит из команды высококвалифицированных специалистов в области преподавания, технологии, программистов, некоммерческих и предпринимательских прав, бухгалтерского учета, науки, техники, математики, которые из областей Сакраменто и всей Калифорнии. Далее перечисляются их имена и титул: Tom Montgomery-Technical Solutions Architect, ***CISCO Systems, Inc.***; David Brown-Computer Analyst, ***Western Dental***; Kyle Hayes-Computer Software Designer, ***The Disney Corporation***; Dr. Sharon Tucker, Retired Superintendent, ***Fairfield-Suisun Unified School District/Visalia Unified School District***, Senior Program Associate, ***WestEd***; John Wight-***California League of Middle School's Educator of the Year***; Writer of ***AIMS Math and Science***; Dr. John McNeil, Internationally Reknown Education and Curriculum Professor, ***UCLA***, Author of several publications, including, ***"Curriculum, The Teacher's Initiative"***; James Sellards, Senior Engineering Technician, ***Fehr & Peers***; Sharon Miles-Mentor Teacher and National Trainer, ***Goals 2000***; Amber McConnell-Computer Graphic Designer/Owner *Crazeeadesigns4u;* Brandon McConnell-Business Management, Computer Technology Technician; Edric Cane-Mathematics Expert and Author of ***"Teaching to Intuition, Constructive Implementation of the Common Core State Standards In Mathematics"***; Parker Anderson-Computer Networker, Graduate ***American River College***; Jon Bookout-Mathematics Specialist, ***College of the Sequoias***; Rachel Defer-Artist and Teacher; Sommer Gonzalez-Child Development and Teacher Intern, Charter School Paraprofessional, Parent; Cat Kaslan-Business Entrepreneur, College and Career Counselor; James Clemmer-Special Education Teacher; Heidi Speiss-Admissions Administrator and Teacher; Rachel Radekin-Curriculum Coach, Teacher,Parent; Jennifer Dithridge-Saigeon-Teacher, Community & Youth Programs Management; Amy Barquera-CALPERS Retirement Analyst; Stephanie and James Drulias-Parents

Обучающая модель 21 века

Учебная программа и пособия PCA используют 6 ключевых элементов 21 века. Эти элементы состоят из:

⇒ Преподования основных предметов на высоком уровне.

⇒ Делая акцент на информацию, технологичестие навыки, умение осмысливать и решать задачи.

⇒ Использование технологических достижений 21 века, позволяющих ученикам общаться и применять информацию при развитии учебных умений.

⇒ Использование знаний в реальных сетуациях, делая обучение значельным.

⇒ Обучение мыслить глобально; Обучение финансовой, экономической и социальной грамотности.

⇒ При государсвенном и местном тестировании испольсовать навыки 21 века.

Школьная структура

Paramount Collegiate Academy – это бесплатная государственная школа с 6 по 12 класса. PCA предусматривает классы с небольшим коллиществом учеников для жителей Carmichael, Roseville, North Highlands, Antelope и всех других жителей Сакрамена. С глубоким изучением следующих предмотов:

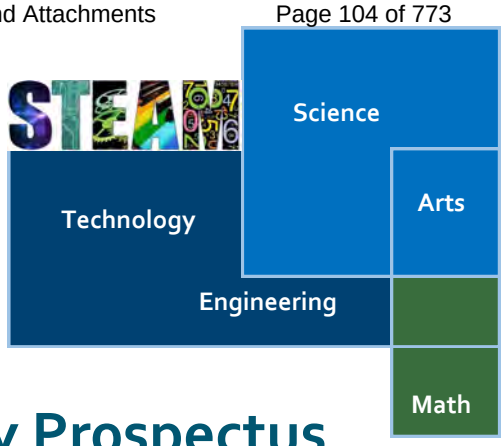
Science, Technology, Engineering, Arts/Design, Mathematics

Миссия

Обеспечить всех студентов знаниями и умениями, которые они смогут применить живя в 21 веке.

PCA

21st Century Readiness for All Students



Paramount Collegiate Academy Prospectus

Mission: To equip all students for fulfilling and productive lives in the 21st century

Vision: Paramount Collegiate Academy will be located in Carmichael, California and be open to all 6—12th grade middle and high school students. PCA will provide a college preparatory program that addresses the diverse needs of a highly technologic and global society, an exemplary school program for the capital region. With small class sizes and using best research based practices, PCA will appropriately equip all students for the 21st century.

Highlights of the School Model:

- Small class sizes
- Project-based learning
- Integrated STEAM (Science, Technology, Engineering, Art, and Mathematics)
- 21st Century Skills
- Differentiated Instruction
- Individual Learning Plans for all students
- Community Service Projects
- Love and Logic Personal Responsibility Building
- Multiple Student Performance Measures, Including Digital Portfolios, Authentic Assessments
- Parent Volunteer Hours
- Block Schedule
- Intercession Electives and Academic Support Classes
- Real-World Applications

Core Values:

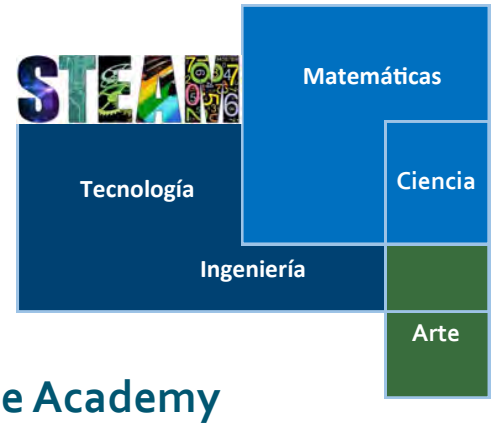
The teachers, families, support staff, and board members of Paramount Collegiate Academy are highly dedicated to the following core values:

- **INNOVATION**-innovative, creative, and critical problem solving; exploring and seeking new possibilities
- **INSPIRATION**-igniting passion and personal motivation to succeed at one's highest level as a result of being a significant contribution to a greater good group or team
- **SERVICE**-serving and giving back to others and the community
- **COLLABORATION**-working productively, using one's gifts and talents with a community of individuals, students, parents, and school succeed as a collaborative team
- **GROWTH AND LEARNING**-growth, learning, and continuous improvement are lifelong processes

Learn more at: www.pcaeducation.org

Paramount Collegiate Academy is a free public charter school that admits students of any race, color, and national or ethnic origin.

21st Century Readiness for All Students



Prospecto de Paramount Collegiate Academy

Que es PCA?

Mision: Para equipar a todos los estudiantes para vidas satisfactorias y productivas en el Siglo 21.

Vision: Paramount Collegiate Academy va a estar localisado en Carmichael, California y estara desponible para todos los estudiantes del 6—12th grado, estudiantes de Secundaria y la Preparatoria. PCA va a proveir un programa de preparacion universitaria que aborda las diversas necesidades deuna sociedad altamente tecnologica y global. Sera un programa de escuela ejemplar para la region capital. Tendra clases pequenas y utilizaran las mejores practicas basadas en investigaciones. PCA equipara adecuadamente a todos los estudiantes para el Siglo 21.

Aspectos mas Destacados del Modelo Escolar:

- Clases pequenas
- Aprendizaje basado en proyectos
- Integrara STEAM (Science:Ciencia, Technology:Tecnologia, Engineering: Ingenieria, Art: Arte, y Mathematics: Matematicas)
- Habilidades para el Siglo 21
- Instruccion Diferenciada
- Planes Individuales para todos los estudiantes
- Proyectos de trabajo comunitario
- Edificacion de Responsabilidad Personal de Amor y lo logico
- Multiples Medidas de Desempeno Estudiantil, Incluyendo Portofolios Digitales, Evaluaciones Autenticas
- Horas de Trabajo Voluntario de los Padres
- Horarios de bloque
- Asignaturas optativas de intercession y Clases de Apoyo Academico
- Aplicaciones del Mundo Real

Valores Fundamentales:

Los maestros, familias, personal de apoyo, y miembros de la junta directiva de Paramount Collegiate Academy se dedican a los siguientes valores fundamentales:

- **INNOVACION**-innovador, creativo, y solucion de problemas criticas; explorando y buscando nuevas posabilidades
- **INSPIRACION**-ignando pasion y motivacion personal para sobresalir en el nivel mas alto de uno como resultado de ser un contributor significante a un buen grupo o equipo mayor
- **SERVICIO**-servir y dar de vuelta a otros y a la comunidad
- **COLABORACION**-productivamente trabajando, usando dones y talentos con la comunidad de personas, los estudiantes, los padres, y la escuela para tener exito como un equipo de colaboracion
- **CRECIMIENTO Y APRENDIZAJE**-crecimiento, aprendzaje, y la continuacion de mejoracimeiento es un proceso permanente.

Aprende mas : www.pcaeducation.org

21st Century Readiness for All Students

Paramount Collegiate Academy Prospectus

Миссия: Для подготовки всех студентов для полноценной и продыктивной жизни в 21 веке.

Видение: Paramount Collegiate Academy открывается в Carmichael, California для студентов 6-12 класса. PCA предоставляет подготовительную программу, которая будет учитывать различные потребности высоко технологического и глобального общества: образцовая школьная программа для всего региона. Малое количество студентов в кажком классе и самая лучшая практика; PCA грамотно и соответствующим образом снарядит и подготовит студентов к 21 веку.

Основные модели школы:

- Малое количество учеников в классе.
- Проективнов обучение.
- Интегрированный STEA (Наука, Технология, Инженерия, Искусства и Математика)
- 21-го века Навыки
- Отличительное обучение
- Индивидуальные планы обучения для всех студентов
- Общественная работа в области услуг
- Любовь и Логика Построения Персональной Ответственности
- Множество Мер Студенческой Производительности, Включая Цифровые Портфолио и Достоверные Оценки
- Родительские Волонтерские часы
- Блок расписания
- Факультативы и Академические занятия
- Реальные Апликации

Основные ценности: Учетиля, родители , персонал и члены правления PCA высоко посвящены:

- **НОВИНКА**-творчество, изучение нового и поиск новых возможностей
- **ВДОХНОВЕНИЕ**-зажигая стремление и личную мотивацию для достижения успешного результата на высшем уровне чтобы стать значительным вкладом в большой команде.
- **СЕРВИС**-обслуживание и отдача обществу
- **СОТРУДНИЧЕСТВО**-продуктивно работать, используя свои дары и таланты индивидуально со студентами, родителями и достижении группового успеха.
- **РОСТ И ОБУЧЕНИВ**-рост, обучения и постоянное совершенствование – являются пожизненными процессами.

Больше информации смотрите на: www.pcaeducation.org

Paramount Collegiate Academy это бесплатная чартерная школа всех расс, цветов кожи, национальностей и происхождений.

PARAMOUNT COLLEGIATE ACADEMY IS COMING!

STEAM EDUCATION: SCIENCE, TECHNOLOGY, ENGINEERING, ARTS, AND MATHEMATICS

SMALL CLASSES • PROJECT-BASED LEARNING
INDIVIDUAL LEARNING PLANS • CRITICAL THINKING

COME LEARN ABOUT OUR FREE PUBLIC CHARTER MIDDLE/HIGH SCHOOL OPENING IN FALL 2015!

WEDNESDAY- JULY 16 @ 7 p.m.
~Arden Dimick Community Room~
891 Watt Ave., Sacramento, CA 95864

Visit us at: www.pcaeducation.org

PARAMOUNT COLLEGIATE ACADEMY IS COMING!

STEAM EDUCATION: SCIENCE, TECHNOLOGY, ENGINEERING, ARTS, AND MATHEMATICS

SMALL CLASSES • PROJECT-BASED LEARNING
INDIVIDUAL LEARNING PLANS • CRITICAL THINKING

COME LEARN ABOUT OUR FREE PUBLIC CHARTER MIDDLE/HIGH SCHOOL OPENING IN FALL 2015!

WEDNESDAY- June 25 @ 7 p.m.
~North Highlands-Antelope Community Room~
4235 Antelope Road, Antelope, CA 95843

Visit us at: www.pcaeducation.org

PARAMOUNT COLLEGIATE ACADEMY

PCA

PCA LEARNING MODEL:

Integrated Science, Technology, Engineering, Art, and Mathematics (STEAM)

IS YOUR CHILD BEING EQUIPPED FOR OUR 21ST CENTURY?

Project-Based Learning • Authentic Assessment • Digital Portfolios • Real-World Applications • Community Service Projects • Creativity, Innovation, Critical Thinking, Problem Solving, Communication, and Collaboration • Love & Logic Responsibility •

Building Global Literacy in this 21st Century

Please join us at our

Parent Information Meeting to learn more about the free public charter middle/high school scheduled to open next Fall 2014!

Wednesday- January 8th @ 7 p.m.
Wednesday- January 22nd @ 7 p.m.

~The Church on Cypress~

5709 Cypress Ave. Carmichael, CA 95608

PCA

21st Century Readiness for All Students

Dawn ContrerasDouglas <dcdouglas@pcaeducation.org>

PCA E-Newsletter

Paramount Collegiate Academy <dcdouglas@pcaeducation.org> Mon, Aug 4, 2014 at 9:29 PM
Reply-To: Paramount Collegiate Academy <dcdouglas@pcaeducation.org>
To: Dawn <dcdouglas@pcaeducation.org>

STEAM PARAMOUNT COLLEGIATE ACADEMY
E-NEWSLETTER

August 4, 2014

Welcome to the PCA E-Newsletter!

Have You Signed the Parent Petition?

It is exciting times for PCA! Our Board of Directors and Development Team have been extremely busy finalizing all documents and preparations to submit Paramount Collegiate Academy's Charter Petition to San Juan Unified School District. Parent Information Nights were held to discuss the outstanding program of PCA such as small classes, project-based learning, science, technology, engineering, arts, and math-STEAM, and individual learning plans for all students. We have been holding Information Booths this summer and parent signatures are being collected quickly. Hurry! Assure your child a space in PCA by contacting our office at 916-757-1479 to add your signature of meaningful interest to the petition.

Get Ready to PACK THE HOUSE!

PCA's Charter Petition will receive its Public Hearing by the Trustees of the San Juan Unified School District at one of its Regular Board Meetings in September. Collect all of your children, friends, cousins, grandparents, family, and friends and get ready to PACK THE HOUSE of the SJUSD Board Room! PCA Board Members, Development Team, family and friends will wear new

PCA Upcoming Events

Petition Submission to SJUSD
August 29, 2014

Public Hearing on PCA Petition
September, 2014-TBA

About PCA's Board and Development Team

PCA's Team represents more than 32 experts and skilled professionals in the areas of technology, engineering, administration, finance, business law, facilities, science, engineering, and mathematics from the Sacramento region and across California.

Board of Directors
Dawn Contreras Douglas, David Cox, Elaine Mays, Debora Walker, and Rob Gerig

school shirts and carry signs in support of PCA's outstanding educational program that provides a high quality school option for families and the community.

Join Us and Make a Difference

Over the past decade, the charter school movement has gained rapid popularity across the nation. There are currently over 91,000 students on waiting lists for charter schools! It is overwhelmingly inspiring and a precious gift to serve with caring and devoted families and individuals of the Paramount Collegiate Academy Team. If you are interested in being a part of something truly remarkable, consider joining our PCA Team in making a huge difference in local education. Parents, teachers, administrators, business leaders, and community are working together to craft a top quality middle and high school program for students of the Sacramento area.

Thank you ALL for your exceptional service to our children and their future.

Dawn Contreras Douglas
Founder, Paramount Collegiate Academy

Visit us at: www.pcaeducation.org to learn more!

Development Team

Tom Montgomery, David Brown, Kyle Hayes, Dr. Sharon Tucker, John Wight, Dr. John McNeil, James Sellards, Sharon Miles, Amber McConnell, Brandon McConnell, Dr. Edric Cane, Parker Anderson, Jon Bookout, Rachel Defer-Lewis, Sommer Gonzalez, Catherine Kaslan, James Clemmer, Heidi Speiss, Rachel Radekin, Julie Koozer, Jennifer Dithridge-Saigeon, Richard Ellwood, Amy Baquera, Bianey Ruiz, Amy Baquera, James Drulias, and Stephanie Drulias.

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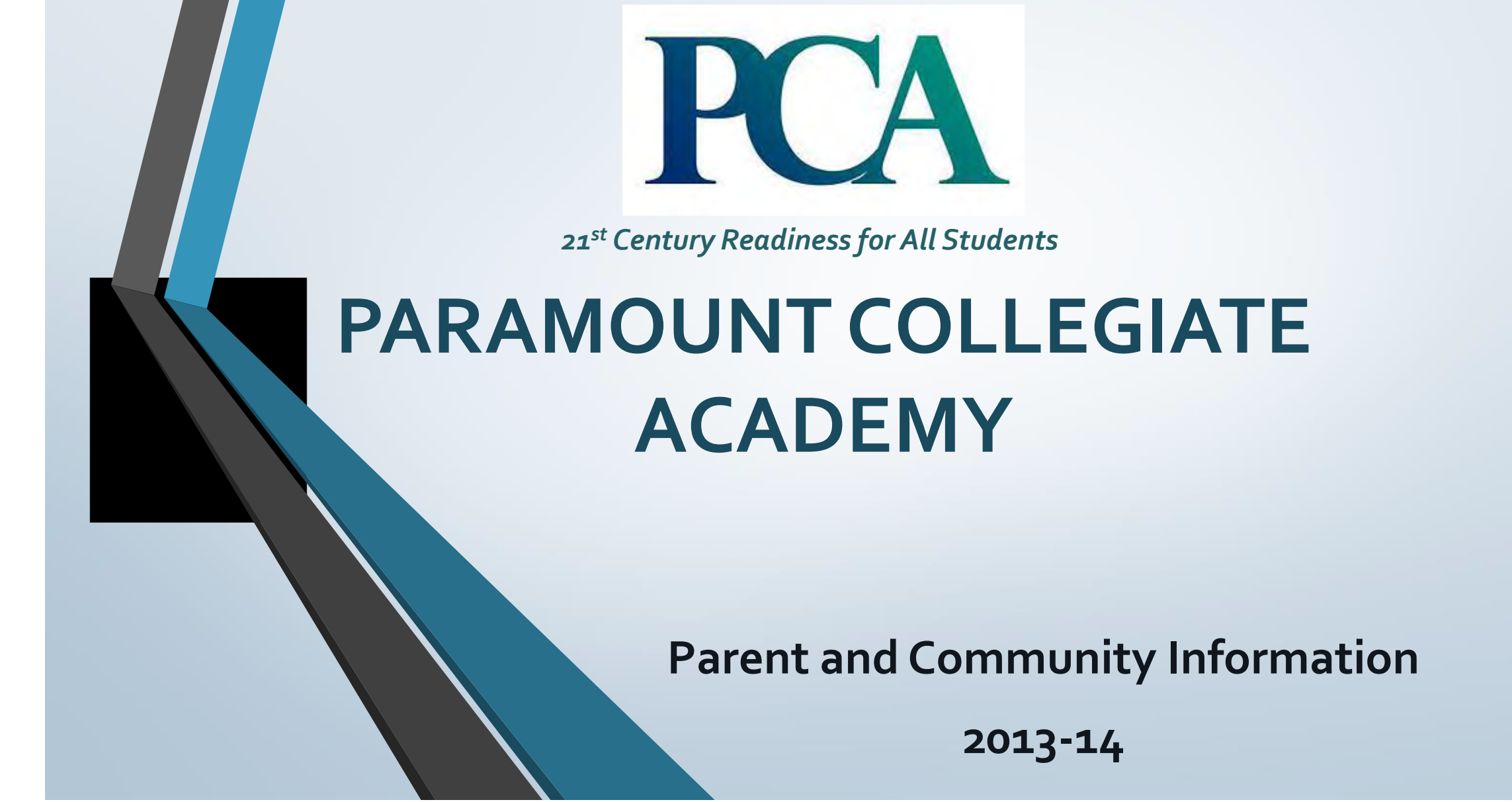
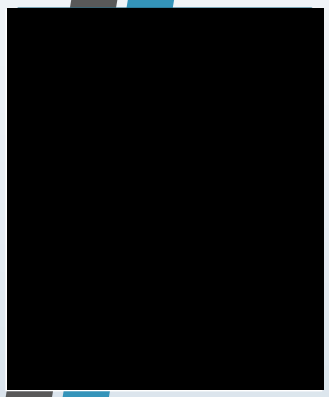

PCA
21st Century Readiness for All Students
PARAMOUNT COLLEGIATE ACADEMY
Parent and Community Information
2013-14

Meet the Founding Board of Directors

- Highly skilled experts in teaching, curriculum, administration, technology, computer software development, non-profit and business law, accounting, facilities, science, engineering, and mathematics.
- Advisors from across California
- Diverse, exceptionally talented team, representing finest in expert skills, experience, knowledge and perspectives
- Ensuring PCA's mission becomes a reality.

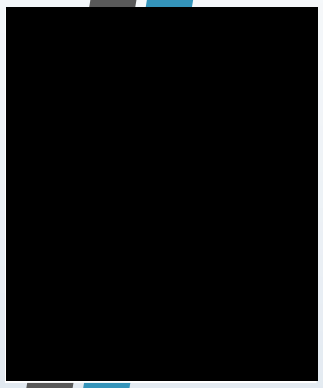
Dawn Contreras Douglas
Founder/CEO

- 30 years experience as Mentor Teacher, Trainer, Middle and High School Principal, Director, Chief Accountability Officer
- School reformer, leading middle and high school turnarounds; 2001, *California Governors Performance Award* for outstanding school turnaround
- Superintendent Torlakson's appointee-*Next Generation Science Standards Development Committee*, *STEM Task Force*; 2012 Administrator *Silver Star Award*, Capital Region
- BA-Education, MS-Counseling, MA-Education Administration; Top of classes, including Joint Doctoral studies, Educational Leadership-UC Davis and CSU, Fresno



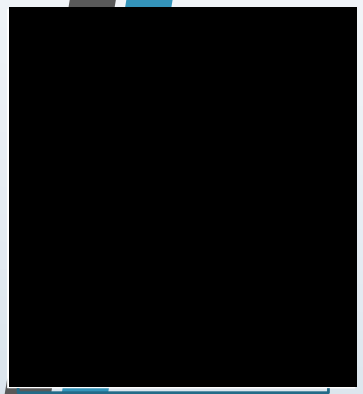
David A. Cox
Vice-Chairman

- Sacramento attorney; Owner of Sacramento's *Cox Law*
- Practice includes contract, business and non-profit law
- Expertise includes renewable energy, fuels, public policy
- Juris Doctorate Graduate,UOP, McGeorge School of Law
- BA, Westmont College
- 2005 awarded prestigious *Jesse Marvin Unruh Fellowship*
- Served as Legislative Director, then Chief of Staff, California State Assembly
- Co-founder-*The Coalition for Renewable Natural Gas*, Currently General Counsel and Director of Operations
- Vice President, *Escudero & Associates*, natural gas consulting and logistics firm



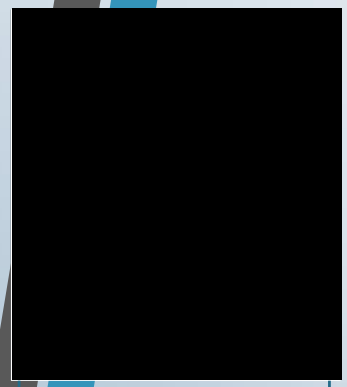
Elaine M. Mays
Secretary/ Treasurer

- Accountant and Owner of *Viking Tax Service*
- Serving hundreds of business clients throughout greater Sacramento for over two decades
- Trained CTEC Tax Preparer and Personal Finance Consultant
- Extensive volunteer services to non-profit corporations in areas of fundraising, bookkeeping, and accounting
- Many hours of non-profit volunteer service to her church



Debora Walker
Director

- 40 years Recreation and Youth Service
- Sacramento Mission Oaks Recreation & Park District Administrator; Prior service: Director-Planning & Facilities, Recreation Services, and Recreation Supervisor
- Heart for service, helping children; Board Member: *Sacramento Parks Foundation, Sacramento Sheriff's Community Impact Program, Touchstone Christian Fellowship Board of Directors*
- Noteworthy Service Awards: *Pat O'Brien Professional Legislative, Park & Recreation Society State Presidential, J. R. Needy Professional, Outstanding Young Women of America, Boy Scouts of America Golden Empire Council Spark Plug.*



Rob Gerig
Director

- Over 30 years education and administration experience
- Served as school counselor, coach, high school vice-principal, Coordinator of Child Welfare & Attendance, Director Student Support Services
- State President-California Association of Supervisors of Child Welfare and Attendance (CASCWA)
- Developed state-recognized Truancy Reduction and Dropout Prevention Program
- Awarded the prestigious Lee Lundberg Award
- Founder of Sacramento Academic & Vocational Academy, Elk Grove & Sacramento

Mission: To equip all students for fulfilling and productive lives in the 21st Century

Vision: 6-12th grade college preparatory school; Over many decades, school structures, facilities, and instruction have changed very little. However, the world has rapidly changed, leaving many students behind. The PCA Team is creating a program addressing the diverse needs of a highly technologic and global society, an exemplary school program for the capital region, appropriately equipping all students for the 21st century.

Core Values:

- **INNOVATION**-innovative, creative, and critical problem solver; exploring and seeking new possibilities
- **INSPIRATION**-igniting passion and personal motivation to succeed at one's highest level as a result of being a significant contribution to a greater good group or team
- **SERVICE**-serving and giving back to others and the community
- **COLLABORATION**-working productively, using one's gifts and talents with a community of individuals; student, parent, and school succeed as a collaborative team
- **GROWTH AND LEARNING**-growth, learning and continuous improvement are lifelong processes

School Program Highlights

- 6-12th Grade College Preparatory School
- Free Public School; Open to Everyone
- Small Class Sizes
- Grades 6, 7, 8, and 9 in Year One
- Love & Logic-Responsibility Building
- Block Schedule, Electives, Advisory, Intercession
- Parent Volunteer Hours; Parent Advisory Committee

Sample Middle School Student Schedule

	Monday	Tuesday	Thursday	Friday	Total Instructional Minutes
8:00 8:10	Morning Launch Meeting				10
8:10 8:15	Passing Period				5
8:15 8:30	Advisory				15
8:30 8:35	Passing Period				5
8:35 10:25 BLOCK 1	Humanities	Math/Science	Humanities	Math/Science	110
10:25 10:40	Break				15
10:40 10:45	Passing Period				5
10:45 12:35 BLOCK 2	Math/Science	Digital Technology/ PE	Math/Science	Digital Technology/ PE	110
12:35 1:15	Lunch				0
1:15 1:20	Passing Period				5
1:20 3:10 BLOCK 3	Digital Technology/ PE	Humanities	Digital Technology/ PE	Humanities	110
3:10 5:00 BUILDING BLOCK	Tutorials	Tutorials	Tutorials	☺	0
Total Instructional Minutes					390

	Wednesday	Total Instructional Minutes
8:00 9:30 ADVISORY BLOCK	Advisory	90
9:30 9:35	Passing Period	5
9:35 11:05 BLOCK 1	Digital Technology/PE	90
11:05 11:45	Lunch	0
11:45 11:50	Passing Period	5
11:50 1:20 BLOCK 2	Humanities	90
1:20 1:35	Break	15
1:35 1:40	Passing Period	5
1:40 3:10 BLOCK 3	Math/Science	90
3:10 5:00 BUILDING BLOCK	Tutorials	0
Total Instructional Minutes		390

Sample High School Student Schedule

	Monday	Tuesday	Thursday	Friday	Total Instructional Minutes
8:00 8:10	Morning Launch Meeting				10
8:10 8:15	Passing Period				5
8:15 8:30	Advisory				15
8:30 8:35	Passing Period				5
8:35 10:25 BLOCK 1	Humanities	Math/Science	Humanities	Math/Science	110
10:25 10:40	Break				15
10:40 10:45	Passing Period				5
10:45 12:35 BLOCK 2	Math/Science	Digital Technology/ Foreign Language	Math/Science	Digital Technology/ Foreign Language	110
12:35 1:15	Lunch				0
1:15 1:20	Passing Period				5
1:20 3:10 BLOCK 3	Digital Technology/ Foreign Language	Humanities	Digital Technology/ Foreign Language	Humanities	110
3:10 5:00 BUILDING BLOCK	Tutorials PE/Sports	Tutorials PE/Sports	Tutorials PE/Sports	☺	0
Total Instructional Minutes					390

	Wednesday	Total Instructional Minutes
8:00 9:30 ADVISORY BLOCK	Advisory	90
9:30 9:35	Passing Period	5
9:35 11:05 BLOCK 1	Digital Technology/ Foreign Language	90
11:05 11:45	Lunch	0
11:45 11:50	Passing Period	5
11:50 1:20 BLOCK 2	Humanities	90
1:20 1:35	Break	15
1:35 1:40	Passing Period	5
1:40 3:10 BLOCK 3	Math/Science	90
3:10 5:00 BUILDING BLOCK	Tutorials PE/Sports	0
Total Instructional Minutes		390

Types of Intercession Courses:

- **Required Courses for graduation-**art, college readiness, theatre, music
- **Electives**-robotics, martial arts, or additional art courses
- **Academic Support**-language arts, literacy, and math
- **Real World Applications**-travel, internships, service learning projects, volunteering

Grade Level	6th	7th	8th	9th	10th	11th	12th
AM Intersession Course	Mathematics Acceleration	Pre-Algebra Academic Acceleration	English Academic Acceleration	Musical Theatre	Algebra Academic Acceleration	Cross-Age Tutoring	Career Internship
PM Intercession Course	Multimedia Design	Service Learning Projects	Modern Dance	Musical Theatre	Martial Arts	College Readiness	Senior Service Learning Project

Instructional Model

- 21st Century Skills
- *Differentiated Instruction*
- Individual Learning Plans for All Students
- Community Service Projects
- College Prep Courses, AP Classes offered in High School
- Project Based Learning
- Integrated STEAM Science, Technology, Engineering, Arts, Math

TEAM UP With PCA:

- Stay Updated: www.pcaeducation.org
- Paramount Collegiate Academy on Facebook
- Sign Up on Website for the E-Newsletter
- School Office Information: 916-757-1479
- Info email: dcdouglas@pcaeducation.org
- Sign Parent Petition Showing Interest
- On-line enrollment coming soon, spaces will fill quickly!

PCA

21st Century Readiness for All Students

PARAMOUNT COLLEGIATE ACADEMY

Parent and Community Information

2013-14

Meet the Founding Board of Directors

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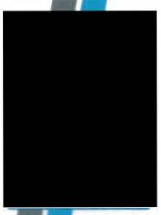
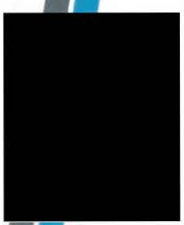


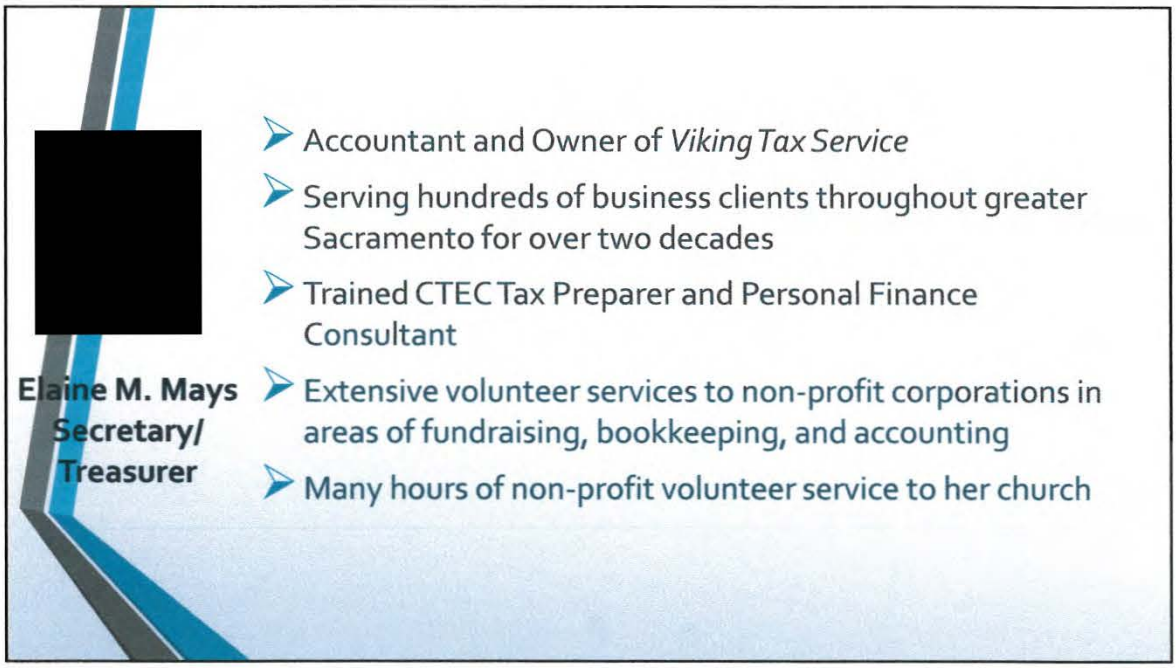
Dawn Contreras Douglas
Founder/CEO

- 30 years experience as Mentor Teacher, Trainer, Middle and High School Principal, Director, Chief Accountability Officer
- School reformer, leading middle and high school turnarounds; 2001, *California Governors Performance Award* for outstanding school turnaround
- Superintendent Torlakson's appointee-*Next Generation Science Standards Development Committee*, *STEM Task Force*; 2012 Administrator *Silver Star Award*, Capital Region
- BA-Education, MS-Counseling, MA-Education Administration; Top of classes, including Joint Doctoral studies, Educational Leadership-UC Davis and CSU, Fresno



David A. Cox
Vice-Chairman

- Sacramento attorney; Owner of Sacramento's *Cox Law*
- Practice includes contract, business and non-profit law
- Expertise includes renewable energy, fuels, public policy
- Juris Doctorate Graduate, UOP, McGeorge School of Law
- BA, Westmont College
- 2005 awarded prestigious *Jesse Marvin Unruh Fellowship*
- Served as Legislative Director, then Chief of Staff, California State Assembly
- Co-founder-*The Coalition for Renewable Natural Gas*, Currently General Counsel and Director of Operations
- Vice President, *Escudero & Associates*, natural gas consulting and logistics firm


Elaine M. Mays
Secretary/
Treasurer
Accountant and Owner of *Viking Tax Service*
Serving hundreds of business clients throughout greater Sacramento for over two decades
Trained CTEC Tax Preparer and Personal Finance Consultant
Extensive volunteer services to non-profit corporations in areas of fundraising, bookkeeping, and accounting
Many hours of non-profit volunteer service to her church


Debora Walker
Director
40 years Recreation and Youth Service
Sacramento Mission Oaks Recreation & Park District Administrator; Prior service: Director-Planning & Facilities, Recreation Services, and Recreation Supervisor
Heart for service, helping children; Board Member: *Sacramento Parks Foundation, Sacramento Sheriff's Community Impact Program, Touchstone Christian Fellowship Board of Directors*
Noteworthy Service Awards: *Pat O'Brien Professional Legislative, Park & Recreation Society State Presidential, J. R. Needy Professional, Outstanding Young Women of America, Boy Scouts of America Golden Empire Council Spark Plug.*

Mission: To equip all students for fulfilling and productive lives in the 21st Century

Vision: 6-12th grade college preparatory school; Over many decades, school structures, facilities, and instruction have changed very little. However, the world has rapidly changed, leaving many students behind. The PCA Team is creating a program addressing the diverse needs of a highly technologic and global society, an exemplary school program for the capital region, appropriately equipping all students for the 21st century.

Core Values:

- **INNOVATION**-innovative, creative, and critical problem solver; exploring and seeking new possibilities
- **INSPIRATION**-igniting passion and personal motivation to succeed at one's highest level as a result of being a significant contribution to a greater good group or team
- **SERVICE**-serving and giving back to others and the community
- **COLLABORATION**-working productively, using one's gifts and talents with a community of individuals; student, parent, and school succeed as a collaborative team
- **GROWTH AND LEARNING**-growth, learning and continuous improvement are lifelong processes

School Program Highlights

- 6-12th Grade College Preparatory School
- Free Public School; Open to Everyone
- Smaller Class Size-25 Students
- Open in Carmichael-Fall, 2014
- Grades 6, 7, 8, and 9 in Year One
- Love & Logic-Responsibility Building
- Block Schedule, Electives, Advisory, Intercession
- Parent Volunteer Hours; Parent Advisory Committee

Sample Middle School Student Schedule

	Monday	Tuesday	Thursday	Friday	Total Instructional Minutes
8:00-8:10	Morning Launch Meeting				10
8:10-8:15	Passing Period				5
8:15-8:30	Advisory				15
8:30-8:35	Passing Period				5
8:35-10:25 BLOCK 1	Humanities	Math/Science	Humanities	Math/Science	110
10:25-10:40	Break				15
10:40-10:45	Passing Period				5
10:45-12:35 BLOCK 2	Math/Science	Digital Technology/ PE	Math/Science	Digital Technology/ PE	110
12:35-1:15	Lunch				0
1:15-1:20	Passing Period				5
1:20-3:10 BLOCK 3	Digital Technology/ PE	Humanities	Digital Technology/ PE	Humanities	110
3:10-5:00 BUILDING BLOCK	Tutorials	Tutorials	Tutorials	☺	0
Total Instructional Minutes					390

	Wednesday	Total Instructional Minutes
8:00-9:30 ADVISORY BLOCK	Advisory	90
9:30-9:35	Passing Period	5
9:35-11:05 BLOCK 1	Digital Technology/PE	90
11:05-11:45	Lunch	0
11:45-11:50	Passing Period	5
11:50-1:20 BLOCK 2	Humanities	90
1:20-1:35	Break	15
1:35-1:40	Passing Period	5
1:40-3:10 BLOCK 3	Math/Science	90
3:10-5:00 BUILDING BLOCK	Tutorials	0
Total Instructional Minutes		390

Sample High School Student Schedule

	Monday	Tuesday	Thursday	Friday	Total Instructional Minutes
8:00-8:10	Morning Launch Meeting				10
8:10-8:15	Passing Period				5
8:15-8:30	Advisory				15
8:30-8:35	Passing Period				5
8:35-10:25 BLOCK 1	Humanities	Math/Science	Humanities	Math/Science	110
10:25-10:40	Break				15
10:40-10:45	Passing Period				5
10:45-12:35 BLOCK 2	Math/Science	Digital Technology/ Foreign Language	Math/Science	Digital Technology/ Foreign Language	110
12:35-1:15	Lunch				0
1:15-1:20	Passing Period				5
1:20-3:10 BLOCK 3	Digital Technology/ Foreign Language	Humanities	Digital Technology/ Foreign Language	Humanities	110
3:10-5:00 BUILDING BLOCK	Tutorials PE/Sports	Tutorials PE/Sports	Tutorials PE/Sports	☺	0
Total Instructional Minutes					390

	Wednesday	Total Instructional Minutes
8:00-9:30 ADVISORY BLOCK	Advisory	90
9:30-9:35	Passing Period	5
9:35-11:05 BLOCK 1	Digital Technology/ Foreign Language	90
11:05-11:45	Lunch	0
11:45-11:50	Passing Period	5
11:50-1:20 BLOCK 2	Humanities	90
1:20-1:35	Break	15
1:35-1:40	Passing Period	5
1:40-3:10 BLOCK 3	Math/Science	90
3:10-5:00 BUILDING BLOCK	Tutorials PE/Sports	0
Total Instructional Minutes		390

Types of Intercession Courses:

- **Required Courses to fulfill graduation requirements-art**, college readiness, theatre, music
- **Electives**-robotics, martial arts, or additional art courses
- **Academic Support**-language arts, literacy, and math
- **Real World Applications**-travel, internships, service learning projects, volunteering

Grade Level	6th	7th	8th	9th	10th	11th	12th
AM Intersession Course	Mathematics Acceleration	Pre-Algebra Academic Acceleration	English Academic Acceleration	Musical Theatre	Algebra Academic Acceleration	Cross-Age Tutoring	Career Internship
PM Intercession Course	Multimedia Design	Service Learning Projects	Modern Dance	Musical Theatre	Martial Arts	College Readiness	Senior Service Learning Project

Instructional Model

STEAM

- 21st Century Skills
- *Differentiated Instruction*
- Individual Learning Plans for All Students
- Community Service Projects
- College Preparatory Courses, AP Classes Offered in High School
- Project Based Learning, Integrated STEAM Science, Technology, Engineering, Arts, Math
- Multiple Student Performance Measures, Including Digital Portfolios and Authentic Assessments

21st Century Skills

Traditional vs. Authentic Assessment

Traditional	Authentic
Selecting a Response	Performing a Task
Contrived	Real-life
Recall/Recognition	Construction/Application
Teacher-structured	Student-structured
Indirect Evidence	Direct Evidence

Further Information, Updates, Registration and Enrollment:

- On-line Enrollment Opening Soon!
- Stay Updated at PCA Website: www.pcaeducation.org
- Check Facebook Updates
- Sign Up for the PCA Website E-Newsletter
- School Office Information: 916-757-1479
- Email the School at: dcdouglas@pcaeducation.org
- Help Launch the School-Sign Parent Petition Form Showing Interest

TEAMWORK

We believe success happens through student-parent-school teams!

THANK YOU for partnering with us to craft great programs for children!

APPENDIX F

Governance: Paramount Education Inc.

BYLAWS
OF
PARAMOUNT EDUCATION INC.
(A California Nonprofit Public Benefit Corporation)

ARTICLE I
NAME

Section 1. NAME. The name of this corporation is Paramount Education Inc. (or "Corporation").

ARTICLE II
PRINCIPAL OFFICE OF THE CORPORATION

Section 1. PRINCIPAL OFFICE OF THE CORPORATION. The principle office for the transaction of the activities and affairs of this corporation is Roseville, State of California. The Board of Directors may change the location of the principal office. Any such change of the location must be noted by the Secretary on these bylaws opposite this Section; alternatively, this Section may be amended to state the new location.

Section 2. OTHER OFFICES OF THE CORPORATION. The Board of Directors may at any time establish branch or subordinate offices at any place or places where this corporation is qualified to conduct its activities.

ARTICLE III
GENERAL AND SPECIFIC PURPOSES; LIMITATIONS

Section 1. GENERAL AND SPECIFIC PURPOSE. The purpose of this corporation is to manage, operate, guide, direct, and promote one or more public charter schools. Also in the context of these purposes, the Corporation shall not, except to an insubstantial degree, engage in any other activities or exercise of power that do not further the purposes of the Corporation.

The Corporation shall not carry on any other activities not permitted to be carried on by: (a) a corporation exempt from federal income tax under section 501(c)(3) of the Internal Revenue Code, or the corresponding section of any future federal tax code; or (b) a corporation, contribution to which are deductible under section 170(c)(2) of the Internal Revenue Code, or the corresponding section of any future federal tax code. No substantial part of the activities of the Corporation shall consist of the carrying on of propaganda, or otherwise attempting to influence legislation, and the Corporation shall not participate in, or intervene in (including the publishing or distributing of statements) any political campaign on behalf of or in opposition to any candidate for public office.

ARTICLE IV
CONSTRUCTION AND DEFINITIONS

Section 1. CONSTRUCTION AND DEFINITIONS. Unless the context indicates otherwise, the general provisions, rules of construction and definitions in the California Nonprofit Corporation Law shall govern the construction of these bylaws. Without limiting the generality of the preceding sentence, the masculine gender includes the feminine and neuter,

the singular includes the plural, and the plural includes the singular, and the term "person" includes both a legal entity and a natural person.

ARTICLE V
DEDICATION OF ASSETS

Section 1. DEDICATION OF ASSETS. This corporation's assets are irrevocably dedicated to public benefit purposes. No part of the net earnings, properties, or assets of the corporation, on dissolution or otherwise, shall inure to the benefit of any private person or individual, or to any director or officer of the corporation. On liquidation or dissolution, all properties and assets remaining after payment, or provision for payment, of all debts and liabilities of the corporation shall be distributed to a nonprofit fund, foundation, or corporation that is organized and operated exclusively for charitable purposes and that has established its exempt status under Internal Revenue Code section 501(c)(3).

ARTICLE VI
CORPORATIONS WITHOUT MEMBERS

Section 1. CORPORATIONS WITHOUT MEMBERS. This corporation shall have no voting members within the meaning of the Nonprofit Corporation Law. The corporation's Board of Directors may, in its discretion, admit individuals to one or more classes of nonvoting members; the class or classes shall have such rights and obligations as the Board of Directors finds appropriate.

ARTICLE VII
BOARD OF DIRECTORS

Section 1. GENERAL POWERS. Subject to the provisions and limitations of the California Nonprofit Public Benefit Corporation Law and any other applicable laws, and subject to any limitations of the articles of incorporation or bylaws, the corporation's activities and affairs shall be managed, and all corporate powers shall be exercised, by or under direction of the Board of Directors ("Board").

Section 2. SPECIFIC POWERS. Without prejudice to the general powers set forth in Section 1 of these bylaws, but subject to the same limitations, the Board of Directors shall have the power to:

a. Appoint and remove, at the pleasure of the Board of Directors, all corporate officers, agents, and employees; prescribe powers and duties for them as are consistent with the law, the articles of incorporation, and these bylaws, fix their compensation; and require from the security of faithful service.
b. Change the principal office or the principal business office in California from one location to another; cause the corporation to be qualified to conduct its activities in any other state territory, dependency, or country; conduct activities in or outside California; and designate a place in or outside California for holding any corporate meetings.
c. Borrow money and incur indebtedness on the corporation's behalf and cause to be executed and delivered for the corporation's purposes, in the corporate name,

promissory notes, bonds, debentures, deeds of trust, mortgages, pledges, hypothecations, and other evidences of debt and securities.

d. Adopt and use a corporate seal.
e. Actively pursue outside resources and funding for the purposes of improving, maintaining, or expanding the services provided by the corporation.

Section 3. DESIGNATED DIRECTORS AND TERMS. The number of directors shall be no less than four (4) and no more than seven (7), unless changed by amendments to these bylaws. In addition, one voting representative may be appointed by any Paramount Education charter authorizer, on an annual basis. Board members shall be sought who have experience in one or more of the following areas: education, government, law, business, finance/accounting, facilities, or public relations. All directors, except for the Authorizer Representatives, shall be designated by the existing Board of Directors. The purpose of the Board is to assume responsibility for the governance, not day to day operations of its charter schools. All directors shall have full voting rights.

The initial Board of Directors, with the exception of the Chief Executive Officer ("Chairman"), shall serve staggered terms of service of either two (2) or three (3) years each. The initial Board of Directors shall be as follows:

NAME	EXPIRATION OF TERM	
Dawn Contreras Douglas	CEO/Chairman	
David Cox	Vice-Chairman	2017
Debora Walker	Director	2017
Elaine Mays	Secretary/Treasurer	2016
Rob Gerig	Director	2016

Section 4. RESTRICTION ON INTERESTED PERSONS AS DIRECTORS. No more than 49 percent of the persons serving on the Board of Directors may be interested persons. An interested person is (a) any person compensated by the corporation for services rendered to it within the previous 12 months, whether as a full-time or part-time employee, independent contractor, otherwise, excluding any reasonable compensation paid to a director as director; and (b) any brother, sister, ancestor, descendant, spouse, brother-in-law, sister-in-law, son-in-law, daughter-in-law, mother-in-law, or father-in-law of such person. However, any violation of this paragraph shall not affect the validity or enforceability of transactions entered into by the corporation.

Section 5. DIRECTORS' TERM. Except for the initial Board members serving an initial staggered two (2) or three (3) year term of service, each director shall hold office for three (3) years and until a successor director has been designated and qualified.

Section 6. USE OF CORPORATE FUNDS TO SUPPORT NOMINEE. If more people have been nominated for director than can be elected, no corporation funds may be expended to support a nominee with the Board's authorization.

Section 7. EVENTS CAUSING VACANCIES ON BOARD. A vacancy or vacancies on the Board of Directors shall occur in the event of (a) the death or resignation of any director; (b) the declaration by resolution of the Board of Directors of a vacancy in the office of a director who

has been convicted of a felony, declared of unsound mind by court order, or found by final order or judgment of any court to have breached a duty under California Nonprofit Public Benefit Corporation Law, Chapter 2, Article 3; or (c) the increase of the authorized number of directors.

Section 8. RESIGNATION OF DIRECTORS. Except as provided below, any director may resign by giving written notice to the Chairman of the Board, President, Secretary, or the Board. The resignation shall be effective when the notice is given unless the notice specifies a later time for the resignation to become effective. If a director's resignation is effective at a later time, the Board of Directors may elect a successor to take office as of the date when the resignation becomes effective.

Section 9. DIRECTOR MAY NOT RESIGN IF NO DIRECTOR REMAINS. Except on notice to the California Attorney General, no director may resign if the corporation would be left without a duly elected director or directors.

Section 10. REMOVAL OF DIRECTORS. Any director may be removed, with or without cause, by a 2/3rd's vote of the members of the entire Board of Directors at any regular or special meeting of the Board, provided that notice of that meeting and of the removal questions are given in compliance with the provisions of the Ralph M. Brown Act (Chapter 9 (commencing with Section 54950) of Division 2 of Title 5 of the Government Code.) Any vacancy caused by removal of a director shall be filled as provided in Section 11.

Section 11. VACANCIES FILLED BY BOARD. Vacancies on the Board of Directors may be filled by approval of the Board of Directors or, if the number of directors then in office is less than a quorum, by (1) the affirmative vote of a majority of the directors then in office at a regular or special meeting of the Board, or (2) a sole remaining director.

Section 12. NO VACANCY ON REDUCTION OF NUMBER OF DIRECTORS. Any reduction of the authorized number of directors shall not result in any directors being removed before his or her term of office expires.

Section 13. PLACE OF BOARD OF DIRECTORS MEETINGS. Meetings shall be held at the principal office of the Corporation. The Board of Directors may also designate that a meeting be held at any place within California that has been designated by resolution of the Board or in the notice of the meeting. All meetings of the Board of Directors shall be called, held and conducted in accordance with the terms and provisions of the Ralph M. Brown Act, California Government Code Sections 54950, et seq., as said chapter may be modified by subsequent legislation.

Section 14. MEETINGS; ANNUAL MEETINGS. All meetings of the Board of Directors and its committees shall be called, noticed, and held in compliance with the provisions of the Ralph M. Brown Act ("Brown Act"). (Chapter 9 (commencing with 54950) of Division 2 of Title 5 of the Government Code). The Board of Directors shall meet annually for the purpose of organization, appointment of officers, and the transaction of such other business as may properly be brought before the meeting. This meeting shall be held at a time, date, and place as noticed by the Board of Directors in accordance with the Brown Act.

Section 15. REGULAR MEETINGS. There shall be no less than five (5) regular meetings of the Board of Directors in any given calendar year and may be fixed by the Board of Directors. At least 72 hours before a regular meeting, the Board of Directors, or its designee shall post an agenda containing a brief general description of each item of business to be transacted or discussed at the meeting.

Section 16. SPECIAL MEETINGS. Special meetings of the Board of Directors for any purpose may be called at any time by the Chairman of the Board of Directors, or a majority of the Board of Directors. The party calling a special meeting shall determine the place, date, and time thereof.

Section 17. NOTICE OF SPECIAL MEETINGS. In accordance with the Brown Act, special meetings of the Board of Directors may be held only after twenty-four (24) hours' notice is given to the public through the posting of an agenda. Directors shall also receive at least twenty-four (24) hours' notice of the special meeting, in the following manner:

a. Any such notice shall be addressed or delivered to each director at the address as it is shown on the records of the Corporation, or as may have been given to the Corporation by the director for purposes of notice.
b. Notice by mail shall be deemed received at the time a properly addressed written notice is deposited in the United States mail, postage prepaid. Any other written notice shall be deemed received at the time it is personally delivered to the recipient or is delivered to a common carrier for transmission, or is actually transmitted by the person giving the notice by electronic means to the recipient. Oral notice shall be deemed received at the time it is communicated, in person or by telephone or wireless, to the recipient or to a person at the office of the recipient whom the person giving the notice has reason to believe will promptly communicate it to the receiver.
c. The notice of special meeting shall state the time of the meeting, and the place if the place is other than the principal office of the Corporation, and the general nature of the business proposed to be transacted at the meeting. No business, other than the business the general nature of which was set forth in the notice of the meeting, may be transacted at a special meeting.

Section 18. QUORUM. A majority of the directors then in office shall constitute a quorum. All acts or decisions of the Board of Directors will be by majority vote of the directors in attendance, based upon presence of a quorum. Should there be less than a majority of the directors present at any meeting, the meeting shall be adjourned. Directors may not vote by proxy.

Section 19. TELECONFERENCE MEETINGS. Members of the Board of Directors may participate in teleconference meetings so long as all of the following requirements in the Brown Act are complied with:

a. At a minimum, a quorum of the members of the Board of Directors shall participate in the teleconference meeting from locations within the authorizing agency's boundaries;
b. All votes taken during a teleconference meeting shall be by roll call;

c. If the Board elects to use teleconferencing, it shall post agendas at all teleconference locations with each teleconference location being identified in the notice and agenda of the meeting;
d. All locations where a member of the Board participates in a meeting via teleconference must be fully accessible to members of the public and shall be listed on the agenda;[1]
e. Members of the public must be able to hear what is said during the meeting and shall be provided with an opportunity to address the Board of Directors directly at each teleconference location; and
f. The agenda shall indicate that members of the public attending a meeting conducted via teleconference need not give their name when entering the conference call.[2]

Section 20. ADJOURNMENT. A majority of the directors present, whether or not a quorum is present, may adjourn any Board of Directors meeting to another time or place. Notice of such adjournment to another time or place shall be given, prior to the time of the adjournment, and to the public in the manner prescribed by any applicable public open meeting law.

Section 21. COMPENSATION AND REIMBURSEMENT. Directors may not receive compensation for their services as directors, only such reimbursement of expenses as the Board of Directors may establish by resolution to be just and reasonable as to the corporation at the time that the resolution is adopted.

Section 22. CREATION AND POWERS OF COMMITTEES. The Board, by resolution adopted by a majority of the directors then in office, may create one or more committees of the Board, each consisting of two or more directors and no one who is not a director, to serve at the pleasure of the Board. Appointments to committees of the Board shall be by majority vote of the authorized number of directors. The Board of Directors may appoint one or more directors as alternate members of any such committee, who may replace any absent member at any meeting. Any such committee shall have all the authority of the Board, to the extent provided in the Board of Directors' resolution, except that no committee may:

a. Take any final action on any matter that under the California Nonprofit Public Benefit Corporation Law, requires approval of a majority of the board;
b. Fill vacancies on the Board or any committee of the Board;
c. Fix compensation of the directors serving on the Board or on any committee;
d. Amend or repeal bylaws or adopt new bylaws;
e. Amend or repeal any resolution of the Board that by its express terms is not so amendable or subject to repeal;
f. Create any other committees of the Board or appoint the members of committees of the Board;

[1] This means that members of the Board of Directors who choose to utilize their homes or offices as teleconference locations must open these locations to the public and accommodate any members of the public who wish to attend the meeting at that location.
[2] The Brown Act prohibits requiring members of the public to provide their names as a condition of attendance at the meeting.

g. Expend corporate funds to support a nominee for director if more people have been nominated for director than can be elected; or
h. Approve any contract or transaction to which the corporation is a party and in which one or more of its directors has a material financial interest.

The Board may also create one or more advisory committees composed of directors and non-directors. It is the intent of the Board to encourage the participation and involvement of faculty, staff, parents, students, and administrators through attending and participating in open committee meetings. The Board may establish, by resolution adopted by a majority of the directors then in office, advisory committees to serve at the pleasure of the Board.

Section 23. MEETINGS AND ACTION OF COMMITTEES. Meetings and actions of committees of the Board shall be governed by, held, and taken under the provisions of these bylaws concerning meetings, other Board actions, and the Brown Act, if applicable, except that the time for general meetings of such committees and the calling of special meetings of such committees may be set either by Board resolution or, if none, by resolution of the committee. Minutes of each meeting shall be kept and shall be filed with the corporate records. The Board may adopt rules for the governance of any committee as long as the rules are consistent with these bylaws. If the Board has not adopted rules, the committee may do so.

Section 24. NON-LIABILITY OF DIRECTORS. No director shall be personally liable for the debts, liabilities, or other obligations of this corporation.

Section 25. COMPLIANCE WITH LAWS GOVERNING STUDENT RECORDS. The Corporation, Board of Directors, and all charter schools managed by the Corporation shall comply with all applicable provisions of the Family Education Rights Privacy Act ("FERPA") as set forth in Title 20 of the United States Code Section 1232g and attendant regulations as they may be amended from time to time.

ARTICLE VIII
OFFICERS OF THE CORPORATION

Section 1. OFFICES HELD. The officers of the Corporation shall be a Chairman of the Board, Vice-Chairman, Secretary, and Treasurer.

Section 2. DUPLICATION OF OFFICE HOLDERS. Any number of offices may be held by the same person, except that neither the Secretary nor the Treasurer may serve concurrently as the Chairman of the Board.

Section 3. ELECTION OF OFFICERS. The officer shall be chosen annually by the Board of Directors and shall serve at the pleasure of the Board, subject to the rights of any officer under any employment contract.

Section 4. REMOVAL OF OFFICERS. Without prejudice to the rights of any officer under an employment contract, the Board may remove any officer with or without cause.

Section 5. RESIGNATION OF OFFICERS. Any officer may resign at any time by giving written notice to the Board. The resignation shall take effect on the date the notice is received or at any later time specified in the notice. Unless otherwise specified in the notice, the resignation

need not be accepted to be effective. Any resignation shall be without prejudice to any rights of the corporation under any contract to which the officer is a party.

Section 6. VACANCIES IN OFFICE. A vacancy in any office because of death, resignation, removal, disqualification, or any other cause shall be filled in the manner prescribed in these bylaws for normal appointment to that office, provided, however, that vacancies need not be filled on an annual basis.

Section 7. CHAIRMAN OF THE BOARD. The Chairman of the Board of Directors shall also be the chief executive officer and shall have the powers and duties of the chairman of the corporation set forth in these bylaws. Subject to the control of the board, the Chairman shall be the general manager of the corporation and shall supervise, direct, and control the corporation's activities, affairs, and officers as fully described in any applicable employment contract, agreement, or job specification. The chairman shall have such other powers and duties as the board of directors or the bylaws may require.

Section 8. VICE-CHAIRMAN. The Vice-Chairman will perform all duties and exercise all powers of the Chairman when the Chairman is absent or is otherwise unable to act. When so acting, the Vice-Chairman shall have all powers of and be subject to all restrictions on the Chairman. The Vice-Chairman will perform any other duties that may be prescribed by the Board of Directors.

Section 9. SECRETARY. The Secretary shall keep or cause to be kept, at the corporation's principal office or such other place as the Board may direct, a book of minutes of all meetings, proceedings, and actions of the Board, and of committees of the Board. The minutes of meetings shall include the time and place that the meeting was held; whether the meeting was annual, regular, special, or emergency and, if special or emergency, how authorized; the notice given; and the names of the directors present at Board and committee meetings.

The Secretary shall keep or cause to be kept, at the principal California office, a copy of the articles of incorporation and bylaws, as amended to date. The Secretary shall give, or cause to be given, notice of all meetings of the Board and of committees of the Board that these bylaws require to be given. The Secretary may have such other powers and perform such other duties as the Board or the bylaws may require.

Section 10. TREASURER. The Treasurer shall keep and maintain, or cause to be kept and maintained, adequate and correct books and accounts of the corporation's properties and transactions. The Treasurer shall send or cause to be given to the members and directors such financial statements and reports as are required to be given by law, by these bylaws, or by the Board. The books of account shall be open to inspection by any director at all reasonable times. The Treasurer shall (a) deposit, or cause to be deposited, all money and other valuables in the name and to the credit of the Corporation with such depositories as the Board may designate; (b) disburse the Corporation's funds as the Board may order; (c) render to the Chairman of the Board and the Board, when requested, an account of all transactions as Treasurer and of the financial condition of the Corporation; and (d) have such other powers and perform such other duties as the Board, contract, job specifications, or the bylaws may require.

If required by the Board, the Treasurer shall give the Corporation a bond in the amount and with the surety or sureties specified by the Board of Directors for faithful performance of the duties of the office and for restoration to the Corporation of all of its books, papers, vouchers,

money, and other property of every kind in the possession or under the control of the Treasurer on his or her death, resignation, retirement, or removal from office.

ARTICLE IX
CONTRACTS WITH DIRECTORS AND OFFICERS

Section 1. CONTRACTS WITH DIRECTORS AND OFFICERS. The Corporation shall not enter into a contract or transaction in which any director or officer directly or indirectly has a material financial interest (nor any other corporation, firm, association, or other entity in which one or more of this Corporation's directors or officers have a material financial interest).

ARTICLE X
CONTRACTS WITH NON-DIRECTOR DESIGNATED EMPLOYEES

Section 1. CONTRACTS WITH NON-DIRECTOR DESIGNATED EMPLOYEES. The Corporation shall not enter into a contract or transaction in which a non-director designated employee (e.g., officers and other key decision-making employees) directly or indirectly has a financial interest.

ARTICLE XI
LOANS TO DIRECTORS AND OFFICERS

Section 1. LOANS TO DIRECTORS AND OFFICERS. This corporation shall not lend any money or property to or guarantee the obligation of, any director or officer.

ARTICLE XII
INDEMNIFICATION

Section 1. INDEMNIFICATION. To the fullest extent permitted by law, this corporation shall indemnify its directors, officers, employees, and other persons described in Corporations Code Section 5238(a), including persons formerly occupying any such positions, against all expenses, judgments, fines, settlements, and other amounts actually and reasonably incurred by them in connection with any "proceeding," as that term is used in that section, and including an action by or in the right of the corporation by reason of the fact that the person is or was a person described in that section. "Expenses," as used in this bylaw, shall have the same meaning as in that section of the Corporations Code.

On written request to the Board of Directors by any person seeking indemnification under Corporations Code Section 5238 (b) or Section 5238 (c) the Board of Directors shall promptly decide under Corporations Code Section 5238 (e) whether the applicable standard of conduct set forth in Corporations Code Section 5238 (b) or Section 5238 (c) has been met and, if so, the Board of Directors shall authorize indemnification.

ARTICLE XIII
INSURANCE

Section 1. INSURANCE. This corporation shall have the right to purchase and maintain insurance to the full extent permitted by law on behalf of its directors, officers, employees, and other agents, to cover liability asserted against or incurred by any director, officer, employee, or agent in such capacity or arising from the director's, officer's, employee's, or agent's status as such.

ARTICLE XIV
MAINTENANCE OF CORPORATE RECORDS

Section 1. MAINTENANCE OF CORPORATE RECORDS. This corporation shall keep:

a. Adequate and correct books and records of account;
b. Written minutes of the proceedings of the Board and committees of the Board; and
c. Such reports and records as required by law.

ARTICLE XV
INSPECTION RIGHTS

Section 1. DIRECTORS' RIGHT TO INSPECT. Every director shall have the right at any reasonable time to inspect the corporation's books, records, documents of every kind, physical properties, and the records of each subsidiary as permitted by California and federal law. The inspection may be made in person or by the director's agent or attorney. The right of inspection includes the right to copy and make extracts of documents as permitted by California and federal law. This right to inspect may be circumscribed in instances where the right to inspect conflicts with California or federal law (e.g., restrictions on the release of educational records under FERPA) pertaining to access to books, records, and documents.

Section 2. ACCOUNTING RECORDS AND MINUTES. On written demand on the corporation, any director may inspect, copy, and make extracts of the accounting books and records and the minutes of the proceedings of the Board of Directors and committees of the Board of Directors at any reasonable time for a purpose reasonably related to the director's interest as a director. Any such inspection and copying may be made in person or by the director's agent or attorney. This right of inspection extends to the records of any subsidiary of the corporation.

Section 3. MAINTENANCE AND INSPECTION OF ARTICLES AND BYLAWS. This corporation shall keep at its principal California office the original or a copy of the articles of incorporation and bylaws, as amended to the current date, which shall be open to inspection by the directors at all reasonable times during office hours.

ARTICLE XVI
REQUIRED REPORTS

Section 1. ANNUAL REPORTS. The Board shall cause an annual report to be sent to itself (the members of the Board of Directors) within 120 days after the end of the corporation's fiscal year. That report shall contain the following information, in appropriate detail:

a. The assets and liabilities, including the trust funds, or the corporation as of the end of the fiscal year;
b. The principal changes in assets and liabilities, including trust funds;
c. The corporation's revenue or receipts, both unrestricted and restricted to particular purposes;
d. The corporation's expenses or disbursement for both general and restricted purposes;
e. Any information required under these bylaws; and
f. An independent accountant's report or, if none, the certificate of an authorized officer of the corporation that such statements were prepared without audit from the corporation's books and records.

Section 2. ANNUAL STATEMENT OF CERTAIN TRANSACTIONS AND INDEMNIFICATIONS. As part of the annual report to all directors, or as a separate document if no annual report is issued, the corporation shall, within 120 days after the end of the corporation's fiscal year, annually prepare and mail or deliver to each director and furnish to each director a statement of any transaction or indemnification of the following kind:

a. Any transaction (i) in which the corporation, or its parent or subsidiary, was a party, (ii) in which an "interested person" had a direct or indirect material financial interest, and (iii) which involved more than $50,000 or was one of several transactions with the same interested person involving, in the aggregate, more than $50,000. For this purpose, and "interested person" is either:

   (1) Any director or officer of the corporation, its parent, or subsidiary (but mere common directorship shall not be considered such an interest); or
   (2) Any holder of more than 10 percent of the voting power of the corporation, its parent, or its subsidiary. The statement shall include a brief description of the transaction, the names of interested persons involved, their relationship to the corporation, the nature of their interest, provided that if the transaction was with a partnership in which the interested person is a partner, only the interest of the partnership need by stated.

ARTICLE XVII
BYLAW AMENDMENTS

Section 1. BYLAW AMENDMENTS. The Board of Directors may adopt, amend, or repeal any of these Bylaws by a 2/3rd's vote of the directors present at a meeting duly held at which a quorum is present, except that no amendment shall change provisions of the charters that created the charter schools or make any provisions of these Bylaws inconsistent with any of those charters, the corporation's Articles of Incorporation, or any laws.

ARTICLE XVIII
FISCAL YEAR

Section 1. FISCAL YEAR OF THE CORPORATION. The fiscal year of the Corporation shall begin on July 1st and end on June 30th of each year.

CERTIFICATE OF SECRETARY

I certify that I am the duly elected and acting Secretary of Paramount Education Inc., a California nonprofit public benefit corporation; that these bylaws, consisting of 12 pages, are the bylaws of this corporation as adopted by the Board of Directors on July 1, 2014 and that these bylaws have not been amended or modified since that date.

Executed on July 1, 2014, at Roseville, California.

Elaine M. Mays

Elaine M. Mays, Secretary

3621610

ARTS-PB-501(c)(3) | **Articles of Incorporation of a Nonprofit Public Benefit Corporation**

FILED
Secretary of State
State of California
1cc **NOV 22 2013**

To form a **nonprofit public benefit corporation** in California, you can fill out this form or prepare your own document, and submit for filing along with:

- A **$30** filing fee.
- A separate, non-refundable **$15** service fee also must be included, if you **drop off** the completed form or document.

Important! California nonprofit corporations **are not** automatically exempt from paying California franchise tax or income tax each year. **A separate application is required in order to obtain tax exempt status.** For more information, go to https://www.ftb.ca.gov/businesses/exempt_organizations or call the California Franchise Tax Board at (916) 845-4171.

Note: *Before submitting this form*, you should consult with a private attorney for advice about your specific business needs.

This Space For Office Use Only

For questions about this form, go to *www.sos.ca.gov/business/be/filing-tips.htm*

Corporate Name (List the proposed corporate name. Go to www.sos.ca.gov/business/be/name-availability.htm for general corporate name requirements and restrictions.)

① The name of the corporation is Paramount Education, Inc.

Corporate Purpose (Item 2a: Check one or both boxes. Item 2b: The specific purpose of the corporation must be listed if you are organizing for "public" purposes, or if you intend to apply for tax-exempt status in California.)

② a. This corporation is a nonprofit **Public Benefit Corporation** and is not organized for the private gain of any person. It is organized under the Nonprofit Public Benefit Corporation Law for: ☑ **public** purposes. ☐ **charitable** purposes.

b. The specific purpose of this corporation is to manage, operate, guide, direct, and promote one or more public charter schools.

Service of Process (List a California resident or an active 1505 corporation in California that agrees to be your initial agent to accept service of process in case your corporation is sued. You may list any adult who lives in California. You may **not** list your own corporation as the agent. **Do not** list an address if the agent is a 1505 corporation as the address for service of process is already on file.)

③ a. Dawn Contreras Douglas
Agent's Name

b. 3510 Hazeltine Lane | Roseville | CA | 95747
*Agent's Street Address (if agent is **not** a corporation) - Do not list a P.O. Box* | *City (no abbreviations)* | *State* | *Zip*

Corporate Addresses

④ a. 3510 Hazeltine Lane | Roseville | CA 95747
Initial Street Address of Corporation- Do not list a P.O. Box | *City (no abbreviations)* | *State Zip*

b. _____
Initial Mailing Address of Corporation, if different from 4a | *City (no abbreviations)* | *State Zip*

Additional Statements (The following statements are required to obtain tax exemption from the Internal Revenue Service or the California Franchise Tax Board under Internal Revenue Code section 501(c)(3). Note: Corporations seeking other types of tax exemptions should not use this form.)

⑤ a. This corporation is organized and operated exclusively for the purposes set forth in **Article 2a** hereof within the meaning of Internal Revenue Code section 501(c)(3).

b. No substantial part of the activities of this corporation shall consist of carrying on propaganda, or otherwise attempting to influence legislation, and this corporation shall not participate or intervene in any political campaign (including the publishing or distribution of statements) on behalf of any candidate for public office.

c. The property of this corporation is irrevocably dedicated to the purposes in **Article 2a** hereof and no part of the net income or assets of this corporation shall ever inure to the benefit of any director, officer or member thereof or to the benefit of any private person.

d. Upon the dissolution or winding up of this corporation, its assets remaining after payment, or provision for payment, of all debts and liabilities of this corporation shall be distributed to a nonprofit fund, foundation or corporation which is organized and operated exclusively for **charitable, educational and/or religious** purposes and which has established its tax-exempt status under Internal Revenue Code section 501(c)(3).

This form must be signed by each incorporator. If you need more space, attach extra pages that are 1-sided and on standard letter-sized paper (8 1/2" x 11"). All attachments are made part of these articles of incorporation.

Contreras Douglas
Incorporator - Sign here

Dawn Contreras Douglas
Print your name here

Make check/money order payable to: **Secretary of State**
Upon filing, we will return one (1) uncertified copy of your filed document for free, and will certify the copy upon request and payment of a $5 certification fee.

By Mail
Secretary of State
Business Entities, P.O. Box 944260
Sacramento, CA 94244-2600

Drop-Off
Secretary of State
1500 11th Street, 3rd Floor
Sacramento, CA 95814

I hereby certify that the foregoing transcript of 1 page(s) is a full, true and correct copy of the original record in the custody of the California Secretary of State's office.

NOV 26 2013

Date: ASW

DEBRA BOWEN, Secretary of State

Approved 8/6/2014

PARAMOUNT EDUCATION INC.

CONFLICT OF INTEREST CODE

I. ADOPTION

In compliance with the Political Reform Act of 1974, California Government Code Section 87100, et seq., Paramount Education Inc. hereby adopts this Conflict of Interest Code ("Code"), which shall apply to all governing board members, candidates for membership of the governing board, and all other designated employees of Paramount Education Inc., as specifically required by California Government Code Section 87300.

II. DEFINITION OF TERMS

As applicable to a California public charter school, the definitions contained in the Political Reform Act of 1974, the regulations of the Fair Political Practices Commission, specifically California Code of Regulations Section 18730, and any amendments or modifications to the Act and regulations are incorporated by reference to this Code.

III. DESIGNATED AGENTS

Agents of Paramount Education Inc., including officers, employees, governing board members, and candidates for election and/or appointment to the governing board, who hold positions that involve the making or participation in the making, of decisions that may foreseeably have a material effect on any financial interest, shall be "Designated Agents." The "Designated Agents" are listed in "Exhibit A" attached to this policy and incorporated by reference herein.

IV. STATEMENT OF ECONOMIC INTERESTS: FILING

Each Designated Agent, including governing board members and candidates for election and/or appointment to the governing board, shall file a Form 700 Statement of Economic Interest ("Statement") at the time and manner prescribed by California Code of Regulations, Title 2, Section 18730, disclosing reportable investments, interests in real property, business positions, and income required to be reported under the category or categories to which the agent's position is assigned in "Exhibit A."

An investment, interest in real property or income shall be reportable, if the business entity in which the investment is held, the interest in real property, the business position, or source of income may foreseeably be affected materially by a decision made or participated in by the Designated Agent by virtue of his or her position. The specific disclosure responsibilities assigned to each position are set forth in "Exhibit B."

Statements Filed With Paramount Education Inc. All Statements shall be supplied by Paramount Education Inc. All Statements shall be filed with Paramount Education Inc. Paramount Education Inc.'s filing officer shall make and retain a copy of the Statement and forward the original to the Sacramento County Board of Supervisors.

V. DISQUALIFICATION

No Designated Agent shall make, participate in making, or try to use his/her official position to influence any decision of Paramount Education Inc. in which he/she knows or has reason to know will have a reasonably foreseeable material financial effect, distinguishable from its effect on the public generally, on the official, or a member of his or her immediate family.

VI. MANNER OF DISQUALIFICATION

A. Non-Governing Board Member Designated Agents

When a Designated Agent who is not a governing board member determines that he/she should not make a decision because of a disqualifying interest, he/she should submit a written disclosure of the disqualifying interest to his/her immediate supervisor. The supervisor shall immediately reassign the matter to another agent and shall forward the disclosure notice to the Principal, who shall record the employee's disqualification. In the case of a Designated Agent who is head of an agency, this determination and disclosure shall be made in writing to his/her appointing authority.

B. Governing Board Member Designated Agents

Governing Board Members shall disclose a disqualifying interest at the meeting during which consideration of the decision takes place. This disclosure shall be made part of the Board's official record. The Board member shall refrain from participating in the decision in any way (i.e., the Board member with the disqualifying interest shall refrain from voting on the matter and shall leave the room during Board discussion and when the final vote is taken) and comply with any applicable provisions of the Paramount Education Inc. Bylaws.

EXHIBIT A

DESIGNATED AGENTS

I. Persons occupying the following positions must disclose financial interests in all categories defined in "Exhibit B" (i.e., categories 1, 2, and 3).

A. Members of the Governing Board

B. Candidates for Membership in the Governing Board

C. Corporate Officers (e.g., CEO/President, CFO/Treasurer, Secretary, etc.)

` D. Principal

E. Director of Fiscal Services

F. Consultants

G. Other Employees who hold positions that involve the making or participation in the making, of decisions that may foreseeably have a material effect on any financial interest.

*Consultants are included in the list of designated employees and shall disclose pursuant to the broadest disclosure category in the code, subject to the following limitation:

The Chief Executive Officer may determine, in writing, that a particular consultant, although a "designated agent," is hired to perform a range of duties that is limited in scope and thus not required to fully comply with the disclosure requirements in this section. Such written determination shall include a description of the consultant's duties and, based upon that description, a statement of the extent of disclosure requirements. The Chief Executive Officer's determination is a public record and shall be retained for public inspection in the same manner and location of interest code (Govt. Code §81008).

II. Persons occupying the following positions are designated agents and must disclose financial interests defined in Categories 2 and 3 of "Exhibit B."

A. Contractor

EXHIBIT B

DISCLOSURE CATEGORIES

Category 1

A. Interest in real property which is located in whole or in part either (1) within the boundaries of the District, or (2) within two miles of the boundaries of the District, including any leasehold, beneficial or ownership interests or option to acquire such interest in real property.

(Interests in real property of an individual include a business entity's share of interest in real property of any business entity or trust in which the designated employee or his or her spouse owns, directly, indirectly, or beneficially, a 10% interest or greater.)

B. Investments in or income from persons or business entities which are contractors or subcontractors which are or have been within the previous two-year period engaged in the performance of building construction or design within the District.

C. Investments in or income from persons or business entities engaged in the acquisition or disposal of real property within the jurisdiction.

(Investment includes any financial interest in or security issued by a business entity, including but not limited to common stock, preferred stock, rights, warrants, options, debt instruments and any partnership interest or other ownership interests.)

(Investments of any individual include a pro rata share of investments of any business entity or trust in which the designated employee or his or her spouse owns, directly, indirectly or beneficially, a ten percent interest or greater.)

(Investment does not include a time or demand deposit in a financial institution, shares in a credit union, any insurance policy, or any bond or other debt instrument issued by any government or government agency.)

Category 2

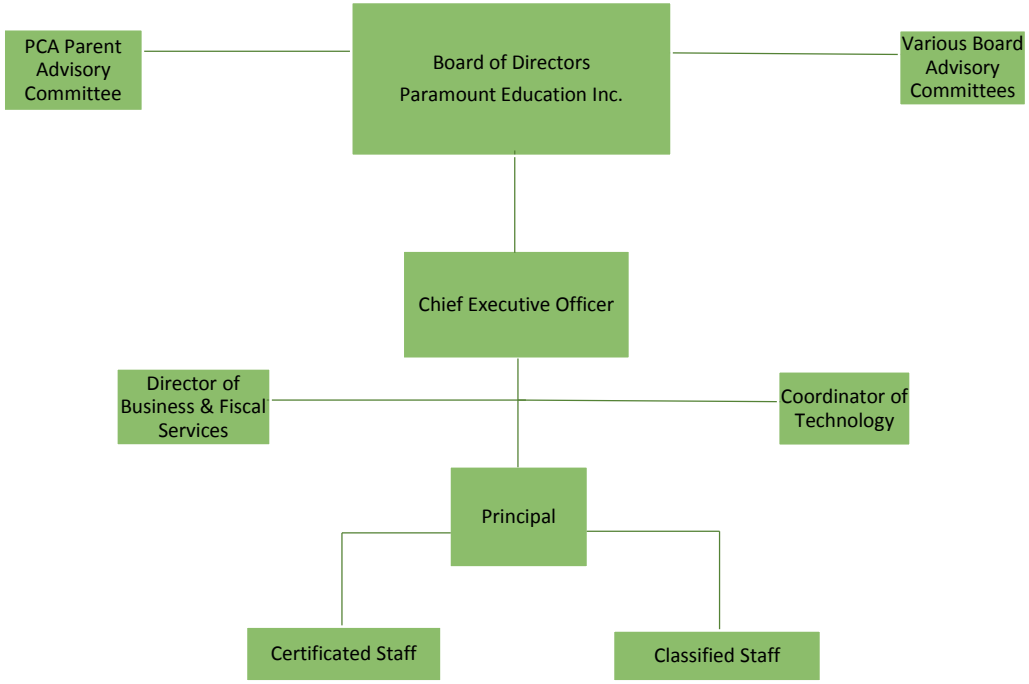
A. Investments in or income from business entities which manufacture or sell supplies, books, machinery or equipment of the type utilized by the department for which the designated agent is Manager or Principal. Investments include interests described in Category 1.

Category 3

A. Investments in or income from business entities which are contractors or sub-contractors engaged in the performance of work or services of the type utilized by the department for which the designated agent is Manager or Head of Principal. Investments include the interests described in Category 1.

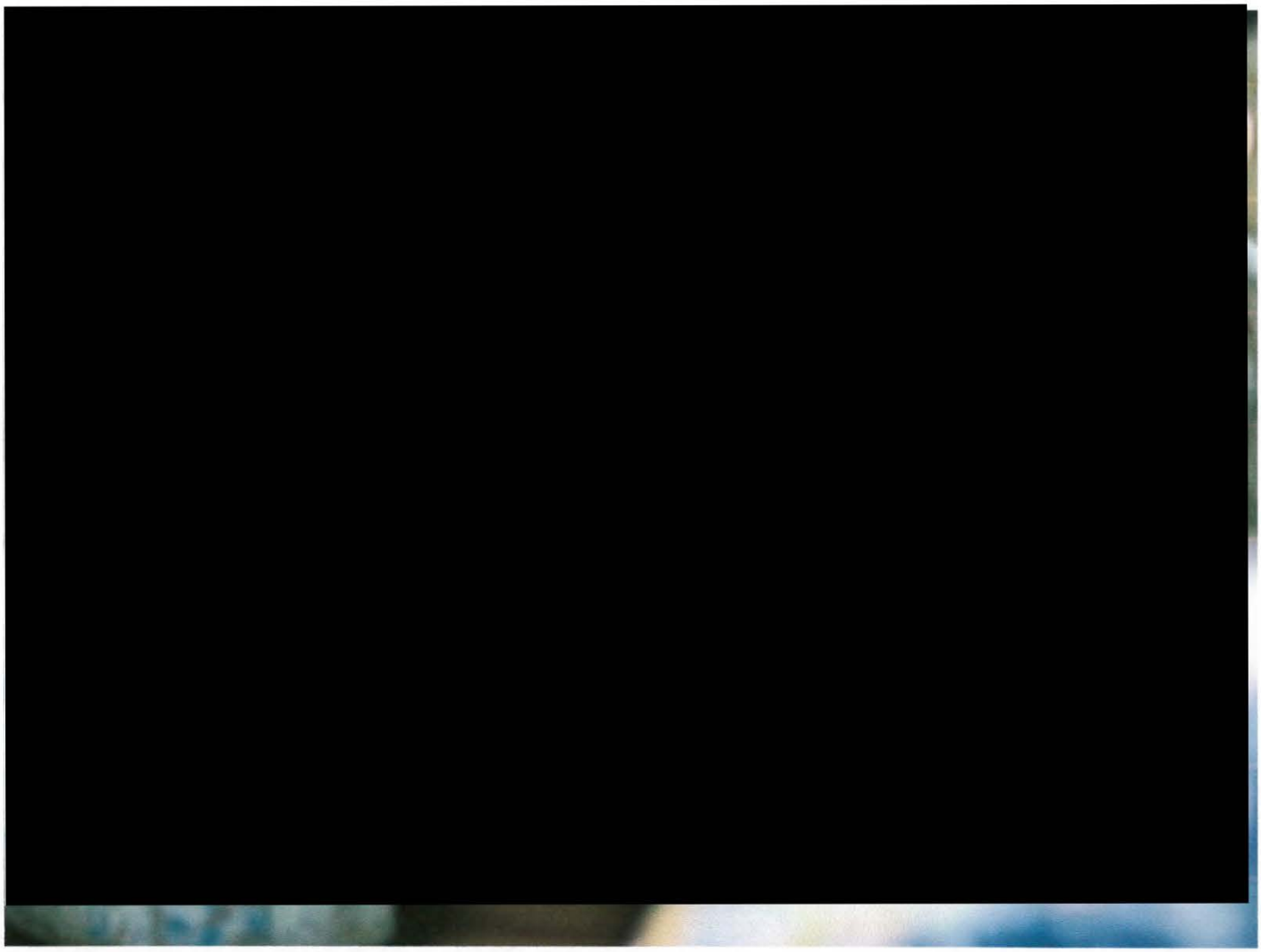
PARAMOUNT COLLEGIATE ACADEMY

Organization Chart



APPENDIX G

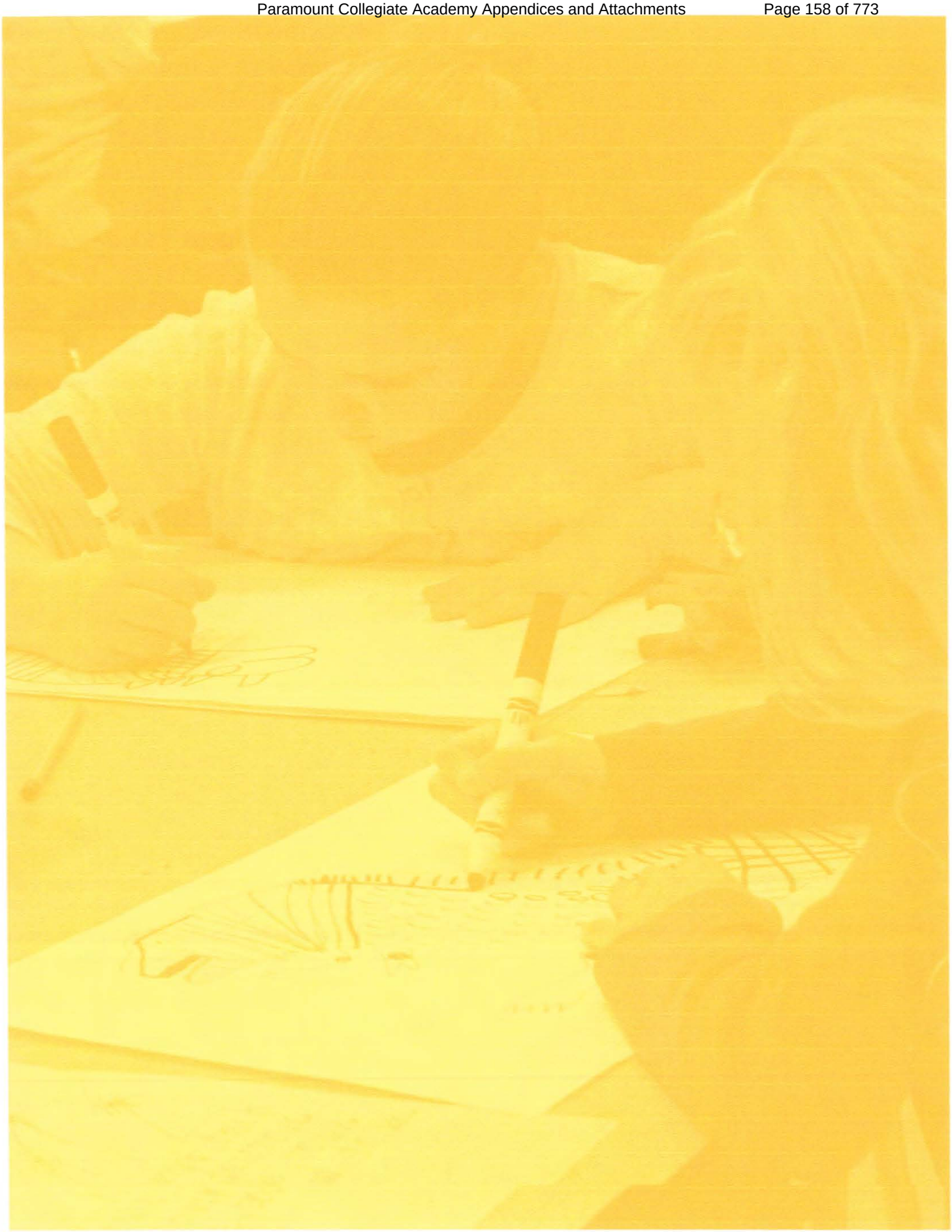
P21 Common Core Toolkit



P21 Common Core Toolkit

A Guide to Aligning the Common Core State Standards with the Framework for 21st Century Skills

Partnership for 21st Century Skills



contents

Introduction

Standards drive critical elements of the American educational system — the curricula that schools follow, the textbooks students read, and the tests they take. Similarly, standards establish the levels of performance that students, teachers and schools are expected to meet.

To succeed in the 21st century, all students will need to perform to high standards and acquire mastery of rigorous core subject material. All students also will need to gain the cognitive and social skills that enable them to deal with the complex challenges of our age. The Partnership for 21st Century Skills (P21) Framework for 21st Century Readiness emphasizes life and career skills, learning and innovation skills, information, media and technology skills as well as core subjects and 21st century themes (please see the full framework in the appendix).

Over the past decade, many organizations such as P21 have advocated for standards that adequately address both the core academic knowledge and the complex thinking skills that are required for success in college, life and career in the 21st century.

The release of the Common Core State Standards (CCSS) in 2010 has been an important turning point in the standards movement. For the first time, a majority of states have agreed to a common baseline for academic knowledge and college readiness skills. Currently, over 40 states have begun the challenging work of alignment, integration and implementation of CCSS for English language arts (ELA) and mathematics. Districts have also begun intensive curricular redesign work in response to the Common Core State Standards.

The CCSS work that is occurring all over the country presents a unique opportunity for educators to focus on a critical question:

Are we focusing our teaching and learning systems around the right college and career ready outcomes for all students?

Fusing the three Rs and the four Cs

As education leaders incorporate the CCSS into school systems, P21 urges them to do so in a way that honors the fusion of the 3Rs (core academic content mastery) and 4Cs (critical thinking and problem solving, collaboration, communication and creativity and innovation).

It is imperative that the CCSS be considered the "floor"—not the "ceiling"—when it comes to expectations for student performance in the 21st century.

Many P21 partner states and their district leaders have already begun this work. They serve as leading examples of how this work can and should be carried out in English language arts and mathematics. They have helped produce this toolkit in the hopes that it will support the efforts of all state and district leaders who are committed to preparing our young people to succeed in college, career and life.

WHAT THIS TOOLKIT CONTAINS

This toolkit is designed for state and district leaders who are interested in implementing the Common Core standards in ways that strengthen the 4Cs.

- **Alignment Overview**

  A high-level summary of how the P21 framework and the Common Core State Standards support each other

- **Common Core / P21 Examples**

  Lesson starters that illustrate "what it looks like" to align instructional practices with both the common core and P21 skills

- **Common Core Resources**

  Compilation of useful links for states and districts working to implement the Common Core State Standards

- **Assessment Resources**

  Compilation of background reading on the issue of assessment and the 4Cs

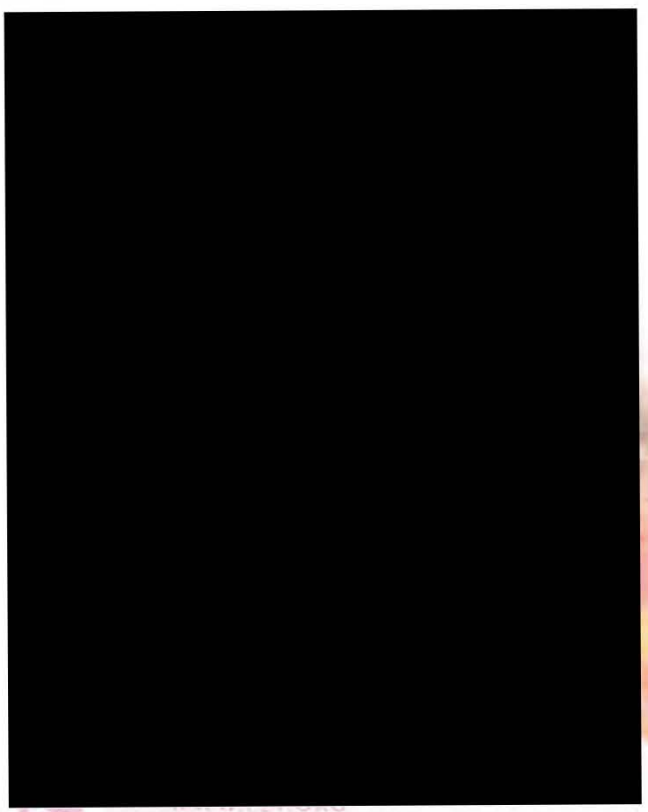
Alignment Overview: P21 Framework and the Common Core State Standards (CCSS)

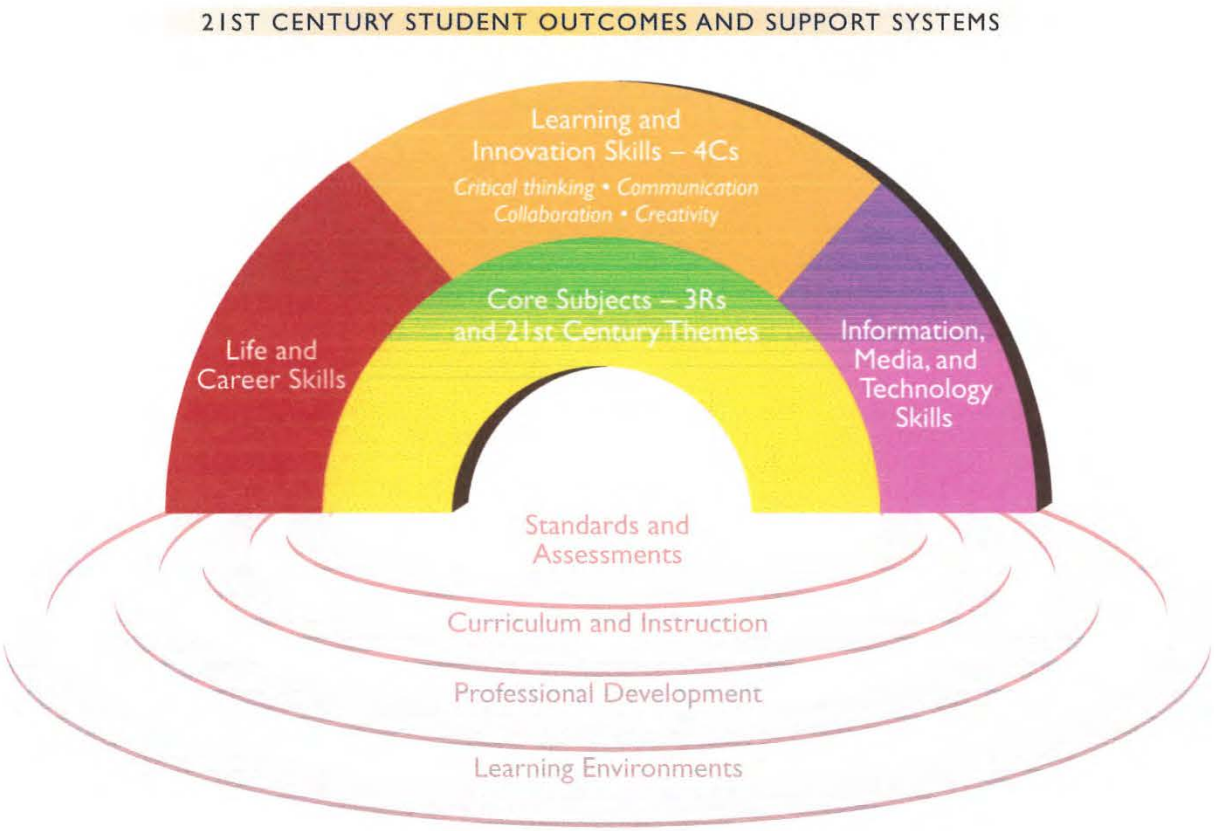
The P21 Framework is a comprehensive definition of what students should know and be able to do to succeed in college, career and life in the 21st century.

P21 has long advocated that the full range of knowledge and skills articulated in the P21 Framework be integrated explicitly into standards, assessments, curriculum, instruction, professional development and learning environments. From this perspective, the Common Core State Standards Initiative (CCSS) for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects (ELA) and the Common Core State Standards for Mathematics are a welcome development in the standards movement for several key reasons:

- The CCSS explicitly call for, and integrate, **higher-order thinking skills** as a means to achieving career and college readiness for all students.
- The CCSS have established **widespread consensus** around a national baseline for college and career readiness, which includes a focus on rigorous core academic content mastery along with competencies like critical thinking, reasoning, communication and collaboration.
- The CCSS documents establish critical thinking, reasoning, communication and media/information/technology literacy in ELA and mathematics as **key performance outcomes** around which curricula and assessments should be focused.

The P21 Framework serves as a useful framework for states, schools and districts to organize and structure the relationship between the CCSS and the demands of other important content areas such as science, social studies, world languages and the arts and music that are also essential for student success.





(Please see the appendix for the full list of skills and their definitions.)

While the CCSS do not explicitly address every skill in the P21 Framework, several areas (such as critical thinking, communication and collaboration) are strongly represented throughout. These areas of the CCSS are good places for educators interested in 21st Century Skills to begin—but not end—the work of preparing students for success in college, career and life.

A brief overview of the CCSS for ELA and mathematics and their relationship to the P21 Framework is included on the pages that follow.

English Language Arts – Overview

Overall, the ELA standards are infused with many 21st Century Skills such as critical thinking, communication, information literacy and collaboration. The CCSS in English language arts does an excellent job of articulating college and career readiness in ways that are strongly aligned with the P21 Framework.

EXAMPLES OF THE STRONGEST AREAS OF ALIGNMENT:

P21 Framework Element	CCSS ELA College and Career Ready Definition
Core Subjects	Build strong content knowledge
Critical Thinking and Problem Solving	Respond to the varying demands of audience, task, purpose, and discipline
Communication	Comprehend as well as critique
Information Literacy	Value evidence
Self Direction	Demonstrate independence
Global Awareness	Come to understand other perspectives and cultures
Information, Media and Technology Skills	Use technology and digital media strategically and capably

In addition, the CCSS ELA document is organized around anchor standards, providing a compelling structure for each of the five strands (reading, writing, speaking/listening and language).

The anchor standards are rigorous (e.g., they emphasize reading complex texts and mastering appropriate vocabulary) while also attending to specific 21st Century Skills.

Educators who are interested in 21st Century Skills will note the following:

- Integration of Knowledge and Ideas (in Reading) emphasizes interpretive and analytical skills across a range of texts, digital information and media.
- Research to Build and Present Knowledge (in Writing) is excellent; the strand is prominent and thoughtfully articulated. The indicators at each grade level support the development of inquiry-based research skills in the context of writing, all of which are central to critical thinking.
- Comprehension and Collaboration (in Speaking and Listening) effectively highlights the importance of interpersonal communication and collaboration as a key aspect of mastering speaking and listening.

In addition, the CCSS for ELA focuses on literacy in history/social studies, science, and technical subjects. P21 applauds the inclusion of cross-disciplinary literacy as an important 21st century approach to ELA standards.

THE ELA STANDARDS:

Reading

- Key Ideas and Details
- Craft and Structure
- Integration of Knowledge and Ideas
- Range of Reading and Level of Text Complexity

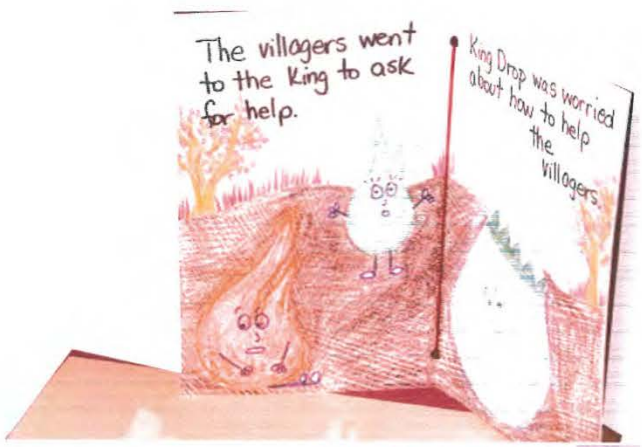
Writing (includes Standards for Literacy in History/Social Studies, Science and Technical Subjects)

- Text Types and Purposes
- Production and Distribution of Writing
- Research to Build and Present Knowledge
- Range of Writing
- Speaking and Listening
- Comprehension and Collaboration
- Presentation of Knowledge and Ideas

Language

- Conventions of Standard English
- Knowledge of Language
- Vocabulary Acquisition and Use

Brief abstracts that can be used to develop lessons are included later in this document.



Mathematics

P21 supports the view that mathematics as a content area is inherently aligned with the 4Cs. Solving problems that haven't been solved before, finding proofs, puzzling, understanding patterns and finding meaning in statistics all require critical thinking, creativity, innovation and information literacy. These habits of mind are evident in the CCSS and are central to the teaching and learning of mathematics, as has been advocated by national mathematics content groups such as the National Council of Teachers of Mathematics (NCTM).

The CCSS mathematics standards provide an excellent step forward in the integration of critical thinking and reasoning in the teaching and learning of math. The standards emphasize critical thinking most obviously in the "Standards for Mathematical Practice" section, which precedes the Mathematical Content Standards.

The Standards for Mathematical Practice draw from NCTM's process standards (problem solving, reasoning and proof, communication, representation, and connections) and the strands identified by the National Research Council's report *Adding it Up* (adaptive reasoning, strategic competence, conceptual understanding , procedural fluency and productive disposition.)

The practices section aligns with several key competencies in the P21 Framework.

EXAMPLES OF THE MOST EXPLICIT INTERSECTIONS WITH P21

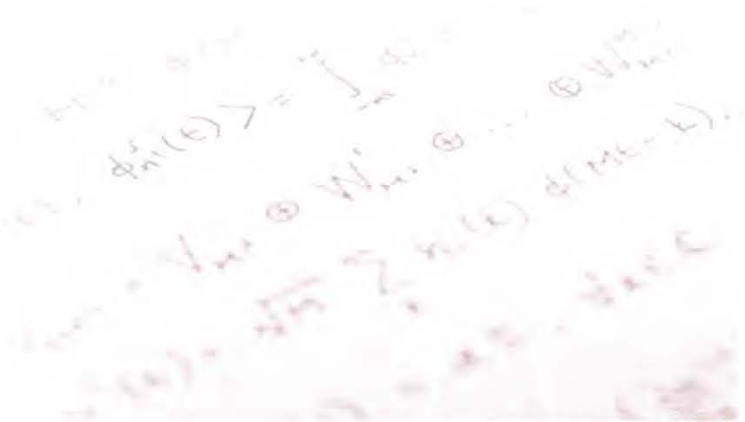
P21 Skill	Mathematics Practices
Critical Thinking and Problem Solving	Make sense of problems and persevere in solving them
	Reason abstractly and quantitatively
	Model with mathematics
	Look for and make use of structure
Communication Information Literacy	Construct viable arguments and critique the reasoning of others
	Attend to precision
	Look for and express regularity in repeated reasoning
ICT Literacy	Use appropriate tools strategically

The challenge of articulating the 4Cs in a standards document without confusing the order and sequence of rigorous, grade-appropriate math content knowledge is a significant one. The Common Core Standards for Mathematics is no exception in this regard.

Unlike the CCSS for ELA, the mathematics document does not use the mathematical practices as "anchor standards" or as an organizing structure for the document. The standards are organized around traditional conceptual categories in mathematics (such as Algebraic Thinking, Measurement and Data and Geometry). As a result, there is little explicit guidance in the document for where the specific connection points occur between the mathematical practices (and the 4Cs) and the math content standards.

These connection points do exist throughout the content standards, however, and though they may be largely inferred, they support the development of curriculum and instruction that enhance the 4Cs. For example, reasoning and "making sense" for understanding are consistently emphasized throughout the mathematics indicators. This is a strong connection point with reasoning and critical thinking skills.

As the standards document states, grade-level indicators that begin with the word "understand" are intended to be "good opportunities to connect the practices to content." This is a good way to begin thinking about the connections between P21 and the standards, along with the examples provided later in this document.



P21, CCSS and Curricula and Assessment Systems

The question of how best to integrate 21st Century Skills into core academic content in alignment with the CCSS inevitably leads to a conversation about curricula and assessment.

All P21 competencies—but especially Creativity, Life and Career Skills and 21st Century Themes such as global awareness—are aligned with the college and career ready goals of the CCSS. But these competencies are often implied in the CCSS, rather than explicitly stated.

Standards documents focus on expected outcomes; they are not ideally suited for addressing "how" students should develop competencies such as Creativity and Global Awareness. Learning environments that enable the full range of P21 skills are *guided* by standards, but they also require curricula and assessment systems that allow students to think creatively and to collaborate. As educators pursue CCSS alignment, then, it is crucial to design curricula and assessment systems that emphasize authentic real world problems, engage students in inquiry and exploration and provide opportunities for students to apply what they know in meaningful ways.

It is important to note the unique opportunity that the CCSS process is creating for all educators. Education leaders in almost every state and district are refining their expectations for student outcomes in the 21st century. New tools, resources and technologies devoted to college and career readiness are becoming widely and rapidly available. In many districts, curricula and assessments are being reviewed and revised to align with the CCSS. This period of review, refinement and in some cases redesign is an unprecedented moment for 21st century educators to capitalize upon.

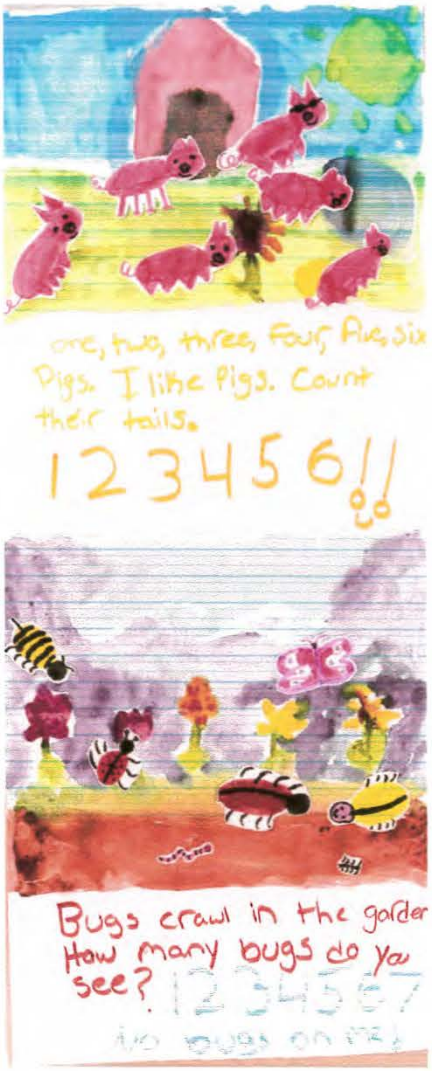
Now is a perfect time to integrate the P21 framework more intentionally into teaching and learning systems.

The following practices are suggested as educators work to align CCSS, the P21 Framework and core academic subjects in curricula and assessments:

- **Use backward-design principles** (such as *Understanding by Design*[1]) to design curriculum that encourages inquiry-based learning and enables embedded, performance-based assessments.
- **Develop interdisciplinary performance tasks** and/or project-based learning units that integrate the full P21 Framework in alignment with CCSS; consider capstone performances such as senior portfolios.
- **Create curricula-embedded assessments** to enable assessment as and for learning.
- **Collect and share exemplary student work** that demonstrates mastery of college and career ready knowledge and skills. Use these examples to improve professional understanding among educators of "how to identify 21st century knowledge and skills" in student work.
- **Provide meaningful opportunities for educators** to collaboratively review curricula, student work and student performance data, in order to refine the curricula and assessments over time.

In addition to considering the strategies above related to "how" the standards are taught, it is equally important for educators to specifically identify the knowledge and skills that are implied—but not explicitly stated—in the standards. Without direct emphasis and prioritization by state and district leaders, skills such as creativity and self-direction risk being overlooked in curricula and assessments.

The CCSS for English Language Arts and Mathematics provide ample opportunities to integrate the full range of P21 knowledge and skills, and we have highlighted such areas for consideration below. It is important to acknowledge here that Critical Thinking, Communication, Information Literacy, Media/Technology Literacy and Collaboration are not highlighted below because these competencies are explicitly covered in the CCSS.



[1] Wiggins, G. P., & McTighe, J. (2005). Understanding by design. Alexandria, VA: Association for Supervision and Curriculum Development

Creativity and Innovation

Creativity and innovation are considered by P21 to be some of the most important areas on which to focus CCSS work. In the 21st century, creativity and innovation skills are central components of college and career readiness.

ELA: Creative writing and expression are included in the Common Core ELA standards to some degree, most obviously in the items that refer to creative writing. P21 encourages all states and districts to strengthen the Common Core by emphasizing the grade-level indicators that call for creative expression in ELA, including creative writing and creating and delivering presentations. Creativity can also be incorporated as an element of almost any performance task related to ELA, and educators should consider how creativity will appear in curricula and performance-based measurements.

Mathematics: Creativity is not addressed explicitly in the mathematics practice and content standards. There are, however, areas where creativity is implied. This is most evident in (but is not limited to) measurement and data, algebraic thinking, geometry, statistics and probability and modeling. These connections are illustrated in the examples later in this document.

Life and Career Skills

Life and Career Skills such as Self-direction, Flexibility, Adaptability, Productivity and Responsibility are important competencies for all students today, and are readily incorporated into the CCSS in ELA and Mathematics.

ELA: The CCSS for ELA emphasize reading lengthy and complex texts (at age-appropriate levels), rigorous research and writing longer texts, all of which can support Self-direction and Productivity skills among students.

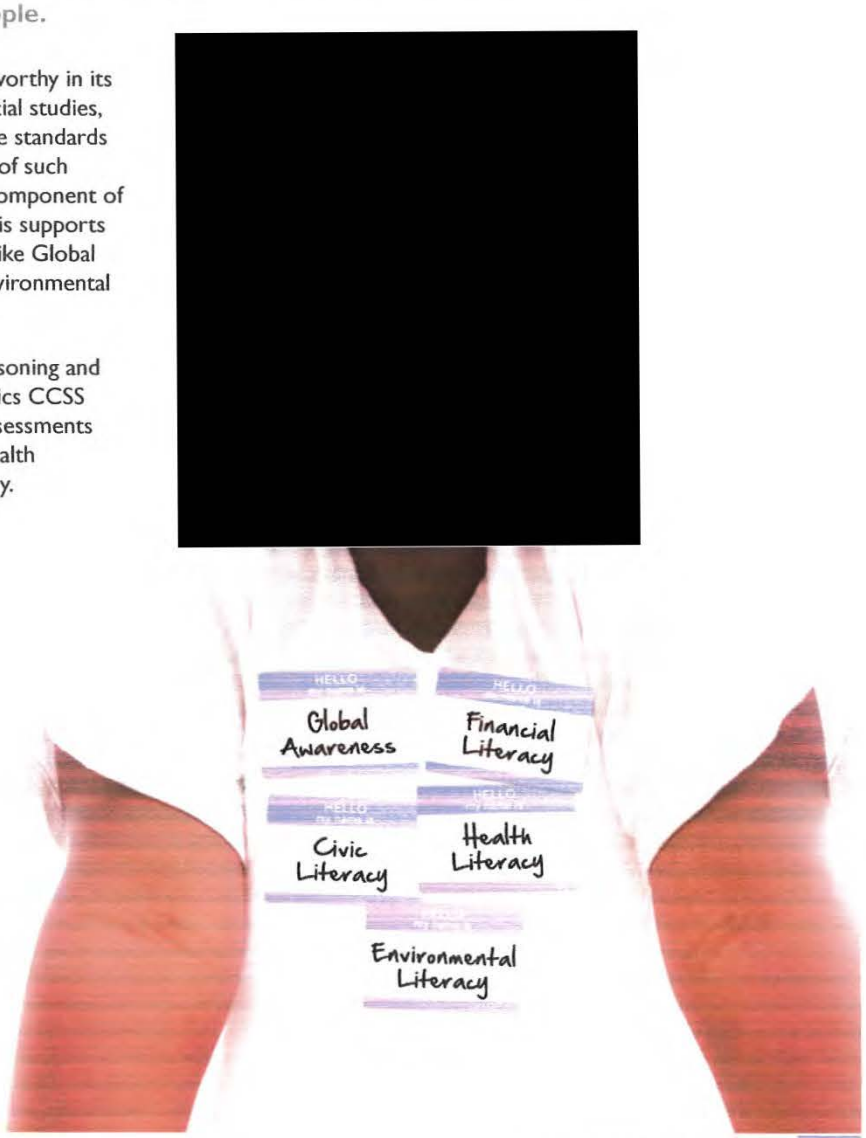
Mathematics: The mathematical practices standards call for perseverance in solving problems, which supports the development of self-direction and productivity. In modeling, statistics and probability, for example, students can work in collaborative, project-based units in ways that emphasize Life and Career Skills.

21st Century Themes

P21 encourages states to strengthen their adoptions of Common Core by explicitly integrating the following themes in curriculum, instruction and assessment: Global Awareness, Financial Literacy, Civic Literacy, Health Literacy and Environmental Literacy. These themes have become increasingly important in the 21st century as the complexities of personal finance, healthcare and global work teams are being faced by more and more young people.

ELA: The CCSS for ELA is noteworthy in its inclusion of literacy in history/social studies, science and technical subjects. The standards clearly articulate the importance of such cross-disciplinary literacies as a component of English language arts; this emphasis supports the integration of competencies like Global Awareness, Civic Literacy and Environmental Literacy in teaching and learning.

Mathematics: The focus on reasoning and problem-solving in the mathematics CCSS lends itself to curricula and/or assessments that integrate financial literacy, health literacy and environmental literacy. Particularly in mathematics, the 21st Century Themes provide a way to engage students in applying math knowledge in real world contexts.



CLASSROOM-FOCUSED EXAMPLES

English Language Arts

These vignettes help clarify "what it looks like" to create English language arts lessons that are aligned with the P21 Framework along with the common core.

HOW TO USE THE EXAMPLES:

- Many (though not all) of the examples below are derived from the 21st Century Skills Map in English, a collaborative project between the National Council of Teachers of English (NCTE) and P21. The student outcomes below have been chosen because they reflect the *P21 skill as defined in the P21 Framework – please see the appendix of this document.*
- These examples help demonstrate how educators can envision lessons that focus on 21st Century Skills and align with the CCSS. *These are not fully-designed lessons* and as such, should be viewed with an eye for how they can serve as starting places for curricula and lesson design/refinement.
- The CCSS standards and P21 Framework items listed with each example below should be viewed as "some of many" possible connection points. Depending on how each lesson is eventually refined and taught, the list of CCSS and P21 Framework elements should be adjusted according to best practices in lesson planning.

**See the CCSS Appendix A for its excellent guidance on text complexity and the importance of selecting appropriately complex texts.*

4th Grade – Sample ELA Lesson Starter 1

Sample Student Outcome: **Students demonstrate understanding of a text or texts by working together to identify and ask significant questions to clarify various points of view.**

EXAMPLE: Students participate in literature circle discussions of a short story* they read and for which they prepare open-ended discussion questions. They use a voice recorder to record their discussion. They then listen to the recording, evaluating the effectiveness of points raised in response to the questions, insights shared, and balance of participation. The recording may be published as a podcast with accompanying reflections on the quality of the discussion.

COMMON CORE STANDARD

RL.4.1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

SL.4.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.

RL.4.10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.

P21 SKILLS REPRESENTED

- Critical Thinking
- Collaboration
- Communication
- Information literacy
- ICT literacy

Source: 21st Century Skills Map – English (www.p21.org)

4th Grade – Sample ELA Lesson Starter 2

Sample Student Outcome: **Frame, analyze and synthesize information from a range of texts* in order to solve problems and answer questions.**

EXAMPLE: After reviewing profiles at an entrepreneurial microfinancing site such as www.kiva.org, students work in groups to research the economic and social impact of several proposals. Each group selects one proposal and creates a presentation to persuade classmates to choose that proposal. The class votes on the most persuasive proposal and creates an appropriate activity plan that might be used to raise the money to support the chosen proposal.

COMMON CORE STANDARD

RI.4.3. Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

W.4.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

SL.4.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.

P21 SKILLS REPRESENTED

- Financial Literacy
- Critical Thinking
- Collaboration
- Communication
- Information Literacy
- Creativity
- Global Awareness

Source: 21st Century Skills Map – English (www.p21.org)

4th Grade – Sample ELA Lesson Starter 3

Sample Student Outcome: **Develop, implement and communicate new ideas to others through original writing.**

EXAMPLE: Using an open-ended inspiration for writing such as Chris Van Allsburg's *Mysteries of Harris Burdick*, each student writes the beginning of a story and records it as a podcast. Students in other classes listen to the story, create the ensuing episodes, and record them as podcasts, until a final group writes and records the conclusions.

COMMON CORE STANDARD

W.4.3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

W.4.6. With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.

Source: 21st Century Skills Map – English (www.p21.org)

P21 SKILLS REPRESENTED

- Creativity
- Collaboration
- Communication
- ICT Literacy

**See the CCSS Appendix A for its excellent guidance on text complexity and the importance of selecting appropriately complex texts.*

"The space cleaning rocket"

by Xiangmin P., 4th Grade

Veritas School of Music & Art, Los Angeles CA

"I want to make a space cleaning rocket which can make clean beautiful space."

8th Grade – Sample ELA Lesson Starter 1

Sample Student Outcome: **Use information accurately and creatively for the issue or problem at hand.**

EXAMPLE: After completing a literature circle unit of teen problem novels, students brainstorm a list of significant social, emotional, or health issues teens face today. Working in groups, students research one issue and create a public service announcement on a closed YouTube channel (viewable only by students in the class) to persuade their peers about one action they should take regarding this issue. Students will select and use references from literary readings (e.g., citing how a particular novel presents the issue) as well as research from nonfiction sources to illustrate major points.

COMMON CORE STANDARD

RI.8.2. Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.

WHST.6-8.8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

RST.6-8.7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

Source: 21st Century Skills Map – English (www.p21.org)

P21 SKILLS REPRESENTED

- Information Literacy
- Health Literacy
- Media Literacy
- ICT Literacy
- Creativity
- Critical Thinking
- Collaboration
- Communication

"Creativity Flows from the Mind"

by Tyler S., 8th Grade

McLoughlin Middle School, Vancouver, WA

"Artwork is only limited by what we perceive as real or fantasy."

8th Grade – Sample ELA Lesson Starter 2

Sample Student Outcome: **Analyze, compare and contrast authors' and artists' motivations for creativity.**

EXAMPLE: In this unit, students step back and consider the motivations of authors and artists alike: What inspires artists? How is it similar and different from that which inspires authors? How is the process of creating a painting or sculpture similar to and different from the process of writing a story or poem? Students also read books written about artists, and study art that can be seen in museums across America. Students work with classmates to uncover the unspoken meanings behind words and artwork. In addition to fine art, students discuss illustrations and other forms of commercial art, looking for similarities to and differences from fine art, both in motivation and presentation styles. They write an informative/explanatory piece about an artist of interest. This unit ends with an open-ended reflective essay response to the essential question.

COMMON CORE STANDARD

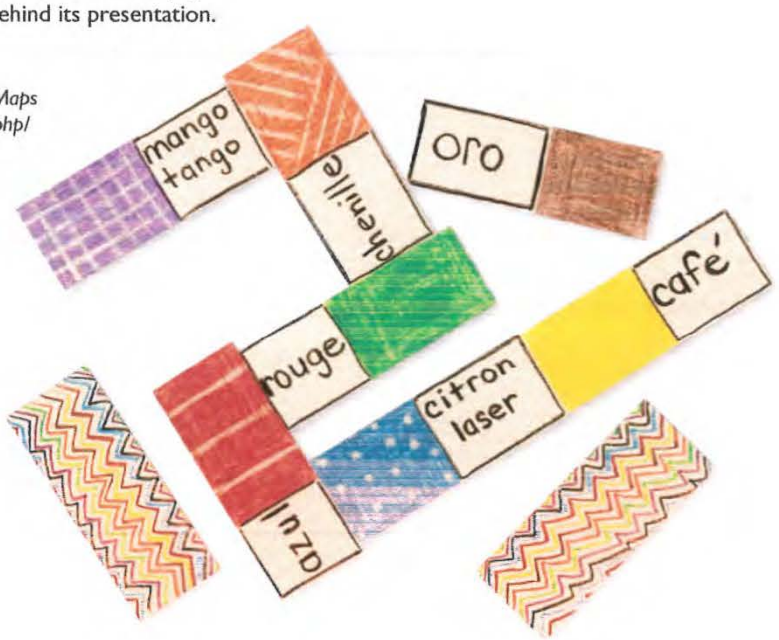
W.8.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

SL.8.2: Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.

Source: Common Core Curriculum Maps (http://commoncore.org/free/index.php/maps/grade_8_unit_4l)

P21 SKILLS REPRESENTED

- Critical Thinking
- Creativity
- Communication
- Information Literacy



12th Grade – Sample ELA Lesson Starter 1

Sample Student Outcome: **Students collaboratively write a proposal to help solve a community problem in innovative ways.**

EXAMPLE: After completing a literature unit on the American dream where students have read *The Great Gatsby*, *Death of a Salesman,* and *A Raisin in the Sun*, they explore what it means to have access to an American dream. Students are asked to create non-profit organizations that would help to meet the needs of their community by helping a group of people to meet their American dream without duplicating current services offered in the community. Students conceive of organizations, formulate extensive grant proposals that help them vie for funding from the fictitious Society for the American Dream, and finally compete against each other for funding of up to $500,000. Students pitch their ideas and advocate for funding to the grant panel, comprised not of teachers, but of community representatives.

COMMON CORE STANDARD

RL.11-12.9. Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics.

SL.11-12.2. Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

WHST.11-12.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WHST.11-12.5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

P21 SKILLS REPRESENTED

- Civic Literacy
- Critical Thinking
- Collaboration
- Communication
- Creativity
- Information Literacy

Source: Sarah Brown Wessling, National Teacher of the Year 2010-2011

12th Grade – Sample ELA Lesson Starter 2

Sample Student Outcome: **Frame, analyze and synthesize information in order to solve problems and answer questions.**

EXAMPLE: In small groups, students conduct a technical needs analysis and create a plan for involving students in making technology decisions in the school. The process may include technical research, gathering student input from surveys, establishing a student advisory committee, using students to help provide tech support or other services to the school, evaluating cost/value ratios, and fundraising proposals to support their recommended strategies. These plans should be used in a presentation to the principal or the school board.

COMMON CORE STANDARD

SL.11-12.4. Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.

RST.11-12.7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

P21 SKILLS REPRESENTED

- Critical Thinking
- Collaboration
- Communication
- ICT Literacy

Source: 21st Century Skills Map – English (www.p21.org)

[redacted]

12th Grade – Sample ELA Lesson Starter 3

Sample Student Outcome: **Demonstrate ability to work effectively with diverse teams.**

EXAMPLE: Students collaborate with senior citizens in a digital storytelling workshop. The teams bring to life a story from a senior's history as they collaborate on writing and creating the video. Students will conduct interviews, perform research using nonfiction texts, write and record the script, and select images and music. The finished videos are presented in a school film festival. Each team designs criteria for evaluating their video in advance, and grades their work accordingly. Students demonstrate the ability to work effectively with diverse teams.

COMMON CORE STANDARD

RH.11-12.2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.

W.11-12.8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

SL.11-12.5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

P21 SKILLS REPRESENTED

- Collaboration
- Critical Thinking
- Communication
- Media Literacy
- Self-Direction
- Creativity

Source: 21st Century Skills Map – English (www.p21.org)

**See the CCSS Appendix A for its excellent guidance on text complexity and the importance of selecting appropriately complex texts.*

CLASSROOM-FOCUSED EXAMPLES

Mathematics

These lesson abstracts help clarify "what it looks like" to create mathematics lessons that are aligned with the P21 framework along with the common core.

HOW TO USE THE EXAMPLES:

- These examples help demonstrate how educators can envision lessons that focus on 21st century skills and align with the CCSS. *These are not fully-designed lessons* and as such, should be viewed with an eye for how they can serve as starting places for curricula and lesson design/refinement.
- The CCSS standards and P21 framework items listed with each example below should be viewed as "some of many" possible connection points. Depending on how each lesson is eventually refined and taught, the list of CCSS and P21 framework elements should be adjusted according to best practices in lesson planning.

4th Grade – Sample Math Lesson Starter 1

Sample Student Outcome: **Students work collaboratively to "map" a box city using number sense, measurement, scale and geometry.**

EXAMPLE: As preparation, students are introduced to the concepts of mapping, the utility of gridding and compass directions. Students then create an original box city and work together to overlay it with a string grid. Each student draws the elements of his/her grid (e.g. a building or park) on a paper square, representing each item at the appropriate scale. Students then reassemble all the grid squares into a "citywide grid" for display. Location games can then be played as a culminating activity, where students move each other through the city using coordinate directions. Students may also discuss and analyze potential effects on citizens of their "urban planning" decisions.

MATH CONTENT STANDARD

4.MD.1. Know relative sizes of measurement units within one system of units including: km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit.

Geometric measurement:

4.G.1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

MATHEMATIC PRACTICE

- Make sense of problems and persevere in solving them
- Model with mathematics
- Attend to precision
- Look for and make use of structure

P21 SKILLS

- Civic Literacy
- Collaboration
- Communication
- Critical Thinking
- Creativity

Source: Center for Understanding the Built Environment (CUBE) "Grid It Map It" http://www.cubekc.org/architivities/gridit_mapit.html

4th Grade – Sample Math Lesson Starter 2

Sample Student Outcome: **Students use math content knowledge to understand basic concepts of financial literacy.**

EXAMPLE: Students compare and contrast the same balance in different types of bank accounts to determine which is better for what circumstances (e.g., is a savings account than a checking account?) Students determine the difference that interest rates make in each account (compound vs. simple interest), compare short and long term costs of borrowing money. Students use mathematical arguments to answer classic questions like, "Which is more: one million dollars, or one penny the first day, double that penny the next day, then double the previous day's pennies and so on for a month?" (Dr. Math, 2006)

MATH CONTENT STANDARD

4.OA.3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

4.NBT.6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

MATHEMATIC PRACTICE

- Make sense of problems and persevere in solving them
- Construct viable arguments and critique the reasoning of others
- Attend to precision

P21 SKILLS

- Critical Thinking
- Problem Solving
- Financial Literacy
- Communication
- Creativity

Source: Science Buddies http://bit.ly/jcymwR

4th Grade – Sample Math Lesson Starter 3

Sample Student Outcome: **Participants examine common games such as board and card games, and discuss the mathematical thinking that is involved.**

EXAMPLE: Students play common logic and chance games and analyze the mathematical understandings that are developed while playing these games. Participants play the games in small groups and consider how math influences the outcomes within the game. Students then experiment, making adaptations in the games in order to influence the games' outcomes.

MATH CONTENT STANDARD

4.OA.2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

4.OA.5. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.

4.MD.2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

MATHEMATIC PRACTICE

- Reason abstractly and quantitatively
- Make sense of problems and persevere in solving them
- Construct viable arguments and critique the reasoning of others
- Look for and make use of structure
- Look for and express regularity in repeated reasoning

P21 SKILLS

- Critical Thinking
- Problem Solving
- Communication
- Creativity and Innovation

Source: COMAP - http://www.comap.com/elementary/projects/bridges/BrSampler.pdf

8th Grade – Sample Math Lesson Starter 1

Sample Student Outcome: **Students work in teams to solve mathematical problems; they listen to the reasoning of others and offer correction with supporting arguments; they modify their own arguments when corrected; they learn from mistakes and make repeated attempts at solving problems creatively.**

EXAMPLE: Students experiment with rotations, reflections, and translations of a given triangle, using geometry software or patty paper to form a tesselation of the plane. They explain why this works for any given triangle by reasoning about the relationship between angles formed by a transversal to two parallel lines. They see the connection between this discovery and the fact that the sum of angles in a triangle is a straight angle.

MATH CONTENT STANDARD

8.G.1. Verify experimentally the properties of rotations, reflections, and translations.

8.G.5. Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

P21 SKILLS

- Critical Thinking
- Problem Solving
- Communication
- Creativity and Innovation
- ICT Literacy

Source: 21st Century Skills Map – Math (forthcoming from www.p21.org)

MATHEMATIC PRACTICE

- Reason abstractly and quantitatively
- Make sense of problems and persevere in solving them
- Construct viable arguments and critique the reasoning of others
- Attend to precision
- Look for and express regularity in repeated reasoning

8th Grade – Sample Math Lesson Starter 2

Sample Student Outcome: **Students use algebraic thinking, statistics, critical thinking and problem solving skills to compare and contrast outcomes in a sports game.**

EXAMPLE: Students assemble fantasy sports teams and track their progress against other teams using a customized point system using non-algebraic and algebraic methods. Students follow their players on television, in newspapers, or online. They document, analyze and report on player statistics.

MATH CONTENT STANDARD

N-Q.1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

F-LE.2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

8.SP.4. Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables.

MATHEMATIC PRACTICE

- Reason abstractly and quantitatively
- Make sense of problems and persevere in solving them
- Construct viable arguments and critique the reasoning of others
- Look for and make use of structure
- Look for and express regularity in repeated reasoning

P21 SKILLS

- Critical Thinking
- Problem Solving
- Communication
- Creativity and Innovation

Source: http://fantasysportsmath.com/pdf/SampleProblems021308.pdf

http://www.fantasysportsmath.com/pdf/NCTM_Standards.pdf

12th Grade – Sample Math Lesson Starter 1

***Sample Student Outcome:* Students work in teams to solve mathematical problems; they listen to the reasoning of others and offer correction with supporting arguments; they modify their own arguments when corrected; they learn from mistakes and make repeated attempts at solving problems.**

EXAMPLE: Students form teams to compete in modeling competitions such as the Mathematical Competition in Modeling run each year by COMAP. For example, the following problem is from the 2009 competition:

Many cities and communities have traffic circles – from large ones with many lanes in the circle (such as at the Arc de Triomphe in Paris and the Victory Monument in Bangkok) to small ones with one or two lanes in the circle. Some of these traffic circles position a stop sign or a yield sign on every incoming road that gives priority to traffic already in the circle; some position a yield sign in the circle at each incoming road to give priority to incoming traffic; and some position a traffic light on each incoming road (with no right turn allowed on a red light). Other designs may also be possible.

Student teams use a model to determine how best to control traffic flow in, around, and out of a circle. They state clearly the objective(s) they use in their model for making the optimal choice as well as the factors that affect this choice. . . . Teams summarize the conditions under which each type of traffic-control method should be used. When traffic lights are recommended, they explain a method for determining how many seconds each light should remain green (which may vary according to the time of day and other factors). Each team illustrates how their model works with specific examples.

MATH CONTENT STANDARD

N-Q.1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

N-Q.2. Define appropriate quantities for the purpose of descriptive modeling.

S-IC.3. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.

S-IC.5. Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.

MATHEMATIC PRACTICE

- Reason abstractly and quantitatively
- Make sense of problems and persevere in solving them
- Construct viable arguments and critique the reasoning of others
- Look for and make use of structure
- Look for and express regularity in repeated reasoning

P21 SKILLS

- Critical Thinking
- Problem Solving
- Collaboration
- Communication
- Creativity and Innovation

Source: COMAP, as cited in 21st Century Skills Map – Math (forthcoming from www.p21.org)

12th Grade – Sample Math Lesson Starter 2

Sample Student Outcome: **Students use creativity and innovation to compare, contrast and create algorithms to solve complex puzzles.**

EXAMPLE: Devising Algorithm for Solving a Rubic's Cube – students explore devise an algorithm for solving Rubik's cube, using three sets of moves that each accomplish a specific function.

1. Figure out a logical sequence for applying these three sets of moves in order to solve the cube systematically. In other words, use the three sets of moves as the basis for developing an algorithm to solve Rubik's cube.

a. During this step, it is important to determine whether the three move sequences presented in the Introduction are *sufficient* to solve the cube. In other words, is it possible to solve the cube with only these three move sequences, or do you need additional move sequences?

b. If you determine that additional move sequences are needed, be prepared to show why they are needed. Develop one or more move sequences to fill in the missing rearrangements needed to solve the cube.

2. Once you have developed your algorithm, time yourself for 10 or more trials and see how long it takes you, on average, to solve the puzzle. The cube should be well randomized for each trial.

3. If you could solve the puzzle before you started the project, did your average solution time improve?

MATH CONTENT STANDARD

Depending on how this lesson is developed and taught, it can be aligned with any or all of the following math standards:

- Algebra
- Functions
- Modeling
- Statistics and Probability

MATHEMATIC PRACTICE

- Reason abstractly and quantitatively
- Make sense of problems and persevere in solving them
- Construct viable arguments and critique the reasoning of others
- Look for and make use of structure

P21 SKILLS

- Critical Thinking
- Problem Solving
- Communication
- Creativity and Innovation

Source: http://www.sciencebuddies.org/mentoring/project_ideas/Math_p025.shtml

12th Grade – Sample Math Lesson Starter 3

Sample Student Outcome: **Students use statistics and probability knowledge, as well as critical thinking skills, to solve problems.**

EXAMPLE: Stocking a Fish Pond – Copyright COMAP

Students develop understanding of basic measurements in order to describe populations and populated communities. Among these are population density, abundance of particular species, distribution of species, population size, and population age structures. Students model methods used by ecologists as well as environmental scientists (e.g., looking at a small portion of the population and make inferences about the whole, or comparing data taken after an environmental impact.) Students discuss the pros and cons of techniques for population estimation, understanding that no solution is foolproof.

MATH CONTENT STANDARD

Depending on how this lesson is developed, it can be aligned with various standards, such as:

F-LE.1. Distinguish between situations that can be modeled with linear functions and with exponential functions.

S-CP.5. Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.

P21 SKILLS

- Environmental Literacy
- Critical Thinking
- Problem Solving
- Communication
- Creativity and Innovation

MATHEMATIC PRACTICE

- Reason abstractly and quantitatively
- Make sense of problems and persevere in solving them
- Construct viable arguments and critique the reasoning of others
- Look for and make use of structure
- Look for and express regularity in repeated reasoning

Source: COMAP http://bit.ly/mTUTIt

Common Core Implementation Resources

The resources below provide further guidance around the Common Core State Standards and their integration into teaching and learning systems.

GENERAL

American Association of School Librarians (AASL) Common Core Crosswalk*

http://www.ala.org/ala/mgrps/divs/aasl/guidelinesandstandards/commoncorecrosswalk/index.cfm

American Association of School Librarians (AASL) Lesson Plan Database*

http://www.ala.org/ala/mgrps/divs/aasl/guidelinesandstandards/lessonplandatabase/lessonplandb.cfm

http://aasl.jesandco.org/

Common Core Website (CCSS)

http://www.corestandards.org/

Houghton Mifflin*

http://hmheducation.com/commoncore/index.php

McGraw Hill*

http://www.commoncoresolutions.com/resources.php]

Pearson*

http://commoncore.pearsoned.com/index.cfm?locator=PS11T9

Partnership for 21st Century Skills Maps*

http://www.p21.org/index.php?option=com_content&task=view&id=504&Itemid=185#maps

Scholastic

http://teacher.scholastic.com/products/common-core-state-standards.htm

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MATHEMATICS

The Consortium for Mathematics and Its Applications (COMAP)

http://www.comap.com/

COMAP Conference Summary - Moving Forward Together: Curriculum & Assessment and the Common Core State Standards for Mathematics

http://www.mathismore.net/resources/MovingForward/index.html

Maine CCSS Math Professional Development*

http://www.maine.gov/education/lres/math/ccss_pd.html

NCTM Common Core Implementation Resources

http://www.nctm.org/news/highlights.aspx?id=26084&blogid=6806

Wireless Generation Math Learning Trajectory Posters

To support the implementation of standards in classrooms, mathematics education experts Drs. Jere Confrey, Alan Maloney and Kenny Nguyen created Learning Trajectory posters to help K-12 educators easily:

- Familiarize themselves with the new Common Core Mathematics Standards
- View at a glance what they are responsible for teaching over the course of the school year

http://www.wirelessgeneration.com/posters?gclid=CP3c2_nGgakCFUgbQgodZFIQTA

ENGLISH LANGUAGE ARTS

Common Core Curriculum Map Project

Common Core's Curriculum Maps in English Language Arts translate the new Common Core State Standards for Kindergarten through 12th grade into unit maps that teachers can use to plan their year, craft their own more detailed curriculum, and create lesson plans. They were written by public school teachers for public school teachers and are available free of charge to anyone who would like to use them.

http://www.commoncore.org/

NCTE Common Core Implementation Resources

http://www.ncte.org/commoncore

http://ncte2008.ning.com/forum/topics/k12-common-core-standards

National Writing Project Resources (NWP) Resources

NWP project to develop common core writing curriculum.

http://www.nwp.org/cs/public/print/resource/3337

International Reading Association

http://www.reading.org/resources/ResourcesByTopic/CommonCore-resourcetype/CommonCore-rt-resources.aspx

ASSESSMENT RESOURCES

As with any work related to standards, the question of assessment remains central. Following are some resources that may be helpful in your implementation efforts.

Assessing What Matters

This article by Robert J. Sternberg was published in Education Leadership in December 2007. It is an excellent overview of what traditional measures can miss when it comes to 21st century outcomes for students.

http://www.learnersedgeinc.com/file/728-4.pdf

Assessment: A 21st Century Skills Implementation Guide
Partnership for 21st Century Skills*

This guide articulates some key steps education leaders should consider when implementing assessment of 21st century skills.

http://p21.org/documents/p21-stateimp_assessment.pdf

Be Clear About the Heavy Lifting Ahead for New Assessments
Bill Tucker Blog

"If we really want to make assessment better — and our accountability systems, use of data, effectiveness evaluations, etc. all hang on assessment — then it's going to take much more than this one federal grant."

http://www.quickanded.com/2010/09/be-clear-about-the-heavy-lifting-ahead-for-new-assessments.html

Pearson – Thoughts on an Assessment of Common Core Standards*

http://www.pearsonassessments.com/NR/rdonlyres/6063DE04-2372-4EC4-9642-7B8A584F942F/0/ThoughtonaCommonCoreAssessmentSystem.pdf

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Exploring the Intersection of Science Education and 21st Century Skills: A Workshop Summary

Margaret Hilton

Exploring the Intersection of Science Education and 21st Century Skills addresses key questions about the overlap between 21st century skills and scientific content and knowledge; explores promising models or approaches for teaching these abilities; and reviews the evidence about the transferability of these skills to real workplace applications.

http://www.nap.edu/catalog/12771.html

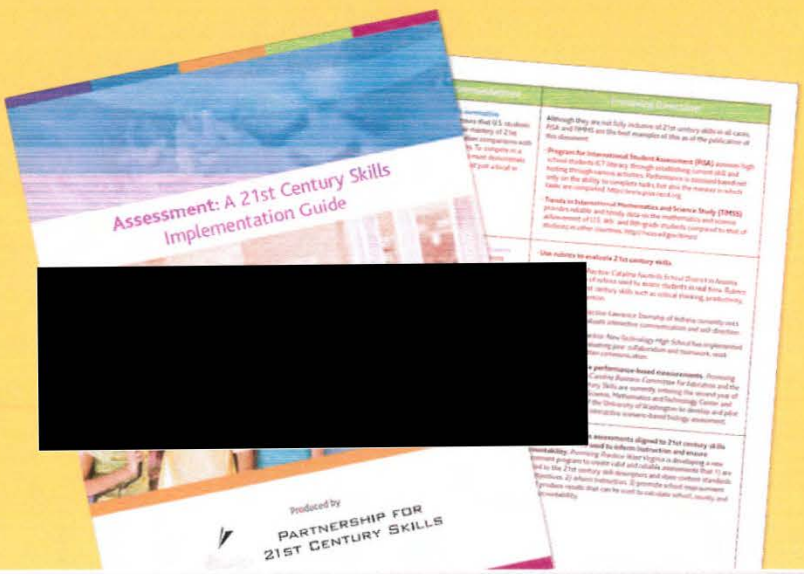
http://www.ncbi.nlm.nih.gov/books/NBK32678/

EdSector Policy Papers on Assessment in the 21st Century

- Beyond the Bubble: Technology and the Future of Student Assessment - Bill Tucker - In a new Education Sector report, Managing Director Bill Tucker argues that technology has the potential to drastically improve our current assessment systems and practices, leading to significant improvements in teaching and learning in the nation's classrooms.

- Measuring Skills for the 21st Century – Elena Silva - Leaders in government, business, and higher education are calling for today's students to show a mastery of broader and more sophisticated skills like evaluating and analyzing information and thinking creatively about how to solve real-world problems. But standing in the way of incorporating such skills into teaching and learning are widespread concerns about measurement. In this report, Senior Policy Analyst Elena Silva examines new models of assessment that illustrate that the skills that really matter for the 21st century can be measured accurately and in a common and comparable way.

www.edsector.org



Appendix

P21 Framework Definitions

To help practitioners integrate skills into the teaching of core academic subjects, the Partnership has developed a unified, collective vision for learning known as the Framework for 21st Century Learning.

This Framework describes the skills, knowledge and expertise students must master to succeed in work and life; it is a blend of content knowledge, specific skills, expertise and literacies.

Every 21st Century Skills implementation requires the development of core academic subject knowledge and understanding among all students. Those who can think critically and communicate effectively must build on a base of core academic subject knowledge.

Within the context of core knowledge instruction, students must also learn the essential skills for success in today's world, such as critical thinking, problem solving, communication and collaboration.

When a school or district builds on this foundation, combining the entire Framework with the necessary support systems—standards, assessments, curriculum and instruction, professional development and learning environments—students are more engaged in the learning process and graduate better prepared to thrive in today's global economy.

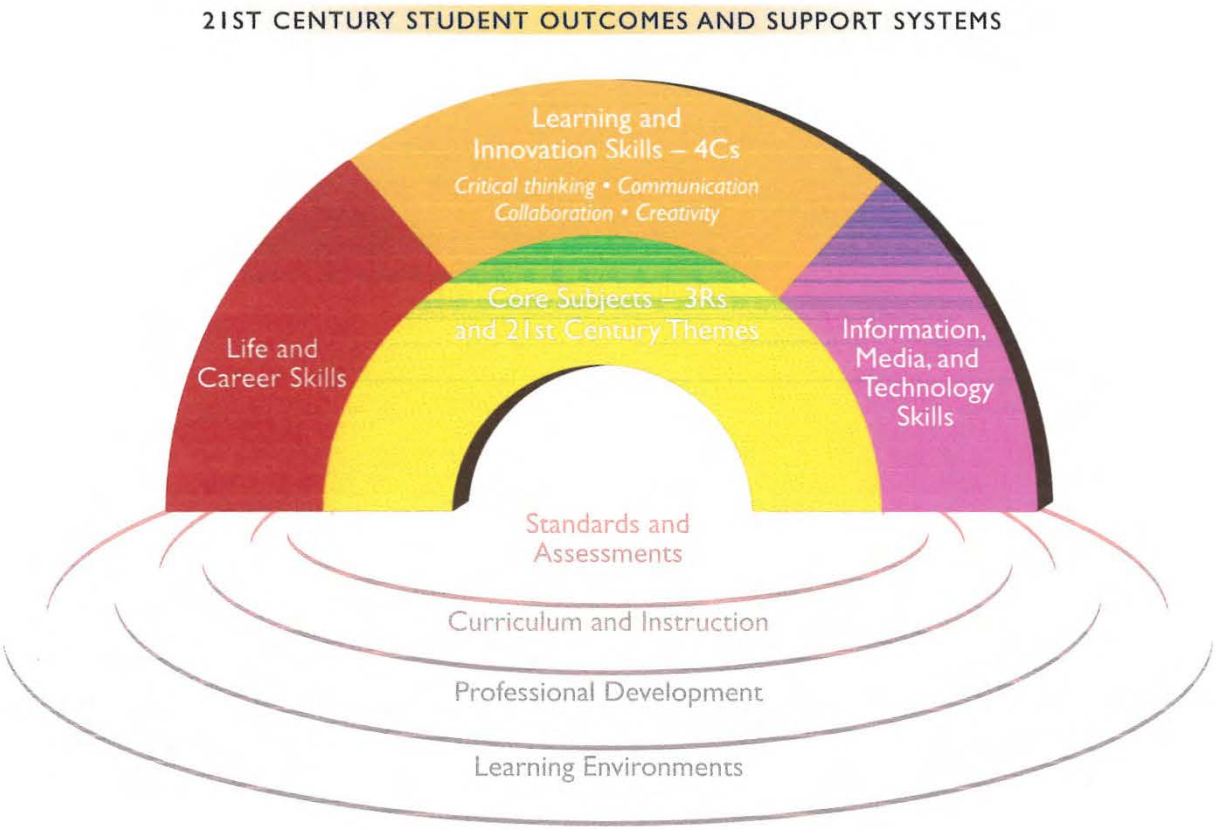
While the graphic represents each element distinctly for descriptive purposes, the Partnership views all the components as fully interconnected in the process of 21st century teaching and learning.

"My Dream"

by Dayvie C., 1st Grade

Lincoln Elementary School, Faribault, MN

"If you could see inside my head, you would actually see a lot of buildings with drawings and words. I can draw what is in my head, so you can see it."



21st Century Student Outcomes

The elements described in this section as "21st century student outcomes" (represented by the rainbow) are the knowledge, skills and expertise students should master to succeed in work and life in the 21st century.

Core Subjects and 21st Century Themes

Mastery of core subjects and 21st century themes is essential for all students in the 21st century. Core subjects include:

- English, Reading or Language Arts
- World languages
- Arts
- Mathematics
- Economics
- Science
- Geography
- History
- Government and Civics

In addition to these subjects, we believe schools must move to include not only a focus on mastery of core subjects, but also promote understanding of academic content at much higher levels by weaving 21st century interdisciplinary themes into core subjects:

Global Awareness

- Using 21st Century Skills to understand and address global issues
- Learning from and working collaboratively with individuals representing diverse cultures, religions and lifestyles in a spirit of mutual respect and open dialogue in personal, work and community contexts
- Understanding other nations and cultures, including the use of non-English languages

Financial, Economic, Business and Entrepreneurial Literacy

- Knowing how to make appropriate personal economic choices
- Understanding the role of the economy in society
- Using entrepreneurial skills to enhance workplace productivity and career options

Civic Literacy

- Participating effectively in civic life through knowing how to stay informed and understanding governmental processes
- Exercising the rights and obligations of citizenship at local, state, national and global levels
- Understanding the local and global implications of civic decisions

Health Literacy

- Obtaining, interpreting and understanding basic health information and services and using such information and services in ways that enhance health
- Understanding preventive physical and mental health measures, including proper diet, nutrition, exercise, risk avoidance and stress reduction
- Using available information to make appropriate health-related decisions
- Establishing and monitoring personal and family health goals
- Understanding national and international public health and safety issues

Environmental Literacy

- Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, climate, land, food, energy, water and ecosystems
- Demonstrate knowledge and understanding of society's impact on the natural world (e.g., population growth, population development, resource consumption rate, etc.)
- Investigate and analyze environmental issues, and make accurate conclusions about effective solutions
- Take individual and collective action towards addressing environmental challenges (e.g., participating in global actions, designing solutions that inspire action on environmental issues)

Learning and Innovation Skills

Learning and Innovation Skills increasingly are being recognized as those that separate students who are prepared for a more and more complex life and work environments in the 21st century, and those who are not. A focus on Creativity, Critical Thinking, Communication and Collaboration is essential to prepare students for the future.

CREATIVITY AND INNOVATION

Think Creatively

- Use a wide range of idea creation techniques (such as brainstorming)
- Create new and worthwhile ideas (both incremental and radical concepts)
- Elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize creative efforts

Work Creatively with Others

- Respect and utilize creative contributions of others
- In creating together, determine a process for compromise, consensus building and decision making
- Be open and responsive to new and diverse perspectives; incorporate group input and feedback into the work
- Demonstrate originality and inventiveness in work and understand the real world limits to adopting new ideas
- View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

Implement Innovations

- Act on creative ideas to make a tangible and useful contribution to the field in which the innovation will occur

CRITICAL THINKING AND PROBLEM SOLVING

Reason Effectively

- Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

Use Systems Thinking

- Analyze how parts of a whole interact with each other to produce overall outcomes in complex systems

Make Judgments and Decisions

- Effectively analyze and evaluate evidence, arguments, claims and beliefs
- Analyze and evaluate major alternative points of view
- Synthesize and make connections between information and arguments
- Interpret information and draw conclusions based on the best analysis
- Reflect critically on learning experiences and processes

Solve Problems

- Solve different kinds of non-familiar problems in both conventional and innovative ways
- Identify and ask significant questions that clarify various points of view and lead to better solutions

COMMUNICATION AND COLLABORATION

Communicate Clearly

- Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts
- Listen effectively to decipher meaning, including knowledge, values, attitudes and intentions
- Use communication for a range of purposes (e.g. to inform, instruct, motivate and persuade)
- Utilize multiple media and technologies, and know how to judge their effectiveness a priori as well as assess their impact
- Communicate effectively in diverse environments (including multi-lingual)

Collaborate with Others

- Demonstrate ability to work effectively and respectfully with diverse teams
- Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal
- Assume shared responsibility for collaborative work, and value the individual contributions made by each team member

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

People in the 21st century live in a technology and media-suffused environment, marked by various characteristics, including: 1) access to an abundance of information, 2) rapid changes in technology tools, and 3) the ability to collaborate and make individual contributions on an unprecedented scale. To be effective in the 21st century, citizens and workers must be able to exhibit a range of functional and critical thinking skills related to information, media and technology.

INFORMATION LITERACY

Access and Evaluate Information

- Access information efficiently (time) and effectively (sources)
- Evaluate information critically and competently

Use and Manage Information

- Use information accurately and creatively for the issue or problem at hand
- Manage the flow of information from a wide variety of sources
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information

MEDIA LITERACY

Analyze Media

- Understand both how and why media messages are constructed, and for what purposes
- Examine how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of media

Create Media Products

- Understand and utilize the most appropriate media creation tools, characteristics and conventions
- Understand and effectively utilize the most appropriate expressions and interpretations in diverse, multi-cultural environments

ICT (INFORMATION, COMMUNICATIONS AND TECHNOLOGY) LITERACY

Apply Technology Effectively

- Use technology as a tool to research, organize, evaluate and communicate information
- Use digital technologies (computers, PDAs, media players, GPS, etc.), communication/networking tools and social networks appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies

LIFE AND CAREER SKILLS

Today's life and work environments require far more than thinking skills and content knowledge. The ability to navigate the complex life and work environments in the globally competitive information age requires students to pay rigorous attention to developing adequate life and career skills.

FLEXIBILITY AND ADAPTABILITY

Adapt to Change

- Adapt to varied roles, jobs responsibilities, schedules and contexts
- Work effectively in a climate of ambiguity and changing priorities

Be Flexible

- Incorporate feedback effectively
- Deal positively with praise, setbacks and criticism
- Understand, negotiate and balance diverse views and beliefs to reach workable solutions, particularly in multi-cultural environments

INITIATIVE AND SELF-DIRECTION

Manage Goals and Time

- Set goals with tangible and intangible success criteria
- Balance tactical (short-term) and strategic (long-term) goals
- Utilize time and manage workload efficiently

Work Independently

- Monitor, define, prioritize and complete tasks without direct oversight

Be Self-directed Learners

- Go beyond basic mastery of skills and/or curriculum to explore and expand one's own learning and opportunities to gain expertise
- Demonstrate initiative to advance skill levels towards a professional level
- Demonstrate commitment to learning as a lifelong process
- Reflect critically on past experiences in order to inform future progress

SOCIAL AND CROSS-CULTURAL SKILLS

Interact Effectively with Others

- Know when it is appropriate to listen and when to speak
- Conduct themselves in a respectable, professional manner

Work Effectively in Diverse Teams

- Respect cultural differences and work effectively with people from a range of social and cultural backgrounds
- Respond open-mindedly to different ideas and values
- Leverage social and cultural differences to create new ideas and increase both innovation and quality of work

PRODUCTIVITY AND ACCOUNTABILITY

Manage Projects

- Set and meet goals, even in the face of obstacles and competing pressures
- Prioritize, plan and manage work to achieve the intended result

Produce Results

- Demonstrate additional attributes associated with producing high quality products including the abilities to:
- Work positively and ethically
- Manage time and projects effectively
- Multi-task
- Participate actively, as well as be reliable and punctual
- Present oneself professionally and with proper etiquette
- Collaborate and cooperate effectively with teams
- Respect and appreciate team diversity
- Be accountable for results

LEADERSHIP AND RESPONSIBILITY

Guide and Lead Others

- Use interpersonal and problem-solving skills to influence and guide others toward a goal
- Leverage strengths of others to accomplish a common goal
- Inspire others to reach their very best via example and selflessness
- Demonstrate integrity and ethical behavior in using influence and power

Be Responsible to Others

- Act responsibly with the interests of the larger community in mind

21st Century Support Systems

The elements described below are the critical systems necessary to ensure student mastery of 21st Century Skills. 21st century standards, assessments, curriculum, instruction, professional development and learning environments must be aligned to produce a support system that produces 21st century outcomes for today's students.

21st Century Standards

- Focus on 21st Century Skills, content knowledge and expertise
- Build understanding across and among core subjects as well as 21st century interdisciplinary themes
- Emphasize deep understanding rather than shallow knowledge
- Engage students with the real world data, tools and experts they will encounter in college, on the job, and in life; students learn best when actively engaged in solving meaningful problems
- Allow for multiple measures of mastery

Assessment of 21st Century Skills

- Supports a balance of assessments, including high-quality standardized testing along with effective formative and summative classroom assessments
- Emphasizes useful feedback on student performance that is embedded into everyday learning
- Requires a balance of technology-enhanced, formative and summative assessments that measure student mastery of 21st Century Skills
- Enables development of portfolios of student work that demonstrate mastery of 21st Century Skills to educators and prospective employers
- Enables a balanced portfolio of measures to assess the educational system's effectiveness in reaching high levels of student competency in 21st Century Skills

21st Century Curriculum and Instruction

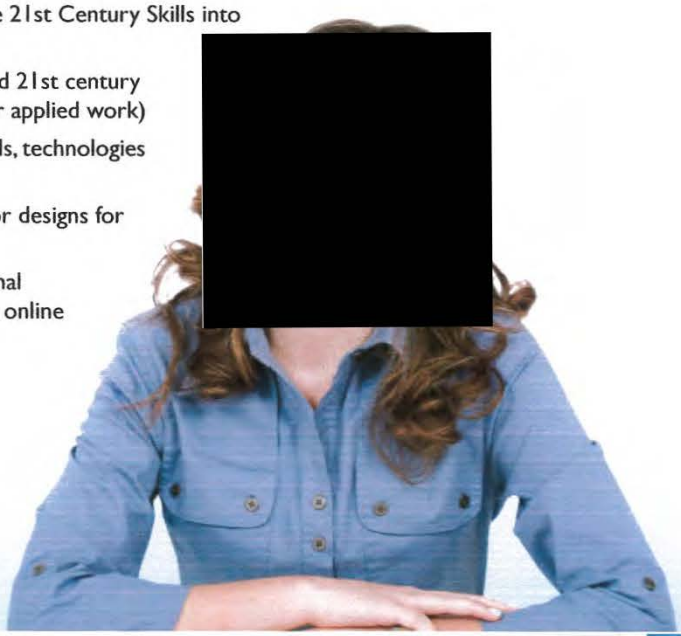
- Teaches 21st century skills discretely in the context of core subjects and 21st century interdisciplinary themes
- Focuses on providing opportunities for applying 21st Century Skills across content areas and for a competency-based approach to learning
- Enables innovative learning methods that integrate the use of supportive technologies, inquiry- and problem-based approaches and higher order thinking skills
- Encourages the integration of community resources beyond school walls

21st Century Professional Development

- Highlights ways educators can seize opportunities for integrating 21st Century Skills, tools and teaching strategies into their instructional practices — and help them identify what activities they can replace/de-emphasize
- Balances direct instruction with project-oriented teaching methods
- Illustrates how a deeper understanding of subject matter can actually enhance problem-solving, critical thinking, and other 21st Century Skills
- Enables 21st century professional learning communities for teachers that model the kinds of classroom learning that best promotes 21st Century Skills for students
- Cultivates teachers' ability to identify students' particular learning styles, intelligences, strengths and weaknesses
- Helps teachers develop their abilities to use various strategies (such as formative assessments) to reach diverse students and create environments that support differentiated teaching and learning
- Supports the continuous evaluation of students' 21st Century Skills development
- Encourages knowledge sharing among communities of practitioners, using face-to-face, virtual and blended communications
- Uses a scalable and sustainable model of professional development

21st Century Learning Environments

- Create learning practices, human support and physical environments that will support the teaching and learning of 21st century skill outcomes
- Support professional learning communities that enable educators to collaborate, share best practices and integrate 21st Century Skills into classroom practice
- Enable students to learn in relevant, real world 21st century contexts (e.g., through project-based or other applied work)
- Allow equitable access to quality learning tools, technologies and resources
- Provide 21st century architectural and interior designs for group, team and individual learning
- Support expanded community and international involvement in learning, both face-to-face and online



About the Partnership for 21st Century Skills

The Partnership for 21st Century Skills is a national organization that advocates for the integration of skills such as critical thinking, problem solving and communication into the teaching of core academic subjects such as English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government and civics.

The Partnership and our member organizations provide tools and resources that help facilitate and drive this necessary change.

Learn more and get involved at http://www.P21.org.

ACKNOWLEDGEMENTS

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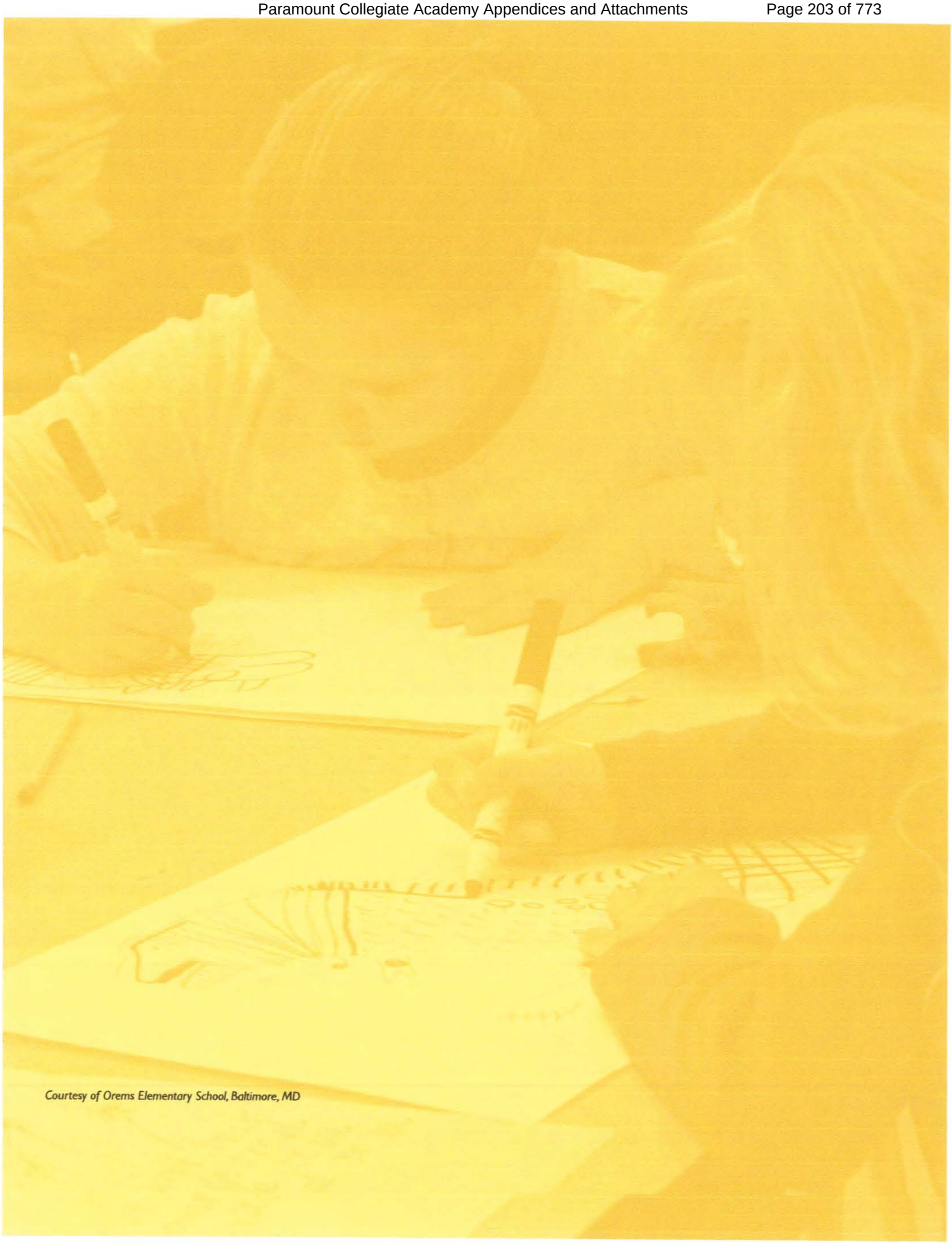

Courtesy of Orems Elementary School, Baltimore, MD

PARTNERSHIP FOR
21ST CENTURY SKILLS

One Massachusetts Avenue NW Suite 700 Washington DC 20001 202.312.6439 www.P21.org

APPENDIX H

P21 Framework

PARTNERSHIP FOR 21ST CENTURY SKILLS

P21 Framework Definitions

To help practitioners integrate skills into the teaching of core academic subjects, the Partnership has developed a unified, collective vision for learning known as the Framework for 21st Century Learning. This Framework describes the skills, knowledge and expertise students must master to succeed in work and life; it is a blend of content knowledge, specific skills, expertise and literacies.

Every 21st century skills implementation requires the development of core academic subject knowledge and understanding among all students. Those who can think critically and communicate effectively must build on a base of core academic subject knowledge.

Within the context of core knowledge instruction, **students must also learn the essential skills for success in today's world, such as critical thinking, problem solving, communication and collaboration.**

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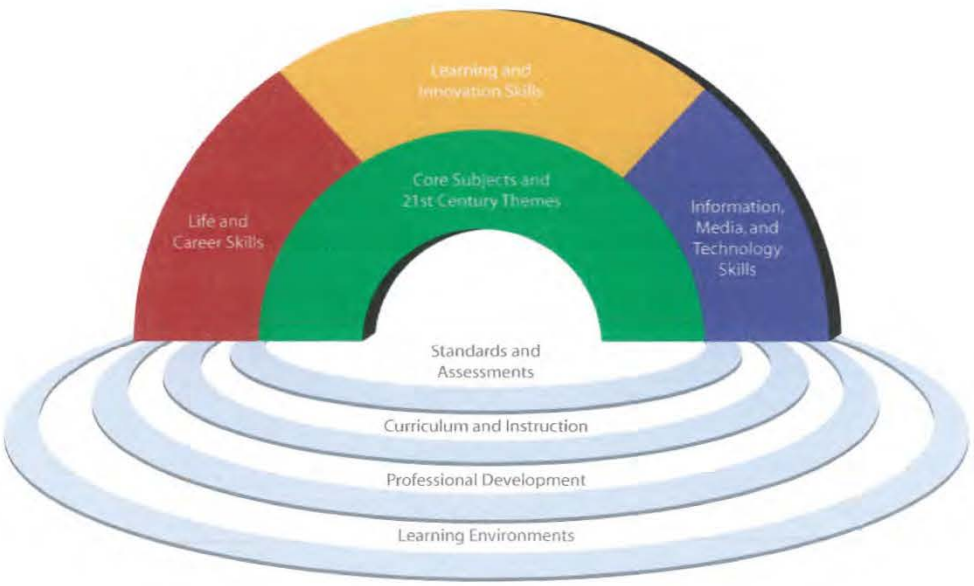
While the graphic represents each element distinctly for descriptive purposes, the Partnership views all the components as fully interconnected in the process of 21st century teaching and learning.

21st Century Student Outcomes and Support Systems



PARTNERSHIP FOR 21ST CENTURY SKILLS

21st CENTURY STUDENT OUTCOMES

The elements described in this section as "21st century student outcomes" (represented by the rainbow) are the knowledge, skills and expertise students should master to succeed in work and life in the 21st century.

CORE SUBJECTS AND 21st CENTURY THEMES

Mastery of **core subjects and 21st century themes** is essential for all students in the 21st century. Core subjects include:

- English, reading or language arts
- World languages
- Arts
- Mathematics
- Economics
- Science
- Geography
- History
- Government and Civics

In addition to these subjects, we believe schools must move to include not only a focus on mastery of core subjects, but also promote understanding of academic content at much higher levels by weaving **21st century interdisciplinary themes** into core subjects:

Global Awareness

- Using 21st century skills to understand and address global issues
- Learning from and working collaboratively with individuals representing diverse cultures, religions and lifestyles in a spirit of mutual respect and open dialogue in personal, work and community contexts
- Understanding other nations and cultures, including the use of non-English languages

Financial, Economic, Business and Entrepreneurial Literacy

- Knowing how to make appropriate personal economic choices
- Understanding the role of the economy in society
- Using entrepreneurial skills to enhance workplace productivity and career options

Civic Literacy

- Participating effectively in civic life through knowing how to stay informed and understanding governmental processes
- Exercising the rights and obligations of citizenship at local, state, national and global levels
- Understanding the local and global implications of civic decisions

Health Literacy

- Obtaining, interpreting and understanding basic health information and services and using such information and services in ways that enhance health
- Understanding preventive physical and mental health measures, including proper diet, nutrition, exercise, risk avoidance and stress reduction
- Using available information to make appropriate health-related decisions
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Environmental Literacy

- Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, climate, land, food, energy, water and ecosystems
- Demonstrate knowledge and understanding of society's impact on the natural world (e.g., population growth, population development, resource consumption rate, etc.)
- Investigate and analyze environmental issues, and make accurate conclusions about effective solutions
- Take individual and collective action towards addressing environmental challenges (e.g., participating in global actions, designing solutions that inspire action on environmental issues)

LEARNING AND INNOVATION SKILLS

Learning and innovation skills increasingly are being recognized as those that separate students who are prepared for a more and more complex life and work environments in the 21st century, and those who are not. A focus on creativity, critical thinking, communication and collaboration is essential to prepare students for the future.

CREATIVITY AND INNOVATION

Think Creatively

- Use a wide range of idea creation techniques (such as brainstorming)
- Create new and worthwhile ideas (both incremental and radical concepts)
- Elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize creative efforts

Work Creatively with Others

- Develop, implement and communicate new ideas to others effectively
- Be open and responsive to new and diverse perspectives; incorporate group input and feedback into the work
- Demonstrate originality and inventiveness in work and understand the real world limits to adopting new ideas
- View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

Implement Innovations

- Act on creative ideas to make a tangible and useful contribution to the field in which the innovation will occur

CRITICAL THINKING AND PROBLEM SOLVING

Reason Effectively

- Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

Use Systems Thinking

- Analyze how parts of a whole interact with each other to produce overall outcomes in complex systems

Make Judgments and Decisions

- Effectively analyze and evaluate evidence, arguments, claims and beliefs
- Analyze and evaluate major alternative points of view
- Synthesize and make connections between information and arguments
- Interpret information and draw conclusions based on the best analysis
- Reflect critically on learning experiences and processes

Solve Problems

- Solve different kinds of non-familiar problems in both conventional and innovative ways
- Identify and ask significant questions that clarify various points of view and lead to better solutions

COMMUNICATION AND COLLABORATION

Communicate Clearly

- Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts
- Listen effectively to decipher meaning, including knowledge, values, attitudes and intentions
- Use communication for a range of purposes (e.g. to inform, instruct, motivate and persuade)
- Utilize multiple media and technologies, and know how to judge their effectiveness a priori as well as assess their impact
- Communicate effectively in diverse environments (including multi-lingual)

Collaborate with Others

- Demonstrate ability to work effectively and respectfully with diverse teams
- Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal
- Assume shared responsibility for collaborative work, and value the individual contributions made by each team member

PARTNERSHIP FOR 21ST CENTURY SKILLS

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

People in the 21st century live in a technology and media-suffused environment, marked by various characteristics, including: 1) access to an abundance of information, 2) rapid changes in technology tools, and 3) the ability to collaborate and make individual contributions on an unprecedented scale. To be effective in the 21st century, citizens and workers must be able to exhibit a range of functional and critical thinking skills related to information, media and technology.

INFORMATION LITERACY

Access and Evaluate Information

- Access information efficiently (time) and effectively (sources)
- Evaluate information critically and competently

Use and Manage Information

- Use information accurately and creatively for the issue or problem at hand
- Manage the flow of information from a wide variety of sources
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information

MEDIA LITERACY

Analyze Media

- Understand both how and why media messages are constructed, and for what purposes
- Examine how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of media

Create Media Products

- Understand and utilize the most appropriate media creation tools, characteristics and conventions
- Understand and effectively utilize the most appropriate expressions and interpretations in diverse, multi-cultural environments

ICT (Information, Communications and Technology) LITERACY

Apply Technology Effectively

- Use technology as a tool to research, organize, evaluate and communicate information
- Use digital technologies (computers, PDAs, media players, GPS, etc.), communication/networking tools and social networks appropriately to access,

manage, integrate, evaluate and create information to successfully function in a knowledge economy
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies

LIFE AND CAREER SKILLS

Today's life and work environments require far more than thinking skills and content knowledge. The ability to navigate the complex life and work environments in the globally competitive information age requires students to pay rigorous attention to developing adequate life and career skills.

FLEXIBILITY AND ADAPTABILITY

Adapt to Change
- Adapt to varied roles, jobs responsibilities, schedules and contexts
- Work effectively in a climate of ambiguity and changing priorities

Be Flexible
- Incorporate feedback effectively
- Deal positively with praise, setbacks and criticism
- Understand, negotiate and balance diverse views and beliefs to reach workable solutions, particularly in multi-cultural environments

INITIATIVE AND SELF-DIRECTION

Manage Goals and Time
- Set goals with tangible and intangible success criteria
- Balance tactical (short-term) and strategic (long-term) goals
- Utilize time and manage workload efficiently

Work Independently
- Monitor, define, prioritize and complete tasks without direct oversight

Be Self-directed Learners
- Go beyond basic mastery of skills and/or curriculum to explore and expand one's own learning and opportunities to gain expertise
- Demonstrate initiative to advance skill levels towards a professional level
- Demonstrate commitment to learning as a lifelong process
- Reflect critically on past experiences in order to inform future progress

SOCIAL AND CROSS-CULTURAL SKILLS

Interact Effectively with Others
- Know when it is appropriate to listen and when to speak
- Conduct themselves in a respectable, professional manner

Work Effectively in Diverse Teams

- Respect cultural differences and work effectively with people from a range of social and cultural backgrounds
- Respond open-mindedly to different ideas and values
- Leverage social and cultural differences to create new ideas and increase both innovation and quality of work

PRODUCTIVITY AND ACCOUNTABILITY

Manage Projects
- Set and meet goals, even in the face of obstacles and competing pressures
- Prioritize, plan and manage work to achieve the intended result

Produce Results
- Demonstrate additional attributes associated with producing high quality products including the abilities to:
  - Work positively and ethically
  - Manage time and projects effectively
  - Multi-task
  - Participate actively, as well as be reliable and punctual
  - Present oneself professionally and with proper etiquette
  - Collaborate and cooperate effectively with teams
  - Respect and appreciate team diversity
  - Be accountable for results

LEADERSHIP AND RESPONSIBILITY

Guide and Lead Others
- Use interpersonal and problem-solving skills to influence and guide others toward a goal
- Leverage strengths of others to accomplish a common goal
- Inspire others to reach their very best via example and selflessness
- Demonstrate integrity and ethical behavior in using influence and power

Be Responsible to Others
- Act responsibly with the interests of the larger community in mind

21st CENTURY SUPPORT SYSTEMS

The elements described below are the critical systems necessary to ensure student mastery of 21st century skills. 21st century standards, assessments, curriculum, instruction, professional development and learning environments must be aligned to produce a support system that produces 21st century outcomes for today's students.

21st Century Standards
- Focus on 21st century skills, content knowledge and expertise

- Build understanding across and among core subjects as well as 21st century interdisciplinary themes
- Emphasize deep understanding rather than shallow knowledge
- Engage students with the real world data, tools and experts they will encounter in college, on the job, and in life; students learn best when actively engaged in solving meaningful problems
- Allow for multiple measures of mastery

Assessment of 21st Century Skills

- Supports a balance of assessments, including high-quality standardized testing along with effective formative and summative classroom assessments
- Emphasizes useful feedback on student performance that is embedded into everyday learning
- Requires a balance of technology-enhanced, formative and summative assessments that measure student mastery of 21st century skills
- Enables development of portfolios of student work that demonstrate mastery of 21st century skills to educators and prospective employers
- Enables a balanced portfolio of measures to assess the educational system's effectiveness in reaching high levels of student competency in 21st century skills

21st Century Curriculum and Instruction

- Teaches 21st century skills discretely in the context of core subjects and 21st century interdisciplinary themes
- Focuses on providing opportunities for applying 21st century skills across content areas and for a competency-based approach to learning
- Enables innovative learning methods that integrate the use of supportive technologies, inquiry- and problem-based approaches and higher order thinking skills
- Encourages the integration of community resources beyond school walls

21st Century Professional Development

- Highlights ways teachers can seize opportunities for integrating 21st century skills, tools and teaching strategies into their classroom practice — and help them identify what activities they can replace/de-emphasize
- Balances direct instruction with project-oriented teaching methods
- Illustrates how a deeper understanding of subject matter can actually enhance problem-solving, critical thinking, and other 21st century skills
- Enables 21st century professional learning communities for teachers that model the kinds of classroom learning that best promotes 21st century skills for students
- Cultivates teachers' ability to identify students' particular learning styles, intelligences, strengths and weaknesses
- Helps teachers develop their abilities to use various strategies (such as formative assessments) to reach diverse students and create environments that support differentiated teaching and learning
- Supports the continuous evaluation of students' 21st century skills development

- Encourages knowledge sharing among communities of practitioners, using face-to-face, virtual and blended communications
- Uses a scalable and sustainable model of professional development

21st Century Learning Environments

- Create learning practices, human support and physical environments that will support the teaching and learning of 21st century skill outcomes
- Support professional learning communities that enable educators to collaborate, share best practices and integrate 21st century skills into classroom practice
- Enable students to learn in relevant, real world 21st century contexts (e.g., through project-based or other applied work)
- Allow equitable access to quality learning tools, technologies and resources
- Provide 21st century architectural and interior designs for group, team and individual learning
- Support expanded community and international involvement in learning, both face-to-face and online

About the Partnership for 21st Century Skills

The Partnership for 21st Century Skills is a national organization that advocates for the integration of skills such as critical thinking, problem solving and communication into the teaching of core academic subjects such as English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government and civics.

The Partnership and our member organizations provide tools and resources that help facilitate and drive this necessary change.

Learn more and get involved at http://www.21stcenturyskills.org.

APPENDIX I

P21 Skills Maps

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21st Century Skills Map

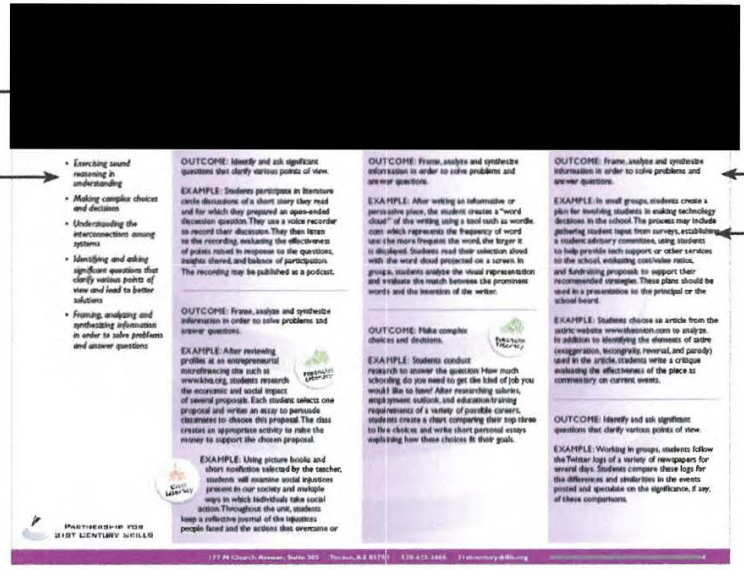
ENGLISH

DESIGNED IN COOPERATION WITH THE NATIONAL COUNCIL OF TEACHERS OF ENGLISH

This 21st Century Skills Map is the result of hundreds of hours of research, development and feedback from educators and business leaders across the nation. The Partnership has issued this map for the core subject of English. This tool is available at www.21stcenturyskills.org.

The Partnership advocates for the integration of 21st Century Skills into K-12 education so that students can advance their learning in core academic subjects.

The Partnership has forged alliances with key national organizations that represent the core academic subjects, including Social Studies, English, Math, Science and Geography. As a result of these collaborations, the Partnership has developed this map to illustrate the intersection between 21st Century Skills and English. The maps will enable educators, administrators and policymakers to gain concrete examples of how 21st Century Skills can be integrated into core subjects.



An example from the English 21st Century Skills Map illustrates sample outcomes for teaching Critical Thinking and Problem Solving.

PARTNERSHIP FOR 21ST CENTURY SKILLS

LEARNING & INNOVATION SKILLS

Creativity and Innovation

- *Demonstrating originality and inventiveness in work*
- *Developing, implementing and communicating new ideas to others*
- *Being open and responsive to new and diverse perspectives*
- *Acting on creative ideas to make a tangible and useful contribution to the domain in which the innovation occurs*

4th Grade

OUTCOME: Demonstrate originality and inventiveness in work.

EXAMPLE: After reading several trickster folktales, such as Coyote Stories or High John tales, and viewing two or three cartoons, students write their own contemporary version of a trickster story and present them as stop-motion or claymation films.

EXAMPLE: Students collect a variety of newspaper and magazine articles on a social or environmental issue. In small groups, they decide on an issue and a theme and style for a poem. They use words and phrases cut from the articles to create a "found poem" on their topic.

OUTCOME: Communicate new ideas to others.

EXAMPLE: Students select several photographs or pictures found on the internet that represent their individual personalities. They each write an autobiographical poem or series of poems and, using presentation software, make a slideshow of the pictures and poems that may include appropriate background music. As a class, students discuss how the pictures and music change their understanding of the poem.

8th Grade

OUTCOME: Demonstrate originality and inventiveness in work.

EXAMPLE: As the culmination of a unit of fantasy or investigative journalism reading, students write fanfic (stories set in the worlds of the books they read). Each story will introduce a contemporary realistic concern or issue, such as water shortage, vigilantism, or genetic engineering. Students may publish these works on the school website or on fanfic sites approved by the teacher.

EXAMPLE: Using the poem "Where I'm From" by George Ella Lyons and portions of the contemporary song of that same title by Digable Planets, students write poems based on their own backgrounds. Students make web pages of the poem, hyperlinking key words in the poem to photographs, illustrations, explanations, or other texts that enhance or explain the meaning. Students select three of their classmates' websites to link to on their site. Each link has a brief review of the page explaining why it was linked to.

OUTCOME: Be open and responsive to new and diverse perspectives.

EXAMPLE: Working in groups, students select concepts such as prosperity, justice, integrity, peace, or security. Each student in the group contributes one image to an online slideshow, such as ed.voicethread.com, that illustrates the concept or that show the absence of the quality.

12th Grade

OUTCOME: Develop and communicate new ideas to others.

EXAMPLE: After reading a dystopian novel such as *The Giver*, *The Lord of the Flies*, *The Handmaid's Tale* or *Fahrenheit 451*, students will create a movie trailer that highlights universal questions raised by the novel. Students will view each others' trailers, write up notes critiquing them, and present their feedback in a "Siskel and Ebert" remake.

OUTCOME: Demonstrate originality and inventiveness in work.

EXAMPLE: Each student records a dramatic reading of a meaningful poem using appropriate inflection and expression. The meaning of the poem is enhanced with selection of appropriate music and video or still images. The student also records a commentary discussing the intentions of the work and a rationale for the creative decisions.

OUTCOME: Act on creative ideas to make a tangible and useful contribution to the domain in which the innovation occurs.

EXAMPLE: Working in teams, students research a global social issue, develop a problem scenario, and create an online game to teach younger students about this issue. For an example, see Hurricane Katrina: Tempest in Crescent City www.tempestincrescentcity.org.

Creativity and Innovation (continued)

4th Grade

OUTCOME: Develop, implement and communicate new ideas to others.

EXAMPLE: Using an open-ended inspiration for writing such as Chris Van Allsburg's *Mysteries of Harris Burdick*, each student writes the beginning of a story and records it as a podcast. Students in other classes listen to the story, create the ensuing episodes, and record them as podcasts, until a final group writes and records the conclusions.

8th Grade

Group members and other classmates add audio or written responses commenting on the significance of the image to the concept.

OUTCOME: Develop and communicate new ideas to others.

EXAMPLE: Students write an audio commercial for a favorite short story using the conventions of movie trailers. They also add appropriate sound effects and background music. (Example movie trailers can be found at www.apple.com/trailers).

12th Grade

EXAMPLE: Students read works of digital fiction at http://wetellstories.co.uk. Students use one of the pieces as inspiration for a short work of their own.

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LEARNING & INNOVATION SKILLS

Critical Thinking & Problem Solving

[redacted]

- *Exercising sound reasoning in understanding*
- *Making complex choices and decisions*
- *Understanding the interconnections among systems*
- *Identifying and asking significant questions that clarify various points of view and lead to better solutions*
- *Framing, analyzing and synthesizing information in order to solve problems and answer questions*

4th Grade

OUTCOME: Identify and ask significant questions that clarify various points of view.

EXAMPLE: Students participate in literature circle discussions of a short story they read and for which they prepared an open-ended discussion question. They use a voice recorder to record their discussion. They then listen to the recording, evaluating the effectiveness of points raised in response to the questions, insights shared, and balance of participation. The recording may be published as a podcast.

OUTCOME: Frame, analyze and synthesize information in order to solve problems and answer questions.

EXAMPLE: After reviewing profiles at an entrepreneurial microfinancing site such as www.kiva.org, students research the economic and social impact of several proposals. Each student selects one proposal and writes an essay to persuade classmates to choose this proposal. The class creates an appropriate activity to raise the money to support the chosen proposal.

Financial Literacy

EXAMPLE: Using picture books and short nonfiction selected by the teacher, students will examine social injustices present in our society and multiple ways in which individuals take social action. Throughout the unit, students keep a reflective journal of the injustices people faced and the actions that overcame or

Civic Literacy

8th Grade

OUTCOME: Frame, analyze and synthesize information in order to solve problems and answer questions.

EXAMPLE: After writing an informative or persuasive piece, the student creates a "word cloud" of the writing using a tool such as wordle.com which represents the frequency of word use: the more frequent the word, the larger it is displayed. Students read their selection aloud with the word cloud projected on a screen. In groups, students analyze the visual representation and evaluate the match between the prominent words and the intention of the writer.

OUTCOME: Make complex choices and decisions.

Financial Literacy

EXAMPLE: Students conduct research to answer the question: How much schooling do you need to get the kind of job you would like to have? After researching salaries, employment outlook, and education/training requirements of a variety of possible careers, students create a chart comparing their top three to five choices and write short personal essays explaining how these choices fit their goals.

12th Grade

OUTCOME: Frame, analyze and synthesize information in order to solve problems and answer questions.

EXAMPLE: In small groups, students create a plan for involving students in making technology decisions in the school. The process may include gathering student input from surveys, establishing a student advisory committee, using students to help provide tech support or other services to the school, evaluating cost/value ratios, and fundraising proposals to support their recommended strategies. These plans should be used in a presentation to the principal or the school board.

EXAMPLE: Students choose an article from the satiric website www.theonion.com to analyze. In addition to identifying the elements of satire (exaggeration, incongruity, reversal, and parody) used in the article, students write a critique evaluating the effectiveness of the piece as commentary on current events.

OUTCOME: Identify and ask significant questions that clarify various points of view.

EXAMPLE: Working in groups, students follow the Twitter blogs of a variety of newspapers for several days. Students compare these logs for the differences and similarities in the events posted and speculate on the significance, if any, of these comparisons.

PARTNERSHIP FOR 21ST CENTURY SKILLS

Critical Thinking & Problem Solving (continued)

4th Grade

diminished the injustice. As a class, students identify injustices, big and small, in their own world and brainstorm ways a young person could take action for change, even in a small way. One resource for this is, *How to Solve the Social Problems You Choose - And Turn Creative Thinking into Positive Action*, by Barbara A. Lewis.

8th Grade

OUTCOME: Identify and ask significant questions that clarify various points of view.

EXAMPLE: At the end of a short story unit, students brainstorm elements of effective short stories. Using a visual ranking tool (such as the Intel online visual ranking thinking tool), each student considers the short stories read in the unit and ranks them, using the comment feature of the tool to add explanations. The comparison function of the tool may be used to contrast ratings between students. Students can then discuss the reasons for the differences in rankings.

12th Grade

OUTCOME: Exercise sound reasoning in understanding.

EXAMPLE: Using an online visual search tool such as Many Eye's Word Tree, or http://services.alphaworks.ibm.com/manyeyes/home, students paste in a piece of text such as a poem or speech that contains rhetorical devices such as repetition. Select a word or phrase. All of the contexts for the word or phrase will be displayed in a tree-like branching. Use the visual as a basis for writing an analysis of recurrent themes and variations in the piece of text.

[redacted]

LEARNING & INNOVATION SKILLS

Communication

[redacted]

[redacted]

[redacted]

[redacted]

- *Articulating thoughts and ideas clearly and effectively through speaking and writing*

4th Grade

OUTCOME: Articulate thoughts clearly and effectively through writing, speaking, and visuals.

EXAMPLE: Each student chooses a class photograph or creates a piece of artwork that illustrates a favorite memory of the year. The student writes a narrative of the memory. The illustration and auditory recording of the essay are published on a secure educational site such as ed.voicethread.com. Classmates can record comments responding to the essay or to the illustration.

OUTCOME: Articulate thoughts clearly and effectively through writing and visuals.

EXAMPLE: Using an online comic strip generator such as Pixton for School, students create a graphic novel version of a short story or novel.

OUTCOME: Articulate thoughts clearly and effectively through writing and speaking.

EXAMPLE: Students pose a question about a local issue on a secure collaborative space such as ed.voicethread.com orwritingmatters.org. Each student gives a short written or recorded response to the issue. Invite community leaders to add their responses.

8th Grade

OUTCOME: Articulate thoughts and ideas clearly and effectively.

EXAMPLE: After viewing clips of Charlie Chaplin movies, students discuss the conventions of silent film such as brief captions and exaggerated facial expressions that communicate the story. They then create a silent movie version of a suspenseful short story such as an Edgar Allen Poe or Ray Bradbury story.

EXAMPLE: Students brainstorm topics that they were worried about when they started middle school/junior high school. They write a survival guide with tips on these topics. The survival guide may be published as a booklet or as a series of podcasts or videos to be shared with incoming students. Students could celebrate their collective accomplishments with a "publication party" to which parents and school leaders are invited.

OUTCOME: Articulate thoughts and ideas clearly and effectively through writing.

EXAMPLE: Students post short writings about class activities in a class journal or on a secure class bulletin board or wiki. Classmates ask and answer questions, clarify information, or share insights in their postings.

12th Grade

OUTCOME: Articulate thoughts clearly and effectively through writing, speaking, and multimedia.

EXAMPLE: As a culminating event after a poetry unit, students sponsor a coffeehouse night or a poetry slam. Themes or elements from each poem may be amplified with appropriate visuals or music.

OUTCOME: Articulate thoughts clearly and effectively through writing.

EXAMPLE: Students follow a variety of blogs written on topics of personal interest, posting their own comments as appropriate. After following these blogs for a period of time, students write a reflection on their online experience, how they found the blogs they were following, the differences in tone, content, and expertise between these blogs, the insights gained from these blogs, and their own role in the community.

EXAMPLE: Students translate a piece of dialog from a Shakespearean play into a text message exchange and analyze the effect of the writing mode on the tone or meaning of the dialogue. Students then discuss audience and purpose in relation to communication media.

LEARNING & INNOVATION SKILLS

Collaboration

- *Demonstrating the ability to work effectively with diverse teams*
- *Exercising flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal*
- *Assuming shared responsibility for collaborative work*

4th Grade

OUTCOME: Demonstrate the ability to work effectively with diverse teams.

EXAMPLE: Through a reputable program such as epals, the class is connected to a class in another country. With teacher supervision, students exchange emails and digital photos of a specific geographic or architectural treasure in or near their community. Students use this information to create picture books for children in a classroom in a third community unrelated to the first two classes.

OUTCOME: Assume shared responsibility for collaborative work.

EXAMPLE: Pairs of students write, revise, and publish a mystery short story using Google Docs or a class wiki. Each partner reviews the history and writes a short reflection on his or her role in completing the piece.

EXAMPLE: Students collaborate on writing book reviews in a class wiki or blog site such as blurb.com or www.writingmatters.org. At the end of the year, students use the reviews and discussions to select a Book of the Year.

8th Grade

OUTCOME: Assume shared responsibility for collaborative work.

EXAMPLE: Using a collaborative research annotation tool such as Trailfire www.trailfire.com, Google Notebook or Diigo www.diigo.com, teams of students collect and comment on relevant websites on a topic related to a historical fiction novel read by the group. Each group collates the research findings in a group wiki to make a nonfiction textbook that is a companion to the novel.

OUTCOME: Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal.

EXAMPLE: As an interdisciplinary team project, students research a significant environmental issue such as water conservation, energy consumption, global warming, or deforestation. They then create a video that presents the information along with actions students can take regarding this problem. Students should select powerful visual images and an appropriate soundtrack to enhance their message. In the video the team also reflects on their collaboration and compromises they made.

OUTCOME: Demonstrate ability to work effectively with diverse teams.

EXAMPLE: Students are paired in male-female groups to write a weekly summary of the class activities to distribute to their parents. The writing is shared and delivered to both students' parents.

12th Grade

OUTCOME: Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal.

EXAMPLE: In a virtual world such as Teen Second Life, students working in teams design an amphitheater in which to conduct virtual workshops on writing poetry and to host virtual poetry readings.

OUTCOME: Assume shared responsibility for collaborative work.

EXAMPLE: As a team, students create a virtual fieldtrip for elementary students. In addition to creating a video and narration detailing the site, the team also includes background information from research as well as interviews with appropriate experts. Use a project management tool such as www.teamness.com to organize the tasks, assignments, and deadlines.

OUTCOME: Demonstrate ability to work effectively with diverse teams.

EXAMPLE: Students collaborate with senior citizens in a digital storytelling workshop. The teams bring to life a story from a senior's history as they collaborate on writing and creating the video, including recording the narration and selecting images and music. The finished videos are presented in a community film festival. Each team discusses criteria for evaluating their video in advance, and grades their work accordingly.

[redacted]

INFORMATION, MEDIA & TECHNOLOGY SKILLS

Information Literacy

[redacted]

[redacted]

[redacted]

[redacted]

- *Accessing information efficiently and effectively, evaluating information critically and competently and using information accurately and creatively for the issue or problem at hand*
- *Possessing a fundamental understanding of the ethical/legal issues surrounding the access and use of information*

4th Grade

OUTCOME: Access and critically evaluate information and use information accurately to solve problems.

Global Awareness

EXAMPLE: Students research the carbon footprint impact of "food miles" — the distance food travels between where it is produced and where it is consumed. Using this information, they calculate the food miles of a typical dinner for their families. Create a class graph of the results. Investigate what locally-grown changes could be made to the menu. Write a letter to the editor sharing suggestions for reducing the number of "food miles" in the local community.

Global Awareness

OUTCOME: Access and critically evaluate information and use information creatively.

EXAMPLE: After researching a topic such as global warming, students present information on their findings and recommendations as spoken-word style poems. They present their poems to younger students, and/or create a multimedia project, which is posted in a blog in order to receive comments for feedback.

8th Grade

OUTCOME: Use information accurately and creatively for the issue or problem at hand.

Health Literacy

EXAMPLE: After completing a literature circle unit of teen problem novels, students brainstorm a list of significant social, emotional, or health issues teens face today. Working in groups, students research one issue and create a public service announcement on a closed Youtube channel (viewable only by students in the class) to persuade their peers about one action they should take regarding this issue.

OUTCOME: Use information accurately and creatively to generate new knowledge.

EXAMPLE: After gathering biographical information from print and online sources as well as autobiographical information from an author-sponsored website, students create a chart matching biographical information with topics, settings, plots, characters, or other characteristics of the author's works that may have been influenced by the author's own life.

12th Grade

OUTCOME: Possess and share a fundamental understanding of the ethical/legal issues surrounding the access and use of information.

EXAMPLE: Working in groups, using websites such as the International Ecotourism Society, students create a brochure or website to promote sustainable travel in their community.

OUTCOME: Use information accurately and creatively for the issue or problem at hand.

EXAMPLE: After researching classic children's authors, students write biographies as illustrated children's books that include an appropriate bibliography of sources. The books can be published online at a website such as lulu.com or writingmatters.org and shared with local elementary students.

EXAMPLE: Students create documentaries of local veterans. Students use print and internet resources to access background information to prepare for the interviews and to gather images to use in the video. As students review footage of the interviews, they select a quote that clarifies the theme of the documentary. Students follow all copyright, Fair Use, and Creative Commons guidelines for images and music used in the documentary. The documentaries could be aired on a local cable access channel.

[redacted]

INFORMATION, MEDIA & TECHNOLOGY SKILLS

Information Literacy (continued)

[redacted]

[redacted]

[redacted]

4th Grade

OUTCOME: Evaluate information critically and competently.

EXAMPLE: Students are given a teacher-generated list of websites that are a mixture of legitimate and hoax sites. Students apply a website evaluation framework such as RADCAB (www.radcab.com) to write an explanation for deciding whether each site is credible or not.

OUTCOME: Evaluate information critically and competently and use information accurately and creatively for the problem at hand.

EXAMPLE: Students identify historic information from story elements in books, such as *The Time Warp Trio*.

OUTCOME: Access information efficiently and effectively, evaluate information critically and competently and use information accurately and creatively.

EXAMPLE: Students research a notable historic figure to create a multi-genre research project that includes a mock interview, a timeline, a piece of creative writing, and a digital product.

8th Grade

OUTCOME: Evaluate information critically and competently.

EXAMPLE: After reading a historical fiction novel, students work in groups to locate and evaluate websites that give relevant historical background information. The group will use social bookmarking tools such as del.icio.us, 2Collab, or Sitemark to compile likely websites and to share notes about the usefulness and credibility of information found at that site. At the end of their research, the group will share a list of the most relevant and credible sites with the class. The presentation might be recorded as screenshots of homepages and audio narrative in presentation software, or shared at a website such as www.flowgram.com.

OUTCOME: Possess a fundamental understanding of the ethical/legal issues surrounding the access and use of information.

EXAMPLE: Students create a online handbook in a wiki space explaining the copyright, Fair Use, and Creative Commons guidelines they must follow to include music, images, video, or excerpt from a published text in a multimedia CD version of the school yearbook. The wiki will include an FAQ section, online resources, specific examples, guidelines, etc. that can be easily modified.

12th Grade

[redacted]

INFORMATION, MEDIA & TECHNOLOGY SKILLS

Media Literacy

- *Understanding how media messages are constructed, for what purposes and using which tools, characteristics and conventions*
- *Examining how individuals interpret messages differently, how values and points of view are included or excluded and how media can influence beliefs and behaviors*
- *Possessing a fundamental understanding of the ethical/legal issues surrounding the access and use of information*

4th Grade

OUTCOME: Understand how media messages are constructed, for what purposes and using which characteristics and conventions.

EXAMPLE: Cut the titles off a variety of magazines. Students analyze the images and words to guess the magazine's intended audience. They then guess what magazine it is and give their reasoning. Students could also identify their own demographic and design an original magazine that would attract them.

OUTCOME: Examine how values and points of view are included or excluded and how media can influence beliefs and behaviors.

EXAMPLE: From a collection of a variety of comic books, students will work with a partner to chart number of characters, the number of male vs. female characters, and the activity of the different characters. Students will discuss the various roles assigned to the characters, looking for patterns, surprises, and curiosities.

8th Grade

OUTCOME: Examine how values and points of view are included or excluded and how media can influence beliefs and behaviors.

Health Literacy

EXAMPLE: Body image issues of adolescent girls receive much attention, but adolescent boys also have their concerns. Students research issues of body image of each gender and how the media influence perceptions of body image. Using information from the research, groups of students create an original video for an audience of 6th or 7th graders that promotes healthy attitudes toward body image.

OUTCOME: Examine how individuals interpret messages differently, how values and points of view are included or excluded and how media can influence beliefs and behaviors.

EXAMPLE: After a teacher-led discussion of target markets and consumerism, students collect examples of print, TV, or internet advertising targeting teens that promote excessive and irresponsible consumption. Students discuss the hidden messages of these advertisements and vote on the one with the most negative message. Students then write letters or emails to the company explaining the students' findings and asking for change in future advertisements.

12th Grade

OUTCOME: Understand how media messages are constructed, for what purposes and using which tools, characteristics and conventions.

EXAMPLE: Social networking sites and user-created content have given advertisers new venues and new tools to target their potential market with more precision. Students keep a one-week log of encounters with brands, product placements, branded websites, viral advertising, banner advertisements, as well as traditional print, radio, and TV advertising that are directed toward the teen market, noting the brands and the type of advertising encountered. Students pool the data as a class. Using the compiled data, students write analytical essays drawing conclusions about the intention, ethics, effectiveness, or other topic inferred from the data.

EXAMPLE: In addition to reviewing the Academy Award for best foreign film, students research other international film awards. In small groups, they research, select, and preview an award-winning international film. The groups connect via email, a blog, social network, or videoconferencing with students from the film's home country to discuss reactions to the film. The students write a critique of the film that includes a recommendation whether or not to view the film as a whole class.

[redacted]

INFORMATION, MEDIA & TECHNOLOGY SKILLS

ICT Literacy

[redacted]

- *Using digital technology, communication tools and/or networks appropriately to access, manage, integrate, evaluate, and create information in order to function in a knowledge economy*
- *Using technology as a tool to research, organize, evaluate and communicate information, and the possession of a fundamental understanding of the ethical/legal issues surrounding the access and use of information*

4th Grade

OUTCOME: Use technology as a tool to research, organize, evaluate and communicate information.

Civic Literacy

EXAMPLE: Students collaborate with a classroom in a different geographic region to research and share the impact of a national current event on local communities. They post findings and comments to a blog or wiki. Students may connect via videoconferencing or internet communication software such as skype to share discoveries on similarities and differences between the two communities.

OUTCOME: Use digital technology and communication tools appropriately to access, evaluate, and create information.

EXAMPLE: Students brainstorm information they would need to know to decide if students in their school are as tech savvy as peers in other schools. Students examine archives of the NetDay surveys of student technology use (www.tomorrow.org) and select several questions relevant to local technology concerns. Using a survey tool such as surveymonkey.com, students collect local data on the selected questions and compare the results to the national averages. Students use the comparisons to suggest to the principal changes in classroom technology use or access.

8th Grade

OUTCOME: Use technology as a tool to research, organize, evaluate and communicate information, and possess a fundamental understanding of the ethical/legal issues surrounding the access and use of information.

EXAMPLE: Using tools in Google Earth students create a digital map of local authors that creates a mash-up integrating information such as author's location, biographical information, literary information, authoritative reviews of works, relevant images, and personal opinion. Students will follow all guidelines for Fair Use, Creative Commons, and crediting sources for information, sound, and images.

OUTCOME: Use digital technology and communication tools appropriately to access, evaluate, and create information.

EXAMPLE: Using a collaborative online tool such as Shelfari, and following guidelines of safe and responsible online behavior, students post reviews of books they've read, and they read, rate, and comment on reviews written by other student readers.

OUTCOME: Demonstrate an understanding of legal, ethical, and safe online behavior.

EXAMPLE: Students conduct research, including conducting surveys, about the prevalence, effects, and examples of cyberbullying. Students design a school-wide campaign to raise awareness as well as offering constructive suggestions for handling this problem.

12th Grade

OUTCOME: Use technology as a tool to research, organize, evaluate and communicate information, and possess a fundamental understanding of the ethical/legal issues surrounding the access and use of information.

EXAMPLE: Students create a workshop for teens on safe participation in social networking sites. The workshop should include interactive activities, skits, videos, or simulations on issues of privacy, appropriateness, and reporting.

OUTCOME: Use technology as a tool to communicate information.

EXAMPLE: Students write personal essays modeled on "This I Believe" essays broadcast on National Public Radio. Students record their essays as podcasts. (Curriculum support material is available at www.thisibelieve.org).

OUTCOME: Use digital technology, communication tools and/or networks appropriately to integrate, evaluate, and create information.

EXAMPLE: Students participate in videoconferencing about books and reading with students from other schools as a Read Across the Planet activity on Read Across America Day. (Information can be found at www.twice.cc/rap).

[redacted]

LIFE & CAREER SKILLS

Flexibility & Adaptability

[redacted]

- *Adapting to varied roles and responsibilities*
- *Working effectively in a climate of ambiguity and changing priorities*

4th Grade

OUTCOME: Adapt to varied roles and responsibilities.

EXAMPLE: Students partner with a classmate to write a "poem in two voices" to depict two sides of an issue (i.e., a historic event, a current event, a science or social issue debate, or the protagonist and antagonist from a class novel).

8th Grade

OUTCOME: Adapt to varied roles and responsibilities.

EXAMPLE: Students interact in an age-appropriate online environment that combines educational activities with social networking. In a site such as Whyville.net, students collaborate to solve learning games, and participate in community life by starting a business, writing for the newspaper, or participating in the government. They also build social relationships with participants from around the globe through supervised chat.

12th Grade

OUTCOME: Work effectively in a climate of ambiguity and changing priorities.

EXAMPLE: In emulation of "movie in a day" competitions that are held across the country, students will work in teams to create a completed video in a 24 hour period. Students will be given a genre for the script and several random components that must be worked into the script, the audio, or the visuals. These components might be an object, a phrase, a name, a product, a sound effect, etc. The writing, filming, and editing are to be completed within a 24 hour period.

[redacted]

LIFE & CAREER SKILLS

Initiative & Self-Direction

[redacted]

[redacted]

[redacted]

- *Monitoring one's own understanding and learning needs*
- *Going beyond basic mastery of skills and/or curriculum to explore and expand one's own learning and opportunities to gain expertise*
- *Demonstrating initiative to advance skill levels towards a professional level*
- *Defining, prioritizing and completing tasks without direct oversight*
- *Utilizing time efficiently and managing workload*
- *Demonstrating commitment to learning as a lifelong process*

4th Grade

OUTCOME: Define, prioritize and complete tasks without direct oversight.

EXAMPLE: Students post regularly in their own secure, school-approved blogs in response to teacher-initiated writing prompts or on self-selected topics. They comment on classmates' blogs and, in turn, respond to feedback provided through comments.

OUTCOME: Monitor one's own understanding and learning needs.

EXAMPLE: Following each group project, students complete a self-evaluation. They review these self-evaluations to monitor skills over time.

8th Grade

OUTCOME: Utilize time efficiently and manage workload.

EXAMPLE: Each student creates a project of personal interest that requires significant work in collecting and organizing information, in working responsibly in online environments, and in creating a digital product to share with a specific audience. The student will break the project down into smaller parts and create a schedule of deadlines. (Curriculum support material can be found at www.genyes.org).

OUTCOME: Monitor one's own understanding and learning needs.

EXAMPLE: As a class students create a rubric for an individual multimedia writing project. Students use the rubric to self-assess their work, including comments reflecting on the quality of their work and their process.

12th Grade

OUTCOME: Go beyond basic mastery of skills and/or curriculum to explore and expand one's own learning and opportunities to gain expertise.

EXAMPLE: Each student will complete a senior capstone project that includes a paper, a product, a portfolio, and a presentation on a self-selected topic.

OUTCOME: Demonstrate commitment to learning as a lifelong process.

EXAMPLE: Using an online document sharing tool, the student creates an electronic portolio to showcase personal goals, projects, writing, multi-media productions, experiences, and reflections on progress and achievements.

[redacted]

LIFE & CAREER SKILLS

Social & Cross-Cultural Skills

[redacted]

- *Working appropriately and productively with others*
- *Leveraging the collective intelligence of groups when appropriate*
- *Bridging cultural differences and using differing perspectives to increase innovation and the quality of work*

4th Grade

OUTCOME: Bridge cultural differences and use differing perspectives to increase innovation and the quality of work.

Global Awareness

EXAMPLE: Students communicate with peers around the globe, or in communities they are not familiar with where students represent significantly different backgrounds from them, in a project such as "Rock Our World", by investigating climatic, geographic, and cultural similarities and differences. Students also collaborate on movies, songs, stories, and in videoconferencing.

Global Awareness

OUTCOME: Leverage the collective intelligence of groups when appropriate.

EXAMPLE: Students communicate via teacher-supervised email, videoconferencing or through secure collaborative websites (such as think.org) with peers in other countries or in communities they are not familiar with where students represent significantly different backgrounds from them, to compare the significance of a specific environmental issue in each country or community. Students create and share documentary videos synthesizing what they have learned.

8th Grade

OUTCOME: Bridge cultural differences and use differing perspectives to increase innovation and the quality of work.

Global Awareness

EXAMPLE: Students conduct research about three or four immigrant communities living in or near their city or town since 1965. The students then publish findings on the Internet and compare their findings with students in other countries through projects such as the International CyberFair.

EXAMPLE: Using a shared wiki, blog, or learning management system, students communicate with classes in other regions or countries significantly different from their classroom to share their daily school life, to discuss books they are reading, and to publish their creative writing.

12th Grade

OUTCOME: Bridge cultural differences and use differing perspectives to increase innovation and the quality of work.

Global Awareness

EXAMPLE: After reading several issues of an international literary magazine that publishes art, poetry, and prose, students produce and evaluate their own submissions. One example of an international literary magazine is, A Vision (www.iearn.org/avision).

Global Awareness

OUTCOME: Leverage the collective intelligence of groups when appropriate.

EXAMPLE: Students conduct interviews with leaders and members of several different religious communities in their city or town. Without making comparisons, students create short videos explaining their personal identity, the process of locating and talking to people of diverse faiths, and what they learned in their interviews.

EXAMPLE: In partnership with international peers or students from US communities they are not familiar with who represent significantly different backgrounds from them, students identify and research global trends in communication and the impact of these trends on them locally and personally. Students use online communication tools such as Voice-over-IP, or webcasting tools such as podcasts, videos, and wikis, as they gather their information, collaborate on the products, and reflect on the project.

[redacted]

LIFE & CAREER SKILLS

Productivity & Accountability

[redacted]

- *Setting and meeting high standards and goals for delivering quality work on time*
- *Demonstrating diligence and a positive work ethic (e.g., being punctual and reliable)*

4th Grade

OUTCOME: Demonstrate diligence and a positive work ethic (e.g., being punctual and reliable).

EXAMPLE: Students complete a WebQuest to research three explorers of the "New World" with the purpose of deciding which one they would choose to sail with into uncharted waters. Each task provides the scaffolding to write a final essay. Upon completing a task, students return to "home port," a checkpoint to help them keep on track.

8th Grade

OUTCOME: Set and meet high standards and goals for delivering quality work on time.

EXAMPLE: After working with the teacher to understand the relevant state language arts standards, students work together to rewrite some of these standards into language that is understandable by other adolescents. With these translated standards in mind, students work throughout the academic year on a set schedule to create electronic portfolios of self-selected work across the curriculum. Artifacts may include audio clips, video clips, digital photographs, samples of writing in a variety of genres, posts from appropriate social networking tools, and other work such as artifacts from multi-user virtual environments. In a culminating piece, the students reflect on progress through the year as well as evaluating their achievement in relation to the translated standards.

12th Grade

OUTCOME: Demonstrate diligence and a positive work ethic (e.g., being punctual and reliable).

EXAMPLE: After reading a book by a local author, the student generates substantive interview questions and schedules a telephone or videoconference interview with the author with the goal of gathering autobiographical information, insights into their work as an author, and quotes to use in a literary analysis of the work.

[redacted]

LIFE & CAREER SKILLS

Leadership & Responsibility

- *Using interpersonal and problem-solving skills to influence and guide others toward a goal*
- *Leveraging strengths of others to accomplish a common goal*
- *Demonstrating integrity and ethical behavior*
- *Acting responsibly with the interests of the larger community in mind*

4th Grade

OUTCOME: Leverage strengths of others to accomplish a common goal.

EXAMPLE: Students work in teams to complete the task of researching and assembling survival kits for regional severe weather conditions. Students will develop a multimedia advertising campaign for marketing the kits.

8th Grade

OUTCOME: Demonstrate integrity and ethical behavior.

EXAMPLE: Students create a performance, picture book, public service video, or podcast to share with an audience of younger students to illustrate best practices for online safety.

12th Grade

OUTCOME: Act responsibly with the interests of the larger community in mind.

EXAMPLE: Students volunteer to lead an after-school book club, creative writing club, or technology club for younger students.

21st Century Skills Map

DESIGNED IN COOPERATION WITH THE NATION'S MATH EDUCATORS

The Partnership for 21st Century Skills (P21) has forged alliances with key national organizations representing the core academic subjects, including Social Studies, English, Math, Science, Geography, World Languages and the Arts. These collaborations have resulted in the development of 21st Century Skills Maps that illustrate the essential intersection between core subjects and 21st Century Skills.

The Partnership advocates for the integration of 21st Century Skills into K-12 education so that students can advance their learning in core academic subjects.

Developed through a year-long collaborative process, this map reflects the collective effort of Mathematics professors, teachers and thought leaders, and illustrates the integration of Mathematics and 21st Century Skills. It will provide educators, administrators and policymakers with concrete examples of how 21st Century Skills can be integrated into core subjects, and how other subject areas can link successfully with mathematics.

A **21st Century Skills** →

B **Skill Definition** →

C **Interdisciplinary Theme** ←

D **Sample Student Outcome/Examples** ←

An example from the Math Skills Map illustrates sample outcomes for teaching Communication and Collaboration.

PARTNERSHIP FOR 21ST CENTURY SKILLS

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ntroduction

nployers and educators agree that
anges in the global economy require
at students entering college and the
orkforce leave the K-12 education
stem with an advanced level of
oficiency in mathematics and a
astery of key mathematics concepts.

l believes that one of the most important ways
enable students to achieve this mastery is to fuse
thematical content and mathematical practices with
: 21st Century Skills outlined in P21's Framework for
st Century Learning.

sing a core subject like mathematics with 21st Century
lls makes teaching and learning more engaging,
re relevant and more rigorous, ensuring that a
ater number of students have an advanced level of
derstanding and ability in mathematics.

e working group that developed learning outcomes and
tructional examples for this project identified learning
pectations for grades 4, 8 and 12. These outcomes and
amples are organized and grouped according to the
l Framework for 21st Century Learning and explained
greater detail in this section.

Learning and Innovation Skills

Learning and innovation skills are increasingly recognized as those that distinguish students who are prepared for more complex life and work environments in the 21st century from those who are not. A focus on the 4Cs of Creativity, Critical thinking, Communication and Collaboration is essential to prepare students for the future.

Creativity and Innovation: Students use a wide range of techniques to create new and worthwhile ideas, elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize creative efforts, and demonstrate originality and inventiveness, in both an individual as well as group settings.

Critical Thinking and Problem Solving: Students reason effectively, use systems thinking and understand how parts of a whole interact with each other. They make judgments, decisions and solve problems in both conventional and innovative ways.

Communication and Collaboration: Students know how to articulate thoughts and ideas effectively using oral, written and nonverbal communication. They listen effectively to decipher meaning, such as knowledge, values, attitudes and intentions, and use communication for a wide range of purposes in diverse teams and environments.

P21 COMMON CORE TOOLKIT

P21 has created the Common Core Toolkit to align the P21 Framework with the Common Core State Standards (CCSS), a state led initiative to establish college and career standards in Mathematics and English Language Arts. The CCSS support the integration of 21st Century Skills as part of mathematics pedagogy and can offer creative ways to deepen student content knowledge and support individualized learning. Where appropriate, this document highlights connections between these examples and the CCSS. For more information on the 21st Century Skills and the Common Core, please visit http://www.p21.org/tools-and-resources/publications/p21-common-core-toolkit.

ntroduction (continued)

ıformation, Media and Technology Skills

the 21st century, we live in a technology and media-suffused environment, ırked by: 1) access to an abundance of information, 2) rapid changes technology tools, and 3) the ability to collaborate and make individual ntributions on an unprecedented scale. To be effective in the 21st century, ızens and workers must be able to exhibit a range of functional and critical nking skills related to information, media and technology.

formation Literacy: Students are able to access and evaluate information ectively and use and manage that information purposefully for the issue or oblem at hand. They exhibit awareness and application of knowledge on the ıical/legal issues surrounding the use of information.

edia Literacy: Understanding how, why, and for what purposes, media ssages are constructed, and how individuals interpret messages differently. ıdents create media utilizing the most appropriate media creation tools, ıaracteristics and conventions in diverse, multi-cultural environments.

formation, Communications, and Technology Literacy: ıdents use digital technologies to manage, integrate, evaluate and create ormation, and to apply technology effectively, using it as a tool to research, ganize, evaluate and communicate.

Life & Career Skills

Today's life and work environments require far more than thinking skills and content knowledge alone. The ability to navigate the complex life and work environments in the globally competitive information age requires students to pay rigorous attention to developing the following life and career skills.

Flexibility and Adaptability: Expertise in adapting to change in varied roles, jobs responsibilities, schedules and contexts and work effectively in a climate of ambiguity and changing priorities, exhibiting flexibility when negotiating and balancing diverse views and beliefs to reach workable solutions.

Initiative and Self-Direction: The capability to set and manage goals and time, and work independently. The capacity to be a self-directed learner going beyond basic mastery of skills and/or curriculum to explore and expand one's own learning and opportunities.

Social and Cross-Cultural Skills: Interacting effectively with others in a respectable, professional manner, and leveraging social and cultural differences to create new ideas and increase innovation and work quality.

Productivity and Accountability: The ability to set and meet goals, in the face of obstacles and competing pressures, to achieve intended result. Demonstrate additional attributes of high quality work, including collaborating and cooperating effectively and respectfully with diverse teams, multi-tasking, and being accountable for results.

Leadership: Utilizing one's own influence and problem-solving skills to work with others towards a shared goal, inspiring others and leveraging their strengths, while demonstrating integrity and ethical behavior.

ıe value of math education can be found not only in its ability to help contribute to students' college and career readiness, it can also help develop dividuals as thought leaders who can understand the world better because of their mathematics capabilities. Mathematics is a common language that n help students unlock complex problems and a lens of understanding by which to make applied and important connections to other fields, professions d disciplines. This project has been developed in order to give educational leaders in and out of the classroom additional tools to help more students cognize this common language so that all students develop skills to lead in the 21st century.

l thanks the Mathematical Association of America and the National Council of Teachers of Mathematics for their assistance in developing this Map.

NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS

PARTNERSHIP FOR 21ST CENTURY SKILLS

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nterdisciplinary Themes

athematics as a discipline offers its own
ique set of knowledge, skills, and processes.
lso offers the opportunity through an exploration of key
th concepts to provide links from school-based learning to
erdisciplinary themes that are essential to every student's
lity to thrive as a global citizen. Math offers students a lens
ough which to distinctively view the world, and empowers
dents with tools for meaningful participation in our
nocracy and economy. Students are able to discover ways
solve old problems and develop new ways of thinking about
world around them – a skill that is essential to tackling the
gest challenges in our interconnected, global world.

Global Awareness. Mathematics provides opportunities and experiences for students to understand global issues; to work collaboratively with individuals representing diverse cultures, religions and lifestyles in a spirit of mutual respect; and to understand other nations and cultures, including those that shape their thoughts in other languages. The awareness and empathy that comes from solving globally relevant math problems can enhance the ability of students to deepen their content knowledge and global mindfulness simultaneously.

Financial, Economic, Business and Entrepreneurial Literacy. Students must know how to make appropriate personal economic choices as responsible citizens, both at school and at home. These choices require certain mastery skills that will remain pertinent for students as they enter college, pursue careers that require extensive financial, economic and mathematics expertise, and manage every-day financial responsibilities.

Civic Literacy. Study in the field of mathematics provides a context for exploring the rights and obligations of citizenship at the local, state, national and international level, as well as the implications of ethical and civic decisions. Mathematics provide an opportunity for students to become aware of the interplay between governing laws, mathematics problems, and public policy challenges locally, nationally and globally.

Health Literacy. Use of math to calculate nutritional content and assess physical and mental practices can help students develop new tools for monitoring and improving their overall health, as well as understanding habits of healthy behavior.

Environmental Literacy. Students with mathematics skills can become stewards of the Earth when they utilize methods of measuring their impact on the planet and hone their ability to improve environmental conditions. Students may explore environmental issues through math simulations that explore environmental challenges locally, nationally and globally.

Outcomes for P21 Math Skills Map

'eativity and Innovation

Students compare different ways of approaching traditional mathematical problems and find innovative solutions, using practical examples where appropriate.

Students listen to and evaluate others' reasoning and offer improvements and corrections, with supporting arguments. They listen to others' feedback and modify their own arguments as needed. They learn from mistakes, and make repeated attempts at solving problems.

Students look for patterns that suggest creative shortcuts or simplifying frames of reference. They make generalizations from patterns they observe in repeated calculations.

By discovering fresh insights and communicating them to others, students come to understand that mathematics is a creative endeavor that builds on previous knowledge.

'itical Thinking and Problem Solving

Students look for a logical structure in addressing mathematical challenges. They are able to make complex choices and construct viable arguments to defend their choices.

Students identify and ask significant questions about mathematics and engage in analyzing each other's answers.

Students make sense of applied mathematical problems through analysis and synthesis of evidence, and persevere in solving problems.

Students analyze how parts of a whole interact with each other in mathematical systems.

ommunication & Collaboration

Students articulate mathematical thoughts and ideas using oral and written communication skills. Using abstract and quantitative reasoning with attention to precision, they construct viable arguments and analyze others' reasoning.

Students listen effectively to the reasoning of peers. They rephrase another student's explanation or engage in questioning in order to decipher a peer's solution to a mathematical problem.

c. Students work efficiently and respectfully in diverse teams, articulating mathematical thoughts and ideas effectively. They use oral, written and nonverbal communication skills, demonstrating how mathematics is used to model problems of broad interest to society.

Information Literacy

a. Students identify sources of data, access data, critically evaluate it, and then use it to explore significant questions about our world.

b. Students explore new areas of mathematics and its applications, and share what they have learned with others.

c. Students learn about mathematics from reliable websites and share their knowledge with others.

Media Literacy

a. Students understand how statistics, probabilities, and media messages are constructed for social purposes and how individuals interpret messages differently. They examine the purposes of statistical messages, the tools, characteristics, and conventions used, and how media can influence beliefs and behaviors.

b. Students gain a fundamental understanding of the legal and ethical issues surrounding the access, use, and potential distortion of mathematical information, terms, and concepts. They recognize the common tendency to treat quantitative data as truth and to infer patterns where none exist.

c. Students present statistical information in ways that support a particular view or help others understand the information.

Information, Communications, and Technology (ICT) Literacy

a. Students use tools such as graphing calculators, spreadsheets, computer graphing, computer algebra systems, GPS devices, and online resources appropriately and strategically.

b. Students use technology to communicate mathematical insights by constructing appropriate graphical representations of functions and of data.

Flexibility and Adaptability

a. Students work in pairs and small groups to address mathematical challenges that involve varied roles and responsibilities, and require working effectively in a climate of ambiguity and changing priorities.

Initiative and Self-Direction

a. Students monitor, define, prioritize, and complete tasks independently while balancing tactical and strategic goals to solve mathematical problems.

b. Students reflect critically on past experiences solving mathematical problems and connections among mathematical representations in order to inform future problem solving endeavors.

Social and Cross-Cultural Skills

a. Students learn about the use of mathematics in other cultures. They recognize the contributions to mathematics from a variety of cultures and the practical needs that led to those contributions.

b. Students apply tools of mathematics, such as statistical analysis, to understanding cross-cultural problems and issues.

Productivity and Accountability

a. Students set goals, establish priorities and schedules, and meet goals to complete a project.

Leadership and Responsibility

a. Students use interpersonal and problem-solving skills to leverage strengths of peers and solve mathematical problems important to their community.

b. Students consider the ethical implications of mathematically-based decisions.

Creativity and Innovation

ignment with Common ore State Standards:

noted in the P21 Common ore Toolkit, Creativity is not dressed explicitly in the athematics Practice section of the CSS. Creativity is instead strongly plied, especially with regard (but t limited) to topics that involve easurement and data, algebraic nking, geometry, statistics d probability, and modeling. addition, the creativity and novation examples below provide idents with opportunities to velop expertise in the following CSS mathematical practices:

Make sense of problems and persevere in solving them

Construct viable arguments and critique the reasoning of others

Model with mathematics

Look for and make use of logical structure

4th Grade

8th Grade

12th Grade

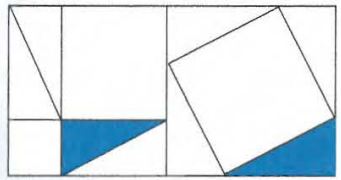
OUTCOME: Students compare different ways of approaching traditional mathematical problems and find innovative solutions, using practical examples where appropriate.

EXAMPLE: The teacher presents the class with the problem: Five friends are planning a pizza party. If each of them will eat 3 pizza slices and each pizza is cut into 8 slices, how many pizzas will be needed for the party?

Students work in small groups:

1. One group looks at how many pieces of pizza will be needed. They reason that 5 people eating 3 slices each will require 5 x 3 = 15 slices. The group then examines how many pizzas will be needed to get 15 slices.
2. Another group approaches the problem by asking: If each person eats 3/8 of a pizza, what fraction will 5 people eat?
3. A third group creates paper "pizzas": Each student draws a large circle and draws 4 lines through the center to create 8 equal-size wedges, or "pizza slices." Students sort the wedges into piles of 3. They see that 5 piles of 3 wedges each provide a total of 15 "pizza slices." Since each slice is 1/8 of a pizza, they reason that 15 slices is 15 x 1/8, or 15/8 of a pizza. They find that 15/8 = 1 7/8, which is just under 2 pizzas.

EXAMPLE: Students are shown two different approaches to proving the Pythagorean theorem, such as dissecting a square in different ways, dropping a perpendicular to the hypotenuse from the opposite vertex, or arguing using similar triangles. Students use the Internet to research other proofs of the theorem. Each student writes a brief report comparing two different proofs and presents it to the group.



EXAMPLE: Students learn about Hot Potato, a lottery game that was played in Wisconsin, which cost a dollar to play and had payoff probabilities as shown in the table below. Students then experiment with different ways to model the game. First they estimate how many people out of 10 win each payoff, how many out of 100, how many out of 1000, and so on. Then they model the problem with a probability distribution. They discover that a key payoff value is missing from the probability table: the expected payoff per game. Students then calculate the missing payoff value and learn that the expected payoff per game is about $0.55. They evaluate the impact of this payoff value from the point of view of the individual player as well as the Wisconsin Lottery Commission.

Payoff	Probability
1	1/9
2	1/13
3	1/43
6	1/94
9	1/150
18	1/300
30	1/2050
300	1/144000
500	1/180000
900	1/270000

PARTNERSHIP FOR 21ST CENTURY SKILLS

Creativity and Innovation (continued)

creativity progression' is a ocess worth exploring that n expand students' content owledge and reinforce the plication of creativity and ovation skills:

Solve exercises (standard solutions)

Solve problems (standard solutions)

Solve problems using non-standard solutions (creative stretch)

Solve a class of problems (metacognitive stretch) using both standard and non-standard solutions

Create new problems, and solve using both standard and non-standard solutions

Create new classes of problems, and solve using both standard and non-standard solutions

[redacted]

[redacted]

[redacted]

4th Grade | **8th Grade** | **12th Grade**

OUTCOME: Students listen to and evaluate others' reasoning and offer improvements and corrections, with supporting arguments. They listen to others' feedback and modify their own arguments as needed. They learn from mistakes, and make repeated attempts at solving problems.

EXAMPLE: Students learn about cicadas (http://animals.nationalgeographic.com/animals/bugs/cicada/. They discover that the Magicicada in eastern North America are the world's longest-living cicadas (www.magicicada.org) and that Magicicadas live in the ground and emerge only after 13 or 17 years, depending on the species.

Students explore why these cycles are based on prime numbers. They learn that certain cicada predators might reach a population peak every 2, 3, 4, 5, or 6 years and that if a bird or other predator reaches a population peak during the same year that the cicadas emerge, more cicadas get eaten.

Students look at how many years it would take for 17-year cicadas to emerge in sync with a 5-year predator (5 x 17 = 85 years). They see that a 10-year cicada, however, could be attacked by a 5-year predator every 10 years.

Environmental Literacy

Then students divide into two teams: the cicadas and the predators. The predators pick a number between 2 and 10 (years) to represent how often they will attack the cicadas. The cicadas pick a number to determine how often they will emerge from the ground to breed, which will also make them a target for predators. Then team members confer on possible strategies and experiment by choosing various combinations of predator/cicada numbers. They discover that the predators are like factors and the most successful cicadas have prime-numbered cycles.

EXAMPLE: Students explore different ways of tiling a floor using triangular tiles of a single size and shape. Using geometry software or triangles cut from paper, they experiment with rotations, reflections, and translations of a given triangle. Students compare their tilings with one another, suggest ways to prove that any given triangle can be arranged to cover the floor with no gaps, and respond to each others' propositions. In this process, students examine the relationship between angles formed by a transversal to two parallel lines. They see the connection between this discovery and the fact that the sum of the angles in a triangle is always a straight angle (180 degrees).

EXAMPLE: Students explore the mathematics of the popular puzzle video game Angry Birds (http://forum.davidson.edu/mathmovement/2011/11/13/algebra-of-angry-birds/). Working in teams, students build a hands-on version of the game. They create targets by stacking blocks or other lightweight objects, and they construct a toy catapult or slingshot to aim at the target (or toss a beanbag). After experimenting by trying to knock down the target from various starting points, students come up with different equations for parabolas to see which will work to knock down the structure from a given distance.

Creativity and Innovation (continued)

[redacted] [redacted] [redacted]

4th Grade

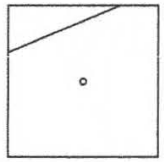
8th Grade

12th Grade

OUTCOME: Students look for patterns that suggest creative shortcuts or simplifying frames of reference. They make generalizations from patterns they observe in repeated calculations. CCSS alignment: Look for and express regularity in repeated reasoning.

EXAMPLE: Students skip count from a variety of different starting numbers. They identify patterns and explain the patterns they observe. For example, when skip counting by 5, they see that the last digit repeats every second time; when skip counting by 7, the last digit repeats every 10 times. Students create skip counting patterns with cycles of different lengths. They also identify skip counting patterns in which the last digit repeats at varying intervals. They investigate and record what sorts of cycle lengths and patterns are possible.

EXAMPLE: Each student is given a square piece of cardboard with a hole in the middle and a drawn line segment connecting two sides of the square. The line segment may connect any two sides at any point as long as it does not pass through the middle of the square. Students spin the square on the tip of a pencil and observe the optical illusion of a circle created by the drawn line segment. Students come up with a conjecture to identify where the illusionary "radius" is. Then they translate their square to a Cartesian coordinate plane and discuss the curve tangent to the locus of the line segments as they rotate about the center.



EXAMPLE: Students use a computer algebra system to factor completely the polynomial $x^n - 1$ for positive integer values of n. They conjecture a relationship between n and the number of factors and post their conjecture on a class website. Students review each others' conjectures, and then each student revises or refines his or her own conjecture.

Creativity and Innovation (continued)

[redacted]

[redacted]

[redacted]

4th Grade	8th Grade	12th Grade

OUTCOME: By discovering fresh insights and communicating them to others, students come to understand that mathematics is a creative endeavor that builds on previous knowledge.

EXAMPLE: Students explore Mayan mathematics (www.hanksville.org/yucatan/mayamath.html). They compare and contrast how numbers are represented in our Arabic system and in the Mayan system. They practice writing Mayan numerals and create addition and subtraction problems in the Mayan system for one another to solve (http://mathforum.org/k12/mayan.math/index.html).

EXAMPLE: Working in small groups, each team of students explores a different numeral system and prepares a report for the rest of the class explaining how numbers are represented in the system, how to do arithmetic operations, and the significance of the system. For example, binary (base 2) is the basis for electronic computing; duodecimal (base 12) is more convenient for adding fractions than our decimal (base 10) system is; and sexagesimal (base 60) was used by the ancient Sumerians and Babylonians.

EXAMPLE: Working in teams, students study examples of Kolams from Southern India or Sona from Angola and Zaire and explore the mathematics in these complex geometric art forms. They explore Kolam designs based on Fibonacci numbers (http://vindhiya.com/Naranan/Fibonacci-Kolams/) and examine how an array of dots can give rise to a one-line sona (www.beloit.edu/computerscience/faculty/chavey/sona/). Using the concepts they have learned, students try to create their own Kolams or Sona.

Global Awareness

Critical Thinking and Problem Solving

ɔmmon Core State andards Alignment:

the P21 Common Core Toolkit ints out, Critical Thinking d Problem Solving skills most plicitly align with the following ɔmmon Core State Standards' ıthematical practices:

Make sense of problems and persevere in solving them

Reason abstractly and quantitatively

Model with mathematics

Look for and make use of structure

4th Grade

8th Grade

12th Grade

OUTCOME: Students look for logical structure in addressing mathematical challenges. They are able to make complex choices and construct viable arguments to defend their choices.

EXAMPLE: Student create coded messages and decipher each others' messages. They learn about "Caesar ciphers" used by Julius Caesar to send secret messages to his military troops—similar to what we call "substitution ciphers." In this type of cipher, each letter is replaced by a different letter. For example, if each letter were replaced by the letter four places down in the alphabet, then the sentence, "Meet at the gate" would be encoded, "Qiix ex xli kexi."

Working in small groups, each team creates a coded message using a substitution cipher and then gives its message to another group to decipher.

Students learn that Morse Code and Braille are also like secret codes and that computers are "programmed" with coded messages.

EXAMPLE: Students examine a local building that has stairs but no ramp for wheelchairs. Working in groups, students identify the best place to install a ramp. Then they determine the appropriate slope, decide whether or not the ramp should have a switchback, and design the ramp using the Pythagorean Theorem.

EXAMPLE: Students go online to research current interest rates for unsubsidized Stafford loans, home equity loans, and home equity lines of credit. Then they devise a plan for borrowing $5,500 per year to help finance four years of college while keeping costs as low as possible:

Students calculate monthly payments and the total amount that would be owed (1) at graduation, (2) five years after graduation, and (3) 10 years after graduation.

Students also determine how the strategy would change if one of the options were a federally subsidized Stafford loan.

Financial Literacy

For both subsidized and unsubsidized Stafford loans, students need to consider the limits on how much may be borrowed each year.

Critical Thinking and Problem Solving (continued)

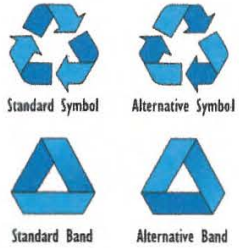
[redacted]

4th Grade

[redacted]

OUTCOME: Students identify and ask significant questions about mathematics and engage in analyzing each others' answers.

EXAMPLE: Each student creates a Möbius band by starting with a long, thin strip of paper, giving one end a half-twist, and taping the two ends together. Students draw a line along the center of their band and discover that the line ends where it began, confirming that the band has only one side.



Students view pictures of the standard recycling symbol and recognize that it represents a Möbius band. The class discusses why this one-sided figure seems appropriate for use as a recycling symbol. Then students look for recycling symbols in the community. By studying the symbols carefully, they may discover that sometimes the standard symbol appears, but sometimes a slightly different symbol is used.

Students try to determine how the alternative symbol differs from the Möbius band symbol. Then they create the alternative band from a strip of paper by giving one end three half-twists and then taping the ends together. They debate whether the alternative band is one-sided or two-sided and then draw a line along the center to determine the answer.

8th Grade

[redacted]

EXAMPLE: The class divides into two groups. In one group, students use a piece of string and a ruler to measure the circumference (c) and diameter (d) of circular objects, such as the lid of a jar, the face of a clock, or a pie plate. For each object measured, they calculate c/d. Then they calculate the average of each result to come up with an approximate value for pi.

In the other group, students use the method developed by Archimedes, using inscribed and circumscribed polygons.

Students compare the two groups' results. They recognize that pi is an irrational number, so it cannot be measured precisely. Then they research how people in different cultures have tried to calculate pi from ancient to modern times.

12th Grade

[redacted]

EXAMPLE: Students explore the napkin ring problem: if a hole of height h is drilled through the center of a sphere, the volume of the portion of the sphere that remains does not depend on the size of the original sphere; it depends only on h. They share and critique their insights into why this is so. Then students explore mathematician Keith Devlin's 2008 discussion of the problem at www.maa.org/devlin/devlin_04_08.html, where Devlin provides the full computation and explains why some solutions posted online are incorrect. Students explore solutions currently appearing online and assess which solutions are accurate and which are not.

Critical Thinking and Problem Solving (continued)

[redacted]

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[redacted]

4th Grade | **8th Grade** | **12th Grade**

OUTCOME: Students make sense of applied mathematical problems through analysis and synthesis of evidence, and persevere in solving problems.

EXAMPLE: Students work in small groups to design a parking lot. Given a flat, rectangular space with set dimensions, each group arranges rows of parking spaces to be easily accessible while allowing for a maximum number of cars to park. Students may visit an actual parking lot to assess and measure parking space width and angles. Each group creates a drawing of its design and presents it to the class.

EXAMPLE: Students choose three meals from a fast food restaurant—breakfast, lunch, and dinner—and obtain nutrition information from the restaurant or from its website. They add up the calories for each meal and compute the total calories that one would consume in a day from the three meals.

To analyze their totals, students refer to the 2010 Dietary Guidelines for Americans (http://health.gov/dietaryguidelines/dga2010/DietaryGuidelines2010.pdf). They use the table on page 14 of the Guidelines to estimate their caloric needs based on age, gender, and physical activity level.

Health Literacy

Students also add up the protein, fat, sodium, and carbohydrates for the three meals they selected, list the percentage for each item, and compare it with the Guidelines.

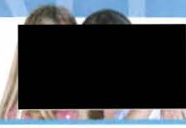
EXAMPLE: Students read about the mathematics of three-dimensional maps that a team of researchers has designed for measuring the environmental value of open space areas with no roads (www.sciencenews.org/view/generic/id/65519/title/Math_Trek__Miles_from_Nowhere).

Students then explore current policies pertaining to conserving roadless areas, such as the controversial "Roadless Rule" and determine how the mathematical maps could be used to improve policies for conserving open space. They craft a letter to their congressional representative or another policymaker explaining their analysis.

Civic Literacy

Environmental Literacy

Critical Thinking and Problem Solving (continued)



4th Grade

8th Grade

High School

OUTCOME: Students analyze how parts of a whole interact with each other in mathematical systems.

EXAMPLE: Students learn about different calendar systems and come to realize that the movements of the earth, moon, sun, and solar system interact with each other and affect how we mark time.

- The Gregorian (Western) calendar is based on Earth's orbit around the sun. Since one year (365.25 days) is slightly longer than Earth's current orbit, three days are skipped every four centuries.
- The Muslim calendar is based on lunar cycles in which the beginning date for each month is based on when the new moon can be observed. The beginning of the month varies among different Muslim countries, and western Muslim countries are likely to observe the beginning of the month a day earlier than eastern Muslim countries.
- The Chinese calendar is based on 60-year cycles and uses the phases of the moon to determine dates for each New Year.
- The Hebrew calendar uses lunar cycles and adds an extra month every two or three years to adjust to the solar year.

Global Awareness

EXAMPLE: Students debate the merits of ranked-choice voting and its recent use in several local elections (http://io9.com/5857724/ranked-choice-voting-does-a-mathematical-algorithm-make-for-better-elections). To compare ranked-choice voting with traditional voting systems, the class conducts a mock election with three to five candidates. The candidates may be actual persons, fictional characters, favorite songs, or other choices. Instead of voting for just one candidate, students rank their top three choices.

In tabulating results, students initially count only each voter's first choice. If no candidate receives more than 50 percent of the vote, students take three different approaches for determining the winner:

Civic Literacy

1. Simply declare the candidate with the most first-choice votes to be the winner.
2. Hold a run-off election between the two candidates who received the most first-choice votes.
3. Tabulate voters' ranked choices: First, the candidate with the lowest number of first-choice votes is eliminated, and the second and third choices of that candidate's supporters are added to the counts of the other candidates. The votes are tabulated again, and candidates are eliminated until one candidate receives a majority of the eligible votes.

Students compare the three outcomes and talk about how the math we choose can affect the kind of government we get. Students may also read mathematician Keith Devlin's discussion of election math, available online at www.maa.org/devlin/devlin_11_04.html.

EXAMPLE: Students examine college rankings from U.S. News and other sources, addressing such questions as: Why do people pay so much attention to these numbers? Are they based on a solid algorithm, or is the algorithm flawed? In what ways can colleges manipulate the rankings by trying to improve their scores in key parts of the algorithm to end up with a higher ranking?

Communication & Collaboration

ɔmmon Core State andards Alignment:

noted in the P21 Common ɔre Toolkit, Communication d Collaboration skills are most plicitly aligned with the following ɔmmon Core State Standards' ıthematical practices:

Construct viable arguments and critique the reasoning of others

Attend to precision

Look for and express regularity in repeated reasoning

4th Grade

8th Grade

12th Grade

OUTCOME: Students articulate mathematical thoughts and ideas using oral and written communication skills. Using abstract and quantitative reasoning with attention to precision, they construct viable arguments and analyze others' reasoning.

EXAMPLE: Students pair up and play "The Factor Game," which challenges players to find factors of numbers on a gameboard. In an online version, available at http://illuminations.nctm.org/activitydetail.aspx?id=12, the gameboard can include numbers up to 30, 49, or 100. Students can start with the simplest version, try to identify the mathematics that leads to a winning strategy, and then test their strategies using larger numbers.

Students then present and compare their playing strategies with their classmates' approaches to determine optimal strategies. At a "Family Math Night," pairs of students present the game to their family members and explain strategies for winning.

EXAMPLE: Working in small groups, students compare the cost of buying a hybrid versus a non-hybrid car. Students research pricing and fuel miles-per-gallon estimates for comparable models of hybrids an non-hybrids. They factor in average local gas prices over x years. Using their knowledge of linear functions, students then analyze the overall of cost of the hybrid versus the non-hybrid vehicle over x number of years, using assumptions regarding the average price of gas and how many miles the car will be driven each year. Students analyze how changing the number of years or number of miles to be driven would affect the outcome. Each group presents its results and conclusions to the class.

Financial Literacy

Environmental Literacy

EXAMPLE: As a joint activity with a social studies class, students study the history of how seats have been allocated in the U.S. House of Representatives. They analyze the mathematics behind different plans and underlying socio-political issues, such as the effects on small versus large states or rural versus urban populations. Students then solve various "fair division" problems for their city council or state house of representatives using different plans. Finally, students hold a debate in which students advocate for different plans, considering both the mathematical and social issues that go into the allocation of seats.

Civic Literacy

Communication & Collaboration (continued)

4th Grade

8th Grade

12th Grade

OUTCOME: Students listen effectively to the reasoning of peers. They rephrase another student's explanation or engage in questioning in order to decipher a peer's solution to a mathematical problem.

EXAMPLE: A soccer team is planning an end-of-season party. There are 4 tables in the party room, and the players have 36 balloons to decorate the tables: 12 red balloons, 12 yellow, and 12 blue. There are 14 players on the soccer team. How many balloons should each table have? What is the best way to divide up the colors? And how many players should sit at each table?

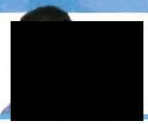
Students work in small groups. In each group, one student presents a plan and explains why it's the best way to distribute the balloons and the seating. A second student repeats the first student's explanation in his or her own words. Then the other students in the group ask about the explanation to help make sure it's a good plan and that it is clear to everyone. Then each group presents its plan to the whole class.

EXAMPLE: Students work in groups to create graphical representations of common, well-known functional relationships. For example, one group might examine the number of people standing in line at the post office at various hours of the day; another group might consider the amount of business at a local coffee shop at various hours; a third group might compare different school lunchroom menus with the number of students who bought lunch that day.

In each group, students select a title for their graph and provide that title to the teacher only. The teacher compiles a list of titles. Students post each group's graph around the classroom, and then each student tries to figure out which title is associated with each graph. Once everyone has matched each graph with a title, students share their reasoning for each match. When varied opinions regarding titles come up, students discuss the qualitative aspects of the function that has been graphed. The discussion also provides avenues for students to question peers regarding their explanation and reasoning.

EXAMPLE: Students play the role of teacher for a short, specific mathematics lesson. In advance of the class, they study the material, plan what supportive materials or manipulatives to use, and develop a lesson plan. Then the students "teach" the class and assign follow-up work to assess what their peers learned. The students in the class are encouraged to pose challenging questions that could possibly stump their student "teacher" and lead to further discussion or investigation of the topics under study.

Communication & Collaboration (continued)



4th Grade

8th Grade

12th Grade

OUTCOME: Students work efficiently and respectfully in diverse teams, articulating mathematical thoughts and ideas effectively. They use oral, written and nonverbal communication skills, demonstrating how mathematics is used to model problems of broad interest to society.

EXAMPLE: Students work in groups to design a bedroom. One student in the group plays the role of client, and the others act as the design team. The design team is given building constraints on floor area, wall area, and minimum number of windows. The design team interviews the client for preferences regarding: window and door placement; size and placement of bed, desk, and closets; and size and locations for any wall posters or other decorative items that the client asks to have included. The design team produces a scale drawing of the room with an explanation of why it satisfies the constraints and the wishes of the client. The client checks the design and sends it back for more work if necessary.

EXAMPLE: Students form investigative teams. Each team is asked to investigate the crime rate in a particular city, represented by the variable x. Each team then formulates a question about a possible causal variable y. For example, a team might ask if crime rates are lower in cities with a larger police force, or higher in cities with higher poverty rates. The team then chooses 30 to 40 other cities with which to compare their city's crime rate. By searching on the Internet, they collect data on x and y. If team members find their data too difficult to access, they consider revising the question. For example, if they are not finding suitable data on poverty rates, team members might decide to investigate the size of the police force in each city instead. Team members analyze the data they have collected, define the relationship between x and y, and discuss questions such as the reliability of the data, its statistical significance, and the validity of the sources. Each team prepares a presentation, explaining the findings and team members' conclusions.

Civic Literacy

EXAMPLE: Students form teams to engage in a modeling project similar to problems presented in the Mathematical Contest in Modeling run each year by COMAP. For example, the following problem is adapted from the 2009 competition:

Many cities and communities have traffic circles. Some traffic circles are large and have many lanes, such as at the Arc de Triomphe in Paris, and the Victory Monument in Bangkok. Some have only one or two lanes in the circle. Some traffic circles position a stop sign or a yield sign on every incoming road that gives priority to traffic already in the circle. Others post yield signs in the circle at each incoming road to give priority to incoming traffic. Still others have a traffic light where each incoming road meets the circle (with no right turn allowed on a red light). Other designs may also be possible.

Students form teams, and teach team develops a model for creating a traffic circle in their own community or in a nearby city (or modifying an existing traffic circle).

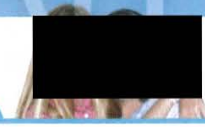
1. First, team members discuss how many lanes should be in the circle and the rate of traffic flow. If feasible, they may collect actual traffic data.
2. Team members outline alternatives for the placement of stop signs or yield signs and other design factors. Then they work together

(continued on next page)

Communication & Collaboration (continued)

4th Grade

8th Grade



12th Grade

to determine how to best control traffic flow in, around, and out of the circle.

3. Team members determine the best alternatives and explain what factors influenced their decision, such as the effect on traffic flow and safety.
4. Team members refine their model. For example, if traffic lights are recommended, students develop a method for determining how many seconds each light should remain green, which may vary according to the time of day and other factors.

nformation Literacy

ɔmmon Core State andards Alignment:

noted in the P21 Common ɔre Toolkit, Information Literacy lls are most explicitly aligned th the following Common Core ıte Standards' mathematical actices:

Construct viable arguments and critique the reasoning of others

Attend to precision

Look for and express regularity in repeated reasoning

[redacted]

4th Grade

[redacted]

8th Grade

[redacted]

12th Grade

OUTCOME: Students identify sources of data, access data, critically evaluate it, and then use it to explore significant questions about our world.

EXAMPLE: Students work in teams using the U.S. Census Bureau "State and County Quick Facts" (http://quickfacts.census.gov/qfd/index.html) to look up population facts for five states in different parts of the country. The site shows each state's population in 2000 and in 2010, and the percent change. Students create a table listing this information for each of the five states and for the total U.S. population. Then students estimate the 2020 population for each of the five states and for the U.S. as a whole. Groups share their tables with the class, and students talk about which areas of the country show the most population growth and possible reasons to explain population growth or decline.

Civic Literacy

SAMPLE:

State	Population in 2000	Population in 2010	% Change 2000–2010	Forecast for 2020
California				
Nebraska				
Louisiana				
Vermont				
South Carolina				
U.S. Total				

EXAMPLE: Students use the 2010 census website (http://2010.census.gov/2010census/data/) to access the 2010 Census Brief, "The Hispanic Population: 2010." Each student selects a U.S. Hispanic population category identified by country of origin (Mexican, Dominican, Puerto Rican, etc.) and investigates data associated with that population group: the number of residents from the selected country of origin in 2000 and 2010 and the percent change over those 10 years. Students then use the Internet to research the population and average annual income for the selected country of origin. Students look for correlations between immigration numbers and the population and income levels for the country of origin. Students share their results with the class. In a group discussion, students analyze the influence of income levels in Latin American countries on rates of emigration to the United States.

Civic Literacy

EXAMPLE: Students use the Department of Labor's Bureau of Labor Statistics (http://www.bls.gov/) to investigate regional U.S. employment data. Each student focuses on two states in different parts of the country. For each state, the student constructs: (1) a graph showing unemployment rate trends over the past 10 years; (2) a graph comparing unemployment trends within three different job sectors; and (3) a graph or table comparing unemployment trends in the state as a whole with trends in a particular city within the state. Based on the data collected, students identify a good place to relocate and look for a job. Students present their findings to the class and share their thoughts about the extent to which data might influence their own future decisions about where to live or what sort of career to pursue.

Financial Literacy

nformation Literacy (continued)

[redacted]

4th Grade	8th Grade	12th Grade
OUTCOME: Students explore new areas of mathematics and its applications, and share what they have learned with others.		
EXAMPLE: Students explore the topic of fractals on an age-appropriate website, such as http://math.rice.edu/~lanius/frac/, which explains what fractals are, why we study them, how people use them to solve real-world problems, and how to make various types of fractals. Using information found online, each student creates a fractal, shares it with the class, and explains how it works.	EXAMPLE: Students analyze a set of sports statistics, such as baseball box scores, college basketball data, tennis rankings, or college football standings. They examine how winners are chosen and explore possible alternatives for ranking players or teams in ways that are accurate and fair.	EXAMPLE: Students explore knot theory and its role in genetics (www.oglethorpe.edu/faculty/~j_nardo/knots/history.htm). They learn how the DNA in every cell of our bodies is made up of long, coiled strands that get mathematically knotted in ways that lead to chemical changes in the DNA. Using string, rope, or even tangled audio headphone chords, students create several types of knots, such as those shown at www.mathedpage.org/pcmi/knot-theory.pdf. Then students examine each other's knots and identify them by type: unknot, trefoil, figure eight, five-star, one of the six's, etc. Students photograph and label the knots and display them by creating a poster or posting them to a photo gallery on a class website.

nformation Literacy (continued)

4th Grade	8th Grade	12th Grade
OUTCOME: Students learn about mathematics from reliable websites and share their knowledge with others		
EXAMPLE: Students investigate the topic of mathematical tessellation by reading articles about it. Then they experiment with ways of tiling a floor or creating a geometric pattern for a quilt by building a tessellation using an interactive online tool such as: NCTM's Illuminations website (http://illuminations.nctm.org/ActivitySearch.aspx), or the National Library of Virtual Manipulatives (http://nlvm.usu.edu/en/nav/vlibrary.html). Students then work in small groups to share their results. The group identifies shapes that fit together to form a tessellation and shapes that do not.	EXAMPLE: Students work in groups to investigate a field of modern mathematics research, such as the "four-color map theorem," fractals, buckeyballs, or the mathematics of DNA structure. Each group presents its findings to the class.	EXAMPLE: Students work in groups to investigate the history of a topic within the class's current field of study, using websites such as the MacTutor History of Mathematics (http://www-history.mcs.st-and.ac.uk/). For example, if the class is studying algebra, each group explores the history of an algebra topic, such as quadratic equations, group theory, or set theory. Each group creates a wiki entry based on its findings.

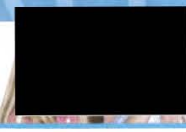
1edia Literacy

ɔmmon Core State andards Alignment:

noted in the P21 Common ɔre Toolkit, Media Literacy skills ɛ most explicitly aligned with the ɔmmon Core State Standards' ıthematical practice calling for ıdents to use appropriate tools a strategic way. In addition, the amples below provide students th an opportunity to develop pertise in the following Common ɔre State Standards' mathematical ıctice:

Construct viable arguments and critique the reasoning of others

Model with mathematics



4th Grade	8th Grade	12th Grade

OUTCOME: Students understand how statistics, probabilities, and media messages are constructed for social purposes and how individuals interpret messages differently. They examine purposes of statistical messages, the tools, characteristics, and conventions used, and how media can influence beliefs and behaviors.

EXAMPLE: Students make a list of all the media messages they encounter one morning before school. For example, they might see a health claim on a cereal box, hear news headlines on TV or radio, spot an ad on the side of a local bus, and notice posters for a local election campaign. Then they use a spreadsheet to categorize the purposes of each message, the tools used, and other characteristics. For example, a student might decide to track which messages are food-related, which ones are health-related, which ones are trying to get them to buy something, which ones use electronic media, and which messages are aimed at children. Students tally the number of messages in each category.

EXAMPLE: Students study how the U.S. Bureau of Labor Statistics (BLS) uses the Consumer Price Index (CPI) to measure inflation. Then students examine how the European Union measures inflation using the Harmonized Index of Consumer Prices. After comparing the two approaches, students read media articles about the CPI and inflation and discuss how the government's way of measuring the CPI affects public policy decisions.

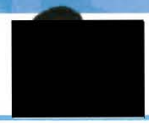
Financial Literacy

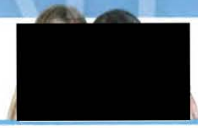
Civic Literacy

EXAMPLE: Students read articles about the Centers for Disease Control (CDC) 2004 report claiming obesity was responsible for 400,000 deaths each year and the ensuing outcry leading to the reduction of this figure in the following year's report to 24,000. They discuss how correlations are formed and the importance of confounding factors related to spurious relationships.

Health Literacy

1edia Literacy (continued)





4th Grade

8th Grade

12th Grade

OUTCOME: Students gain a fundamental understanding of the legal and ethical issues surrounding the access, use, and potential distortion of mathematical information, terms, and concepts. They recognize the common tendency to treat quantitative data as truth and to infer patterns where none exist.

EXAMPLE: Students examine the numbers on food labels. Each student lists the serving size on a bag of chips, the amount of fat per serving, and the "daily value" percentage. Then the student estimates the number of servings he or she would actually eat, and recalculates fat per serving and "daily value" based on the number of servings (see sample below). Students do a similar estimation and calculation for cereal, cookies, salad dressing, milk, or other foods. Students can also calculate estimates for saturated fat, sugar, or sodium. Students talk about their findings and discuss the fact that (as footnoted on food labels) "daily value" is based on a 2,000-calorie-per-day diet—and some people need more than 2,000 calories per day while others need less.

Health Literacy

SAMPLE:

Item	Service size	Fat per serving	Daily value	Estimated # of servings	Estimated fat	Estimated daily value
Tortilla chips	7 chips	7 grams	10%	2 servings (14 chips)	14 grams	20%
Salad dressing	2 Tbsp	11 grams	17%	1/2 servings (1 Tbsp)	5.5 grams	8.5%

EXAMPLE: Student teams create questions for a student survey to determine whether or not to introduce "Meatless Mondays" in the school cafeteria. Each team creates survey questions and polls 30 students in the school. Each team then compiles descriptive statistics on the findings such as gender and grade levels of the students polled, the percentage of students who like to eat meat every day, percentage who never eat meat, percentage who sometimes eat meat, and comments for and against "Meatless Mondays." Students then compare the different teams' findings and discuss margin of error in relation to the findings and the role of random representative samples.

Health Literacy

Civic Literacy

EXAMPLE: Students read articles about the so-called "Climategate" scandal of 2009, in which critics charged that some scientists had manipulated data to overstate global warming trends. They also read about more recent studies confirming or refuting earlier data on the impact of global warming. Based on an analysis of relevant data and charts, students break into groups to argue both sides of this issue to explain global warming and how it relates to climate change.

Global Awareness

Environmental Literacy

1edia Literacy (continued)

[redacted]

[redacted]

[redacted]

4th Grade	8th Grade	12th Grade
OUTCOME: Students present statistical information in ways that support a particular view or help others understand information.		
EXAMPLE: The entire class creates a list of state(s) or countries where each student's parents were born. Students then work in small groups to present the information in a way that will make it easier to understand. For example, one group might create a table listing the total number of parents from Texas, the total number from other U.S. states, the number from Mexico, etc. Another group might create a chart using different colors of dots to show how many parents came from each state or country, and students might experiment with different ways of arranging the dots. Another group might begin with a map and mark each state or country with stick figures or other symbols to show how many parents were born there. Global Awareness	EXAMPLE: Students research statistics about the population of a particular country, including the total population, the number of people in each ethnic group, population percentages associated with particular religions, the total workforce, and the percentage of workers in specific sectors, such as agriculture and government service. Students analyze the data and write a "country fact sheet" that aims to attract visitors to the country they have studied. They create a chart, graph, or table to present the data discussed in their write-up. The fact sheet may also include attractive photos or other images from the country. Global Awareness	EXAMPLE: Students work in small groups, and each group researches a country in the developing world. Each student within a group researches economic development in a particular region of the group's assigned country and collects statistics about that region, such as per capita income, access to safe water, number of cell phones, infant mortality rate, etc. Each member of the group creates a table based on the information he or she has collected, and then the group "publishes" its tables online and writes a short report comparing and contrasting data from the country's different regions. Global Awareness Civic Literacy
EXAMPLE: Students create a class list showing each student's birthday month and shoe size. Working in small groups, students create a scatter plot or chart depicting the relationship between birthday months and shoe sizes. Each group analyses the information and identifies a correlation between the two sets of data, such as, "Classmates born in winter have bigger feet than those born in summer," or "Most fourth graders born in August wear size 7 shoes." Each group prepares a presentation to convince the rest of the class of the statistical merit of the correlation the group has identified. Classmates prepare oral or written rebuttals arguing why the correlation may be based on insufficient evidence.		

nformation, Communications, and Technology (ICT) Literacy

ɔmmon Core State andards Alignment:

noted in the P21 Common ɔre Toolkit, ICT Literacy skills ɛ most explicitly aligned with ɛ following Common Core State ındards' mathematical practice:

Use appropriate tools strategically

OUTCOME: Students use tools such as graphing calculators, spreadsheets, computer graphing, computer algebra systems, GPS devices, and online resources appropriately and strategically.

4th Grade

EXAMPLE: Students list their daily activities and note how many hours per day they spend on each activity. For example, a student might spend 8 hours sleeping, 7 hours at school, 1 hour traveling to and from school, 1 hour doing homework, 1 hour doing an arts or sports activity, 1 hour reading, 2 hours eating, 1 hour playing outside, 1 hour watching TV and 1 hour playing games. The total should add up to 24 hours. Then, students use the following internet tools to create visual representations:

- National Library of Virtual Manipulatives: (http://nlvm.usu.edu/en/nav/vlibrary.html) to create a bar chart and a pie chart with percentages
- Shodor's Project Interactivate (www.shodor.org/interactivate/) to create a circle graph and a bar graph
- NCTM's Illuminations website (http://illuminations.nctm.org/ActivitySearch.aspx) to create a data graph.

8th Grade

EXAMPLE: Students access current stock market data online showing the percentage increase or decrease for each company in the New York Stock Exchange. They generate three random samples showing percentage changes for 5 companies, 15 companies, and 30 companies. Using a graphing calculator or similar tool, students explore different ways to (1) show the data graphically for each sample; and (2) summarize the data for each sample using a single number. Students compare the results for the different sizes of random samples and discuss why one might analyze stock market changes using a random sample instead of collecting data from every company on the New York Stock Exchange.

Financial Literacy

12th Grade

EXAMPLE: Student teams research current interest rates and loan rates, and then compare different ways someone with $500 per month of disposable income could purchase a $10,000 automobile. For each of the following payment methods, students generalize patterns from a few payment cycles and use a spreadsheet to study how long it will take to pay off a balance, the total of all payments made, and the total amount of interest charged over the life of the balance:

Financial Literacy

1. Using a credit card for the entire purchase and paying only the minimum balance each month.
2. Using a credit card for the entire purchase and paying $500 per month.
3. Taking advantage of a special loan from the automobile dealer: 1% interest for the first six months and 5 % thereafter.
4. Delaying the purchase in order to save up for it first: Spending $100 per month on public transportation and putting $400 per month into a savings, checking, or money market account for one year at current interest rates. Then using the amount saved as a down payment for the car, using a credit card for the remainder due, and spending $500 per month to pay off the credit card loan as soon as possible.

nformation, Communications, and Technology (ICT) Literacy (continued)

[redacted]

4th Grade	8th Grade	12th Grade

OUTCOME: Students use technology to communicate mathematical insights by constructing appropriate graphical representations of functions and of data.

EXAMPLE: Students are given a pretend $20 to spend and a list of foods for purchase. They look up prices using an online grocery store or other source, trying to make wise choices with their limited funds. They record the name, cost, quantity and total amount they would spend for each item. Using online tools, they create a pie chart comparing the amount to be spent on breakfast, lunch, dinner, and snacks. They describe each portion as a fraction and as a percentage and discuss the relationship between these two representations of rational numbers. They also convert the pie chart to a graph and compare these two ways of depicting the data.

Financial Literacy

EXAMPLE: Students use statistical software such as Tinkerplots or Fathom to compare the variables associated with different passenger vehicles. Students identify miles-per-gallon and price for each vehicle. They create a scatter plot to show the relationship between the two variables for the different vehicles. Then students look for patterns that might indicate a relationship between the two variables and create an equation to model the behavior of the relationship.

Financial Literacy

EXAMPLE: Students use graphing calculators, computer algebra systems, or both, to assist in examining patterns in population growth or decline of a particular animal species using data from the U.S. Fish & Wildlife Service or another source. For example, students might study the changes in the population of Canada geese by building functions and examining graphs to answer problems regarding long-term trends. Students can share their findings with a school biology class by developing a lesson on the use of mathematics in examining biological developments.

Environmental Literacy

lexibility and Adaptability

[redacted]

ɔmmon Core State andards Alignment:

the P21 Common Core Toolkit ıtes, Life and Career skills such Flexibility and Adaptability, align ıll with the Common Core State ındards' mathematical practice ındard which calls for students make sense of and persevere in lving problems. The examples low provide students with portunities to develop expertise the following Common Core ıte Standards' mathematical actices:

Construct viable arguments and critique the reasoning of others

Model with mathematics

4th Grade

8th Grade

11th Grade

OUTCOME: Students work in pairs and small groups to address mathematical challenges that involve varied roles and responsibilities, and require working effectively in a climate of ambiguity and changing priorities.

EXAMPLE: In small groups, students plan a school purchase of items such as furniture, school supplies, and playground equipment based on a fixed budget. Students determine the prices of items they are considering and discuss the tradeoffs required to stay within budget. Group members make individual recommendations, negotiate, and come to a group decision. Members of the group can also take on various roles such as scheduler, group moderator, accountant, record keeper, writer, and speaker to present the chosen purchase order to the class.

Financial Literacy

EXAMPLE: Working in small groups or pairs, students compare the amount of fresh water needed to produce various animal and vegetable foods, using online sources such as the following:

- www.waterfootprint.org
- www.agrometeorology.org/topics/new-information-for-agrometeorologists/globalization-of-water-the-connection-between-water-consumption-and-production-in-a-globalizing-world.-water-footprints

Then, each group creates a one-week menu (five lunches) for the school cafeteria that aims to minimize water use while being both appealing and nutritious for students. Students post their proposed menus in a prominent location at the school.

Environmental Literacy

Health Literacy

EXAMPLE: Students work in pairs or small groups to collect four news reports on the results of public opinion polls about the debt ceiling. Each pair or group lists the survey methods of the polls discussed in the news reports. For example, methods may include the number of respondents in a random sample; the age and/or gender mix of persons polled; margin of sampling error; languages used for polling; number of landline respondents; number of cell phone respondents; and factors used in weighting each sample, such as education, race, ethnicity, size of household, and region. Group members then compare the results of each poll by examining the polling dates and other factors. A member from each group shares the group's analyses with the class in a short presentation. Then, each student identifies two or three polls that he or she believes to be most accurate, writes a short paragraph to explain why, and posts it on a class message board.

Civic Literacy

Financial Literacy

nitiative and Self-Direction

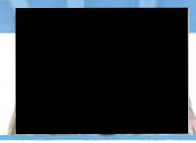
ɔmmon Core State andards Alignment:

the P21 Common Core Toolkit ıtes, Life and Career skills such Initiative and Self-direction align ell with the Common Core State ındards' mathematical practice ındard calling for students to ake sense of and persevere in lving problems. The examples low also provide students with portunities to develop expertise the following Common Core ate Standards' mathematical actices:

Construct viable arguments and critique the reasoning of others

Look for and make use of structure

Look for and express regularity in repeated reasoning



4th Grade | **8th Grade** | **12th Grade**

OUTCOME: Students monitor, define, prioritize, and complete tasks independently, while balancing tactical and strategic goals to solve mathematical problems.

EXAMPLE: Students work alone or in small groups to look for a method of finding the sum of all whole numbers from 1 to 100 without adding up all the numbers individually. Students who need help getting started might first wish to examine ways of adding up the numbers from 1 to 10.

EXAMPLE: Students work alone or in small groups to tackle the non-standard mathematical problem, "Two primes make one square" (http://nrich.maths.org/5743). First, students identify prime numbers between 1 and 100 that are the sum of two square numbers (for example, 4=2+2; 9=2+7; and 16=5+11). Then, students try to find square numbers that are not the sum of two primes. By identifying prime numbers and listing the squares of numbers from 4 to 20, students may discover that 121 and 289 cannot be expressed as the sum of two square numbers.

Students may also discover that whenever an odd square number is the sum of two primes, one of the primes must be the number 2. Students are asked why one of the primes must be 2.

EXAMPLE: Early in the school year, each small group of students is given a pretend $1,000 to invest. Team members compare risk and return rates on various stocks, bonds, mutual funds, certificates of deposit, and other investments. They research financial forecasts, inflation rates, compounding of reinvested earnings, and the impact of taxes in selecting their investments. Each group shares its investment strategy with the class, and students track their investments over time by calculating what the return on their original $1,000 would be each month. They reinvest each month's earnings and determine whether to change investment vehicles or keep the money where it already is. After six months, each group calculates its total return, reviews its strategy, and presents a report to the class. Students discuss which groups' strategies were most effective and why.

Financial Literacy

nitiative and Self-Direction (continued)

[redacted]

[redacted]

[redacted]

4th Grade	8th Grade	12th Grade
OUTCOME: Students reflect critically on past experiences solving mathematical problems and make connections among mathematical representations in order to inform future problem solving endeavors.		
EXAMPLE: Students use their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations (especially the distributive property) to develop efficient, accurate methods of computing the products of multi-digit whole numbers. Then, students work in small groups to discuss their new methods and make sure that each method can be generalized to apply to all whole numbers.	EXAMPLE: Students compare a cell phone plan costing $29.99 per month plus $0.10 per text message with a plan costing $39.99 and $0.02 per text message by calculating how many text messages would need to be sent and received each month in order for the second plan to be less expensive than the first. Students then create an algebraic formula for computing the total cost of any cell phone plan based on per month and text message costs. Next, students draw connections among tables, graphs, and algebraic solutions for such problems. They recognize how such connections can form a basis for solving future linear and non-linear problems in multiple ways.	EXAMPLE: Students review the algebraic formula for exponential growth and use the formula to solve a basic problem involving the spread of a viral disease: If 100 people are currently infected, and the number of people infected doubles every twelve hours, how many people will be infected after one week? The class discusses the exponential spread of infections and identifies other relevant examples of exponential growth, such as: bacteria growth; human population growth; the growth of atmospheric carbon dioxide; and, in finance, the compounding of interest. Then students work in groups: each group poses a question involving exponential growth and gives it to another group to answer. Each group shares its results with the class.

ocial and Cross-Cultural Skills

[redacted]

ɔmmon Core State andards Alignment:

the P21 Common Core Toolkit ıtes, Life and Career skills such Social and Cross-cultural Skills gn well with the Common Core ıte Standards' mathematical actice standard calling for ıdents to make sense of and rsevere in solving problems. The amples below provide students th opportunities to develop pertise in the following Common ɔre State Standards' mathematical actice:

Model with mathematics

[redacted]

[redacted]

[redacted]

4th Grade

8th Grade

12th Grade

OUTCOME: Students learn about the use of mathematics in other cultures. They recognize the contributions to mathematics from a variety of cultures and the needs that led to those contributions.

EXAMPLE: Students make a timeline covering the history of the U.S. system of measurement with the history of the metric system. They learn how to convert between the two systems and discuss the merits of using the metric system. Students work online with students in a country that uses the metric system and compare their different ways of measuring distance, volume, weight, and temperature.

Global Awareness

EXAMPLE: To learn about the euro, students can investigate the following: what denominations of banknotes and coins are available; the euro's value in relation the U.S. dollar; which countries use the euro; when the euro was adopted and why; and how it links the economies of different countries in Europe.

Global Awareness

EXAMPLE: Students investigate the geometric patterns in Medieval Islamic tiling. They explore the use of the "girih" in art and architecture and its similarity to modern mathematical tiling patterns known as Penrose tiles. Students also examine the symmetric patterns of the Alhambra, a walled city and fortress in Granada, Spain built under Muslim rule.

Global Awareness

EXAMPLE: Students work in groups to investigate the development of mathematics in an ancient culture. Each group focuses on mathematics in a particular culture, such as Babylonian, Indian, Arabic, Chinese, or Mayan mathematics. Students use sources such as the MacTutor History of Mathematics (www-history.mcs.st-and.ac.uk). Each group presents a lesson to the class using the mathematics of the culture studied.

Global Awareness

EXAMPLE: Students create a website about the history of trigonometry, focusing on how advancements emerged from practical interests, such as the quest for astronomical measurements, the need to find ways of telling time, and the importance of cartography and navigation tools. Working in groups, each team of students focuses on a different part of the website: One group prepares a report on the development of sine, cosine, and versine in India and how these concepts developed from Indian astronomy. Another group focuses on the further development of trigonometry in the Islamic world and the contributions of Abu Wafa in the 10th century C.E. A third group focuses on work of Al-Biruni the 11th century, including his demonstration of the tangent formula. A fourth group reports on how the work of Jabir Ibn Aflah helped spread trigonometry to Europe in the 13th century.

Global Awareness

ocial and Cross-Cultural Skills (continued)

[redacted]

[redacted]

[redacted]

4th Grade	8th Grade	12th Grade

OUTCOME: Students apply tools of mathematics, such as statistical analysis, to understanding cross-cultural problems and issues.

EXAMPLE: Students talk with members of the community who depend on local bus service to get to work and find out how well the bus schedule and bus routes support their need to get to work or to meet their children after school. Students then share the community members' feedback with one another, look at local bus schedules and routes, and analyze the situation mathematically. Students prepare a written report to share with the community and other appropriate parties, such as local government officials.

Civic Literacy

EXAMPLE: Students collect statistics on per capita energy use in India and in the United States to discover that Indians use a lot less energy per capita than Americans. They research lifestyles in India and identify reasons why people use less energy. Students then research population growth rates to discover that India's population is growing much faster than the U.S.. Students create a mathematical formula based on per capita energy use and population growth to compute each country's rate of increase in total energy consumption.

Global Awareness

EXAMPLE: Students make a timeline covering the history of different currencies and work out conversions for current values using proportionality and linear functions. They study inflation in terms of exponential growth and use the Cost Performance Index to set up ratios and determine the real value of money. Students read news articles from around the world about currency trading and identify its effects on inflation in various countries.

Financial Literacy

Global Awareness

'roductivity and Accountability

ɔmmon Core State andards Alignment:

the P21 Common Core Toolkit ıtes, Life and Career skills such Productivity and Accountability ɡn well with the Common Core ıte Standards' mathematical actice calling for students to ıke sense of and persevere in lving problems. The examples low provide students with portunities to develop expertise the following Common Core ıte Standards' mathematical actice:

Attend to precision

[redacted]

4th Grade

[redacted]

8th Grade

[redacted]

12th Grade

OUTCOME: Students set goals, establish priorities and schedules, and meet goals to complete a project.

EXAMPLE: Students work in groups to solve a mathematics problem. Each group is assigned a problem on a different topic and identifies the mathematical knowledge needed to solve it. Groups are then reorganized so that in each new group, each student is responsible for reviewing the mathematics for the problem they worked on in the first group, presenting a solution to their problem to the others in the group. Each student is likewise responsible for helping others in their new group understand their topic.

EXAMPLE: Students work in small groups to research a mathematical topic the class has not yet covered. Students make plans for sharing the work, making sure that each team member understands all aspects of the topic assigned. Each team creates a presentation to teach the rest of the class about their assigned topic. Students focus not only on the content of their presentation, but also on using effective presentation techniques, such speaking in an appropriate voice, making eye contact, and incorporating visual representations of the mathematical topic. Students use technology in their presentation where appropriate.

EXAMPLE: Students work in small groups to research a mathematical topic the class has not yet covered. Each group explores a different topic, and students are responsible for making sure each team member completely understands the group's topic. Group members work together to teach and present their topic to the rest of the class. Students not only use good presentation techniques and incorporate representations of the mathematical topic, but they also involve the audience by encouraging class members to answer questions, ask questions, share ideas, and solve problems. Students use appropriate technology in their presentations, such as applets, websites, mathematical software, or other presentation tools.

.eadership and Responsibility

ɔmmon Core State andards Alignment:

the P21 Common Core Toolkit ıtes, Life and Career skills such Leadership and Responsibility gn well with the Common Core ıte Standards' mathematical actice calling for students to ıke sense of and persevere in lving problems. The examples low provide students with portunities to develop expertise the following Common Core ıte Standards' mathematical actices:

Construct viable arguments and critique the reasoning of others

Model with mathematics

[redacted]

[redacted]

[redacted]

4th Grade

8th Grade

12th Grade

OUTCOME: Students use interpersonal and problem-solving skills to leverage strengths of peers and solve mathematical problems important to their community.

EXAMPLE: Students plan a community garden by computing the perimeter and area of the space available and planning what items to plant, based on the local climate, demand for the crop, and how well each item would fit in the available space. Students consider the size and shape of the space devoted to each crop to create a scale drawing of their plan.

Health Literacy · Environmental Literacy · Civic Literacy

EXAMPLE: Students work together to redesign a school playground or public park in their community, and create a scale model of the new design for public view. First, students discuss how the space is currently used and how they think space should be reallocated and redesigned to enhance popular activities or create additional space for activities to benefit the community. They measure each section of the current area, propose design changes, and negotiate with one another on such questions as: whether to enlarge a soccer field; whether to transform a tennis court into a paved space for young children to ride on tricycles; how to improve drainage to create enough space to add a basketball hoop; or how to create an area that would be fun for doing skateboard tricks. Students also research the costs of various proposals and try to minimize costs. Once students reach a consensus on the overall plan and compute necessary dimensions, they divide up the work of creating a scale model of the new design. One team of students creates a two-dimensional scale drawing based on actual measurements of the existing space; another team uses materials such as cardboard, wood, and fabric to create items such as goal posts, playground equipment, also sized to scale. They display the scale model in a central location at the school or in a community building.

Civic Literacy · Financial Literacy

EXAMPLE: Students work collaboratively to assess the costs, benefits, and drawbacks of introducing a lottery in the community. They research how the proceeds would be used, how much income the lottery would need to generate to meet its goals, how much to charge for lottery tickets in order to meet income goals, how many winning tickets to offer, and how much to pay out for each winning ticket. Students consider how to make the lottery worthwhile for individual ticket purchasers, calculate the odds of winning, and compute the lottery's value for people who regularly buy tickets. They investigate the reasons why people purchase lottery tickets and debate the ethics of introducing a lottery. Students create informative posters or a website/wiki to educate other students about the long-term expected value of lotteries.

Civic Literacy · Financial Literacy

Credits

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I wishes to thank the following individuals for their nificant contributions in creating, drafting, and reviewing s document:

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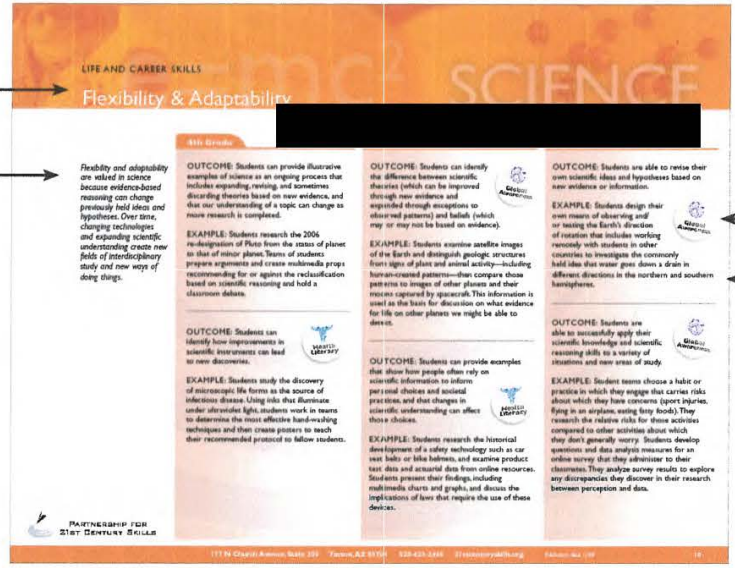
21st Century Skills Map

DESIGNED IN COOPERATION WITH THE NATIONAL SCIENCE TEACHERS ASSOCIATION (NSTA)

This 21st Century Skills Map is the result of hundreds of hours of research, development and feedback from educators and business leaders across the nation. The Partnership has issued this map for the core subject of Science. This tool is available at www.21stcenturyskills.org.

The Partnership advocates for the integration of 21st Century Skills into K-12 education so that students can advance their learning in core academic subjects.

The Partnership has forged alliances with key national organizations that represent the core academic subjects, including Social Studies, English, Math, Science and Geography. As a result of these collaborations, the Partnership has developed this map to illustrate the intersection between 21st Century Skills and Science. The maps will enable educators, administrators and policymakers to gain concrete examples of how 21st Century Skills can be integrated into core subjects.



A **21st Century Skills**

B **Skill Definition**

C **Interdisciplinary Theme**

D **Sample Student Outcomes/Examples**

An example from the Science 21st Century Skills Map illustrates sample outcomes for teaching Flexibility and Adaptability.

PARTNERSHIP FOR 21ST CENTURY SKILLS

Science and 21st Century Skills

In the context of science education, 21st Century Skills offer some new ways of framing what have long been valued approaches in the science classroom and some new ideas for enriching students' investigations with cross-disciplinary modes of learning.

The inverse is also true. Science contributes its rich traditions of critical and creative thinking, applied technologies, and collaborative work— along with high standards for communication and personal responsibility—to the benefit of 21st Century Skills discussions in all discipline areas. The linkages between the 21st Century and Science skill sets detailed in this map are rooted in the inquiry, process knowledge, experimental design, and scientific habits of mind elements of these traditions, as referenced in the *AAAS Project 2061 Benchmarks for Science Literacy*[1] and the *Atlas of Science Literacy*[2], and the *National Science Education Standards*[3], and extrapolated from the practices of scientific research as they are changing in the 21st Century.

Derived from key principles and reflecting emerging best practices, this document is intended to provide snapshot images of what K-12 science education can look like when students are provided opportunities for technology-rich collaboration, creation, contribution, and metacognition in authentic ways that enhance—not replace—robust science content. This document is neither a set of standards nor a comprehensive sequence of activities, but rather a starting point for ideas and discussions that begin with current practice and look forward.

[1] American Association for the Advancement of Science Project 2061. (1993) Benchmarks for Science Literacy. New York, NY: Oxford University Press.

[2] American Association for the Advancement of Science Project 2061. (2001, 2007) Atlas of Science Literacy, Volumes 1 and 2. Washington, DC: AAAS/ National Science Teachers Association. http://www.project2061.org/publications/atlas/default.htm

[3] National Research Council. National Science Education Standards. (1996). Washington, D.C.: National Academies Press. http://www.nap.edu/openbook.php?record_id=4962

LEARNING AND INNOVATION

Creativity and Innovation

Science is, by its nature, a creative human endeavor. Scientific and technical innovations are advanced through processes that build on previous knowledge and the application of theory to real world situations. Modern societal and environmental challenges require new and creative scientific and technical approaches, as well as investigations that are more cross-disciplinary.

4th Grade

OUTCOME: Students provide concrete examples of science as a way of thinking that involves both systematic and creative processes that anyone can apply as they ask questions, solve problems, invent things, and develop ideas about the world around them.

EXAMPLE: Students examine the ways they use scientific thinking and experimental problem solving processes in their day to day activities such as cooking, gardening, playing strategy games, fixing a bike, or taking care of a pet. For example, as part of a class gardening project, students produce an ongoing podcast or use a wiki to illustrate their processes for determining the ideal conditions for growth, nutrition, and maintenance through the class's design activities.

8th Grade

OUTCOME: Students are able to describe how science and engineering involve creative processes that include generating and testing ideas, making observations, and formulating explanations; and can apply these processes in their own investigations.

EXAMPLE: Student teams design plans for a device that will assist people with disabilities and create 3-D sketches of their device using simple computer aided design software. The class develops criteria for peer review and then teams pass their plans to another team that makes recommendations for refinements to improve the original plans. All teams debrief together on their experience with the engineering/design process and identify the different scientific disciplines they had to draw upon to create their design (biology, physics, engineering, etc.) and how those disciplines interrelate when applied to solving the design problem. Students also discuss what other expertise could be drawn upon to improve their designs including input from people with the disabilities their designs address.

12th Grade

OUTCOME: Students explain how scientific understanding builds on itself over time, and how advancements in science depend on creative thinking based on the knowledge and innovations of others.

EXAMPLE: Students choose a scientific theory and research the history of its development, then use concept mapping or timelining software to diagram previous discoveries, ideas, and technologies upon which the theory was predicated and the different disciplines from which previous knowledge was drawn. Students report on how this theory represented a creative way of approaching this scientific question.

LEARNING AND INNOVATION

Critical Thinking and Problem Solving

Critical thinking and creative problem solving are the hallmarks of the scientific process. Students can use abilities developed in science to think logically and reasonably about concepts they are learning, and to apply them to their everyday lives. Compelling, and often complex, problems are at the root of many science investigations.

4th Grade

OUTCOME: Students construct their own scientific understanding and develop their scientific process skills by asking scientific questions, designing and conducting investigations, constructing explanations from their observations, and discussing their explanations with others.

EXAMPLE: Students plan and conduct experiments to explore the properties (e.g., absorbency, insulation, durability) of various natural and human-designed fabrics and record their findings into a shared class database, wiki, or digital lab notebook. They then use their data to design a suit of clothing for use in a high-performance activity, such as working outdoors in polar regions or competing as an Olympic athlete. Students share design choices with their peers in the form of an advertisement they create to market the product.

8th Grade

OUTCOME: Students plan and conduct scientific investigations and write detailed explanations based on their evidence. Students compare their explanations to those made by scientists and relate them to their own understandings of the natural and designed worlds.

EXAMPLE: Students research how the physical and chemical properties of different natural and human-designed materials affect their decomposition under various conditions. They compare their findings to the material evidence used by scientists to reconstruct the lives of past cultures, as well as create a map of their classroom as a future archeological site (including written descriptions of artifacts) discovered by scientists.

12th Grade

OUTCOME: Students understand that scientific research and experimentation are guided by fundamental concepts, and that investigations are conducted for different reasons, such as exploring new phenomena, building on previous results, comparing different theories, and addressing problems facing society.

EXAMPLE: Student teams use digital libraries and other online resources to research different nanoscale materials, including information about their surface to volume ratio. Using computer-aided design or other digital design/drafting tools, students apply this information by creating designs for houses that use nanomaterials to improve energy efficiency, safety, and durability, and lower costs of construction.

Communication

Effective communication is central to scientific research practices. Scientists describe their work so that the research can be duplicated, confirmed, and advanced by others, but also understood by public, non-technical audiences. Scientific thinking is communicated in many different ways including oral, written, mathematical, and graphical representations of ideas and observations.

4th Grade

OUTCOME: Students prepare and interpret a variety of methods for demonstrating understanding and explaining the results of investigations including charts and graphs, diagrams and illustrations, photographic images, and informational and procedural text.

EXAMPLE: A class envisions their school as a science museum and creates exhibit signage including text, images, and/or graphs to explain the science around them, within the school and on the grounds (e.g., how the water fountain works, information about school energy usage, or natural history information for identifying tree species around the school).

OUTCOME: Students understand that models are simplified representations of real objects and processes, and that models serve as a means to communicate ideas and knowledge about how things work.

EXAMPLE: Students seek out a variety of two- and three-dimensional models in their school and home (e.g., a globe, a diagram of the human body, a toy car) and create a table to record each model's type, purpose, and how it varies from a real object or process (e.g., changes in scale, spatial relationships, composition, shape, color, complexity). Student groups discuss why different models are useful for different purposes.

8th Grade

OUTCOME: Students can identify conventions for writing and speaking scientifically that distinguish scientific communication from other types of expression, and describe reasons behind those differences such as the need in science for precision, detail, and evidence over opinion.

EXAMPLE: Students view video samples from a variety of sources of people speaking about a science-related topic (e.g., news reporters, news interviews of science experts, video podcasts of college lectures, segments from public television documentaries, or student-made videos of parents and professionals in their community). Students rate the videos on the degree to which the person sounded scientific, then identify characteristics of speech pattern, word choice, level of detail, and other factors that influenced their perceptions. Students discuss ways that scientific communication differs from other forms of expression, and why those differences might be useful to scientists, then design a card game, board game, or video game that will help teach their peers some of the "rules" of science communication that they've observed.

OUTCOME: Students are familiar with the use of computational models as tools to describe and predict real-world phenomena.

EXAMPLE: Students interview local scientists (e.g., university researcher, local television meteorologist, medical technician) about the ways in which computer models inform their work. Students create a digital gallery of images from the different models accompanied by audio files of the interviews.

12th Grade

OUTCOME: Students model the practices of research science by informing others about their work, developing effective explanations, constructing and defending reasoned arguments, and responding appropriately to critical comments about their explanations.

EXAMPLE: Students produce a school or district-wide electronic journal to communicate work they are doing in their science classes on a specific unit or topic. Students develop criteria for peer review and critique each other's work, modeling the process for professional journals.

OUTCOME: Students can explain why mathematical equations and formulae are used as representations of scientific phenomena and as a means of communicating scientific ideas.

EXAMPLE: Student teams design an observational or experimental investigation to explore mathematical relationships commonly applied in science, as appropriate to the level of their math coursework. Students collect and analyze data to support an evidence-based description of their chosen mathematical relationship. For example, to explore change over time equations in their algebra class, students measure the initial circumferences of several balloons filled with helium and several filled by air exhaled from their lungs. Then make additional measurements at regular intervals and plot the change in size versus time. Students discuss the different rates of change for the two types of balloons and determine the mathematical equations that best describe the results of their change over time investigation.

LEARNING AND INNOVATION

Collaboration

Science is inherently a collaborative process with 21st Century emphases on interdisciplinary and international research, as well as increasing collaboration between "hard" science and social sciences. A trend toward greater specialization in scientific careers requires researchers to rely on the disciplinary expertise of others as collaborators in their work.

4th Grade

OUTCOME: Students work collaboratively with others, both in small and large groups, in their science classroom.

Civic Literacy

EXAMPLE: Students work with other local schools and community organizations to conduct a backyard species count. The class creates a wiki for collaborators across the community to learn the data protocol, enter their data, and post digital photos. Scientific experts use the wiki to inform their research and help participants identify species. Students present their findings to a local government entity such as a parks commission or urban planning council.

8th Grade

OUTCOME: Students work collaboratively with others, either virtually or face-to-face, while participating in scientific discussions and appropriately using claims, evidence, and reasoning.

EXAMPLE: Working in collaboration with other classes in the school, students investigate water runoff in their school grounds and use GPS and GIS technologies to create relevant maps. Students are assigned specific interdependent roles based on their interests and talents including background research, data gathering, GPS and GIS use, creating graphics, and communicating findings. Students meet in their investigation teams, and also meet with students in other classes who share their role in the project (i.e., GPS operators from each class meet together to discuss their work).

Civic Literacy

12th Grade

OUTCOME: Students collaborate with peers and experts during scientific discourse and appropriately defend arguments using scientific reasoning, logic, and modeling.

Civic Literacy

EXAMPLE: Students participate in a "citizen science" project such as a service learning project, or an environmental issue specific to the community; through which they have the opportunity to work collaboratively with local and remote research scientists, organizations, agencies, and/or universities. Student teams blog about their experiences and how they connect to their classroom learning, then present their research findings to an external audience, such as a science fair, junior academy of science, or local chapter of a scientific professional society.

Information Literacy

Being information literate in the context of science involves assessing the credibility, validity, and reliability of information, including its source and the methods through which the information and related data are derived, in order to critically interpret scientific arguments and the application of science concepts.

4th Grade

OUTCOME: Students are able to locate reliable scientific information in reputable print and electronic resources.

Health Literacy

EXAMPLE: Students gather menus that contain nutrition facts from local restaurants (including fast food restaurants) and compare the dietetic information with published medical recommendations for daily intake. These comparisons can be drawn from various print media, pamphlets, and websites.

8th Grade

OUTCOME: Students are able to locate reliable scientific information in reputable reference books, back issues of journals and magazines, on websites, and in computer databases.

Health Literacy

EXAMPLE: Students compare databases of health-related information (e.g., blood pressure) to determine patterns of distribution and implications of those patterns to different populations. They then take their own blood pressure readings, graphically represent those readings, and compare them to the public databases.

12th Grade

OUTCOME: Students are able to determine the verifiability of evidence presented in print and electronic resources to evaluate scientific claims.

Health Literacy

EXAMPLE: Students critique the validity of a health profiling or self-assessment survey available through general public media (e.g., a diet quiz accessed through a fitness magazine website). They then gather scientific research-based resources to assess the accuracy of recommendations made by the tool. Finally, they design their own diet assessment tool making modifications based on their research.

INFORMATION, MEDIA, AND TECHNOLOGY LITERACY

Media Literacy

Media interpretation of scientific information may be different from the interpretation by the scientific community of that same information. Complexities in science do not always convert well into short media messages.

4th Grade

OUTCOME: Students can generate guiding questions to help them evaluate media claims based on evidence rather than simply believing the message as presented.

Financial Literacy

EXAMPLE: From a variety of sources, students collect examples of commercially available products claiming to be "green" or "eco-friendly". Students discuss the manufacturer's basis for each claim, and how the meaning of these terms might be different for different groups (e.g., consumers, scientists, medical professionals, environmental regulators); then generate lists of questions that different groups might use to evaluate these claims.

8th Grade

OUTCOME: Students are able to identify and critique arguments in which the claims are not consistent with the evidence given.

EXAMPLE: Student teams research a local environmental issue and prepare editorial essays in the style of a media release, making sure to include evidence of the problem and specific claims they make based on that evidence. Students develop criteria for peer review, then exchange their products and critique each other's work for consistency of claim and evidence.

12th Grade

OUTCOME: Students are able to critique claims that people make when they select only data that support the claim, and ignore data that may contradict it.

EXAMPLE: Students are provided multiple examples of popular press and news media articles, as well as articles in more scientifically-oriented magazines, about global climate change. Students develop criteria for reviewing the documents including variables of credibility, validity, sources cited, etc. Students evaluate the articles, identifying the claims made in each and the evidence or data that support those claims. Students then rank the articles, as they interpret them, from most to least accurate and scientifically defensible. They are then led in discussion of the rankings and any differences between the popular and more scientific press.

Information and Communications Technology (ICT) Literacy

Increased computing capacity enables large-scale data analysis, wide-array instrumentation, remote sensing, and advanced scientific modeling. ICT innovations provide new tools for doing science including gathering and analyzing data and communicating results.

4th Grade

OUTCOME: Students can give examples that demonstrate how technology extends the ability of people to observe and interact with the world including how people communicate, gain knowledge, and express ideas.

Global Awareness

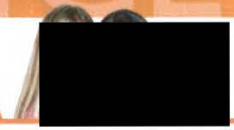
EXAMPLE: Students exchange "biome boxes" with students from various parts of the country. These boxes that contain actual or virtual examples and/or artifacts of living things from their own community are sent to various other schools. They then telecommunicate with students in the schools with whom they exchanged boxes, learning more about those parts of the country and the life in them.

8th Grade

OUTCOME: Students can articulate how technology is essential to science for such purposes as sample collection and treatment, measurement, data collection and storage, computation, and communication of information.

EXAMPLE: Students participate in an established national or international e-science initiative that uses distributed ICT networks to collect scientific data. Students gather and analyze local data or deploy local sensors that contribute to a larger computer-network enabled database. Examples include studies of butterflies, amphibians, bird migrations, local climate variations, and radioastronomy signal analyses.

Global Awareness



12th Grade

OUTCOME: Students can provide examples of how new technologies make it possible for scientists to extend their research in new ways or to undertake entirely new lines of research, and how the very availability of new technology itself often sparks scientific advances.

EXAMPLE: Students are introduced to a variety of computational models used by scientists to study complex biological interactions, such as population dynamics. Working in teams, students engage in a conceptual design process for a computational model that could be used to investigate a particular ecosystem, creating general schematics that represent different subsystems that would be part of the model, what direct and remotely sensed data inputs would be involved, what external datasets might be useful overlays, what calculations would be run, and what data outputs would be generated.

LIFE AND CAREER SKILLS

Flexibility & Adaptability

Flexibility and adaptability are valued in science because evidence-based reasoning can change previously held ideas and hypotheses. Over time, changing technologies and expanding scientific understanding create new fields of interdisciplinary study and new ways of doing things.

4th Grade

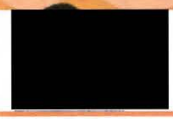
OUTCOME: Students can provide illustrative examples of science as an ongoing process that includes expanding, revising, and sometimes discarding theories based on new evidence, and that our understanding of a topic can change as more research is completed.

EXAMPLE: Students research the 2006 re-designation of Pluto from the status of planet to that of minor planet. Teams of students prepare arguments and create multimedia props recommending for or against the reclassification based on scientific reasoning and hold a classroom debate.

OUTCOME: Students can identify how improvements in scientific instruments can lead to new discoveries.

Health Literacy

EXAMPLE: Students study the discovery of microscopic life forms as the source of infectious disease. Using inks that illuminate under ultraviolet light, students work in teams to determine the most effective hand-washing techniques and then create posters to teach their recommended protocol to fellow students.



8th Grade

OUTCOME: Students can identify the difference between scientific theories (which can be improved through new evidence and expanded through exceptions to observed patterns) and beliefs (which may or may not be based on evidence).

Global Awareness

EXAMPLE: Students examine satellite images of the Earth and distinguish geologic structures from signs of plant and animal activity—including human-created patterns—then compare those patterns to images of other planets and their moons. This information is used as the basis for discussion on what evidence for life on other planets we might be able to detect.

OUTCOME: Students can provide examples that show how people often rely on scientific information to inform personal choices and societal practices, and that changes in scientific understanding can affect those choices.

Health Literacy

EXAMPLE: Students research the historical development of a safety technology such as car seat belts or bike helmets, and examine product test data and actuarial data from online resources. Students present their findings, including multimedia charts and graphs, and discuss the implications of laws that require the use of these devices.

12th Grade

OUTCOME: Students are able to revise their own scientific ideas and hypotheses based on new evidence or information.

EXAMPLE: Students design their own means of observing and/or testing the Earth's direction of rotation that includes working remotely with students in other countries to investigate the commonly held idea that water goes down a drain in different directions in the northern and southern hemispheres.

Global Awareness

OUTCOME: Students are able to successfully apply their scientific knowledge and scientific reasoning skills to a variety of situations and new areas of study.

Global Awareness

EXAMPLE: Student teams choose a habit or practice in which they engage that carries risks about which they have concerns (sport injuries, flying in an airplane, eating fatty foods). They research the relative risks for those activities compared to other activities about which they don't generally worry. Students develop questions and data analysis measures for an online survey that they administer to their classmates. They analyze survey results to explore any discrepancies they discover in their research between perception and data.

LIFE AND CAREER SKILLS

Initiative & Self-Direction

As the nature of science is to raise questions, science cultivates initiative and self-direction, and encourages lifelong learning. Curiosity motivates scientific thinkers to make careful observations and try things out as a way to seek answers to questions and to develop solutions to identified problems.

4th Grade

OUTCOME: Students are able to design an investigation based on a question they have generated from their own curiosity.

EXAMPLE: Students identify a favorite sport, hobby, or other area of personal interest and keep a question journal (paper or digital) about that interest, writing down a wide range of questions they may have about it. After a month, students examine their questions and categorize them by those that could be scientifically tested, researched, or observed versus those that would be answered by opinion. Finally, they share their questions with peers and through discussion, determine whether or not they are investigable questions.

8th Grade

OUTCOME: Students are aware of the broad range of careers and pastimes that involve scientific inquiry.

EXAMPLE: The school holds an event to showcase opportunities for students to be involved in amateur science interest groups and citizen science research projects. Representatives from local astronomy societies, rock and mineral clubs, birdwatching groups, science museum volunteer programs, university outreach, and other informal learning groups are invited to present. Students interview guests using classroom-developed questions that inquire about initiative, self-direction, and external influences that affected their career choices and scientific interests.

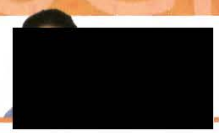
12th Grade

OUTCOME: Students have a variety of opportunities to read/view and interpret scientific information through both popular and professional media in areas that interest them, and are able to discuss their thoughts and questions on these topics informally with peers.

EXAMPLE: Students form discussion groups or join with existing groups, either face-to-face or through online social networking tools, to enable regular conversations around science-related topics (current events, books or articles, television programs, the accuracy of the science in Hollywood movies). They create shared web browser bookmarks to identify resources of interest for their peers.

LIFE AND CAREER SKILLS

Social & Cross-Cultural Skills



Social and cross-cultural skills are important to science because doing science involves many different kinds of work and engages men and women of all ages, backgrounds, and physical abilities. Science is advanced by synthesizing the different observations, perspectives, opinions, and interpretations of many individuals.

4th Grade

OUTCOME: Students can describe ways that people from many cultures, backgrounds, and abilities participate in science.

Global Awareness

EXAMPLE: Students interact via email or webconferencing with teams of international scientists, working together on a research initiative such as the International Space Station, the Intergovernmental Panel on Climate Change, or an Antarctic research station.

8th Grade

OUTCOME: Students are able to structure scientific discussions to allow for differing opinions, observations, experiences, and perspectives.

EXAMPLE: Students learn basic group facilitation techniques and decide as a class how to apply them to improve their own scientific processes and discussions. Students identify and rank higher-to-lower quality facilitation and discussion techniques and norms. Students videotape class labs and other science activities to critique their own application of equitable practices, using classroom-developed protocols.

12th Grade

OUTCOME: Students can explain how personal, societal, and cultural perspectives influence the scientific questions people pursue, and how people interpret scientific information.

Global Awareness

Civic Literacy

EXAMPLE: After studying the background content of a current scientific or technology related issue, discovery, or event, student teams use online news sources and internet radio broadcasts from other countries to compare and contrast international coverage of the topic with that of U.S. media. Students identify different uses of wording, including persuasive, derogatory, etc. Students examine how the informational and editorial aspects of reporting on science might be different in other cultures and in diverse American sub-cultures, then use social networking tools or wikis to discuss these differences with students in other regions of the country or other countries.

LIFE AND CAREER SKILLS

Productivity & Accountability

The high ethical standards and collaborative nature of science promote expectations for accountability and productivity. Scientists use a variety of tools and instruments to enhance their ability to produce and replicate accurate data, and to meet expectations for sharing their findings with the scientific community and general public.

4th Grade

OUTCOME: Students identify a variety of tools and techniques that scientists use to gather scientific information depending on what it is they want to know and the circumstances under which data will be collected.

EXAMPLE: Student teams use various methods to record weather data over a two-week period. One group tracks only what is reported in the news, one group writes down their observations, another makes photographic records of daily weather, another takes readings using probeware. Students discuss the different data collection techniques and their relative accuracy, their usefulness at different scales and for different purposes, and other pros and cons.

8th Grade

OUTCOME: Students can articulate the importance of accurate data collection and record keeping in science, and are able to demonstrate good practices for data collection, and identify common sources of error.

EXAMPLE: Student groups in a physical science class design experiments to examine how different sources of error can impact the results of a lab activity focused on the relationship between force, mass, and acceleration. Groups document both the experiment design and their results, then give their descriptions to another group to repeat the experiment based solely on their instructions. Groups compare methods and data for their different trials and discuss similarities and differences in their results.

12th Grade

OUTCOME: Students can describe and provide examples of how people may be impacted positively or negatively by the outcomes of scientific studies, technical developments, and scientific approaches applied to real world problems.

Civic Literacy

EXAMPLE: Students engage in a role-playing scenario based on real science and geography that models a city's decision to either rebuild or relocate homes that have been destroyed in a natural disaster. Student roles include scientists, civil engineers, government officials, relief workers, insurance industry representatives, news media, and homeowners. The class develops criteria for scientific use of data, analysis processes, and accountability of the impact for different roles on project outcomes.

LIFE AND CAREER SKILLS

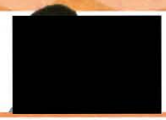
Leadership & Responsibility

Science involves a code of conduct that is openly and frequently discussed, with high standards for ethical responsibility around referencing the work of others, drawing conclusions based on evidence, recognizing the potential for bias, avoiding political and financial influence, constructing and conducting safe investigations, and appropriately applying research results and other scientific knowledge.

4th Grade

OUTCOME: Students can describe how doing science carries responsibilities for assuring the safety and rights of others and can provide examples of their own responsibilities while doing science activities at school.

EXAMPLE: Students visit a farm, zoo, or animal shelter to research the basic requirements and ethical issues of keeping live animals in captivity, including a focus on the safety of the animals, handlers, and visitors. They discuss what would be appropriate and inappropriate ways to keep animals in the classroom and use digital images (photos or video) and text to create a handbook for keeping live animals.



8th Grade

OUTCOME: Students understand the importance of proper citations and respect for intellectual property rights.

EXAMPLE: Students investigate ways that the works and ideas of others are referenced in different types of media including scientific papers, news magazines, television programs, and both professional and popular science websites. They gather and compare what they consider to be good and bad examples. Students discuss why citations are important and what the challenges are for proper referencing (e.g., tracking ownership of online materials), then use screen capture software to create a tutorial for their peers that explains guidelines and tools (including citation software and social bookmarking sites) that can help them adhere to proper intellectual property practices.

12th Grade

OUTCOME: Students recognize the role of science in society and can identify potential sources of bias and influence that can affect scientific research and the use and reporting of scientific information.

EXAMPLE: Students gather information about alternative energies such as biofuels, wind generators, or nuclear power plants from a variety of sources. They document the location and format of the information, what organizations or individuals published it, how it was funded, and the key arguments or statements made. They analyze and categorize the information to determine potential biases and to distinguish opinion and hearsay from claims based on evidence.

Interdisciplinary Themes

Global Awareness

Science is an international enterprise that benefits from cross-cultural perspectives and multi-national collaborations. Many pressing issues of scientific study can only be addressed on a global systems scale.

Financial, Economic, Business and Entrepreneurial Literacy

Scientific information and the products of science and technology research are increasingly integral to the U.S. and global economies, including new business sectors that are rapidly arising from interdisciplinary research areas (e.g., biotechnology, nanotechnology, alternative energies). Funding basic scientific research and development is an essential precursor to sparking science and technology business innovations. Understanding basic science concepts behind commercial products and services can help inform consumer choices, and the scientific processes of data interpretation and modeling facilitate financial analysis and planning.

Civic Literacy

Scientific literacy is important to making informed civic decisions, as communities increasingly must determine policies and regulations related to environmental health, natural resources management, civil engineering, and human wellness.

Health Literacy

Health literacy is developed through understanding of human biology and the role of humans in global ecosystems, including concepts of basic biology, disease transmission, nutrition, biotechnology, and bioethics. It is important that scientific knowledge and peer-reviewed research inform how health science information is gathered, evaluated, and applied at scales from personal choices to healthcare delivery to federal policymaking.

Supporting Structures

The National Science Education Standards (NSES) (National Research Council, 1996) recommend areas of "less" and "more" educational emphasis, many of which align with the 21st Century Skills supporting structure categories. 21st Century learning tools, examples of which are provided in the table below, can enrich and support the NSES recommendations. Some of the emphasis statements have been paraphrased or combined relative to how they appear in the NSES.

	Less Emphasis on...	More Emphasis on...	21st Century Tools
21st Century Standards	• Acquiring information and recitation of acquired knowledge	• Understanding scientific concepts, developing abilities of inquiry, and learning subject matter disciplines in the context of inquiry, technology, science in personal and social perspectives, and history and nature of science	• Use of probeware, mobile media devices, GIS and various online tools for data collection, as well as online data sets • Online collaboration, conferencing, and communication tools for authentic research with peers and scientists • Social networking sites • Digital libraries
Assessment of 21st Century Skills	• Using summative tests of discrete, factual information that is easily measured • Assessing to learn what students do not know, and assessing only achievement	• Assessing rich, well-structured knowledge, as well as scientific understanding and reasoning • Engaging students in ongoing assessment of their work and that of others • Assessing to learn what students do understand, as well as achievement and opportunity to learn	• Electronic portfolios • Online collaboration, conferencing, communication tools • Social networking sites • Media creation tools including software for graphic design, digital photo and video editing, and presentations
21st Century Curriculum and Instruction	• Rigidly following curriculum • Presenting knowledge through lecture, text, and demonstration • Asking for recitation of acquired knowledge • Providing textbook and lecture-driven curriculum with broad coverage of unconnected factual information	• Selecting and adapting curriculum • Guiding students in active, extended scientific inquiry • Providing opportunities for scientific discussion and debate among students • Providing curriculum that supports the standards, includes a variety of components (e.g., laboratories, emphasizing inquiry and field trips), and includes natural phenomena and science-related social issues that students encounter in everyday life	• Access to the Web and personal computing • Brainstorming, concept mapping software • Computer-aided design, modeling software, and simulation software • Digital production tools (digital photography and video) • GIS and GPS tools • Graphics software (drawing, painting, image editing) • Digital libraries • Multimedia resources (images, video, audio, animations, simulations, and educational games) • Online courses and self-paced learning modules

Supporting Structures (continued)

	Less Emphasis on...	More Emphasis on...	21st Century Tools
21st Century Professional Development	• Seeing teachers as based in classrooms, learning alone • Separating theory and practice • Transmitting teaching and content knowledge through lectures and reading • Seeing teachers as consumers of knowledge • Providing one-shot sessions, courses and workshops to teachers as technicians	• Treating teachers as professionals and as members of collegial communities • Integrating theory and practice in the school setting • Encouraging teachers to learn about science and science teaching through inquiry and investigation • Employing long-term coherent plans including a variety of activities for reflective practitioners • Seeing teachers as producers of knowledge • Providing opportunities both for continual learning and networking for school improvement	• Ongoing professional development to promote an inquiry approach in the context of laboratory and field, as well as through use of technology • Collaboration, conferencing, communication tools (online) • Social networking tools • Online courses and self-paced learning modules
21st Century Learning Environment	• Treating students alike and responding to them as a whole • Maintaining responsibility and authority by the teacher, and supporting competition rather than collaboration • Learning opportunities that favor one group	• Responding to individual students' interests, strengths, experiences, and needs • Supporting a classroom community with cooperation, shared responsibility, and respect • Providing challenging opportunities for all students to learn science	• Brainstorming and concept mapping software • Online authoring, brainstorming, graphics, spreadsheet and presentation software • Online collaboration, conferencing, communication tools • Resources in the local community including people, places, institutions, and information • Digital libraries • Social networking sites • Media creation tools including software for graphic design, digital photo and video editing, and presentations • Online courses and self-paced learning modules

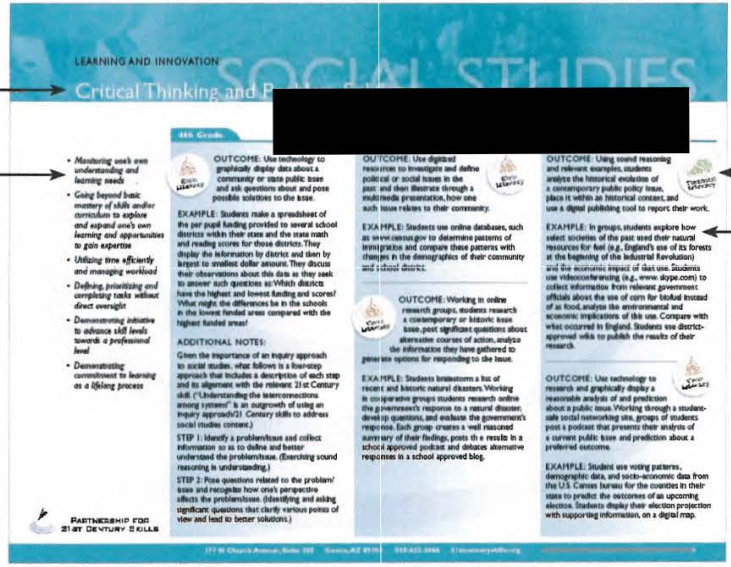
21st Century Skills Map

CREATED IN COOPERATION WITH THE NATIONAL COUNCIL FOR THE SOCIAL STUDIES

This 21st Century Skills Map is the result of hundreds of hours of research, development and feedback from educators and business leaders across the nation. The Partnership has issued this map for the core subject of Social Studies. This tool is available at www.21stcenturyskills.org.

The Partnership advocates for the integration of 21st Century Skills into K-12 education so that students can advance their learning in core academic subjects.

The Partnership has forged alliances with key national organizations that represent the core academic subjects, including Social Studies, English, Math, Science and Geography. As a result of these collaborations, the Partnership has developed this map to illustrate the intersection between 21st Century Skills and Social Studies. The maps will enable educators, administrators and policymakers to gain concrete examples of how 21st Century Skills can be integrated into core subjects.



A **21st Century Skills**

B **Skill Definition**

C **Interdisciplinary Theme**

D **Sample Student Outcome/Examples**

An example from the Social Studies 21st Century Skills Map illustrates sample outcomes for teaching Critical Thinking and Problem Solving.

PARTNERSHIP FOR 21ST CENTURY SKILLS

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LEARNING & INNOVATION SKILLS

Creativity and Innovation

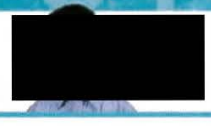
SOCIAL STUDIES

- *Demonstrating originality and inventiveness in work*
- *Developing, implementing and communicating new ideas to others*
- *Being open and responsive to new and diverse perspectives*
- *Acting on creative ideas to make a tangible and useful contribution to the domain in which the innovation occurs*

4th Grade

OUTCOME: Students develop creative solutions to a class or school problem.

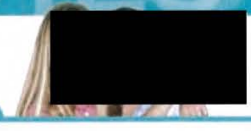
EXAMPLE: Students interview students and/or teachers to identify a problem (e.g., bullying on the playground) and as a group brainstorm creative ways to address the problem (producing a play that examines the issue, hosting a contest for best ideas).



8th Grade

OUTCOME: Students evidence original thought and inventiveness in response to an assignment, issue or problem.

EXAMPLE: Students choose an historical figure (e.g., Abraham Lincoln, Sojourner Truth) and create an original story, play, poem or piece of art that captures/conveys a key aspect of that person's life history.



12th Grade

OUTCOME: Students invent an original piece of work that can be published or presented online.

EXAMPLE: Working in teams, students create a simulation, role play, or webquest that covers a current social or political issue being covered in the news (e.g., global warming, poverty, global economy) or an historic event (American Revolution, Civil War, WWI/II). The finished products can be packaged, presented and/or donated to a local school, with an accompanying group analysis and reflection on the most innovative and creative elements in each of the products.

LEARNING & INNOVATION SKILLS

Critical Thinking and Problem Solving

- *Exercising sound reasoning in understanding*
- *Making complex choices and decisions*
- *Understanding the interconnections among systems*
- *Identifying and asking significant questions that clarify various points of view and lead to better solutions*
- *Framing, analyzing and synthesizing information in order to solve problems and answer questions*

4th Grade

Civic Literacy

OUTCOME: Use technology to graphically display data about a community or state public issue and ask questions about and pose possible solutions to the issue.

EXAMPLE: Students make a spreadsheet of the per pupil funding provided to several school districts within their state and the state math and reading scores for those districts. They display the information by district and then by largest to smallest dollar amount. They discuss their observations about this data as they seek to answer such questions as: Which districts have the highest and lowest funding and scores? What might the differences be in the schools in the lowest funded areas compared with the highest funded areas?

ADDITIONAL NOTES:

Given the importance of an inquiry approach to social studies, what follows is a four-step approach that includes a description of each step and its alignment with the relevant 21st century skill. ("Understanding the interconnections among systems" is an outgrowth of using an inquiry approach/21st century skills to address social studies content.)

STEP 1: Identify a problem/issue and collect information so as to define and better understand the problem/issue. (Exercising sound reasoning in understanding.)

STEP 2: Pose questions related to the problem/issue and recognize how one's perspective affects the problem/issue. (Identifying and asking significant questions that clarify various points of view and lead to better solutions.)

8th Grade

Civic Literacy

OUTCOME: Use digitized resources to investigate and define political or social issues in the past and then illustrate, through a multimedia presentation, how one such issue relates to their community.

EXAMPLE: Students use online databases, such as www.census.gov to determine patterns of immigration and compare these patterns with changes in the demographics of their community and school district.

Civic Literacy

OUTCOME: Working in online research groups, students research a contemporary or historic issue, post significant questions about alternative courses of action, and/or analyze the information they have gathered to generate options for responding to the issue.

EXAMPLE: Students brainstorm a list of recent and historic natural disasters. Working in cooperative groups, students research online the government's response to a natural disaster, develop questions, and evaluate the government's response. Each group creates a well-reasoned summary of their findings, posts the results in a school-approved podcast, and debates alternative responses in a school-approved blog.

12th Grade

Financial Literacy

OUTCOME: Using sound reasoning and relevant examples, students analyze the historical evolution of a contemporary public policy issue, place it within an historical context, and use a digital publishing tool to report their work.

EXAMPLE: In groups, students explore how selected societies of the past used their natural resources for fuel (e.g., England's use of its forests at the beginning of the Industrial Revolution) and the economic impact of that use. Students use videoconferencing (e.g., www. skype.com) to collect information from relevant government officials about the use of corn for biofuel instead of food and analyze the environmental and economic implications of this use. Students use district-approved wikis to publish the results of their research.

Civic Literacy

OUTCOME: Use technology to research and graphically display a reasonable analysis of and prediction about a public issue. Working through a student-safe social networking site, groups of students post a podcast that presents their analysis of a current public issue and prediction about a preferred outcome.

EXAMPLE: Students use voting patterns, demographic data and socio-economic data from the U.S. Census bureau for the counties in their state to predict the outcomes of an upcoming election. Students display their election projection with supporting information, on a digital map. Based on their predictions, students

Critical Thinking and Problem Solving (continued)

4th Grade

STEP 3: Analyze a problem and determine possible solutions to the problem/issue. (Framing, analyzing and synthesizing information in order to solve problems and answer questions.)

STEP 4: Evaluate solutions to a problem/issue and then select/justify/act upon a solution to a problem/issue. (Making complex choices and decisions.)

Civic Literacy

OUTCOME: Access information to discover the interconnections between government services and their location in the community.

EXAMPLE: All fourth graders in a school take an online survey about their sports and hobby interests, and results are reported in graphs on the school Web site. Students use GIS and GPS to find the location of areas in which these sports can be played throughout their community and post the results online.

8th Grade

Civic Literacy

OUTCOME: Students use a variety of electronic media to research and present an historic event that impacted the community (e.g., National History Day).

EXAMPLE: Using electronic reference material, students investigate how an historic event (e.g., Civil Rights Movement or Vietnam War) affected the local community. Students use clip art, video and other multimedia products to demonstrate an interpretation of the event. The students' presentation should address the key themes of their analysis.

12th Grade

create a podcast that suggests election strategies the political parties might utilize for their candidates.

Civic Literacy

OUTCOME: Students demonstrate an understanding through the use of technology about how the relationship among social, economic and governmental systems affects change in a community over time.

EXAMPLE: Students analyze the relationship between changes in population in communities and zoning decisions made by local governments over a 20-year period by using census data, digitized zoning maps (Google Earth), population distribution maps, and transcripts of local government meetings. Based on this analysis, the students generate graphic depictions of potential/predicted growth patterns for a community.

LEARNING & INNOVATION SKILLS

Communication

SOCIAL STUDIES

- *Articulate thoughts and ideas clearly and effectively through speaking and writing*

4th Grade

OUTCOME: Research, organize and present historical information in clear, complete and effective formats.

EXAMPLE: Working in small groups, students will choose an area from their state's history, organize a storyboard on the person/place/event, and use digital tools to create a presentation that teaches their topic to the remainder of the class.

8th Grade

OUTCOME: Research, organize and present information in clear, complete and effective formats.

Global Awareness

EXAMPLE: Research information on the local implications of a global issue of concern (e.g., child poverty, hunger, homelessness). Students organize their information and a possible solution and write a persuasive letter that is to be proof-read, peer edited, and finally sent via e-mail to a local public official.

OUTCOME: Interpret, organize and present information from American history in clear, complete and effective formats to other students/adults.

EXAMPLE: Research information on an issue relevant to an historical period (e.g., a determining factor in the outcome of the American Revolution or the inevitability of the Civil War) and organize it into a persuasive essay that is to be proof-read, peer edited, and finally written and summarized in a class blog and/or audio podcast.

12th Grade

OUTCOME: Analyze, synthesize, organize and present information from the social sciences in clear, complete and effective formats.

EXAMPLE: Research and use concept-mapping software to create a graphic display (i.e., Venn diagram) that compares and contrasts various major world religions in terms of foundations, beliefs, and relationship to historical and current issues.

OUTCOME: Access and evaluate information from various sources dealing with elected officials' effectiveness while in office.

EXAMPLE: Over an extended period of time, students efficiently access the voting records of different state and local officials on issues that impact their community (i.e., education and taxes) and create a digital report card of the selected official(s) using creative presentation methods such as a podcast, slideshow, Web site or district-approved blog.

LEARNING & INNOVATION SKILLS

Collaboration

- *Demonstrating ability to work effectively with diverse teams*
- *Exercising flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal*
- *Assuming shared responsibility for collaborative work*

4th Grade

OUTCOME: As a group, work together to reach a decision and to explain the reasons for it.

EXAMPLE: Working in small groups, encourage and engage other classmates to assist with a group service-learning project. Using digital media, students demonstrate the need to raise the awareness of their classmates on an issue within their community, (e.g., students create a digital poster that persuades classmates to participate in a school fundraising project).

OUTCOME: Work as a team to assess individual and/or group work.

EXAMPLE: Using a teacher-constructed online rubric, students work in teams to review their personal performance and contributions to their team, as well as overall group performance.

8th Grade

OUTCOME: As a group, work together to reach a decision and to explain the reasons for it.

EXAMPLE: Using an open source asynchronous discussion forum such as Moodle, students discuss how to respond to a proposed state law requiring bicycle helmets and develop consensus about what the team will do. Using a word processing program, students work in pairs to author a persuasive letter either for or against the proposed law, providing sound reasons to support their position. Send the letter to the appropriate legislative official.

OUTCOME: Recognize and communicate diverse perspectives on an historical issue and demonstrate how diverse perspectives might lead to different interpretations of an issue. (Articulating thoughts and ideas clearly and effectively through speaking and writing.)

EXAMPLE: After watching videos of an historical event, students read online first-hand accounts (e.g., WWII, Korean War, Vietnam War). Students then use a collaboration listserv such as Videoconferencing for Learning to find students in other parts of the country with whom they can discuss and compare interpretations of the events. Students then summarize and reflect on their experiences in small group discussions.

OUTCOME: Seek reasonable and ethical solutions to problems that arise when scientific advancement and social norms or values come into conflict.

12th Grade

OUTCOME: Working in small groups, students will research a current issue and analyze it in terms of historical, political and economic components, various viewpoints, and potential solutions, and create a digital presentation that clearly describes all sides of the issue.

Financial Literacy

EXAMPLE: Working in small groups, students will survey favorite forms of recreation among local teens and research the local history of recreational youth facilities for teens and the potential sources of political and economic support. The information will be graphed and analyzed, and each group will create a business plan for developing a local recreation center/club for teens. The survey results, need and plan will be presented to a community group or civic association using technology tools.

OUTCOME: Working online with groups of students from other districts and/or states, students develop plans to enhance high school students' ability to use emerging technologies.

EXAMPLE: Using online surveys, virtual conferences or videoconferences, students gather information from peers who participate in virtual schooling. Students then present the results and make recommendations about how virtual schooling might be used in their own setting.

OUTCOME: Work in groups, taking various roles to research, investigate and report the results of their findings on a national or global historic and/or social issue.

Collaboration (continued)

[redacted]

4th Grade

8th Grade

EXAMPLE: Working in teams of two to four, students explore the impacts and effects of an invention or technological innovation of the 19th century and create a position paper that analyzes the pros and cons of the invention (e.g., impact of the cotton gin on Southern plantations and slavery).

OUTCOME: Communicate to school or community members about opportunities to assist with a group project.

EXAMPLE: Working in small groups, students will choose an area of community service to research (e.g., United Way, Kids Who Care, hospital volunteer opportunities, food and clothing drives, Red Cross). Each group will then organize, produce and distribute a video or audio podcast, public service announcement, or a digital brochure or poster that promotes student and community collaboration in that effort.

OUTCOME: Assess their performance as a group and develop and implement a plan to work together more productively.

EXAMPLE: Students use a district-approved wiki or asynchronous discussion board to reflect on a recent group activity, discussing both strengths and weaknesses of their team's interaction and productivity.

12th Grade

EXAMPLE: Working in pairs, conduct online research and create a report on a historic or social issue (e.g., HIV/AIDS in the U.S. and in an African nation), and compare the economic, health and social implications of HIV/AIDS in various settings.

OUTCOME: Reach consensus on a viable action that could be taken relative to a political and/or social issue and then act accordingly.

EXAMPLE: Working in student teams and using online decision-tree tools, research an issue that is a challenge for the local community and develop consensus around three specific actions the group will take to address the issue (e.g., writing letters to elected representatives or local paper, organizing an e-mail campaign or other activity). Prepare a summary report evaluating the group's decision-making process and what action steps were taken.

OUTCOME: Recognize, empathize with, and communicate diverse perspectives on an issue and realize how one's perspective influences one's interpretation of an issue and/or work within a group.

EXAMPLE: In a group, create and implement an online survey for community members (e.g., regarding the effects of the recent influx of immigrants) and compare responses with digitized accounts from other communities. Then divide into two groups and present two opposing viewpoints on the issue, analyzing the merits of each perspective.

INFORMATION, MEDIA & TECHNOLOGY SKILLS

Information Literacy

- *Accessing information efficiently and effectively, evaluating information critically and competently, and using information accurately and creatively for the issue or problem at hand*
- *Possessing a fundamental understanding of the ethical/legal issues surrounding the access and use of information*

4th Grade

OUTCOME: Access information about communities around the world from a variety of information sources.

Global Awareness

EXAMPLE: Working in small groups, students select a nation from each continent and use online encyclopedias, electronic databases and other Web sites to study several examples of daily life in regions in those nations. They present findings to the class using presentation software. Students create a Venn diagram to compare and contrast two communities from around the world using illustrations or information to demonstrate understanding.

OUTCOME: Access information from the expertise of people inside and/or outside their own community.

EXAMPLE: Students participate in an online discussion or interactive videoconference with a museum educator in order to discuss and analyze an artifact found in the student's local community, drawing conclusions about the item's purpose and probable owner.

OUTCOME: Gather original data from various information sources and create graphs or charts to display the information. (Using information accurately and creatively.)

EXAMPLE: Students use an online survey tool to create a survey that collects data about the local attractions their family likes to visit. Students store the data in a spreadsheet, evaluate and display their findings using the spreadsheet's

8th Grade

OUTCOME: Create and organize original information data sets about key issues in the community, state or nation using a variety of tools.

Financial Literacy

EXAMPLE: Students use digital databases to gather data regarding gas prices, home heating oil prices, wages, etc. in their city over the past 12 months and construct a graph illustrating how these resources have been used.

OUTCOME: Access and analyze visual digital primary information sources and digital maps.

EXAMPLE: Students access and analyze sources of information about how transportation systems have been used over time and/or are being used today using online sources of current and historical digital images (e.g., digital photograph libraries, aerial photographs, satellite imagery), and then draw conclusions about how they are related to changes in population distribution.

OUTCOME: Access and critique sources of information from various types of media, which discuss an historic event. Students analyze the difference between public and private sources of information.

EXAMPLE: Students access information about the Civil War from multiple media sources, including public (e.g., Mathew Brady photo

12th Grade

OUTCOME: Access, reference and present information using multiple sources that offer diverse perspectives about economic issues.

Financial Literacy

EXAMPLE: Students will examine information about federal tax policy from various sources. Focusing on the federal income tax, excise tax, and other forms of federal taxation, students will compare opinions as presented through several information outlets including popular digital and print media, online communities (e.g., district-approved blogs, online interest groups), and community resources, and articulate why some opinions are more compelling or effective than others.

OUTCOME: Develop and use a customized information gathering strategy to access multimedia information about a public policy issue of local, national and/or global significance and produce an Internet Web page, digital video, or podcast of the findings.

EXAMPLE: Students create strategies for locating and using information from digital and non-digital resources, which includes a selection of search engines, search parameters, methods of organizing information once identified, and a plan for using information for specific purposes. Students use information they have gathered from their customized search to develop a multimedia presentation advocating for a position on the issue (e.g., improving migrant laborers' working conditions, ending

Information Literacy (continued)

[redacted]

4th Grade

graphing tools, and use digital images to demonstrate their family's preferences of their favorite places to visit within in their community and state.

OUTCOME: Conduct an interview related to an important issue in a student's life or in their community, evaluate the information, and create a slide show that describes the main points of the discussion.

EXAMPLE: Interview a family member about the changes in how people work or play over time in their community. Present the main points that result from the interview in a multimedia slide show that integrates video images.

OUTCOME: Evaluate various sources of information for use in solving a problem or addressing an issue.

EXAMPLE: Students will access information about an important issue in their community (e.g., building a new school) from their local print newspaper, a Web site, and a person in their family or community and then evaluate the similarities and differences in the information.

OUTCOME: Understand how to use and appropriately cite information created by others.

EXAMPLE: Students will access information about their state (e.g., images from places in the state, historical narratives, maps) from digital and non-digital sources. Students will determine who created the information and appropriately cite the source.

[redacted]

8th Grade

collection from the Library of Congress) and private sources (e.g., Ken Burn's The Civil War). Students critique these sources given any possible bias or political perspective as well as determining what is factual and what is not. Compare and contrast the sources with regard to the information that may be used, and the restrictions or lack of restrictions on access to the information (e.g., did the private source require a source for access). Students will then make appropriate use of the information in a short report related to the content of the information.

[redacted]

12th Grade

homelessness in the local community, eradicating polio or malaria) and produce a podcast for other students to use in order to better understand this problem.

OUTCOME: Access and use relevant information from the Internet about how the United States and other nations around the world address an economic issue.

EXAMPLE: Students consult the U.S. Dept. of Energy Web site to create a spreadsheet and construct a line graph of crude oil prices since the crisis of the early 1970s. They then examine data on selected oil producing and consuming countries from the CIA World Facts database and develop possible explanations for the fluctuations in price.

OUTCOME: Evaluate the nature of information ownership and the related accessibility of various forms of information. Examine issues of copyright and the proper way to cite various sources.

EXAMPLE: Students examine court cases, such as John Doe v. Alberto Gonzales, and others related to information access. Students prepare a summary description of restrictions to information access imposed on minors and government access to private information. Students demonstrate proper citation and ethical use of sources.

Media Literacy

- *Understand how media messages are constructed, for what purposes and using which tools, characteristics and conventions*
- *Examine how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors*
- *Possess a fundamental understanding of the ethical/legal issues surrounding the access and use of information*

4th Grade

OUTCOME: Identify specific purposes for which media messages are constructed.

EXAMPLE: Using the Internet and software that plays audio and/or video clips, students analyze various advertisements aimed at children their age and identify the purpose(s) of each ad.

OUTCOME: Identify different interpretations of the same message.

EXAMPLE: Using a video news clip from the Internet about an event associated with a local or state issue, students identify how many different interpretations were recorded and suggest possible reasons for the differences.

OUTCOME: Identify legal uses of information.

EXAMPLE: Using an online scavenger hunt (such as http://www.geocities.com/stvdlnrds/etp/scav/), students explain the meaning of "Copyright" and "Fair Use."

8th Grade

OUTCOME: Analyze how media format influences media messages (e.g., "The medium is the message." McLuhan). Analyze how the meaning of a message is influenced by the specific media and the historic context in which the message is conveyed.

EXAMPLE: Using history Web sites and primary sources, students compare and contrast 19th century and contemporary presidential election campaigns and hypothesize about the ways in which media forms of the 19th and 21st century have similar and different influences on political campaigns.

OUTCOME: Explain and demonstrate the importance of copyright law regarding the access and use of information.

EXAMPLE: Students research and explain the issues and laws related to the copyright of digital music. Students demonstrate their understanding of the ethical issues when they access and use digital music in presentations.

12th Grade

OUTCOME: Identify and analyze different ways that electronic news sources define and present an issue and raise significant questions about how the different points of view in the news sources might affect how people define and act upon the issue.

EXAMPLE: Students access online global news media sources (e.g., BBC and others) to analyze how each describes the relations between Israel and Palestine and the reasons for the conflicts in that region. They then compare these portrayals with digitized primary news reports from the Israeli founding period and articulate how and why the reasons for the conflict differ.

OUTCOME: Describe how various forms of visual media (e.g., graphics, color, layout, pamphlet design, advertisement composition) are designed to influence beliefs and behaviors. Evaluate specific visual media with the following criteria: source, objectivity and technical accuracy.

EXAMPLE: Research a variety of media types and formats on the same issue (e.g., AIDS prevention). Create a visual presentation that describes how information delivered through various forms of visual media has the potential to influence people's behaviors. Evaluate the source, objectivity and technical accuracy of the visual media.

OUTCOME: Demonstrate a clear understanding of the many ethical and legal issues related to the access and use of information.

EXAMPLE: Using the Internet to research U.S. copyright and plagiarism laws, create a list of acceptable practices for students and present them using video, audio and text. Share the presentation with students at a local middle school or the public library.

ICT Literacy

SOCIAL STUDIES

- *Using digital technology, communication tools and/or networks appropriately to access, manage, integrate, evaluate and create information in order to function in a knowledge economy*
- *Using technology as a tool to research, organize, evaluate and communicate information and the possession of a fundamental understanding of the ethical/legal issues surrounding the access and use of information*

4th Grade

OUTCOME: Use digital technology and/or networks appropriately to access information.

Financial Literacy

EXAMPLE: Access simulation software to experience running a business (e.g., a lemonade stand). Discuss factors that influence business decisions (e.g., supplies, resources, location, potential customers, price, capital equipment).

OUTCOME: Use digital technology appropriately to manage and integrate information from various sources.

EXAMPLE: After accessing digital and print archives, use a presentation tool to depict a timeline of an historical event in community or state history. Incorporate images, text, sound, animation and/or graphics to enhance the timeline.

OUTCOME: Use digital technology appropriately to evaluate information in order to function in a knowledge economy.

EXAMPLE: Use technology tools to examine the interaction of human beings and their physical environment: the use of land, building of cities, and ecosystem changes in selected locales and regions. Compare a dated aerial photo of one's own community and a more recent aerial photo captured online. Identify the changes that have taken place and evaluate the changes that have occurred.

8th Grade

OUTCOME: Use digital technology and/or networks appropriately to access information.

Global Awareness

EXAMPLE: Conduct research using the Internet and electronic library databases to identify and describe the roles of international and multinational humanitarian organizations. Formulate a list of questions about each agency's role in helping children. E-mail the questions to the proper contact person at one of the identified organizations.

OUTCOME: Use digital technology appropriately to manage and integrate information from various sources.

EXAMPLE: Create a database of information about international and humanitarian organizations and include the data provided by the agencies about their work with children.

OUTCOME: Use digital technology to evaluate information.

EXAMPLE: Evaluate the extent to which existing aid for children provided by humanitarian organizations is sufficient to meet the needs globally and locally.

12th Grade

OUTCOME: Use digital technology and/or networks appropriately to access information.

EXAMPLE: Use search engines, online databases, or identify and join a list serve to access national and international media to examine an international conflict. Focus on the interactions of ethnic, national or cultural influences on the conflict.

OUTCOME: Use digital technology appropriately to manage and integrate information from various sources.

EXAMPLE: Create an online document with hyperlinks to help middle school students understand an international conflict. Use the hyperlinks to provide background information and context for past and current events in the conflict.

OUTCOME: Use digital technology to evaluate information.

EXAMPLE: Embed evaluation questions in the online document to encourage students' critical thinking about an international conflict as they encounter hyperlinks within the document.

ICT Literacy (continued)

[redacted]

4th Grade

OUTCOME: Using digital technology, communication tools and/or networks appropriately to create information and share with the school or local community.

EXAMPLE: Participate in a monitored wiki, for youngsters by youngsters, or post to a class Web site and share the presentation on local or state landforms and geographic features.

EXAMPLE: Invite a business member of the local Chamber of Commerce to the class to listen to the students' presentations about their business simulation and comment on their conclusions, or use videoconferencing for students' presentations and discussions with the business representative.

[redacted]

8th Grade

OUTCOME: Using digital technology, communication tools and/or networks appropriately to create information.

EXAMPLE: Write a letter to the editor, sharing data about the existing aid for children from humanitarian organizations and the unmet needs in the local community. Suggest ways that young people can become involved.

[redacted]

12th Grade

OUTCOME: Using digital technology, communication tools and/or networks appropriately to create and share information.

EXAMPLE: Create an online document that summarizes what students have learned about an international conflict and post to a district or school Web site for other students.

LIFE & CAREER SKILLS

Flexibility and Adaptability

SOCIAL STUDIES

- *Adapting to varied roles and responsibilities*
- *Working effectively in a climate of ambiguity and changing priorities*

4th Grade

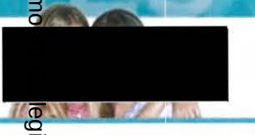
OUTCOME: Students recognize that citizens must "give and take" so that a democratic system both guarantees rights and assigns responsibilities fairly.

EXAMPLE: Members of the class contact or visit a local court to find out how citizens are called to jury duty. By creating a calendar or weekly wheel, students use their own blind selection process to divide tasks in their own classroom. Hold a class meeting to discuss how to handle responsibilities when a student is absent.

8th Grade

OUTCOME: Students understand how compromise is embedded in the legislative process of the House of Representatives (e.g., writing and proposing bills, committee hearings and amendments, bringing a bill to the floor for full House vote).

EXAMPLE: Students research two different bills in Congress dealing with immigration issues, learning how to navigate the government's complex online presence by using www.house.gov. They then construct a sample compromise bill that includes compatible parts of each of the bills. Respond to presidential veto.



12th Grade

OUTCOME: Students analyze the needs and wants of co-existing community constituencies and enact a situation in which they must work together.

EXAMPLE: In a jigsaw activity, students study the Web sites of local agencies (e.g., fire department or city planning department) and organizations (e.g., Chamber of Commerce) and role play the concerns and roles of each in a situation such as population growth, revenue needs, a community event (parade, fair, sporting event) or a crisis (flood, fire, evacuation). Include a scenario in which agencies must suddenly change plans to deal with the situation beyond their control.

Supporting Structures

THE FOLLOWING ITEMS ARE SUGGESTED AS TOOLS THAT CAN BE INTEGRATED INTO THE PRECEDING EXAMPLES:

- Access to the Web and personal computing
- Brainstorming, concept mapping software
- CAI and simulation software
- Digital images
- Digital production tools (digital photography and video)
- GIS and GPS tools
- Graphics software (drawing, painting, image editing)
- Interactive online sites
- Multimedia resources (clip art, video, sound, animations)
- Ongoing professional development on the promotion of an inquiry approach through the use of technology
- Online authoring, brainstorming, graphics, spreadsheet and presentation software
- Online collaboration, conferencing, communication tools
- Online sources
- Presentation tools
- Print resources including books, newspapers, magazines and maps
- Productivity/publishing tools (ex. word processing, page layout, etc.)
- Resources in the local community including people, places and information
- Search engines and online search strategies
- Social networking sites
- Software applications for creating information content including Web authoring, podcasting, video and other audio tools
- Spreadsheet and graphing software
- TV, Video and DVD
- Videoconferencing and interactive TV
- Video editing software
- Web publishing software
- Word processing software

21st Century Skills Map

DESIGNED IN COOPERATION WITH THE NATIONAL COUNCIL FOR GEOGRAPHIC EDUCATION (NCGE)

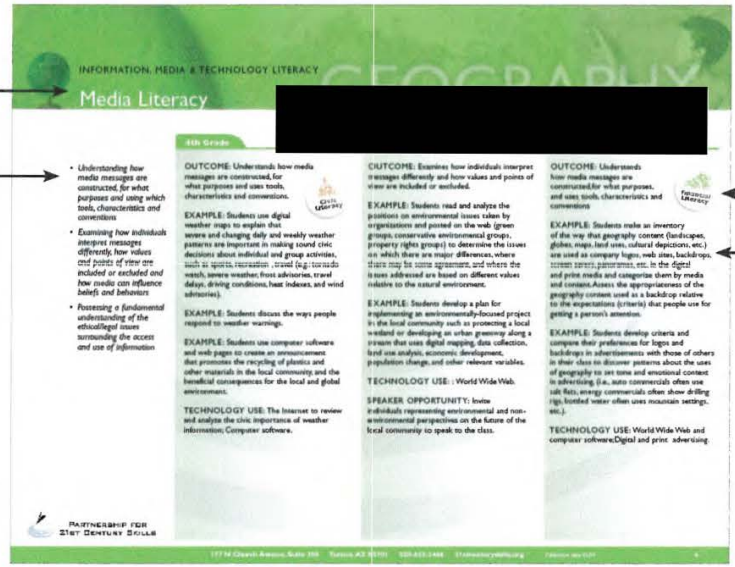
This 21st Century Skills Map is the result of hundreds of hours of research, development and feedback from educators and business leaders across the nation. The Partnership has issued this map for the core subject of Geography. This tool is available at www.21stcenturyskills.org.

The Partnership advocates for the integration of 21st Century Skills into K-12 education so that students can advance their learning in core academic subjects.

The Partnership has forged alliances with key national organizations that represent the core academic subjects, including Social Studies, English, Math, Science and Geography. As a result of these collaborations, the Partnership has developed this map to illustrate the intersection between 21st Century Skills and Geography. The maps will enable educators, administrators and policymakers to gain concrete examples of how 21st Century Skills can be integrated into core subjects.

A **21st Century Skills**

B **Skill Definition**



C **Interdisciplinary Theme**

D **Sample Student Outcome/Examples**

An example from the Geography 21st Century Skills Map illustrates sample outcomes for teaching Media Literacy.

Geography and 21st Century Skills

Based on key geographic concepts and principles and incorporating best classroom practices, this document suggests ways to enhance classroom geography and skills relative to the demands of the 21st century. It represents a starting point for ideas and discussions with an eye to the future.

This map provides opportunities to engage students and teachers in geographic inquiry that align with contemporary methods and concepts for studying Earth in terms of its natural and human characteristics.

Geography integrates the study of the natural and human elements of Earth to reveal their complex relationships. Such concepts and skills are incorporated in Geography for Life: The National Geography Content Standards (1994), with an updated 2nd edition to be released in 2010. The study of the spatial relationships among the components of the human and physical systems is enhanced by using the latest and most reliable geographic information available through technology. The opportunities by students and geographers to observe, synthesize, and present data from satellites, ground stations, and local observations represent collaborative processes within geography that are adding value to a wide range of interdisciplinary studies in the 21st century.

Geography's major contributions for 21st century skills development can be viewed through three lenses: 1) Scholarship; 2) Stewardship; and 3) Citizenship. Scholarship reflects geography's continued quest for knowledge about Earth and its systems using the most appropriate technologies. Digital information and virtual representations of Earth and its systems are commonly applied in geographic scholarship. Stewardship reflects the concerns for the positive relationship between people and the environment through sustainable interactions. Responding to challenges of global changes in climate, population changes, natural resources availability, and land use are within the realm of stewardship. Citizenship reflects equipping every person with the necessary 21st century skills and access to information that will enable them to become responsible and effective in their active roles as citizens.

Geography for Life: National Geography Standards 1994 (1994). Washington, DC: National Geographic Society (available through the store at www.ncge.org).

It should be noted that most of the examples in this map are well-suited for cross-disciplinary approaches. For example, the ideas contained in this map can and should integrate student use of other core subjects including science, mathematics, language arts, history, art and world languages.

INFORMATION, MEDIA & TECHNOLOGY LITERACY

Information Literacy

GEOGRAPHY

- *Accessing information efficiently and effectively, evaluating information critically and competently and using information accurately and creatively for the issue or problem at hand*
- *Possessing a fundamental understanding of the ethical/legal issues surrounding the access and use of information*

4th Grade

OUTCOME: Accesses information efficiently and effectively, evaluates information critically and competently

Global Awareness

EXAMPLE: Using a variety of sources (such as www.worldmapper.org, and www.nationmaster.com), and working in small teams, students access information about places around the world and create a poster display, slideshow, or other multimedia presentation of 3 selected variables (such as high tech exports, birth rate, percentage of youth in school) and how those 3 selected variables compare between countries, and why.

EXAMPLE: Students provide accurate citations and references to the information they use from electronic and print sources to judge authenticity. They reflect how errors and gaps can exist in the information that is gathered by the UN, national statistics agencies, and by other sources, and how those errors can be recognized and managed.

TECHNOLOGY USE: Web-based access to print information, graphics, maps, and photographs.

Health Literacy

OUTCOME: Accesses information efficiently and effectively, evaluates information critically and competently

EXAMPLE: Students choose 3 countries from the book Hungry Planet, collect food labels from their homes, analyze advertisements for

8th Grade

OUTCOME: Evaluates information critically and competently and uses information accurately and creatively for the issue or problem at hand

Civic Literacy

EXAMPLE: Compare and contrast shapes of different countries (e.g., Italy and Chile as elongated, Japan and Indonesia as a string of islands, and Egypt and Spain as roughly square); students explain how the shape may affect political cohesiveness or a sense of civic attachment to the larger political unit; discuss providing government services within compact countries compared to countries that have territories scattered. Students analyze the effects that country shape may have on the time and costs necessary to develop civic linkages in a country with scattered territories.

EXAMPLE: Students discuss the impact that changes in communications, such as the Internet, World Wide Web, cellular phones, etc., have on the flow of civic information in countries, such as community issues and governmental response; forming responses to community emergencies.

SUPPORTING STRUCTURE: Web maps to show countries with different shapes; classify countries on the map as compact or scattered.

SUPPORTING STRUCTURE: Map the distances and time necessary to support civic activities, NGOs, and citizen groups from the national governmental center.

12th Grade

OUTCOME: Uses information accurately and creatively for the issue or problem at hand

EXAMPLE: Students use images from the web to compare and contrast classical and contemporary art by Dutch, French, U.S., Chinese, Korean, Zimbabwean, and other artists that portray geographic landscapes. Students analyze Earth's landscapes (climatic events, volcanism, vegetation, people using the land, resource extraction) in art as evidence of environmental change on a dynamic Earth.

EXAMPLE: Students compare and contrast natural and cultural scenes using repeat photography as an art form that presents evidence of geographic and environmental change.

FIELD TRIP OPPORTUNITY: Local art museum, or see fine arts digital images available on the web, including those from many countries and cultures.

OUTCOME: Possesses a fundamental understanding of the ethical/legal issues surrounding the access and use of information

Civic Literacy

EXAMPLE: Students use widely available public digital imagery from the web to analyze the information that can be observed on the ground such as residences, swimming pools, barns, parking lots, and parks. The students then discuss the ways that different people could use the information, such as land speculators,

Creativity and Innovation (continued)

GEOGRAPHY

4th Grade

food, and use the web to classify information relative to the categories on the food pyramid; use digital map sources from the web to map locations where their food is grown; and discuss how climate and culture play roles in food production. They assess how natural events (hurricanes, floods) and human actions (wars, land use) affect food production and distribution.

EXAMPLE: Students compare foods grown locally with foods grown in their 3 selected countries to analyze the spatial pattern of food production and distribution.

EXAMPLE: Students analyze the spatial patterns of food production and transportation to judge the impact that agriculture has on the natural environment.

FIELD TRIP OPPORTUNITY: Local farm or garden; local farmers market; digital maps on the web to plot the spatial patterns of food production and consumption.

OUTCOME: Uses information accurately and creatively for the issue or problem at hand

EXAMPLE: Students gather original data, such as observations of local weather (temperature and precipitation) and climate (comparing daily with long term trends), and create digital graphs or charts to display the information.

EXAMPLE: Using the web and archival sources students research historical weather patterns (temperature and precipitation) in the area and

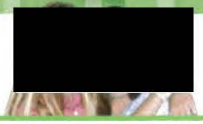
8th Grade

OUTCOME: Uses information accurately and creatively for the issue or problem at hand

EXAMPLE: After identifying a local issue (i.e., recycling opportunities, congested traffic, excessive litter in a park, noise pollution, water contamination, recreation facilities), students conduct primary research, gather numerical data, convert it to statistical information (means, trends, correlations), present it in graphs, charts, and maps, use software to develop community digital data bases, and present a position on the issue by preparing an editorial slideshow presentation for a local governing board, or develop a website to use in presenting their position, and make a multimedia presentation for local service clubs, such a Kiwanis, Rotary, Library Guild, etc.

EXAMPLE: Exercise civic responsibility by taking a position on a local issue and support its resolution through participating in discussions, making presentations, being interviewed by media, and writing narratives to be published.

FIELD STUDY OPPORTUNITY OR INDIVIDUAL STUDENT PROJECT: Local community issues may be observed and recorded using digital cameras, surveys, and field measurements for analysis and presentation.



12th Grade

burglars, or urban planners, and judge the ethical and legal issues that may accompany the use of geographic information.

EXAMPLE: Students evaluate the pros and cons of the following arguments: (1) Should countries have the right to prohibit satellite images as satellites orbit across their territory? (2) Should countries have the right to blur the satellite images in areas deemed sensitive (nuclear power plants, military bases, etc.)?

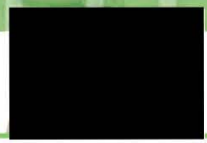
EXAMPLE: Students evaluate the use of satellite images to collect data on human rights violations such as mass graves, deforestation in protected nature preserves, and cultivation of illegal crops, such as narcotics.

EXAMPLE: Students discuss the spatial arrangement of surveillance cameras to record activities at locations (parking lots, stores, malls, along streets, banks) in a geographical area and the uses of the information and citizen's rights (invasion of privacy, legal rights).

TECHNOLOGY USE: Remotely sensed images and digital images of Earth's surface available on the web.

Creativity and Innovation (continued)

GEOGRAPHY



4th Grade

create a graphical presentation (e.g.climograph), comparing the annual and daily variations using values such as mean, maximum, and minimum for both temperature and precipitation.

EXAMPLE: Discuss the authenticity and reliability of data from the U.S. Weather Service, such as how the information is collected, stored, and used and its accuracy. Compare and contrast the reliance on the collection of weather data remotely using ocean buoys, satellites, automatic instrument stations, and weather stations with personnel in order to get coverage of many places on Earth. Students describe that each weather station is connected to computers that process and store data.

EQUIPMENT NEEDED: Have students build their own weather-gathering instruments; rely on local remote weather reporting stations located at schools, industrial centers, and malls that are presented on websites.

SPEAKER OPPORTUNITY: Invite the local TV weather person or meteorologist to speak to the class.

FIELD TRIP OPPORTUNITY: Local weather station and/or Doppler radar center; TV weather broadcast studio.

8th Grade

OUTCOME: Possesses a fundamental understanding of the ethical/legal issues surrounding the access and use of information

Civic Literacy

Financial Literacy

EXAMPLE: Students create an address database of 3 types of economic activities in their community (service, governmental, production, processing), map those addresses with virtual globe software such as ArcGIS Explorer, analyze the resulting geographic patterns, and assess where gaps exist for a new business or service not currently available in the community (e.g.: fast food outlet; recycling center; big box store).

EXAMPLE: Develop and present a report using digital information focusing on responsible civic land use in the community, such as parks, bicycle paths, walking trails, canoe/water trails.

EXAMPLE: Apply civic questions to the land use decisions and resolve them through discussion and debate, such as: Does this land use abide by zoning laws? Does the land use change traffic patterns and have unintended consequences? Is there an environmental impact on the site and adjacent land uses?

TECHNOLOGY USES: Digital images and maps from the web.

FIELD STUDY OPPORTUNITY OR INDIVIDUAL STUDENT PROJECT: Use digital images to locate and classify economic activities and land uses. Make civic judgments regarding the proposal for land uses within a community.

12th Grade

Media Literacy

GEOGRAPHY

- *Understanding how media messages are constructed, for what purposes and using which tools, characteristics and conventions*
- *Examining how individuals interpret messages differently, how values and points of view are included or excluded and how media can influence beliefs and behaviors*
- *Possessing a fundamental understanding of the ethical/legal issues surrounding the access and use of information*

4th Grade

OUTCOME: Understands how media messages are constructed, for what purposes, and uses tools, characteristics and conventions

Civic Literacy

EXAMPLE: Students use digital weather maps to explain that severe and changing daily and weekly weather patterns are important in making sound civic decisions about individual and group activities, such as sports, recreation , travel (e.g.: tornado watch, severe weather, frost advisories, travel delays, driving conditions, heat indexes, and wind advisories).

EXAMPLE: Students discuss the ways people respond to weather warnings.

EXAMPLE: Students use computer software and web pages to create an announcement that promotes the recycling of plastics and other materials in the local community, and the beneficial consequences for the local and global environment.

TECHNOLOGY USE: The Internet to review and analyze the civic importance of weather information; Computer software.

8th Grade

OUTCOME: Examines how individuals interpret messages differently and how values and points of view are included or excluded

EXAMPLE: Students read and analyze the positions on environmental issues taken by organizations and posted on the web (green groups, conservative environmental groups, property rights groups) to determine the issues on which there are major differences, where there may be some agreement, and where the issues addressed are based on different values relative to the natural environment.

EXAMPLE: Students develop a plan for implementing an environmentally-focused project in the local community such as protecting a local wetland or developing an urban greenway along a stream that uses digital mapping, data collection, land use analysis, economic development, population change, and other relevant variables.

TECHNOLOGY USE: World Wide Web.

SPEAKER OPPORTUNITY: Invite individuals representing environmental and non-environmental perspectives on the future of the local community to speak to the class.

th Grade

OUTCOME: Understands how media messages are constructed, for what purposes, and uses tools, characteristics and conventions

Financial Literacy

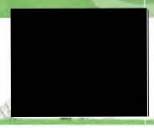
EXAMPLE: Students make an inventory of the way that geography content (landscapes, globes, maps, land uses, cultural depictions, etc.) are used as company logos, web sites, backdrops, screen savers, panoramas, etc. in the digital and print media and categorize them by media and content. Assess the appropriateness of the geography content used as a backdrop relative to the expectations (criteria) that people use for getting a person's attention.

EXAMPLE: Students develop criteria and compare their preferences for logos and backdrops in advertisements with those of others in their class to discover patterns about the uses of geography to set tone and emotional context in advertising. (i.e., auto commercials often use salt flats, energy commercials often show drilling rigs, bottled water often uses mountain settings, etc.).

TECHNOLOGY USE: World Wide Web and computer software; Digital and print advertising.

Media Literacy (continued)

GEOGRAPHY



4th Grade

OUTCOME: Examines how individuals interpret messages differently and how values and points of view are included or excluded

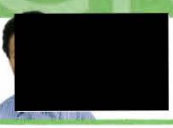
EXAMPLE: Students read geography content based literature about a topic written by different authors and compare and contrast the perspectives on the topic.

EXAMPLE: Students compare and contrast the influences of well-illustrated books compared to books with few illustrations of geography content or the inclusion of maps to analyze the ways that different values and points of view may be presented.

EXAMPLE: Students critically analyze books by cross checking information against other sources, such as the web, to determine accuracy and fairness in the presentation of geographic information.

SUPPORTING STRUCTURE: Content based literature for elementary grades; confer with librarian.

TECHNOLOGY USE: Use websites to search titles of age appropriate books on geography.



8th Grade

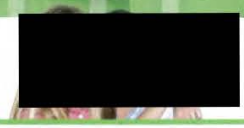
OUTCOME: Possesses a fundamental understanding of the ethical/legal issues surrounding the access and use of information

Financial Literacy

EXAMPLE: Students apply Geographic information Systems (GIS) technology using specific GIS software or digital maps on the web to play the role of a geography consultant. Using ethical and legal procedures, the consultant must select the location for a new youth center (or another appropriate activity) in the local community where they must consider distance, nearby land uses, nearby businesses, traffic patterns, population distribution and density, and available sites to arrive at their final site recommendations.

EXAMPLE: Students develop a plan for implementing an environmentally-focused project in the local community such as protecting a local wetland or developing an urban greenway along a stream that uses digital mapping, data collection, land use analysis, economic development, population change, and other relevant variables.

TECHNOLOGY USE: : Examples of applications of Geographic Information Systems (GIS) and their uses.



12th Grade

OUTCOME: Examines how individuals interpret messages differently and how values and points of view are included or excluded

Global Awareness

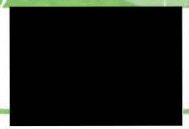
EXAMPLE: Students compare and contrast the ways to apply repeat photography and digital mapping to build a rationale for public and private decisions on community issues that result in long term environmental and economic advantages or disadvantages for citizens (e.g.: site and situation analysis for a public hearing to rezone land for a new use; spatial pattern of displacement of housing, businesses, streets in favor of a new land use activity).

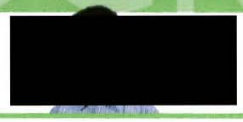
EXAMPLE: Students select examples of repeat imaging of the landscape and analyze digital imagery (aerial photographs) showing ethical practices of landscape restoration that provide sustainable benefits to society (e.g.: benefits of investment in reducing soil erosion; sustainable use of former environmental cleanup sites; socially constructed environments and land uses; urban restoration).

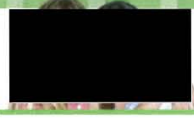
WORLD WIDE WEB: Search repeat photography topics for early and present images of landscapes to provide evidence of change, improved business practices, and entrepreneurial activities.

Media Literacy (continued)

GEOGRAPHY







4th Grade

8th Grade

OUTCOME: Possesses a fundamental understanding of the ethical/legal issues surrounding the access and use of information

Global Awareness

EXAMPLE: Students research the number of TV and radio programs and languages reported for a specific day or week for broadcasts within the United States by researching data from the World Wide Web (Federal Communications Commission Licensing, programming information) and map the information to present the diversity of language use globally and in the USA. (via www.mla.org/maps)

TECHNOLOGY USE: World Wide Web: Research language diversity in broadcast TV and radio by state using digital database development, digitally based mapping and graphing.

12th Grade

ICT Literacy

GEOGRAPHY

- *Using digital technology, communication tools and/or networks appropriately to access, manage, integrate, evaluate, and create information in order to function in a knowledge economy*
- *Using technology as a tool to research, organize, evaluate and communicate information, and understanding of the ethical/legal issues surrounding the access and use of information*

4th Grade

OUTCOME: Uses digital technology, communication tools and/or networks appropriately to access, manage, integrate, evaluate, and create information in order to function in a knowledge economy

EXAMPLE: Students compare and contrast aerial and ground photographs of their own community to identify and classify the changes that have occurred over time (e.g.: the size of the place in area; the land uses; types of buildings; number and locations of schools, churches, and retail stores) and prepare a digital graph or table that summarizes the changes. They then compare the changes in their own community to one other community in a different state and compare the similarities and differences.

EXAMPLE: Students conduct research and prepare a project booklet focusing on "our community and how it has changed" using digital sources and software to distribute the final product in electronic form on a website and/or in print.

TECHNOLOGY USE: Internet, historical image archives of maps, photographs, newspapers, special library collection, State library collection; community archivist, local librarian, state departments of natural resources, museums.

8th Grade

OUTCOME: Uses digital technology, communication tools and/or networks appropriately to access, manage, and integrate information in order to function in a knowledge economy

EXAMPLE: Students use digital population data for the United States to analyze the population distribution of the country in 1860 and 1870, copy and paste the data and organize it using a spreadsheet, rank the states from highest to lowest in population, develop quartiles (group states on population size into quarters), color code the quartiles on maps for each year, and use the maps to write a narrative describing the changes in population distribution before and after the Civil War.

TECHNOLOGY USE: Internet, archival sources of data such as the Census Bureau, http://fisher.lib.virginia.edu/collections/stats/histcensus/, the National Historical GIS (www.nhgis.org), and Social Explorer (www.socialexplorer.com).

OUTCOME: Uses technology as a tool to research, organize, evaluate and communicate information, and understands the ethical/legal issues surrounding the access and use of information.

EXAMPLE: Use the World Wide Web to locate health services (medical, dental, and mental health) in the local community (physicians, hospitals, immediate care clinics) and online local commercial yellow pages, so that two sources

12th Grade

OUTCOME: Uses digital technology, communication tools and/or networks appropriately to access information in order to function in a knowledge economy

EXAMPLE: Students use country digital databases from websites to analyze the relationships between Gross Domestic Product (GDP) and the percentage of the population engaged in agriculture for different regions of the world. The data may be categorized into quartiles and entered by category on digital maps to visualize the spatial patterns between the variables. Recommendations regarding the role of agriculture in the improvement of the GDP may be discussed and economic alternatives proposed based on the comparisons of the data. Alternatives for the improvement of GDP may be discussed further through networks of students both in the United States and in the region or country being studied. Students will reflect upon the impact of proposed changes on the social and cultural fabric of the region.

TECHNOLOGY USE: Web: Worldmapper (www.worldmapper.org) , Nation Master (www.nationmaster.com), United Nations economic information data bases; http://unstats.un.org/unsd/demographic/products/socind/inc-eco.htm and http://www.nationmaster.com/graph/lab_emp_agn_agr_of_tot_emp-labor-employment-agriculture-total.

ICT Literacy (continued)

GEOGRAPHY

[redacted]

4th Grade

8th Grade

have been used to ensure the integrity of the data. Map the locations of health services using a web based digital map (or in 3D using ArcGIS Explorer or Google Earth) to display the spatial patterns of health services. Analyze the spatial pattern of health services to determine if any geographic areas or ethnic groups in the local community are underserved.

TECHNOLOGY USE: World Wide Web, Online Yellow Pages (such as www.dexknows.com); GIS software.

OUTCOME: Uses networks appropriately to access, manage, integrate, evaluate, and create information in order to function in a knowledge economy.

Civic Literacy

EXAMPLE: Students network with another school or other students in the same political jurisdiction to plan citizen awareness and action activities in support of a particular issue that will be determined in a future election, such as an educational bond election, state appropriation for education, gender equality in sports, length of the school year, and continuation of community youth programs. Use is made of the Internet, World Wide Web, cellular telephones, digital communications, and blogging to develop a systematic plan with goals, a strategy, and future steps.

TECHNOLOGY USE: Web networking, including blogging and organizing groups to support issues of importance.

12th Grade

OUTCOME: Uses digital technology, communication tools and/or networks appropriately to access, manage, integrate, evaluate, and create information in order to function in a knowledge economy

EXAMPLE: Students use data and maps prepared in a geographic information system to compare and analyze alternative land use proposals and communicate conclusions using tools such as advanced multimedia applications and video technologies.

EXAMPLE: Students identify and locate on digital maps the sites of webcams that provide information about patterns of interaction among people and environmental monitoring. They analyze the types of geographical information presented and construct a recording and observation plan to digitally collect and map remotely sensed information (the daily and weekly commuting patterns in a large city; the environmental changes over several months in a wildlife preserve; the observable weather patterns from geographically varied locations such as mountains, plains, and coastlines; incubation and growth of bald eagles and other species). Information observed is categorized, processed and presented in digital and image formats on class and school Web pages as posters and projects.

TECHNOLOGY USE: Web cams, digital maps, and information retrieval.

ICT Literacy (continued)

GEOGRAPHY

[redacted]

4th Grade

[redacted]

8th Grade

OUTCOME: Uses technology as a tool to research, organize, evaluate and communicate information, and understands the ethical/ legal issues surrounding the access and use of information

EXAMPLE: Students access information on the World Wide Web regarding an environmental issue that is the cause for different positions and perspectives by different groups (e.g., global climate change; energy sources; non-governmental organizations' position on issues; prominent individuals' positions on issues). The students identify the positions of each group or person and then compare and contrast the positions on the issue, considering the special interests that a particular group may represent by researching the public information available through web database sources. Declarations of intent and affiliation are a legal and ethical responsibility of groups and individuals that students evaluate.

TECHNOLOGY USE: Interpreting and judging information from the World Wide Web: validating and verifying the geographic validity of positions taken by different groups on an environmental issue.

[redacted]

12th Grade

OUTCOME: Uses technology as a tool to organize and communicate information, and demonstrates understanding of the ethical/ legal issues surrounding the access and use of information

EXAMPLE: Students organize an electronic forum that includes a network of students in other communities to evaluate the humanitarian response to a natural disaster or conflict. They apply ethical standards in the collection of information regarding the geographical context of the event and the people involved and validate the digital data by cross referencing sources. Digital maps and images and on-site information accessible through electronic contacts with relief agencies and individuals are used to ascertain the practical and legal aspects for providing assistance to people affected by the event.

Civic Literacy

TECHNOLOGY USE: World Wide Web geographical data, digital news reports, scientific information regarding natural events and news releases regarding conflict; web sites for relief agencies.

LIFE AND CAREER SKILLS

Flexibility & Adaptability

GEOGRAPHY

- *Adapting to varied roles and responsibilities*
- *Working effectively in a climate of ambiguity and changing priorities*

4th Grade

OUTCOME: Adapts to varied roles and responsibilities

EXAMPLE: While preparing a group presentation about what makes the geography of their local community unique, students decide what data need to be collected, discussing the roles needed to carry out their assignment, identifying the skills needed, and discussing among themselves how to best match their talents and learning styles to the needed skill sets.

FIELD TRIP OPPORTUNITY:
Local Community.

INSTRUCTIONAL OPPORTUNITY:
Combine students of various learning styles and strengths in multiple intelligences in each group.

OUTCOME: Works effectively with changing priorities

EXAMPLE: Students use online historical and contemporary maps and aerial photographs to document how land use, transportation, and urbanization have changed over time, and what it might look like in the future. They will examine how the priorities of what one group wants the future of the community to be might be different from the priorities of another group (i.e. one group might want the community to remain rural, while another group might want the community to become a bedroom community for an adjacent metropolitan area).

8th Grade

OUTCOME: Works effectively in a climate of ambiguity

Civic Literacy

EXAMPLE: When comparing demographics of U.S. cities and states, students gather and critically analyze information from a variety of sources and understand (and "tolerate") how and why data may not be consistent, e.g., from two different sources, the population of Los Angeles may vary from 3.5 million (within city limits) to nearly 10 million (metro area).

12th Grade

OUTCOME: Works effectively in a climate of ambiguity

Global Awareness

Civic Literacy

EXAMPLE: Students use blogs to engage in dialogue about an issue of importance to them, such as sustainability efforts at a local university campus, health problems in their local community (such as asthma or diabetes), or immigration policies in their state, demonstrating understanding, tolerance, and respect for the points of view of others.

TECHNOLOGY USE: Online bulletin boards.

Flexibility & Adaptability (continued)

GEOGRAPHY

4th Grade

TECHNOLOGY USE: Investigating online maps hosted by historical societies, local governments, university map libraries, and commercial sources (such as http://historical.maptech.com).

8th Grade

12th Grade

LIFE AND CAREER SKILLS

Initiative & Self-Direction

GEOGRAPHY

- *Monitoring one's own understanding and learning needs*
- *Going beyond basic mastery of skills and/ or curriculum to explore and expand one's own learning and opportunities to gain expertise*
- *Demonstrating initiative to advance skill levels towards a professional level*
- *Defining, prioritizing and completing tasks without direct oversight*
- *Utilizing time efficent efficiently and managing workload*
- *Demonstrating commitment to learning as a lifelong process*

4th Grade

OUTCOME: Monitors one's own understanding and learning needs

EXAMPLE: As a result of a mapping skills unit, students create an age-appropriate electronic portfolio of maps that describe their local community, and write a reflective essay explaining how selected portfolio pieces indicate what they have learned about specific topics related to their community's history, landforms, climate, people, government, and vegetation, and also the topics that they would like to learn more about in the coming years.

OUTCOME: Explores and expands one's own learning and opportunities to gain expertise

EXAMPLE: After examining online weather reports and satellite imagery, students use latitude and longitude data to track the movement of common weather fronts over a week's time period across the continental USA, and use ArcExplorer or other GIS (Geographic Information System) to map the latitude-longitude data that they have gathered.

8th Grade

OUTCOME: Monitors one's own understanding and learning needs

EXAMPLE: As a result of studying a historic event, students create an age-appropriate electronic portfolio of historic maps and other geographic perspectives related to the historic event and write a reflective essay explaining how selected portfolio pieces describe how what they have learned historically is related to the geography of the region. The essay needs to include a reflection on the new skills and knowledge the student acquired in the process, the additional skills and knowledge they would like to explore further, and the resources that they might use to acquire those skills.

TECHNOLOGY USE: Electronic portfolio.

OUTCOME: Demonstrates initiative to advance skill levels towards a professional level

EXAMPLE: Students use time sequence of remotely-sensed satellite images to identify changes in the forests of Colorado over time, identifying areas infested with pine beetles. They should interview one U.S. Forest Ranger using remote Internet and a computer camera to survey the forests that they identify as most severely impacted, discovering what skills and resources the forest rangers gain and use to help mitigate these invasive beetles.

PROFESSIONAL DEVELOPMENT FOR TEACHERS: How to access and read remotely-sensed images.

12th Grade

OUTCOME: Monitors one's own understanding and learning needs

EXAMPLE: Using a GIS (Geographic Information System), students prepare maps using different classification methods of a single phenomenon (such as the percent of school-age population by county in the USA, or the percent of agricultural land by county in the USA), including equal area, natural breaks, standard deviation, quantile, and manual. In conjunction with readings from the book How To Lie With Maps, reflect how different classification methods affect how that phenomenon is understood. Reflect on how the data as shown by the histogram affects how those data are shown on maps. Reflect further how maps are powerful phenomena that can purposely or inadvertently mislead or inform different audiences. Reflect on the skills and knowledge they have gained in creating these different maps, and what areas they see as important to how they will critically examine maps in the future, especially post high school.

TECHNOLOGY USE: Electronic portfolio.

Initiative & Self-Direction (continued)

GEOGRAPHY

4th Grade

OUTCOME: Utilizes time efficiently and manages workload

EXAMPLE: On a weekly basis, students draw a map of the USA, gradually constructing a map portfolio, including one new layer each week, with the goal that the final portfolio of maps include the following items; landforms, climate, vegetation, population, ethnicity, agriculture, and median age. These 7 layers need to be planned and constructed as the units are introduced and turned in at the end of each 2 week period during the semester.

8th Grade

OUTCOME: Demonstrates commitment to learning as a lifelong process

EXAMPLE: Students examine the magnitude of the stars each evening for two weeks, (1) assessing the amount of light pollution in their community, (2) comparing their community to the amount of light pollution in other communities using the Globe at Night project, and (3) comparing the magnitude as affected by the phases of the moon. They make predictions as to how the community's light pollution compares to other communities and how the magnitude will be affected by the last two weeks of the lunar phase cycle.

TECHNOLOGY USE: Online resources.

OUTCOME: Utilizes time efficiently and manages workload

EXAMPLE: On a quarterly basis, students examine phonological (cyclical seasonal patterns) data and remotely sensed imagery of the advance and contraction of the "greenness index", which shows the greening up of deciduous vegetation across North America as the seasons change. They predict and assess why and how the seasons affect the changes in vegetation, and why the vegetation does not change uniformly with latitude across the USA. Rather, vegetation is affected by precipitation, the ecoregion, and the elevation. They must plan their work so that they can conduct this assessment on a quarterly basis as close to the equinoxes and solstices as possible.

12th Grade

OUTCOME: Demonstrates initiative to advance skill levels towards a professional level

EXAMPLE: Students interview local health officials, and/or interact with experts at a distance to understand how health agencies collect appropriate data. Students then access publicly available data in map and tabular form from the Center for Disease Control, use a GIS (Geographic Information System) to monitor the spread of disease within a region, and reflect upon (1) how maps are similar and different from tables, and (2) how CDC officials use data in map and tabular form.

Health Literacy

TECHNOLOGY USE: GIS.

OUTCOME: Defines, prioritizes, and completes tasks without direct oversight

EXAMPLE: To test the law of retail gravitation (i.e., the number of visits a resident makes to competing shopping centers is inversely proportional to the distances between residence and center and proportional to the size of the center), students work in small groups to conduct a community survey of a retail area's "retail gravity" on a non-school attendance day. Students develop a project plan, assign roles and timelines, and develop a rubric for their work with minimal guidance from their teacher.

LIFE AND CAREER SKILLS

Social & Cross-Cultural Skills

GEOGRAPHY

- *Working appropriately and productively with others*
- *Leveraging the collective intelligence of groups when appropriate*
- *Bridging cultural differences and using differing perspectives to increase innovation and the quality of work*

4th Grade

OUTCOME: Works appropriately and productively with others

EXAMPLE: Students divide themselves into teams to prepare a class news report exploring a key economic issue facing a particular world region, such as regulating the lion population while trying to raise cattle in Kenya. Students determine who will do which type of research, who will do the presenting, who will film the presentation, who will show the final presentation video to the class, and how they will collect feedback from the rest of the class via a class survey.

Based on an actual issue, as reported on Sixty Minutes *(March 29, 2009).*

OUTCOME: Leverages the collective intelligence of groups when appropriate

EXAMPLE: Students in the class role-play citizens in a town meeting where members of the community express different points of view about a local issue, such as the location of a new school, building a bypass for traffic, or a re-zoning of downtown to be "pedestrian only" without vehicles, etc. They decide which roles are needed, who will play each role, what information is required to understand the viewpoint of each role, and how that role will be presented to the rest of the class.

8th Grade

OUTCOME: Works appropriately and productively with others

Civic Literacy

EXAMPLE: Students work on a team to investigate the major types of natural hazards present in their community. Using a GIS (Geographic Information System) and selecting one of these hazards, they prepare appropriate maps and a community response plan in the event of a natural disaster in the chosen hazard. After presenting their findings to the class and hearing the hazards chosen by the other groups, they discuss how their hazard response plan is similar to and different from those plans developed with other hazards as their main focus. They consider the types of hazards present in other communities in other parts of the USA and in other parts of the world.

TECHNOLOGY USE: GIS.

OUTCOME: Bridges cultural differences and uses differing perspectives to increase innovation and the quality of work

EXAMPLE: Students write a dialogue between different people who use water resources in a region, including a farmer/rancher, a manufacturer, a parent concerned about pesticide runoff, and an owner of 20 car washes in the region. Students reflect on the common concerns of these 4 groups, and the differences between these 4 groups of people. What common themes could bring these groups together to form a community water board?

12th Grade

OUTCOME: Works appropriately and productively with others

Civic Literacy

EXAMPLE: Students work on a team to prepare a multimedia presentation on one toxic and hazardous material, discussing how it affects the local community, how it affects the global community, why it is created and used, and how it is handled, moved, processed, and stored at a local and a global scale. The materials could be those used in dry cleaning, in gas stations, in power plants, in university biology labs, and in other common settings. They will use OSHA's resources to determine the chemical's toxicity. They will prepare their report for the EPA and present it to their peers in class. Their peers in class act as EPA representatives, and prepare questions that the presenter must answer about their chosen material.

TECHNOLOGY USE: Multimedia presentation.

OUTCOME: Bridges cultural differences and uses differing perspectives to increase innovation and the quality of work

Global Awareness

EXAMPLE: Students create a website with guidelines and information for humanitarian aid workers to assist them with the transition to living in the chosen different culture other than the USA.

TECHNOLOGY USE: Internet, Digital libraries.

Social & Cross-Cultural Skills (continued)

GEOGRAPHY

[redacted]

4th Grade

OUTCOME: Bridges cultural differences

EXAMPLE: As students study countries around the world, they list the predominant language spoken; at the end of the school year, students tabulate and map major languages. Students discuss how physical and cultural geography (including electronic communication) has shaped the origin and spread of language groups of the world, and what the world language map might look like 100 years from the present.

Global Awareness

GUEST SPEAKER OPPORTUNITY: Invite speakers of other languages to speak about the language and culture of their country, helping students learn numbers (or colors, months, names of countries, etc.) in the guest speaker's language.

ENGLISH AS SECOND LANGUAGE STUDENTS: Have students share their native language and discuss what it is like to be bilingual.

8th Grade

OUTCOME: Bridges cultural differences and uses differing perspectives to increase innovation and the quality of work

EXAMPLE: Students conduct research on a native culture of North America, and one of South America, investigating why motifs, artwork, and materials were similar and were different, and how the artwork represented the culture. They create a multimedia report showing their findings and present these findings to their class. They work in the school's art classroom to create one object (sculpture, painting, wood carving, etc) that reflects one of their two chosen cultures.

FIELD TRIP OPPORTUNITY: Visit an art or anthropological museum to see authentic artistic representations of past cultures.

12th Grade

[redacted]

Productivity & Accountability

GEOGRAPHY

- *Setting and meeting high standards and goals for delivering quality work on time*
- *Demonstrating diligence and a positive work ethic (e.g., being punctual and reliable)*

4th Grade

OUTCOME: Sets and meets high standards and goals for delivering quality work on time

EXAMPLE: Students develop and execute a plan to gather data about the height, girth, species, and health of all trees in a specified geographic area—on their school campus, or in a local park. First, they conduct research as to the aesthetic, environmental, and property value of urban trees, and how communities use and value tree inventories. They then use GPS hand held receivers in small groups to record the location of the trees and create a spreadsheet with the tree data that they will map using a GIS (Geographic Information System). They will assess the pattern that they see as a result of mapping their data, and create a tree management plan for their campus or park to ensure that tree cover will increase in the future. They will share this database with school groundskeepers, community foresters, and other municipal managers at a scheduled board meeting.

TECHNOLOGY USE: GPS, GIS.

8th Grade

OUTCOME: Sets and meets high standards and goals for delivering quality work on time

EXAMPLE: Students actively participate in international investigation projects, such as GLOBE, in which student participants are held responsible for the quality of the data they submit. The data could range from pH of soil on their school grounds to daily readings of temperature and precipitation over a month's time period.

TECHNOLOGY USE: Internet.

OUTCOME: Demonstrates diligence and a positive work ethic

EXAMPLE: Students initiate and carry out a long-term community-mapping project whereby students, in collaboration with a community partner, use spatial locations instruments such as GPS units, schedule meetings, and manage timelines and deliverables to create a product for use in the community. The community partner could be a librarian, city planning official, or community board member. The product created could be an assessment of the city's attempts to develop greenways along its major rivers, the city's attempts to create bikeways along specific thoroughfares, or the city's attempts to plant low-water plants at its public building grounds.

Civic Literacy

TECHNOLOGY USE: GPS, GIS.

12th Grade

OUTCOME: Sets and meets high standards and goals for delivering quality work on time

EXAMPLE: Students create a high-quality set of digital maps, including data that the students have gathered in the local community, to submit to an agency outside the classroom, e.g., for a national contest (such as the ESRI Community Mapping program), the local newspaper, or for a community member's presentation to the city council. The topic could be the conversion of abandoned big box stores to community uses, the creation of a bike trail along an abandoned railway line, or another project aligned with the themes of geography such as movement or human-environment interaction.

TECHNOLOGY USE: Digital Map.

EXAMPLE: Students gather, map, and analyze data from police records, e.g., crime, accident, or graffiti, and overlay other variables to detect and interpret any spatial and temporal patterns, and share results with the community at a local meeting. Students must geocode the addresses of the police records to the correct location, and reflect on the quality and completeness of the data received from the police department. They make recommendations as to how the crime or accident analyzed could be mitigated, and how the geographic perspective aids in understanding the phenomenon.

Civic Literacy

Productivity & Accountability (continued)

GEOGRAPHY

[redacted]

4th Grade

OUTCOME: Demonstrates diligence and a positive work ethic

Global Awareness

EXAMPLE: Students read a series of fiction books/short stories about other cultures according to an assigned schedule. They then discuss their impressions and conclusions via email/Facebook/Skype with students in other cities and countries about the same reading. They develop chat rooms and networks and make commitments to other students in other locations to analyze the presentation of other groups within literature.

TECHNOLOGY USE: Email, Facebook, Skype.

8th Grade

12th Grade

LIFE AND CAREER SKILLS

Leadership & Responsibility

GEOGRAPHY

- *Using interpersonal and problem-solving skills to influence and guide others toward a goal*
- *Leveraging strengths of others to accomplish a common goal*
- *Demonstrating integrity and ethical behavior*
- *Acting responsibly with the interests of the larger community in mind*

4th Grade

OUTCOME: Leverages strengths of others to accomplish a common goal

Civic Literacy

EXAMPLE: After gathering data from reliable Internet and traditional sources to describe and assess the impact of litter in the community, students design and implement a community service project, (e.g., brochure, posters, etc.), to raise awareness of this issue. They also reflect on the accuracy of the data sources that they analyzed.

OUTCOME: Demonstrates integrity and ethical behavior

Global Awareness

EXAMPLE: While studying countries around the world, students establish ongoing communication with students from other countries (via letters, email, or electronic bulletin boards) to learn about how cultures are the same and different, (e.g., language, clothing, music, activities, etc.). They will begin the communication with generative questions such as "Where do your clothes come from? Where does your food come from? What activities do you engage in after school?", etc. They write reports to summarize their findings and discuss the similarities and differences.

TECHNOLOGY USE: Email, Electronic bulletin board.

8th Grade

OUTCOME: Demonstrates integrity and ethical behavior

Global Awareness

EXAMPLE: After reading fiction and non-fiction novels about contemporary young refugees in various situations around the world, students participate in simulation or role-playing activities in which they grapple with the ethics of complex issues, such as the refugee crisis in Sudan or elsewhere.

12th Grade

OUTCOME: Uses interpersonal and problem-solving skills to influence and guide others toward a goal

Civic Literacy

EXAMPLE: Working in groups, students develop a strategy to substitute alternative sustainable activities for present economic activities in regions of significant resource depletion, e.g., fisheries off of the Grand Banks of Canada, logging in the Pacific Northwest, or extensive irrigation practices in desert climates of Uzbekistan or Arizona. They share their results with local officials or with local media.

OUTCOME: Demonstrates integrity and ethical behavior

EXAMPLE: While studying contemporary political and economic alliances, students explain how these affect the traditional cohesiveness of world cultures and discuss ethical issues associated with the loss of diverse cultures. They apply what they have learned globally to conduct an in-depth study of how one culture is grappling with globalization, and they demonstrate their understanding with a multimedia presentation (using Windows Movie Maker or iMovie) of the implications that this has for other cultures.

Leadership & Responsibility (continued)

GEOGRAPHY

[redacted]

4th Grade

OUTCOME: Acts responsibly with the interests of the larger community in mind

EXAMPLE: Students propose and discuss specific actions that can help alleviate an environmental problem or relevant community issue and the likely consequences of such actions, e.g., recycling, biking to school, reducing consumption, buying local products, etc. They conduct research as to how a citizen proposal to the city council needs to be formatted, and use that format to create their recommendations. They record a video of themselves making their recommendations to the council, and send the video to the council before the council's next meeting.

8th Grade

[redacted]

12th Grade

[redacted]

LEARNING AND INNOVATION

Creativity & Innovation

GEOGRAPHY

- *Demonstrating originality and inventiveness in work*
- *Developing, implementing, and communicating new ideas to others*
- *Being open and responsive to new and diverse perspectives*
- *Acting on creative ideas to make a tangible and useful contribution to the domain in which the innovation occurs*

4th Grade

OUTCOME: Demonstrate originality and inventiveness in work

Global Awareness

EXAMPLE: After studying ecosystems, endangered species, and specific needs of different animal species (climate, food, location), students design a zoo habitat for a polar bear (or other species) exhibit that ensures the animal's needs.

FIELD TRIP OPPORTUNITY: Visit a local zoo.

EXAMPLE: While visiting a local zoo, students evaluate the appropriateness of the zoo habitat for the species studied.

EXAMPLE: After reading 4th grade appropriate literature, students create a map of the location(s) featured in the literature and present their map to the class.

OUTCOME: Develop and communicate new ideas to others

Civic Literacy

Financial Literacy

EXAMPLE: Use aerial photos to identify the locations and patterns of economic activities in their community (factories, stores, office buildings, housing developments, malls, interstates, hospitals, farms, etc. Students work in groups to create a poster, multimedia presentation, or website showing possible locations for economic growth in the future,

8th Grade

OUTCOME: Demonstrate originality and inventiveness in work

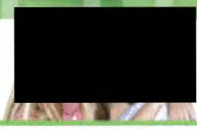
EXAMPLE: Study the different types of regions (formal, functional, perceptual). Have students, working in groups, select a professional team and do research on the region of fans that support the specific team. Students can generate ideas of what criteria might help to define the functional region of a fan support area around that team, create a map depicting the fan region, and hypothesize how the delineated "fan region" influences the sale of team items, ticket sales, marketing, player appearances, etc.

SUPPORTING STRUCTURE: A functional region is a region defined by a node and a set of activities or interactions which occur within the region. A functional region of a sports team would be defined by the area surrounding the node (home city of team or in cities with more than one professional team, the actual stadium site) from which a significant number of fans reside.

OUTCOME: Develop and communicate new ideas to others

Civic Literacy

EXAMPLE: Students create population maps of their home area (by census tract) using the U.S. Census Factfinder web mapping service. Students can select from various data sets (median age of population, population density, etc.) in order to determine population change in their home community over several decades. Students develop



12th Grade

OUTCOME: Demonstrate originality and inventiveness in work

EXAMPLE: In groups, students research different cities making bids to host the upcoming Olympics (or use a set of teacher- selected world cities). Using available maps and data on the internet, students make the case for why their city should be chosen to host the next Olympics. These arguments should include a presentation about needed venues, language requirements of visitors, and transportation needs. A class simulation might also include a International Olympic Committee panel of students or teachers which would "judge" and decide which group made the most convincing case.

EXAMPLE: Students could compare their research and presentation with a recent U.S. or world city which hosted the Olympics.

TECHNOLOGY USE: Google Earth, ArcExplorer Java Edition (ESRI)-free GIS software for schools, Terra Server, GIS.

OUTCOME: Develop and communicate new ideas to others

Global Awareness

EXAMPLE: Students prepare a panel discussion focusing on use of renewable and non-renewable energy resources. The panel presentation should express various points of view about energy resources (from local biofuels, wind energy plants, to global resources). Students could present the panel discussion at the public library for the general public or at a special school event.

Creativity & Innovation (continued)

GEOGRAPHY

4th Grade

such as where a new movie theater might be built, where a new skate park might be located, or where a new school may be needed.

RELEVANT RESOURCES: TerraServer is an online provider of high resolution air photos, satellite images, and USGS topographic maps. Downloads are free. Individuals can locate their community, zoom to images, and identify different features on the high resolution air photos.

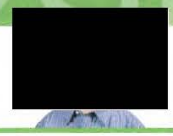
LEARNING ENVIRONMENTS:
Local community.

OUTCOME: Be responsive to new and diverse perspectives

EXAMPLE: After reading and discussing a book with various perspectives of Earth, such as Zoom by Istvan Banyai, Looking Down by Steve Jenkins, or My Map Book by Sara Fanelli, and learning how scale impacts what we see and can learn about a particular place, students create their own map book, showing their state, city, neighborhood, house, and a favorite room in the house.

RELEVANT RESOURCES: Any maps of state and local region.

TECHNOLOGY USE: Google Earth, ArcExplorer Java Edition (ESRI)-free GIS software for schools, Terra Server.



8th Grade

a summary of change in their community over several decades and create a report for their local school board, county commissioners, or local newspaper in which the students communicate how these population changes may affect the needs of their community.

TECHNOLOGY USE:
http://factfinder.census.gov/

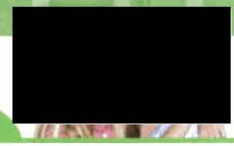
LEARNING ENVIRONMENTS:
Local community.

OUTCOME: Respond to new and diverse perspectives

EXAMPLE: Students use the Internet to locate and download regional and global data about teenage purchase of recorded music, comparing local download statistics to those of at least one other region or country. Students are encouraged to investigate the validity of the data they find, and note any biases in the presentation of the data. Working in teams, students prepare graphs comparing these data sets for a multimedia presentation to the class.

EXAMPLE: Students listen to a popular music download from another region and write a journal entry comparing and contrasting that popular music to their own favorites. These journal entries may be posted to a class website, shared with other classes, or within their own class.

TECHNOLOGY USE: Internet.



12th Grade

OUTCOME: Respond to new and diverse perspectives

Civic Literacy

EXAMPLE: To assess people's attitudes, perceptions, and responses toward a natural hazard in the local community (i.e., flooding, tornado, hurricane, earthquake), students design questions and conduct interviews with local experts, community leaders, and residents. With the findings that emerge (previous experience, socioeconomic status, distance from an actual event, etc.), students create a poster, multimedia presentation, website, brochure or wiki to explain the varied responses of interviewees.

LEARNING ENVIRONMENTS:
Local community.

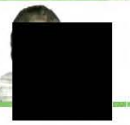
OUTCOME: Act on a creative idea and make a useful contribution

EXAMPLE: Students use a GIS (Geographic Information System) to analyze information on soil, hydrology, and other factors in order to choose the best site for a sanitary landfill in an urban region, and prepare an informational video to present findings.

TECHNOLOGY USE: GPS, GIS, Google Earth.

Creativity & Innovation (continued)

GEOGRAPHY



4th Grade

OUTCOME: Act on a creative idea and make a useful contribution

EXAMPLE: After studying the home cultures of immigrants in their community, students brainstorm ways to make new immigrants feel welcome to their community. Additionally, students research common questions of new immigrants in their community and create welcome brochures to be distributed at grocery stores, schools, churches as well as other appropriate locations to serve as a bridge for new immigrants to their new culture.

Global Awareness

8th Grade

OUTCOME: Act on a creative idea and make a useful contribution

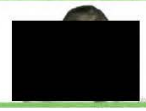
EXAMPLE: Using a GPS (or download a Google Map image to ArcExplore Java Edition AEJEE), students create a map of the different types of vegetation on the school property (or in a local park). Students research to identify species, noting the health of plants, and determine whether plants are native species. Students use these findings to prepare recommendations to the School Board (or Park authorities) about diversifying plant species, developing a native species trail/garden, or creating a local arboretum to use in science classes.

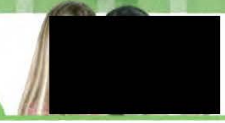
TECHNOLOGY USE: ArcExplorer Java Edition (ESRI)-free GIS software for schools, GPS.

12th Grade

Critical Thinking & Problem Solving

GEOGRAPHY





- *Exercising sound reasoning in understanding*
- *Making complex choices and decisions*
- *Understanding the interconnections among systems*
- *Identifying and asking significant questions that clarify various points of view and lead to better solutions*
- *Framing, analyzing and synthesizing information in order to solve problems and answer questions*

4th Grade

OUTCOME: Exercises sound reasoning in understanding

EXAMPLE: Organize student groups to represent various local interest groups such as retailers, little league teams, farmers/local gardeners, or realtors. Each group collects data about the weather on a daily and seasonal basis from newspapers, the Internet, and TV. Groups present their finding to each other and create a multi-faceted portrait of how climate affects their community.

OUTCOME: Understands the interconnections among systems

EXAMPLE: Students use an internet resource for calculating their own and their family's carbon footprint (example; http://www.nature.org/initiatives/climatechange/calculator/). Students then compile their results for the collective carbon footprint of their class. Students work in groups to determine different methods for reducing their carbon footprint. Results could be presented in wiki format and shared with other classes or as a poster in the school lobby, or as a news item in the school newsletter.

8th Grade

OUTCOME: Exercises sound reasoning in understanding

EXAMPLE: Students are assigned to groups to research information about a specific state park in their state (different amenities at each park, campsites available, recreation opportunities, etc.) along with data about population in the state. Groups develop a case study to advocate for additional amenities at their specific state park using documentation such as maps, examples from other parks in other states, etc.

TECHNOLOGY USE: GIS.

OUTCOME: Makes complex choices and decisions

EXAMPLE: Students develop plans to improve environmental quality in their community. Groups propose different alternatives such as: new recycling centers, adopt a road/highway projects, developing green spaces, planting trees, etc. As a class, students discuss the costs/benefits of the different alternatives and decide which plan is "best" for improving environmental quality in their community.

12th Grade

OUTCOME: Exercises sound reasoning in understanding

EXAMPLE: Using the Internet and digital libraries, students identify alternative sustainable economic activities in regions of significant resource depletion. These investigations could examine depletion of forested regions in Africa or South Asia due to the heavy use of wood for heating and cooking, declining water resources in the western U.S. and Great Plains, water resources around the Aral Sea, or coal in regions in Appalachia in the U.S.

TECHNOLOGY USE: Internet.

OUTCOME: Understands the interconnections among systems

EXAMPLE: Students examine the interconnections between locations in the world by investigating the commodity chain of one product they frequently use. A student might investigate the different parts that go into making a baseball, their favorite candy bar, a designer purse, or even their sneakers. Most of this information can be researched on the Internet. Students create a map of the world documenting the locations of the different components of their product and how those components come together to form a commodity chain.

TECHNOLOGY USE: GIS.

Critical Thinking & Problem Solving (continued)

GEOGRAPHY

4th Grade

OUTCOME: Identifies and asks significant questions that clarify various points of view and lead to better solutions.

Global Awareness

EXAMPLE: Students begin by analyzing world population density maps from different periods in history. Prompt student questions about these different patterns and what population density means and how they might feel it personally. (Density can be quickly replicated in the classroom space using number of students per square foot so that students are able to visualize the importance of density). Students can then use current growth rates to calculate population change for specifically identified countries (or regions) in the world. Using these data, students can hypothesize what influences these population change numbers might cause in the different countries or regions.

OUTCOME: Frames, analyzes and synthesizes information in order to solve problems and answer questions

EXAMPLE: Students use data on agricultural production by state, population density maps, climate maps and data on land acreage in cropland to describe relationships between population, climate, and agricultural production in the U.S. Students, in groups, could research one major U.S. agricultural product and make connections to their own lives and typical foods that they consume.

8th Grade

OUTCOME: Understands the interconnections among systems

EXAMPLE: Using digital libraries for data, students research the delivery of primary education in various world cities; small groups can research one city. (The teacher should select cites in more developed regions, developing regions, and in countries with various types of political/economic systems.) Students share their findings and examine the relationships between development, type of political system, influence of religion, etc. on the delivery of primary level education in different parts of the world.

TECHNOLOGY USE: Internet, Digital Spreadsheet.

OUTCOME: Identifies and asks significant questions that clarify various points of view and lead to better solutions

EXAMPLE: Students identify historic and contemporary migrant groups in their area, and brainstorm questions they would ask to determine why migration occurs and what patterns it takes, based on various scenarios (war, famine, etc.). Students form teams to investigate changes that occur as people migrate to a new region (change to both the migrating group and to the region to which they migrate), then present their findings to the class.

12th Grade

OUTCOME: Identifies and asks significant questions that clarify various points of view and lead to better solutions

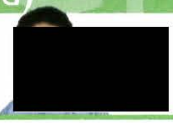
EXAMPLE: To explore and analyze environmental land use changes in a given region, students compare maps, aerial photographs and remotely-sensed images from different historic periods. Students use internet resources from TerraServer, USGS, and the Cartographic Division of the Library of Congress, to compare land use in a particular community or state over time. Students develop questions that should have been asked before the changes in environmental land use occurred and then seek answers to those questions post-development. For example: students could examine the area around Orlando, Florida before 1960 and in 2000 to determine the land use changes which have occurred due to population growth, recreational land development, etc. Students create a "before" and "after" documentary, depicting the costs and the benefits of the land use change they examined.

TECHNOLOGY USE: Remote Sensing.

Critical Thinking & Problem Solving (continued)

GEOGRAPHY

4th Grade



8th Grade

OUTCOME: Frames, analyzes and synthesizes information in order to solve problems and answer questions

EXAMPLE: Using a GIS, students create maps to determine the best location for a new retail or service shop in their community (i.e. a new bicycle shop, bookstore, coffee shop). Before beginning the GIS, students should develop criteria (for the layers of data of the GIS) that will support the new location.

TECHNOLOGY USE: GIS.

8th Grade

OUTCOME: Frames, analyzes and synthesizes information in order to solve problems and answer questions

EXAMPLE: Students use remotely sensed images along with thematic maps to determine the consequences of building homes in environmentally hazardous areas, such as in flood plains or along faults. An excellent case study would be New Orleans. Students create editorial cartoons depicting various solutions to development in environmentally hazardous areas.

TECHNOLOGY USE: Remote Sensing.

LEARNING AND INNOVATION

Communication & Collaboration

GEOGRAPHY

- *Articulating thoughts and ideas clearly and effectively through speaking and writing*
- *Demonstrating the ability to work effectively with diverse teams*
- *Exercising flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal*
- *Assuming shared responsibility for collaborative work*

4th Grade

OUTCOME: Articulates thoughts and ideas clearly and effectively through speaking and writing

EXAMPLE: After studying the history of a Native American group, students present an oral report accompanied by maps and drawings and information about how geography affected the group (climate related to shelters and food options, landscape/environment related to alliances and protection, etc.).

FIELD TRIP OPPORTUNITY: Visit a museum with Native American exhibitions and/or consult web resources on Native Americans (Smithsonian, e.g.).

OUTCOME: Exercises flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal

EXAMPLE: Using the Internet and other resources, students develop a class wiki to compare the daily life of a student in another culture/country with their own. Students focus their wiki on depicting the geography (physical and cultural), using pictures, diagrams, maps.

TECHNOLOGY USE: Internet.

8th Grade

OUTCOME: Articulates thoughts and ideas clearly and effectively through speaking and writing

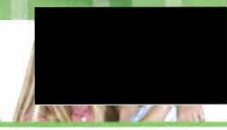
EXAMPLE: Student groups, adopting various perspectives, research a recent world/local event (hurricane, volcanic eruption, flood, war, famine, mass migration, earthquake, etc.). These various perspectives could be as an environmentalist, a politician, a relief worker from the U.N., a local journalist, etc. Students create a slideshow of the event from their unique perspective to the rest of the class. Students journal at the conclusion to synthesize how various perspectives can influence understanding of an event.

TECHNOLOGY USE: Internet.

OUTCOME: Demonstrates ability to work effectively with diverse teams.

EXAMPLE: After studying an environmental community issue (landfills, water quality, maintaining open space, recycling), students compose e-mail messages appropriate to various local, state, and national officials, stating their opinion and offering alternatives to current methods of dealing with the issue. Encourage students to consider their audience and develop effective ways to create a coordinated and articulate email campaign that will have an impact.

TECHNOLOGY USE: Email.



12th Grade

OUTCOME: Articulates thoughts and ideas clearly and effectively through speaking and writing

EXAMPLE: After choosing and investigating a local environmental land use proposal (new strip mall, construction of a new road/bridge), students write an editorial to their local paper in favor of or opposing the proposal, citing relevant geographic data.

OUTCOME: Exercises flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal

EXAMPLE: After a panel simulation of participants who represent different points of view about sustainable development regarding the harvesting of rain forests, students create a compromise between the need for protection of the environment, the demand for rainforest land and products by both local and global consumers.

Communication & Collaboration (continued)

GEOGRAPHY

[redacted]

4th Grade

OUTCOME: Assumes shared responsibility for collaborative work

EXAMPLE: After a field study trip of their community, students work in small groups to create a simple slideshow and taped narrative that describe their favorite locations in the community. Locations should also be depicted as features on a map.

FIELD TRIP OPPORTUNITY:
Local Community.

8th Grade

OUTCOME: Assumes shared responsibility for collaborative work

EXAMPLE: Students investigate the lives of immigrants via historical accounts, museum visits, and other research. They then work as a team to write and produce a play about immigrants to a new country struggling to deal with the issues involved in adapting to a new environment.

EXAMPLE: Students investigate the lives of immigrants to their local area over history using various internet and local resources. Students work as a team to write a collective history about how immigrants shaped their local landscape.

8th Grade

OUTCOME: Assumes shared responsibility for collaborative work

EXAMPLE: Working with the local park district, students create a plan for mapping and upgrading open space for multiple uses (e.g., family picnicking, community events/ celebrations, habitat for plant and animal species, etc.) Students create multimedia presentations to support their recommendations and present them to the relevant local government agency. Public hearings, a web based survey of the plan, and a community dialogue using the web provides the opportunity to engage citizens in civic action.

Civic Literacy

21st Century Skills Map

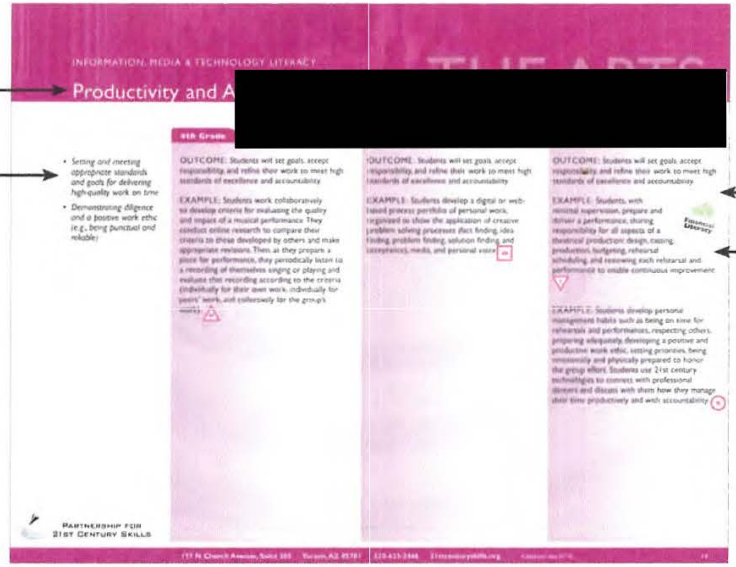
THE ARTS

DESIGNED IN COOPERATION WITH THE NATION'S ARTS EDUCATORS

This 21st Century Skills Map is the result of hundreds of hours of research, development and feedback from educators and business leaders across the nation. The Partnership has issued this map for the core subject of the Arts. This tool is available at www.P21.org.

The Partnership advocates for the integration of 21st Century Skills into K-12 education so that students can advance their learning in core academic subjects.

The Partnership has forged alliances with key national organizations that represent the core academic subjects, including Social Studies, English, Math, Science, Geography and the Arts. As a result of these collaborations, the Partnership has developed this map to illustrate the intersection between 21st Century Skills and the Arts. The maps will enable educators, administrators and policymakers to gain concrete examples of how 21st Century Skills can be integrated into core subjects.



A **21st Century Skills**

B **Skill Definition**

C **Interdisciplinary Theme**

D **Sample Student Outcome/Examples**

E **Art Discipline Icons**

VA = Visual Arts
D = Dance
M = Music
T = Theatre

An example from the Arts Skills Map illustrates sample outcomes for teaching Productivity and Accountability.

PARTNERSHIP FOR 21ST CENTURY SKILLS

Introduction

THE ARTS

Anyone who has ever seen a student become excited, energized, and confident through artistic exploration has seen first-hand how arts education engages children and contributes to their overall development. The arts – dance, music, theatre, and the visual arts, which collectively include the media arts – are recognized as "core academic subjects" in Federal law, as well as in state statutes and core educational documents.[1] While each of the arts disciplines has its own unique set of knowledge, skills, and processes, the arts share common characteristics that make arts education powerful preparation for college, career, and a fulfilling life.

This Skills Map presents just a few of the many ways that children acquire 21st Century Learning Skills through arts study. Educators and others knowledgeable about arts education will see connections among these examples, the student achievement goals listed in the *National Standards for Arts Education* (1994), and the artistic processes of creating, performing, and responding that educators use to evaluate learning in the four arts disciplines.[2] Collectively, the examples in this document demonstrate that the arts are among society's most compelling and effective paths for developing 21st Century Skills in our students.

Business leaders and visionary thinkers concerned about preparation of students for the future know that the ability to be creative – a key 21st Century Skill – is native to the arts and is one of the primary processes learned through arts education.[3] The examples in this Skills Map illustrate how the arts promote work habits that cultivate curiosity, imagination, creativity, and evaluation skills. Students who possess these skills are better able to tolerate ambiguity, explore new realms of possibility, express their own thoughts and feelings and understand the perspectives of others. Furthermore, these examples suggest ways that study of the arts can help produce globally aware, collaborative, and responsible citizens.

Communications in today's interconnected world increasingly emphasize multimedia, and the arts are the media. For personal as well as professional success, students must therefore learn to critically interpret media messages, and to convey their own ideas through the medium of artistic form. Many examples in this document extend the rich array of existing artistic media and tools by incorporating technology. All of those media, both traditional and new, offer powerful opportunities to cultivate 21st Century Skills and to articulate human expression.

Students' capacity to create and express themselves through the arts is one of the central qualities that make them human, as well as a basis for success in the 21st century.

1 No Child Left Behind Act of 2001, 20 U.S.C. § 9101 (11); "The Value and Quality of Arts Education: A Statement of Principles" (1998), http://www.menc.org/about/view/the-value-and-quality-of-arts-education; *Academic Preparation for College: What Students Need to Know and Be Able to Do* (New York: The College Board, 1983), still in use.

2 The NAEP Arts Report Card. U.S. Department of Education, National Center for Education Statistics, 1997.

3 See, for example: Daniel Pink. *A Whole New Mind: Why Right-Brainers will Rule the Future*. New York: Penguin, 2005; Thomas L. Friedman. *The World is Flat: A Brief History of the Twenty-First Century* 3d ed. New York: Farrar, Straus and Giroux 2007; The Conference Board, *Ready to Innovate: Are Educators and Executives Aligned on the Creative Readiness of the U.S. Workforce?* (2008); The College Board, 2008; *Arts at the Core: Recommendations for Advancing the State of Arts Education in the 21st Century*, 2009

Critical Thinking and Problem Solving

THE ARTS

- *Exercising sound reasoning in understanding*
- *Making complex choices and decisions*
- *Understanding the interconnections among systems*
- *Identifying and asking significant questions that clarify various points of view and lead to better solutions*
- *Framing, analyzing and synthesizing information in order to solve problems and answer questions*

[redacted]

[redacted]

[redacted]

4th Grade

8th Grade

12th Grade

OUTCOME: Students will use various types of reasoning to think and reflect critically and solve problems in both conventional and innovative ways.

EXAMPLE: Students individually articulate different ways to interpret the same musical passage. Students then compare the various interpretations and determine which one is most effective, taking into account age-appropriate considerations such as the style and genre of the music. M

EXAMPLE: Students gather information about a challenging school or community issue such as peer pressure, discrimination, or the environment through online research and recorded interviews with local citizens. They create and perform a series of ensemble scenes that address the issues identified and propose possible solutions. They organize the information gleaned into an online archive to be disseminated through blogs, podcasts, and wikis. D T

Civic Literacy

Environmental Literacy

EXAMPLE: Dance students investigate, identify, and discuss the key components of a successful dance composition and how that composition might be affected by the technical expertise of the dancers performing it. Students then view dance videos of varying styles and time periods and, working first individually and then together as a class, determine criteria for excellence in performance and composition. Students apply these criteria to future viewings of dance and their own compositions. D

EXAMPLE: Students view and critique multiple works of art, created by themselves and their peers, which deal with a specified artistic problem. Students use mutually agreed upon criteria (elements and principles of art and design, subject matter, technique, style, etc.) to describe, analyze, interpret, and make informed judgments about the art works. Using electronic journals, students reflect on the points in their critical thinking that led to their solution to the problem. Students then compare and contrast how the other students addressed the same problem, and use their electronic journals to form a foundation for their participation in a group discussion convened through the use of a class blog or wiki.

VA

Communication

- *Articulating thoughts and ideas clearly and effectively through speaking and writing*

4th Grade

8th Grade

12th Grade

OUTCOME: Students will communicate in a variety of contexts through a variety of artistic media, including technologies, to convey their own ideas and to interpret the ideas of others.

EXAMPLE: Students perform and audio/video the same story three times, once with words only, once with physical movements only, and once with both. They review their three different performances and reflect in group discussions and individual writing about how the presentations and story changed and whether or not one version communicated more effectively than another, and why. T

EXAMPLE: Students examine how composers, artists, choreographers, and playwrights use the arts to communicate particular ideas, themes, or concepts (such as relationships, overcoming obstacles, optimism vs. pessimism), and to evoke particular emotions or feelings (joy, sadness, tension, relaxation) in the listener or viewer. They analyze and compare these devices and develop multimedia presentations illustrating how such communication occurs through each of the arts disciplines. VA M D T

EXAMPLE: Students research existing site-based choreography to analyze the impact a location makes on the choreographic composition and the messages communicated from both the specific site and movement governed by that site. Students then create their own piece of choreography based on another specific site that communicates a clear message or point of view about the specific site or environment. The dance is recorded and posted on appropriate websites for public view and comment. D

Environmental Literacy

Collaboration

- *Demonstrating ability to work effectively with diverse teams*
- *Exercising flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal*
- *Assuming shared responsibility for collaborative work*

4th Grade

8th Grade

12th Grade

OUTCOME: Students will work together effectively to share and accept responsibility, compromise respectfully to reconcile diverse ideas, and accomplish a common goal.

EXAMPLE: While rehearsing a piece, students discuss as a group how each individual part (melody, descant, harmonic or rhythmic accompaniment) contributes to the musical effectiveness of the overall performance and how all musicians must work together to create a satisfying whole. Students also experiment with and discuss how the director (whether student or teacher) communicates with the ensemble (gestures, head movements, facial expressions) to help shape performance. M

EXAMPLE: After using student-safe work tools on the Web to research both sides of a controversial topic or issue in the news, students are divided into two groups and collaborate to create dances that reflect opposite sides of the issue. Each group then creates a public-service DVD on the topic that could be marketed to targeted audiences and includes: a statement on each position, a digital recording of the dance, and ways to get additional information on both sides of the topic. Students complete self- and peer assessments that include evaluations of the quality of their teamwork. D

Civic Literacy

EXAMPLE: Working together, students share the different responsibilities needed to produce a one-act play. They collaboratively assign specific roles as costumer, set designer, actor, etc., and in these roles, analyze a script and agree on an interpretation that will bring the play to life. T

Creativity

- *Demonstrating originality and inventiveness in work*
- *Being open and responsive to new and diverse perspectives*

4th Grade	8th Grade	11th Grade
OUTCOME: Students will draw on a variety of sources to generate, evaluate, and select creative ideas to turn into personally meaningful products.		
EXAMPLE: Students research works of art to identify how different artists have created work relevant to their lives and the world around them. Students analyze the works to identify distinguishing characteristics that reflect each artist's creativity. Students then produce multiple sketches to explore several approaches they might take to create a finished work. Students select and refine one idea from among their sketches to create a painting, and revise the painting during the creative process. VA	EXAMPLE: Students work through the creative process (identify a topic, research, explore options, select and develop ideas, get feedback, revise, refine, perform) and create an original piece of choreography that uses the basic elements of dance – body, action, space, time, energy. Students next interview several choreographers to discuss how they personally approach an inspiration for a piece of choreography. Students share with each other the choreographers' insights and compare it to the process they used. D	EXAMPLE: Students write short original plays, cast them with classmates, workshop the scripts over a designated period, and present them in a staged reading. Through discussions with the audience, cast members, and teachers, they make decisions about what worked well in their plays and what did not, revise the scripts, and submit them to a student playwriting competition. T

Innovation

- *Developing, implementing, and communicating new ideas to others*
- *Acting on creative ideas to make a tangible and useful contribution to the domain in which innovation occurs*

OUTCOME: Students will investigate new processes, implement creative ideas, and revisit traditional ideas to create new and reinterpret existing works of visual and performing arts.

4th Grade

EXAMPLE: Students read or view multiple versions of a traditional folk tale before writing, performing, and video recording their own adaptation set in a radically different culture, historical period, or contemporary context. They review their adaptation, discuss creative choices, and reflect on ways the story stayed the same or changed. Global Awareness T

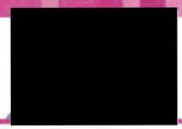
8th Grade

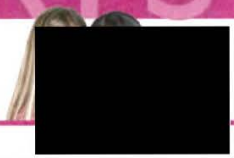
EXAMPLE: Students work in small groups to select an existing graphic novel and create alternative endings to the story using animation or text-to-movie software that incorporates different points of view and identifies the incremental steps involved in depicting action, changes, cause and effect, or transformation to reach the new endings. VA

12th Grade

EXAMPLE: After studying a particular composer's work, students compose a theme and then create variations on that theme in the style of that composer. They notate their compositions using music software; orchestrate their compositions using a variety of sound sources (synthesized or acoustic); and publish their compositions in written form and also on their class website, wiki, or blog so that others can listen, critique, and perform the music. M

Information Literacy





- *Accessing information efficiently and effectively, evaluating information critically and competently, and using information accurately and creatively for the issue or problem at hand*
- *Possessing a fundamental understanding of the ethical/legal issues surrounding the access and use of information*

4th Grade

8th Grade

12th Grade

OUTCOME: Students will access and evaluate information from a variety of sources accurately and creatively, with an understanding of ethical and legal issues.

EXAMPLE: Students identify and access sources of information that enable them to compare and contrast the forms, content, and context of two works of art. Then, students prepare a written, oral, or multimedia presentation describing the common characteristics identified in the two works of art. Students use their presentations as the basis for creating an original work of art in response to the works they have examined and compared. VA

EXAMPLE: Students devise guiding questions and conduct interviews with local immigrants about the obstacles they faced in coming to the United States and their transition once they arrived. They transcribe the immigration stories and use these as a basis to write, edit, and perform original monologues based on their ethnographic research. Throughout the process, students reflect on the ethical implications of docudrama theatre. T

Global Awareness

Civic Literacy

EXAMPLE: Students conduct research, online and through other means, about unfamiliar musical styles. They listen to representative examples of the unfamiliar music and classify the examples. Students explain the reasoning behind their classifications and share their findings with peers and, potentially, a global audience on the Web. Throughout the process, they show that they can evaluate sources of information effectively, critically, and competently. M

Media Literacy

- *Understanding how media messages are constructed, for what purposes and using which tools, characteristics, and conventions*
- *Examining how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors*
- *Possessing a fundamental understanding of the ethical/legal issues surrounding the access and use of information*

4th Grade	8th Grade	12th Grade
OUTCOME: Students will analyze and use media to understand how and why messages are created and interpreted and how media influences culture, beliefs, and behaviors.		
EXAMPLE: Students research an important issue or conflict central to their lives. Included in their research is an exploration of the ways the issue or conflict is represented in the media and how different points of view are embedded in different media presentations. They create a storyboard and script for a short video designed to express their point of view. T	EXAMPLE: Students review a variety of political or commercial video messages to consider how particular types of music are used to elicit or manipulate emotional response. They are then presented with a new silent video clip, collaborate to identify alternative meanings, and work together to select one that they underscore by crating a soundtrack that reinforces that meaning. M	EXAMPLE: Students use current technologies to produce an advertisement or Web page that demonstrates their understanding of media's ability to influence the viewer's perception of a social issue of their choice, such as environmental awareness, mass transit, or the economy. VA

Financial Literacy

Civic Literacy

Information, Communication, and Technology Literacy

- *Using digital technology, communication tools, and/or networks appropriately to access, manage, integrate, evaluate, and create information in order to function in a knowledge economy*
- *Using technology as a tool to research, organize, evaluate, and communicate information and the possession of a fundamental understanding of the ethical/legal issues surrounding the access and use of information*

4th Grade

8th Grade

12th Grade

OUTCOME: Students will use technology effectively to research, access, create, and communicate creative ideas and information with an understanding of ethical and legal issues.

EXAMPLE: Students create a multimedia presentation that illustrates and analyzes a variety of dance genres (including those of other cultures), appropriately using and citing video clips downloaded from the Web. D

EXAMPLE: Students research, design, and create a multimedia presentation to be used as a part of an original dramatic production about the civil rights movement including historical photos, graphic design, video, music, and sound effects. T

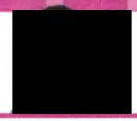
Civic Literacy

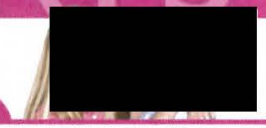
EXAMPLE: Students select existing musical source material that they combine with original ideas to create an original digital remix, making sure to remain within the constraints of copyright law by limiting use and obtaining necessary permissions. M

EXAMPLE: Students plan and execute an exhibit for placement within a school or cultural site in their community, taking into consideration local community values. The exhibit showcases artists' use of film and video to depict current political and social issues, using students' commentary and signage to explain content to the viewer. Students create a companion visual experience. VA

Civic Literacy

Flexibility and Adaptability



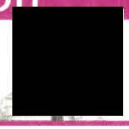


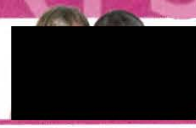
- *Adapting to varied roles and responsibilities*
- *Working effectively in a climate of ambiguity and changing priorities*

4th Grade	8th Grade	12th Grade
OUTCOME: Students will be flexible and adapt to change in a variety of artistic contexts.		
EXAMPLE: In student-led discussions, students discuss their artistic products, based on criteria related to the assignment. Each student then implements changes to improve his or her artistic product. VA	EXAMPLE: Students learn to accept responsibility and perform effectively in distinct roles: solo performer who makes all musical decisions, member in a small ensemble in which they collaborate on decision-making, and membership in a large ensemble in which the majority of global decisions are made by a conductor. During the process, they research interviews and documentaries highlighting the work and background of professional soloists, ensemble members, and conductors, and interact with practicing professionals either live or virtually. M	EXAMPLE: Students work together to perform improvisational theatre sketches (scenes), taking suggestions from audience members. Collectively, they maintain an imaginary world while making credible choices in the moment in reaction to circumstances as they arise. Each student reflects on his or her spontaneous choices in the improv through a written reflection of the scene or translation into another medium (e.g., dance, musical performance, or work of visual art). T EXAMPLE: Students explore the concept of being an understudy through a series of interviews with individuals who have served in that role. Students identify how understudies prepare, and how they become adaptable when approaching a new and unexpected role. Students try out adaptability skills by learning a dance and replacing another dancer as an understudy. Alternatively, they build the ability to handle the unexpected by improvising when performing in front of an audience. D

Initiative and Self-direction

- *Monitoring one's own understanding and learning needs*
- *Going beyond basic mastery of skills and/or curriculum to explore and expand one's own learning and opportunities to gain expertise*
- *Utilizing time efficiently and managing workload*
- *Defining, prioritizing, and completing tasks without direct oversight*
- *Demonstrating initiative to advance skill levels toward a professional level*
- *Demonstrating commitment to learning as a lifelong process*





4th Grade

EXAMPLE: After researching current best practices in becoming a better dancer, students develop a plan for the year that addresses self-improvement in artistry, physical ability, and emotional and physical wellness over a period of time. They independently follow and monitor the plan using established benchmarks documented in a calendaring program. D

Health Literacy

EXAMPLE: Students use the Internet and library resources to research oral histories of children who rode the late-nineteenth century orphan trains. They employ their gathered information to create monologues or first-person narrative presentations. T

8th Grade

EXAMPLE: Students either are assigned or select an appropriately challenging piece to prepare for performance. Students create individual practice plans to focus on the specific aspects of the music that they find challenging. The plans, which can be kept in the students' cell phone or pda calendars, include a timeline for meeting specific goals and sections for students to self-critique, reflect upon, and identify steps to improve their work and prepare a technically accurate and expressive performance in time for the concert. M

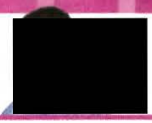
12th Grade

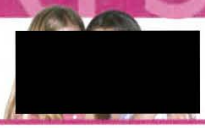
OUTCOME: Students will be motivated, self-directed, and reflective learners, who independently manage their goals and time to continuously improve as artists.

EXAMPLE: Students identify a craft medium such as fiber arts, pottery, jewelry, or furniture, and learn about the techniques, sequences, and characteristics of working with this medium through web-based research. Students develop a specific project to demonstrate what they have learned and the skills they have mastered. To do this, they use their knowledge of the elements of art and principles of design, the requirements for either decorative or functional use, and the technical skills involved in good craft design. VA

Social and Cross-cultural Skills

THE ARTS





- *Working appropriately and productively with others*
- *Leveraging the collective intelligence of groups when appropriate*
- *Bridging cultural differences and using differing perspectives to increase innovation and the quality of work*

4th Grade	8th Grade	12th Grade
OUTCOME: Students work respectfully and effectively with socially and culturally diverse teams or content to increase innovation and quality in their work.		
EXAMPLE: Students connect virtually with a class in another country to share their ideas for creating sculptures around a common theme: play. Students apply what they have learned to create works reflective of cross-cultural understanding of the theme. VA	EXAMPLE: Students trained in music of one cultural style join an ensemble that performs music from a distinct culture, and learn to adapt their existing musical skills and understanding to the demands of the new context (i.e., classical musicians play jazz, a koto player takes up western guitar, or a fiddle player performs in a classical orchestra). The students then interact, either virtually or live, with native performers of the new musical genre to better understand the cultural context and appropriate practices of that genre. M Global Awareness	EXAMPLE: Students research and demonstrate a dance of their own or another culture. Students then facilitate a discussion with the audience on what the dance reveals about the culture they have researched. They gather additional feedback during an online discussion with an audience representing the culture. D Global Awareness Civic Literacy

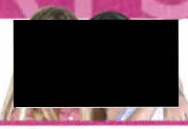
Productivity and Accountability

THE ARTS

- *Setting and meeting appropriate standards and goals for delivering high-quality work on time*
- *Demonstrating diligence and a positive work ethic (e.g., being punctual and reliable)*

4th Grade	8th Grade	12th Grade
OUTCOME: Students will set goals, accept responsibility, and refine their work to meet high standards of excellence and accountability.		
EXAMPLE: Students work collaboratively to develop criteria for evaluating the quality and impact of a musical performance. They conduct online research to compare their criteria to those developed by others and make appropriate revisions. Then, as they prepare a piece for performance, they periodically listen to a recording of themselves singing or playing and evaluate that recording according to the criteria (individually for their own work, individually for peers' work, and collectively for the group's work). M	EXAMPLE: Students develop a digital or web-based process portfolio of personal work, organized to show the application of creative problem solving processes (fact finding, idea finding, problem finding, solution finding, and acceptance), media, and personal voice. VA	EXAMPLE: Students, with minimal supervision, prepare and deliver a performance, sharing responsibility for all aspects of a theatrical production: design, casting, production, budgeting, rehearsal scheduling, and reviewing each rehearsal and performance to enable continuous improvement. Financial Literacy TH
		EXAMPLE: Students develop personal management habits such as being on time for rehearsals and performances, respecting others, preparing adequately, developing a positive and productive work ethic, setting priorities, being emotionally and physically prepared to honor the group effort. Students use 21st century technologies to connect with professional dancers and discuss with them how they manage their time productively and with accountability. D

Leadership and Responsibility



- *Using interpersonal and problem-solving skills to influence and guide others toward a goal*
- *Leveraging strengths of others to accomplish a common goal*
- *Demonstrating integrity and ethical behavior*
- *Acting responsibly with the interests of the larger community in mind*

4th Grade

8th Grade

12th Grade

OUTCOME: Students will use the arts to inspire others, optimizing the skills of team members through their interpersonal awareness, integrity, and ethical leadership to solve problems that benefit the larger community.

EXAMPLE: Students take turns being the choreographer – first creating original dance movements, then leading the group in learning the dance, which is later revised using ideas from others in the group. D

EXAMPLE: Students work as a team to plan, design, and make a work of public art (for example, a mural) that depicts leadership and service within the communities in which they live. Known community leaders are depicted as the center of interest. VA

Civic Literacy

EXAMPLE: During the process of creating a musical composition, students assume leadership in different key roles critical to the success of the project. One facilitates discussion of how to structure/design the composition, another assigns the instruments to play the various parts, others take turns rehearsing the group, and yet another conducts the group in public performance. M

EXAMPLE: Advanced students serve as peer mentors for younger students in a teacher-supervised theatre safety program, demonstrating safe practices in set installation, tool use, toxic material handling, proper recycling of materials, and lighting and audio technology, thereby creating continuity in the school's culture of safety. T

Civic Literacy

Environmental Literacy

Interdisciplinary Themes

THE ARTS

Each of the four distinct disciplines of the arts (dance, music, theatre arts, and visual arts) offers its own unique set of knowledge, skills, and processes. As a whole, however, the arts are uniquely situated to provide links from school-based learning to themes that are essential to every child's understanding of the modern world. This is because the arts, which thrive on the free expression of the imagination and the creative instinct common in all human beings, have enabled us to explore the changing nature of our existence and to understand how that nature has both evolved and remained constant over time, culture, and place. The arts inculcate key lessons for participation in a democracy, as they balance the preservation of ideas with the challenging of old ways and the development of new visions.

Regarding key Interdisciplinary Themes for the 21st Century, the arts provide opportunities for building student understanding and skills in the following ways:

Global Awareness. The arts provide opportunities and experiences for students to understand global issues; to work collaboratively with individuals representing diverse cultures, religions and lifestyles in a spirit of mutual respect; and to understand other nations and cultures, including those that shape their thoughts in other languages. The awareness and empathy that come from the collective production of art or the study of art by others enables students to develop a truly global point of view.

Financial, Economic, Business and Entrepreneurial Literacy. Students must know how to make appropriate personal economic choices when they create budgets for a theatre production, choral concert, art exhibit, or dance performance. Students who pursue careers as professional artists must know how to estimate the time and costs of materials and labor to produce finished works and understand current trends, supply and demand, and the effects of the economy on marketing their artistic products. Nationally, there are 5.7 million full-time equivalent jobs in the arts. The nonprofit arts and culture industry generates $166.2 billion in economic activity every year, including $63.1 billion in spending by organizations and an additional $103.1 billion in event-related spending by their audiences.

Civic Literacy. Study in the arts provides a context for exploring the rights and obligations of citizenship at the local, state, national and global levels as well as the implications of civic decisions. Students who study the arts must be aware of policies and laws affecting the creation and performance of their art forms (notably, laws regarding intellectual property) as well as understanding how local and global issues are influenced by the arts. More broadly, students in the arts learn the self-control and sophisticated communications skills necessary to work toward producing artistic products alone or in fruitful cooperation with a group of peers.

Health Literacy. Students who participate in the arts acquire understandings and habits of healthy behavior that they can transfer to other areas of endeavor. For example, students who participate in dance, music, and theatre must understand how to use their bodies appropriately and safely to participate in these art forms without damaging their muscles or vocal mechanism. Students working in the visual arts and technical theatre must understand and apply guidelines for working safely with materials and equipment. A strong body of research suggests that arts participation enhances the physical and emotional wellness as well as the cognitive health of students and adults.

Environmental Literacy. Arts students must be stewards of the earth and utilize appropriate practices with reusing and recycling materials when creating or performing various art forms. Students may also explore environmental issues and consequences through dances, compositions, productions or artworks portraying the use or misuse of natural resources.

Credits

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THE ARTS

PARTNERSHIP FOR 21ST CENTURY SKILLS

21st Century Skills Map

DESIGNED IN COOPERATION WITH THE NATION'S WORLD LANGUAGE EDUCATORS

This 21st Century Skills Map is the result of hundreds of hours of research, development and feedback from educators and business leaders across the nation. The Partnership has issued this map for the core subject of World Languages. This tool is available at www.P21.org.

The Partnership for 21st Century Skills (P21) has forged alliances with key national organizations that represent the core academic subjects, including Social Studies, English, Math, Science, Geography, World Languages and the Arts. These collaborations have resulted in the development of 21st Century Skills Maps that illustrate the intersection between core subjects and 21st Century Skills.

Developed through a year-long collaborative process, spear-headed by the American Council on the Teaching of Foreign Languages (ACTFL) and P21, this map reflects the collective effort of hundreds of World Language teachers and illustrates the integration of World Languages and 21st Century Skills. This map provides educators, administrators and policymakers with concrete examples of how 21st Century Skills can be integrated into core subjects.

A **21st Century Skills**

B **Skill Definition**

C **Sample Student Outcome/Examples**

D **Interdisciplinary Theme**

E **Modes of Communication**

= Interpersonal mode

= Interpretive mode

= Presentational mode

An example from the World Languages Skills Map illustrates sample outcomes for teaching Creativity and Innovation.

PARTNERSHIP FOR 21ST CENTURY SKILLS

Introduction

Increasingly global economies, a heightened need for national security, and changing demographics in the U.S. have increased attention to our country's lack of language capability. Every call to action to prepare our students for the 21st Century includes offering them the opportunity to learn languages other than English and increase their knowledge of other cultures. Yet the latest enrollment figures indicate that in 2007-08 only 18.5% of students in U.S. public schools K-12 were enrolled in a language class.

Clearly, language education is critical to our students' success in the world of the future: a world that will insist upon their need to interact effectively with others who do not speak English. It is critically important that schools, elementary through post-secondary, offer our students that opportunity to develop those skills.

Learning other languages and understanding the culture of the people who speak them is a 21st Century skill that is vital to success in the global environment in which our students will live and work. In a 2006 report entitled, ***Education for Global Leadership: The Importance of International Studies and Foreign Languages for U.S. Economic and National Security***, the Committee for Economic Development (CED) stated "To confront the twenty-first century challenges to our economy and national security, our education system must be strengthened to increase the foreign language skills and cultural awareness of our students. America's continued global leadership will depend on our students' abilities to interact with the world community both inside and outside our borders." For college and career readiness, our students need to be proficient in other languages, regardless of whether they choose to transition directly to the workforce or to post-secondary education.

The language teaching community has reached strong consensus regarding the goals of a language program: to develop students' language proficiency* around modes of communicative competence reflecting real life communication. This is reflected in the Standards for Foreign Language Learning in the 21st Century in the opening statement, "Language and communication are at the heart of the human experience." The national standards are undergirded by five goals (the 5 Cs) that focus language learning on:

Communication: The ability to convey and receive messages based on the three modes of communication; interpersonal, or two-way interaction with someone else; interpretive, the ability to understand and interpret a one-way aural or written text; and presentational, the ability to present information in either a written or oral format. These modes reflect how people communicate in real life. The examples included in the World Language Skills map reflect these modes of communication.

Cultures: As the teaching of language and culture are inextricably intertwined, students learn to understand the culture of the people who speak the target language through learning about the products and practices of the culture and how those relate to the perspectives of the people of that culture.

* Language proficiency in a Latin program emphasizes the ability to interpret written Latin but uses the aural/oral skills to promote the interpretive ability. For American Sign Language classes, communicative competence focuses on signed communication ability.

Introduction (continued)

Connections: Students are able to access knowledge in other disciplines through the target language and to reinforce concepts already learned in these disciplines in the language classroom.

Comparisons: As students learn a new language and culture, they develop insight into their own language and culture, thus providing them with a deeper understanding of how language works and how cultures reflect the perspectives, practices, and products of the people who speak that language.

Communities: Language learning becomes even more purposeful for students when they see the application beyond the classroom. With today's communication technologies, language classrooms can bring the world to the students, as teachers provide opportunities for students to use the language beyond the confines of their classroom walls.

As communicative competence becomes a more focused goal for classrooms across the U.S., student progress in developing higher levels of proficiency becomes increasingly important. In order to prepare students adequately for the work force as well as post-secondary education, students need a long sequence of well-articulated language learning that begins in elementary school. If students are expected to be ready to use their languages for professional purposes upon entering the work force, they need to leave the K-12 educational system with an Advanced level of proficiency and the post-secondary world at the Superior level. Meeting these levels of proficiency requires that students begin early and continue in an extended sequence of language learning that builds sequentially from one level to another.

Language education not only contributes to students' career and college readiness, it also helps develop the individual as language learners take on a new and more invigorating view of the world. They come to understand the world better because of their knowledge of speakers of another language – of people who share many of the same hopes and dreams for their future. While perspectives may differ among speakers of different languages, more similarities exist than we might imagine. However, it is only through knowing the language of others that we can truly understand how they view the world. And this is what makes the language student a 21st Century skilled learner!

Introduction (continued)

Then and Now

The language classroom in the U.S. has been transformed in the last 20 years to reflect an increasing emphasis on developing students' communicative competence. Unlike the classroom of yesteryear that required students to know a great deal of information about the language but did not have an expectation of language use, today's classroom is about teaching languages so that students use them to communicate with native speakers of the language. This is what prepares them to use their language learning as a 21st Century Skill. Following is a chart comparing how language classrooms looked in the past compared to today.

IN THE PAST	TODAY
Students learned about the language (grammar)	Students learn to use the language
Teacher-centered class	Learner-centered with teacher as facilitator/collaborator
Focused on isolated skills (listening, speaking, reading, and writing)	Focus on the three modes: interpersonal, interpretive, and presentational
Coverage of a textbook	Backward design focusing on the end goal
Using the textbook as the curriculum	Use of thematic units and authentic resources
Emphasis on teacher as presenter/lecturer	Emphasis on learner as "doer" and "creator"
Isolated cultural "factoids"	Emphasis on the relationship among the perspectives, practices, and products of the culture
Use of technology as a "cool tool"	Integrating technology into instruction to enhance learning
Only teaching language	Using language as the vehicle to teach academic content
Same instruction for all students	Differentiating instruction to meet individual needs
Synthetic situations from textbook	Personalized real world tasks
Confining language learning to the classroom	Seeking opportunities for learners to use language beyond the classroom
Testing to find out what students don't know	Assessing to find out what students can do
Only the teacher knows criteria for grading	Students know and understand criteria on how they will be assessed by reviewing the task rubric
Students "turn in" work only for the teacher	Learners create to "share and publish" to audiences more than just the teacher

Introduction (continued)

INTERDISCIPLINARY THEMES

Global Awareness. Language education and cultural understanding are at the heart of developing global awareness for students. In order to understand and address global issues, it is important to understand the perspectives on the world that speakers of other languages bring to the table. By learning other languages, students develop respect and openness to those whose culture, religion, and views on the world may be different. Language students are able to interact with students from the target language in order to discuss issues and reach solutions.

Financial, Economic, Business and Entrepreneurial Literacy. Students in language classes learn about financial and economic issues in the target language culture(s) and are able to compare and contrast with those of the United States. According to the Committee for Economic Development (CED), "…cultural competence and foreign language skills can prove invaluable when working on global business teams or negotiating with overseas clients." In addition, the changing demographics in the U.S. make language capability a requisite for interacting with non-English speaking communities domestically as well as internationally. Those who are able to communicate with others in their native language will naturally feel more empowered to negotiate with those around the world as they engage in entrepreneurial activities.

Civic Literacy. Language learners become aware of the judicial, legislative and government functions of the target language country(ies) and are able to compare and contrast those with the civil liberties and responsibilities in the U.S. Because they can communicate in the target language, they are able to engage in discussions with other students and participate in activities in which they discuss civic life in their respective countries.

Health Literacy. Language learners are engaged in a value-added activity as they can address global health and environmental issues in the target language and understand materials that were written for native speakers of that language. They have access to information because they can understand the language and can thus engage in global discussions on health, environmental, and public safety issues, and can prepare for careers in these fields.

MODES OF COMMUNICATION

Interpersonal mode. Interpersonal mode is active oral or written communication in which the participants negotiate meaning to make sure that their message is understood.

Interpretive mode. Interpretive mode is the ability to listen to or read a text and interpret the meaning.

Presentational mode. Presentational mode is written or oral communication in which the presenter must take into account the impact on the audience since this is one-way communication with limited opportunity for feedback.

Communication

WORLD LANGUAGES

Students as effective communicators use languages to engage in meaningful conversation, to understand and interpret spoken language and written text, and to present information, concepts, and ideas.

- *Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts.*
- *Use communication for a range of purposes (e.g. to inform, instruct, motivate, and persuade).*
- *Communicate effectively in diverse multi-lingual environments.*

Novice Range

OUTCOME: Students in the novice range are able to comprehend and use short memorized phrases and sentences.

This proficiency level reflects the beginning stages of language learning which could be at the elementary, middle, or high school levels.

EXAMPLE: Students listen to authentic audio clips featuring native speakers describing an event, and can match the oral description to a picture, or put pictures in the order of the sequence of events as described.

EXAMPLE: Students read several authentic menus and identify which would be appropriate for different people based on likes/dislikes and special dietary needs.

Health Literacy

EXAMPLE: Students interview family members to find out the ingredients in their favorite recipes. They make a list of the ingredients and then compile a book of popular recipes in the target language.

EXAMPLE: Students browse the website of a current popular magazine in a target language country. They identify the emotions of the people in the photo based on their interpretation of visual and linguistic cues and then discuss their findings with their classmates.

Intermediate Range

OUTCOME: Students in the intermediate range are able to express their own thoughts, provide descriptions, and communicate about familiar topics using sentences and strings of sentences. They comprehend general concepts and messages about familiar and occasionally unfamiliar topics. They can ask questions on familiar topics.

Students reach this proficiency range generally after 4-5 years in a language program depending on its intensity.

EXAMPLE: Students prepare an electronic infobrief in the target language that provides information about daily life in the United States to prepare for a visit from an e-pal from the target language country.

Civic Literacy

EXAMPLE: Students work in groups to research local restaurants and produce restaurant reviews in the target language. They map the restaurants on internet maps and give directions to the restaurants in the language.

EXAMPLE: Students write a short email describing their school's technology, its use in class, and appropriate-use guidelines. They ask students of a teacher in a target language country to describe the same at their school, and then discuss the similarities and differences.

Advanced Range

OUTCOME: Students in the advanced range are able to narrate and describe using connected sentences and paragraphs in at least three time frames when discussing topics of personal, school, and community interest and can comprehend main ideas and significant details regarding a variety of topics.

Students generally reach this proficiency range after participating in a well-articulated standards-based K-12 language program.

EXAMPLE: As part of a unit on community development, students communicate with a Peace Corps volunteer, community activist, or local leader who is fluent in the target language and has field work experience. Students exchange information as it relates to the work/projects being undertaken in that country or locally. Areas of focus may include: agriculture, business, education, health, and the environment.

EXAMPLE: In a simulated training exercise, students will role-play scenarios between airline passengers and flight attendants on a flight to a target language country. Possible scenarios include: passengers who (a) are concerned about missing their connecting flight (b) have food allergies or (c) are becoming ill.

Financial Literacy

Communication (continued)

Students as effective communicators use languages to engage in meaningful conversation, to understand and interpret spoken language and written text, and to present information, concepts, and ideas.

Novice Range	Intermediate Range	Advanced Range
	EXAMPLE: Students practice the use of circumlocution and other communicative strategies with a group of community volunteers who are fluent in the target language, and invite them to visit the school once per month for an informal conversation hour. 	EXAMPLE: The senior class plans a real or simulated senior trip to a country/countries that speaks the target language. Students investigate two potential locations, one a very challenging situation (because of local conflict or natural disaster) and the other a very appealing destination and give a presentation outlining arguments why the class should go to one and not the other.  

Collaboration

WORLD LANGUAGES

Students as collaborators use their native and acquired languages to learn from and work cooperatively across cultures with global team members, sharing responsibility and making necessary compromises while working toward a common goal.

- *Articulating thoughts and ideas clearly and effectively through speaking and writing*
- *Demonstrating the ability to work effectively with diverse teams*
- *Exercising flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal*
- *Assuming shared responsibility for collaborative work*

Novice Range

EXAMPLE: Students team with another class in a target language country to identify and compare endangered species in both countries, and collaborate to produce a multi-media informational presentation for their peers using basic information in the target language.

Intermediate Range

EXAMPLE: Students work in teams of classmates or team with another class in a target language country to research and analyze costs for a summer study abroad program in a variety of possible destinations in one or more target language countries. Students share responsibility for looking up certain information, exchange information, and complete a cost-benefit analysis to decide the best place to study based on the available budget.

EXAMPLE: During career week at school, students research job ads in the target language on Internet databases (or in print media) to locate jobs in which they are interested. They choose one each and prepare themselves for an interview by writing a résumé and cover letter and submitting it to classmates. Students are placed into small groups (interview teams) and must review the documents of prospective applicants. Candidates participate in an oral interview in a panel format. Panelists prepare questions for their colleagues and the interviewees must explain their skills and why they should get the job. Students "rate" candidates on a rubric that they have designed as a team.

Financial Literacy

Advanced Range

EXAMPLE: In small groups, students design a product and develop a marketing campaign for this product to sell it to consumers in a target country. Students present their marketing campaigns to students in the target language country via target language media outlets.

Critical Thinking and Problem Solving

Students as inquirers frame, analyze, and synthesize information as well as negotiate meaning across language and culture in order to explore problems and issues from their own and different perspectives.

- *Exercising sound reasoning in understanding*
- *Making complex choices and decisions*
- *Understanding the interconnections among systems*
- *Identifying and asking significant questions that clarify various points of view and lead to better solutions*
- *Framing, analyzing and synthesizing information in order to solve problems and answer questions*

Novice Range

EXAMPLE: Students develop a survey to investigate the eating habits of the class, interview students, analyze the data in terms of good nutritional habits, synthesize it into a graph, and create a document to share the results with others.

EXAMPLE: With the job title omitted, students read various job/career ads and then match the appropriate job title to the ad. Students are divided into groups. Each group is asked to investigate 3-5 different career/job sites and identify the jobs and careers that are in high demand in a particular city, region, or country. Students present their findings to the class.

EXAMPLE: Using a word cloud generator, present students with a graphic visualization of a text (poem, song, rhyme, fable) and have them predict (whole class, groups or pairs) the main theme, idea or key concepts.

Intermediate Range

EXAMPLE: Students explore an environmental issue in a target language country with a group of peers from that country. Together they propose solutions that are environmentally safe.

EXAMPLE: Students examine a variety of resumes from Internet sites. They then identify possible jobs/careers that the resume writer(s) might seek. Using an Internet resume site, students complete a template for a job/career they might have at some time in the future, and write a cover letter in which they "apply for" a prospective job. Students organize a class job/career fair, alternately playing the roles of interviewer and interviewee.

Advanced Range

EXAMPLE: Students investigate an immigration issue in the US and a target-language country, analyze and synthesize the information, and propose a solution in the form of a letter to the editor.

Creativity and Innovation

Students as creators and innovators respond to new and diverse perspectives. They use language in imaginative and original ways to make useful contributions.

- *Demonstrating originality and inventiveness in work*
- *Developing, implementing and communicating new ideas to others*
- *Being open and responsive to new and diverse perspectives*
- *Acting on creative ideas to make a tangible and useful contribution to the domain in which the innovation occurs*

Novice Range

EXAMPLE: Students create a song to help others learn about endangered species in a target language country.

EXAMPLE: Students identify and select images of importance to them from a service learning situation. They brainstorm with their peers to produce a list of words and phrases that they associate with the image. They then share the image with others from different target cultures asking them to identify words and phrases they associate with the images. They create a multi-media presentation that captures what they and others have shared in an effort to convince others to engage in volunteer work.

EXAMPLE: Students browse online recipes from target language sites and work in pairs to change ingredients to a healthier alternative, which they present to the class.

Intermediate Range

EXAMPLE: Students create raps and/or poems reflecting a perspective, such as a "coming of age" event in the target culture and compare this with the "coming of age" process in the U.S. such as getting a driver's license or the right to vote. These examples are then shared with peers in the target culture who have completed a similar project and the results are shared on a social media website with comments in the target language.

EXAMPLE: Students work in groups to identify different volunteer vacation opportunities around the world. They connect via technology with target language speakers who work with these projects to learn more and to find out what a typical day is like when working on a volunteer project. They create a multi-media presentation to share with others on the importance of the work that is being done.

EXAMPLE: Students rework a familiar story, such as Goldilocks and the Three Bears so that it takes place in a target language culture and incorporates elements of the target culture. Students then retell the story with visuals using narrated presentation or other software. Students share and discuss stories with e-pals.

Advanced Range

EXAMPLE: Students design a unique game (board game or video game) that explores multiple alternative scenarios. to introduce gamers to a global issue.

EXAMPLE: Students investigate alternative energy projects in a target language country (ex: Solar Decathlon Europe) and use ideas gleaned from their investigation to design and explain an original design of an electric car, solar house, or renewable-energy alternative specific to their school. Students vote on the best use of renewable energy and defend their choice in an alternative energy publication.

Civic Literacy

Creativity and Innovation (continued)

Students as creators and innovators respond to new and diverse perspectives. They use language in imaginative and original ways to make useful contributions.

Novice Range	Intermediate Range	Advanced Range
	EXAMPLE: Student Created Museum: after deciding upon a topic of significant cultural and/or historical interest, students propose research questions, divide themselves into teams to conduct research and locate representations of artifacts. Then they compile the research and artifacts into a series of museum exhibits for which they serve as the docents. Members of the target language community serve as consultants on the project during its development. The student docents prepare a virtual tour of the museum to share with their peers both within the school community and in the target language country. 	

WORLD LANGUAGES

Information Literacy

Students as informed global citizens access, manage, and effectively use culturally authentic sources in ethical and legal ways.

- *Accessing information efficiently and effectively, evaluating information critically and competently and using information accurately and creatively for the issue or problem at hand*
- *Possessing a fundamental understanding of the ethical/legal issues surrounding the access and use of information*

Novice Range

EXAMPLE: Students find a food pyramid or similar nutritional guide online from a target language country and read it to understand healthy eating in that country. They go shopping on a target language website, select foods that represent a healthy meal according to the nutritional guidelines and create a menu for a week. They then have a conversation with a person from the target language country to verify their understanding of the food pyramid.

Health Literacy

EXAMPLE: Students research activities of various United Nations theme days (for example, World Food Day, World AIDS Day) on websites from the United Nations and target language countries. Each student (or student team) selects a participating country and develops a digital poster of its activities related to the celebration.

Intermediate Range

EXAMPLE: Students access music in the target language and develop a website to showcase the various musical genres following legal and ethical guidelines for posting and sharing music. They compare and contrast the laws for posting and sharing music in the U.S. and the target language country.

EXAMPLE: Students use various target language media to gather information about target culture Presidential election candidates and create a digital poster about the candidate of their choice. They also identify examples of propaganda found in the course of their research. Mock class voting will take place prior to the actual election, and results will be displayed in a chart.

Civic Literacy

Advanced Range

EXAMPLE: Students access information in the target language online related to children's rights and labor laws, and engage in a debate related to this issue using an on-line platform to connect with speakers in a target language country.

Financial Literacy

EXAMPLE: Students use various target language media to follow target language Presidential campaign promotions (ads, commercials, etc.) and create a short promotion for their chosen candidate and his/her platform or "cause" using video or podcasts Students identify differences in advertising techniques, comparing and contrasting candidate promotions with those used for recent U.S. elections. Mock class voting will take place prior to the actual election, and results will be compared and analyzed in an article for the students' school newspaper and the newspaper of the students' sister school.

Civic Literacy

EXAMPLE: Students work in groups of 3-4 to prepare a live news broadcast using websites from various news sites. Students will use information on local, regional, and world news from a target language website to produce a news broadcast.

Media Literacy

Students as active global citizens evaluate authentic sources to understand how media reflect and influence language and culture

- *Understanding how media messages are constructed, for what purposes and using which tools, characteristics and conventions*
- *Examining how individuals interpret messages differently, how values and points of view are included or excluded and how media can influence beliefs and behaviors*
- *Possessing a fundamental understanding of the ethical/ legal issues surrounding the access and use of information*

Novice Range

EXAMPLE: Students identify movie titles of U.S. films showing in a target language country and then discuss in English why those movies are popular in other countries and what they reflect about American culture.

EXAMPLE: Students compare news headlined by the target culture(s) and their home community to determine what sorts of events are considered important. Similarities and differences are graphed and discussed.

Intermediate Range

EXAMPLE: Students view several advertisements from a target country and analyze the strategies used to market the product.

EXAMPLE: Working in small groups, learners review websites from a target culture that provide information about the learners' home city or state. Based on information given in the target culture and original research, each small group collaborates with other groups in class to develop an informational entry about their city, state or school and posts it to an online encyclopedia site.

EXAMPLE: Students share selected TV commercials or ads from the target language. Students discuss the products to be sold and identify the words or phrases used to persuade the public. Students identify the advertising strategies or marketing techniques used to appeal to their emotions. They then compare these ads and products.

Advanced Range

EXAMPLE: Students listen to online programming of the news from the target language country related to a current U.S. event and analyze how the target culture perspectives influence how that event is covered.

EXAMPLE: Students write and post book reviews to a target language website after reading a book in the target language.

Technology Literacy

Students as productive global citizens use appropriate technologies when interpreting messages, interacting with others, and producing written, oral, and visual messages.

- *Using digital technology, communication tools and/or networks appropriately to access, manage, integrate, evaluate, and create information in order to function in a knowledge economy*
- *Using technology as a tool to research, organize, evaluate and communicate information, and understanding of the ethical/legal issues surrounding the access and use of information*

Novice Range

EXAMPLE: Students engage in e-pal exchanges with students in a target country comparing how much time students spend on homework and how much time they spend on leisure activities. The students compile the survey results and compare them across cultures.

EXAMPLE: Students listen to an emergency weather report describing a major approaching storm and create a text message in the target language to warn their friends playing soccer in the field near the school.

Intermediate Range

EXAMPLE: Students prepare a multimedia presentation in which they show how education in the United States is similar to and different from education in the target culture.

EXAMPLE: Students as market researchers design and conduct an online survey for a new restaurant regarding changing the menu by adding some new international foods items. They then analyze the survey data and create an online graph that summarizes the survey results. Finally in a visual and narrative report to the restaurant manager, using tools such as presentation or animation software, students make recommendations for menu changes and additions.

Financial Literacy

Advanced Range

EXAMPLE: Students connect with a target language class using internet telephony or similar application and exchange information related to technology tools that students use in both schools. Students discuss how the tools have evolved over time and how they have affected educational practices.

EXAMPLE: Students create social media profiles in the target language posing as different characters from a book. They build their profiles according to the characters in the book and post regularly in the target language from the point of view of those characters.

Flexibility and Adaptability

Students as flexible and adaptable language learners are open-minded, willing to take risks, and accept the ambiguity of language while balancing diverse global perspectives.

- *Adapting to varied roles and responsibilities*
- *Working effectively in a climate of ambiguity and changing priorities*

Novice Range

EXAMPLE: Students visit a local community center for senior citizens who speak the target language. They research foods that represent the cultures of the native and reach consensus on two snacks to prepare and serve during their visit. They serve the snacks to the senior citizens while engaging them in conversation about their native country.

Intermediate Range

EXAMPLE: Students take a variety of different roles (manager, writer, editor, publisher) while working in small groups and with teams of their peers from the target language country to create a multi-part digital presentation about an issue affecting both their own and the target culture population. The presentation includes proposed solutions which they then present to local officials in their respective communities.

EXAMPLE: Working in small groups, each group is assigned a city located in the target culture. Students plan a trip to their specific city. Each day of the unit the instructor gives the group a travel problem to solve. Using their own knowledge, the knowledge of their group members, or knowledge acquired digitally, each group solves the problem to their own satisfaction and reports their solution to class. The next "day" in the sequence, the instructor gives them back their solution, and adds a complication or factor that makes the original solution unworkable or now inappropriate. The group solves the new problem based on the additional information and reports out.

Advanced Range

EXAMPLE: Students create a virtual or real museum on a topic of current interest or relevance to the target culture. Students determine the theme, quantity, and nature of exhibits, plan for advertising and create or collect all necessary materials.

EXAMPLE: Working in small groups, each group will plan an imaginary Eco-tour. Each group chooses an ecological purpose and a location. Using digital media, the group develops a travel diary defining sociological Information (ecological issue, current situation, future consequences or ramifications, and tasks the group will complete to contribute to changes); practical Information (travel arrangements, cultural issues, financial issues), and personal reflections (each group member makes commentary-real or imagined-regarding their own personal commitment to the trip/issue).

Initiative and Self-Direction

Students as life-long learners are motivated to set their own goals and reflect on their progress as they grow and improve their linguistic and cultural competence.

- *Monitoring one's own understanding and learning needs*
- *Going beyond basic mastery of skills and/or curriculum to explore and expand one's own learning and opportunities to gain expertise*
- *Demonstrating initiative to advance skill levels towards a professional level*
- *Defining, prioritizing and completing tasks without direct oversight*
- *Utilizing time efficiently and managing workload*
- *Demonstrating commitment to learning as a lifelong process*

Novice Range

EXAMPLE: Students use a self-assessment checklist to set goals for the semester, collect evidence of their learning and post them to a classroom wiki in order to showcase their progress. Throughout the course of the semester, students check in with their teachers and discuss their progress and strategies to use to meet their goals.

Intermediate Range

EXAMPLE: Students choose a global topic and throughout the semester use their free reading time as well as time outside of the classroom to find authentic resources in the target language in order to advance their understanding about the topic. Students summarize their learning at the end of the year by sharing it with their classmates in an online space such a blog, wiki, etc.

Advanced Range

EXAMPLE: High school students volunteer after school on a monthly basis at a local elementary school or other community venue with a high immigrant population, providing translation and interpretation services for the school community. Students use a reflection journal to document their strengths and identify areas of needed language growth each month. They set a learning target based on each previous volunteer session, and then document their language growth and cultural perspectives gained from working with the native speakers.

Social and Cross-Cultural Skills

Students as adept language learners understand diverse cultural perspectives and use appropriate socio-linguistic skills in order to function in diverse cultural and linguistic contexts.

- *Working appropriately and productively with others*
- *Leveraging the collective intelligence of groups when appropriate*
- *Bridging cultural differences and using differing perspectives to increase innovation and the quality of work*

Novice Range

EXAMPLE: In order to make students from a target language culture feel more welcome in the school, students learn to use appropriate gestures and oral expressions for greetings, leave-takings, and common classroom interactions, and incorporate them into their daily routines.

EXAMPLE: Students demonstrate gestures, table manners, greetings and leave takings (etc) via short, rehearsed skits to be presented to the student body during Discover Languages Month.

EXAMPLE: Students diagram and report their families' eating times and habits to come up with a chart of what is culturally "normal" for them as a class. This chart is then compared with heritage speakers in the school or community, a partner school, or alternatively, an Internet investigation. An analysis of the transition from morning to afternoon to evening/night, school attendance times, and work times is conducted.

Health Literacy

Intermediate Range

EXAMPLE: Students survey students in their international partnership school and their own classmates about their favorite sports or leisure time activities. Students compare and contrast the gathered data in order to understand the perspectives represented by the participating students.

EXAMPLE: Students write and illustrate a digitized "Target Language Etiquette" digital brochure or pamphlet and/or create a video podcast about this subject to be passed along to novice level students. Then students work together in groups to create their own simulation games concerning target culture dos and don'ts, which are then played by the whole class.

EXAMPLE: Using the Internet, students participate in a "walking tour" of a city in a target language country. Students "shop" for clothing on the website of a department store, using the "currency" of the target language country, and explain to their classmates the items they bought and why they bought them. Students "visit" art museums in the country of their target language culture and give a guided tour of the art works to "tourists" (their classmates).

Advanced Range

EXAMPLE: Working with an international community center, students organize a community garden project and a special event to encourage nutrition and healthy eating habits in the whole community. Students investigate eating habits from the cultures represented by the local immigrant community and crops that grow well in both the target and local climate. Based on their research, students prepare a series of videos that can be used for presentations to teach their peers and/or younger children about the importance of healthy eating habits.

Health Literacy

EXAMPLE: Students collaborate to create a wiki report on a recent important news event in the target language country, focusing on what surprised or interested them about the cultural response. Students locate a blogger in the country who is reporting on the event, contact him/her, share their wiki, and ask for opinions on their cultural evaluations.

Social and Cross-Cultural Skills (continued)

Students as adept language learners understand diverse cultural perspectives and use appropriate socio-linguistic skills in order to function in diverse cultural and linguistic contexts.

Novice Range	Intermediate Range	Advanced Range
	EXAMPLE: Students investigate fast-food websites in target language countries and compare them to their own experiences at fast-food restaurants to find cultural differences. Email/video chat differences with students in target language country to discuss differences. Students create and video a commercial promoting the target language country fast-food restaurant specifically as it is different from ones in the US. They also research the calories and other nutritional aspects of the various food outlets and include that information in a separate report.	

Productivity and Accountability

Students as productive and accountable learners take responsibility for their own learning by actively working to increase their language proficiency and cultural knowledge.

- *Setting and meeting high standards and goals for delivering quality work on time*
- *Demonstrating diligence and a positive work ethic (e.g., being punctual and reliable)*

Novice Range

EXAMPLE: Students use technology to find new music in their favorite genre from the target culture. Students keep a listening log each week in which they document new vocabulary words and cultural insights they gain from listening.

EXAMPLE: Students use a digital self-assessment and portfolio system to track their progress and set achievable learning goals.

Intermediate Range

EXAMPLE: Students organize a conversation table during lunch that allows native speakers and new language learners to communicate on a weekly topic selected by the students.

Advanced Range

EXAMPLE: Students create a class blog related to future plans for career and college choices and how language can enhance these choices. They continually investigate possibilities, reflect critically on these and post their thoughts on the blog.

EXAMPLE: Students propose and choose a cultural- or content-based problem/research quest at the beginning of the year. They then work throughout the year on their own time to become "expert" on this topic, and present their findings at the end of the year (or school term) in a format of their choosing.

EXAMPLE: Students plan and execute an immersion weekend (with sleepover, possibly at school, and meal shopping, planning, etc). The goal is to be immersed in the target language throughout the weekend. Students plan activities (topics to present, or games to play) in the target language throughout the time period.

Financial Literacy

Leadership and Responsibility

Students as responsible leaders leverage their linguistic and cross-cultural skills to inspire others to be fair, accepting, open, and understanding within and beyond the local community.

- *Using interpersonal and problem-solving skills to influence and guide others toward a goal*
- *Leveraging strengths of others to accomplish a common goal*
- *Demonstrating integrity and ethical behavior*
- *Acting responsibly with the interests of the larger community in mind*

Novice Range

EXAMPLE: Students participate in a school partnership program with a sister school in another country by hosting a visiting student. Before their arrival, students use communication tools such as Internet telephony software and email to introduce themselves. The host students create a simple survey that the exchange students complete to determine the kinds of attractions or events they might be interested in seeing. Based on the results of the survey, the host students then prepare an itinerary for the exchange students that includes a variety of cultural and historical activities and that allows the exchange students to gain unique insights into American culture.

Intermediate Range

EXAMPLE: Students organize a school-wide service project partnering with an international aid organization to assist a school in another country. Students use the Internet to locate a school, and then communicate directly with the students at that school about their specific needs. Students then design and carry out a project to acquire the items the students need and send them to the school. Students engage in follow-up conversations with the students in the school to determine what impact the supplies had on the students there.

EXAMPLE: In cooperation with an outside charitable agency, students sponsor a school class in a stricken area by raising money to send necessary supplies such as school materials and books, and by sending cards, letters and school supplies to affected student on a regular basis. Whole class communication could also occasionally be recorded or videotaped, or conducted live over the Internet.

Advanced Range

EXAMPLE: Students write an editorial for a local target language newspaper expressing support for a current social topic from the community.

EXAMPLE: Instructor works collaboratively with students to develop a Tutorial Cadre. The Cadre identifies learners with strengths in different proficiencies and criteria (based on district rubrics and/or ACTFL Performance Guidelines). As part of course requirements, the Tutorial Cadre participates in tutorial sessions for students in lower levels and/or proficiency ranges. The instructor guides tutorial sessions and aids participants in goal setting and tutorial activities. Participants complete surveys regarding the process and quality of expertise of the Tutorial Cadre.

Credits

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Special thanks to Bret Lovejoy, ACTFL Executive Director, the expert review panel, and the many language teachers who submitted examples from their 21st Century classrooms.

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SPONSOR:

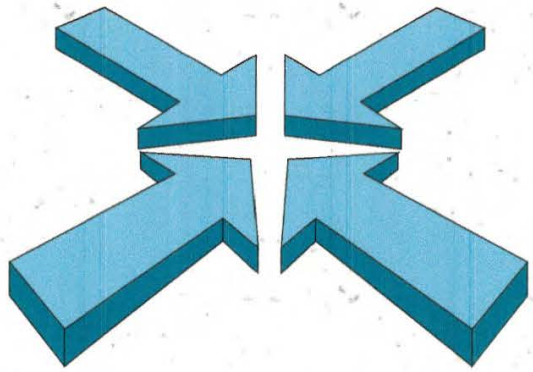
EF Education

APPENDIX J

Sample Curriculum Maps and Types—*Curriculum 21*

Curriculum Mapping

Types & Samples



Based on the work of:

Heidi Hayes Jacobs, Ph.D and Susan Udelhofen, Ph.D

curriculum 21™

Types of Curriculum Maps

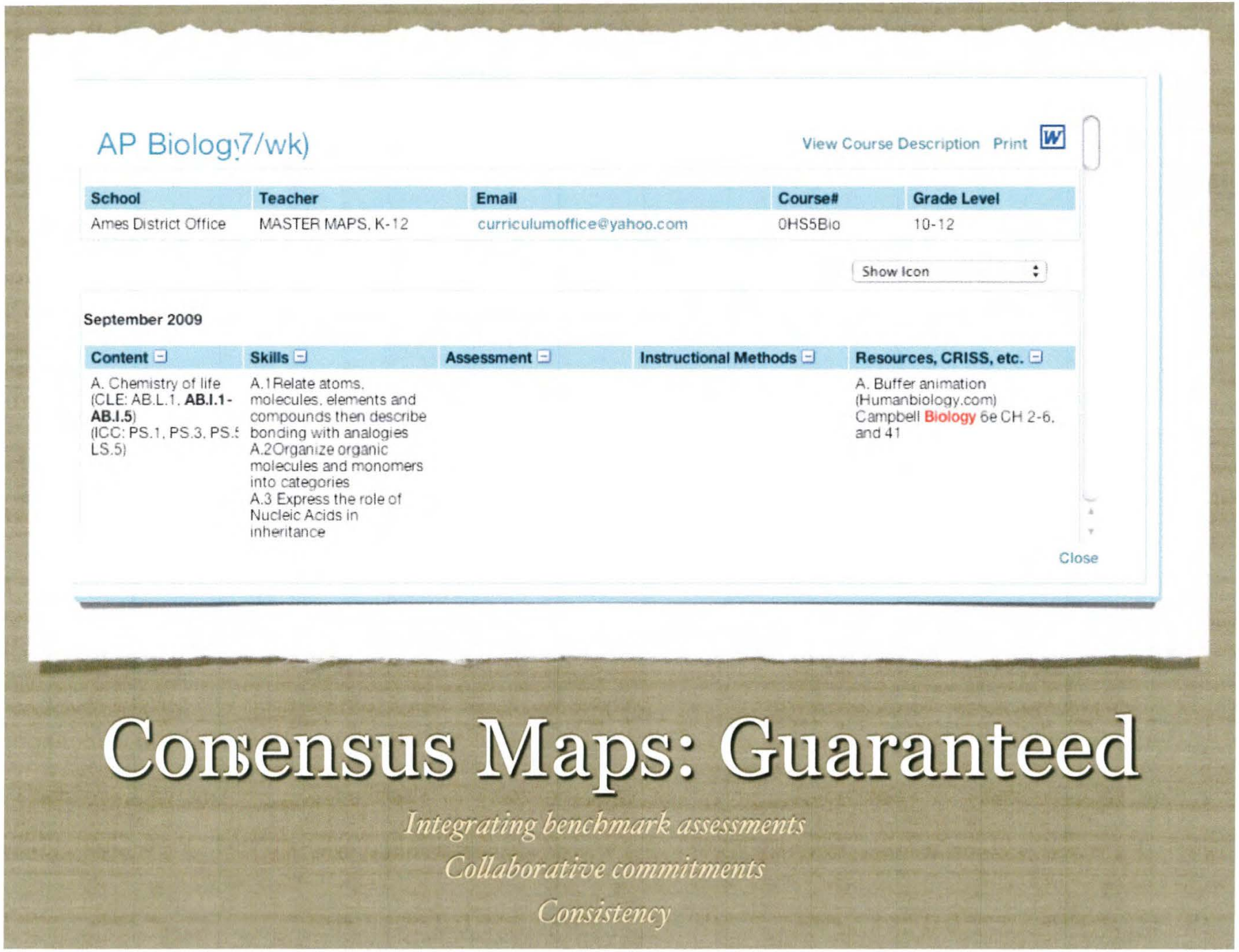
- **Journal Map** (Anecdotal Diary): Mapping as you go
- **Projection Map**: Map what you did last year–use it to plan or project for this year
- **Consensus Map**- Subject/Grade/School decision to map when and what things are taught. The "how" is the individuality.

Sample Curriculum Map Template

Month	Essential Question	Content	Skills	Assessment	Standards

Unit: Multiple Paragraph Essays **Grade or Subject: 8th Grade**

Big Idea/ Major Concept	Essential Questions	Content	Skills	Assessments
• Essays provide a format for a writer to communicate with readers by developing a topic through relevant details and appropriate support. • Writers use a variety of strategies to enhance their message and engage the reader. • The process of writing stimulates the thinking process.	Why do writers pick a particular format/structure for writing? What strategies can I use to help me be a more effective writer? Why does the process of writing have a positive effect on both the reader and the writer?	• 3-5 paragraph essay format • Thesis statement • Focused introductory paragraph • Relevant details and supporting evidence • Logical organization of ideas (e.g., order by chronology, importance...) • Unity/Cohesion • Transitional words and phrases • Personal Writing Style/Voice • Sentence variety • Supportive and evaluative materials **Vocabulary:** Organizational structures, Sentence types (e.g., short, simple, compound, complex, compound-complex), Personal style, Controlled organization, Internal Unity, Voice	• Write a 3-5 paragraph using the appropriate format • Develop a clear and precise thesis statement as the main idea for the essay • Design an interesting and focused introductory paragraph. • Support the development of the thesis with relevant details, facts, examples, and other specific information • Select and organizes relevant content in appropriate order • Includes a closing statement that summarizes the information presented • Substitutes general terms with precise language to explain a topic • Use a variety of transitional words and phrases to create cohesion and unity within and between paragraphs • Apply a variety of sentences to create a certain effect in making your writing more interesting (e.g., short, clear	• 5 paragraph essay on focused topic • Multiple paragraph essay using two different structures-sequence of ideas and comparison/contrast • Graphic organizer – possible supporting details, information, data, charts, and graphs • Essay revision task focusing on improving transitions and precise language. • Self-assessment using essay rubric



Consensus Maps: Guaranteed

Integrating benchmark assessments

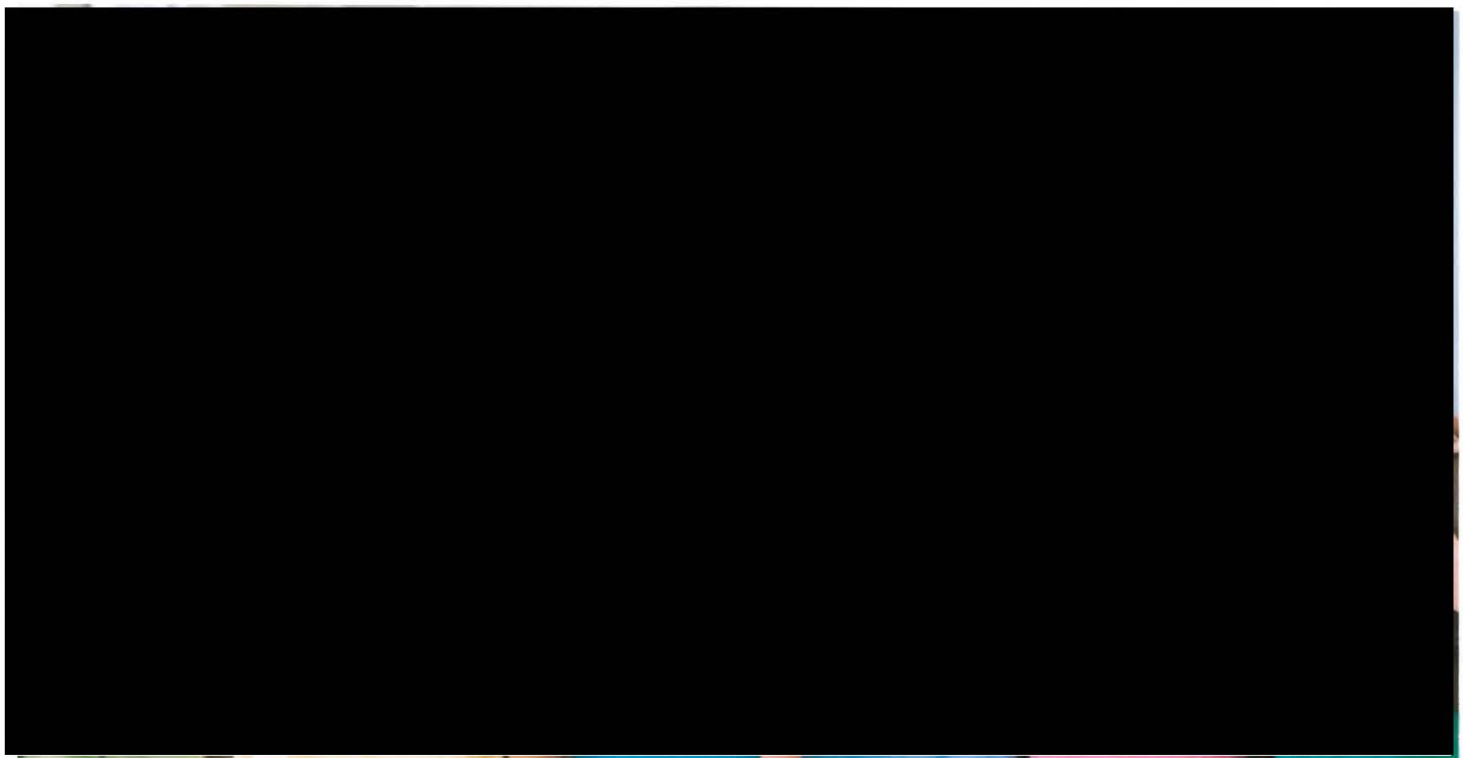
Collaborative commitments

Consistency

APPENDIX K

P21 Assessment Guide

Assessment: A 21st Century Skills Implementation Guide



Produced by

PARTNERSHIP FOR 21ST CENTURY SKILLS

To succeed in college, career and life in the 21st century, students must be supported in mastering both content and skills. This Implementation Guide presents state leaders, policymakers and/or district and school leaders with assessment tactics and examples to assist in statewide 21st century skills initiatives. The Partnership for 21st Century Skills has issued five brief, user-friendly guides, one for each of the P21 support systems:

1. Standards
2. Assessment
3. Professional Development
4. Curriculum & Instruction
5. Learning Environments

It is worth noting that these support systems are not merely ends, but means to a greater goal—to help children develop the cognitive, academic, emotional and physical competencies they need to succeed in 21st century life.

The Partnership recognizes that taking an aligned, comprehensive approach across all five support systems is a significant challenge for all educators. The Implementation Guides have been developed to help support this difficult work. While not every recommendation and example will apply to every state, we hope the resources will help jumpstart efforts to produce more capable, successful 21st century students and citizens.

All 21st century skills initiatives must focus on:

1: Core Academic Subject Mastery

It is important to note that no 21st century skills implementation can be successful without developing core academic subject knowledge and understanding among all students. Students who can think critically and communicate effectively *must build on a base of core academic subject knowledge*. For this reason, core academic subjects are a bedrock component of the P21 Framework for 21st Century Learning. All 21st century skills can and should be taught in the context of core academic subjects.

2: 21st Century Skills Outcomes

In addition to core subject mastery, the Partnership asks every state, district and school the following question: are schools helping students become...

- Critical thinkers?
- Problem solvers?
- Good communicators?
- Good collaborators?
- Information and technology literate?
- Flexible and adaptable?
- Innovative and creative?
- Globally competent?
- Financially literate?

To learn more about the Partnership's state initiatives, the Framework or the Implementation Guides, please visit **www.21stcenturyskills.org**.

Rationale

Our nation faces serious questions in regards to our educational system. The purpose of this document is to provide you with perspective on the key issues to consider—as a policymaker, as state leader, as a district or school administrator—to ensure that you are planning for the future and building strategies that will solidify the success of our students, not only in school and work, but in life.

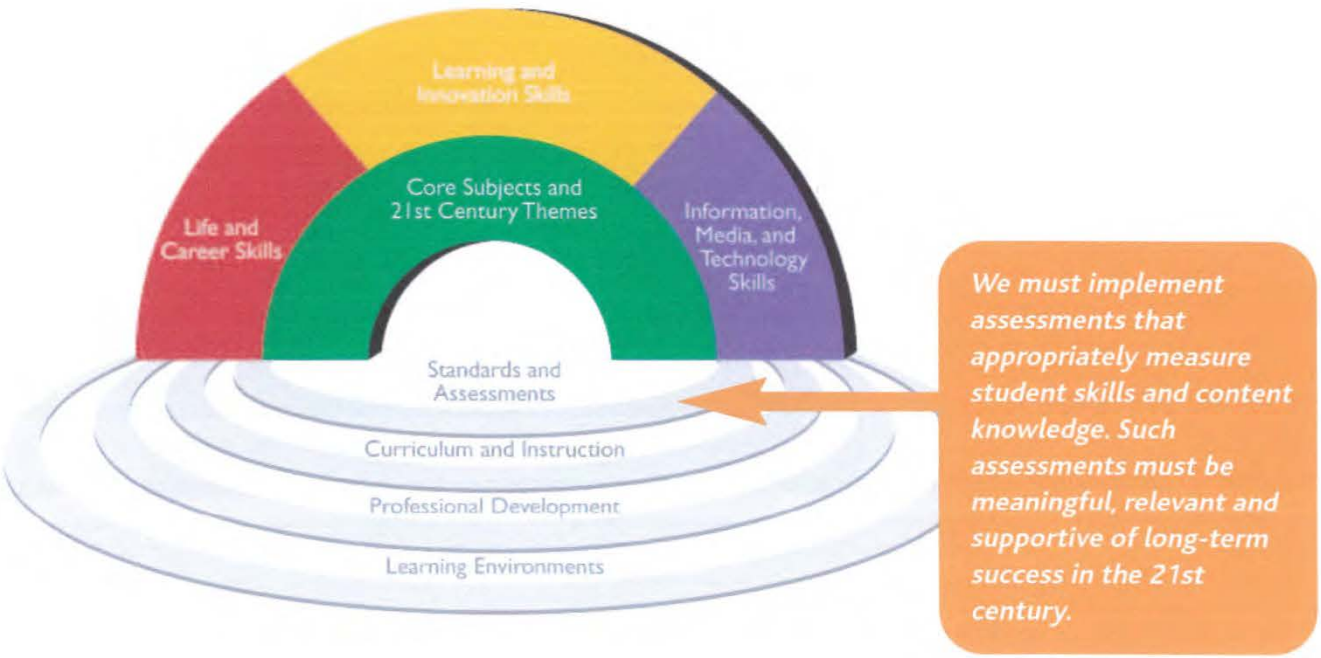
Most K-12 assessments in widespread use today—whether of 21st century skills and content or of traditional core subject areas—measure knowledge of discrete facts, not the ability to apply knowledge in complex situations. High stakes assessments alone do not generate evidence of the skill sets that the business and education communities believe will ensure success in the 21st century.

Vision

Twenty-first century accountability systems—including all forms of measurement—must assess the key dimensions of 21st century learning; they must measure those skills now prized in a complex global environment. There is growing consensus that our education systems should pursue measurement of student outcomes that are:

- Performance-based
- Embedded in curriculum
- Based on a common evidentiary model of cognition and learning

Each of these approaches inherently supports the measurement of 21st century skills.



Guiding Recommendations, Promising Directions

The following action steps can be taken to move states, districts and schools towards ensuring that our nation's students will be prepared for success in the 21st century.

Guiding Recommendations	Promising Directions

#1: Build measurement of 21st century skills into large-scale summative assessments.
Assessments should incorporate broader use of performance-based measures that focus on higher-order thinking and measure skills such as:
• Critical thinking
• Problem solving
• Communication skills
• ICT literacy
• Information literacy
• Media literacy
 	
The assessment development process should be collaborative, involving not only assessment experts, but practitioners, education leaders and, where appropriate, outside vendors who provide assessment-related services and products.
	• **Migrate summative assessments from the rote memorization to higher levels of emphasis on higher-order skills like critical thinking.** *Promising Practice: West Virginia is revamping its summative assessments to incorporate higher-order thinking skills.*
	
	• **Explore how information technology can be incorporated into the country's "gold standard" for assessment.** *Promising Practice: Problem Solving in Technology-Rich Environments (TRE) project.* The National Assessment of Educational Progress (NAEP) tested scientific inquiry skills, such as the ability to find information about a given topic, judge what information is relevant, plan and conduct experiments, monitor one's efforts, organize and interpret results, and communicate a coherent interpretation.[1]
	
	• **Engage students in problem-solving tasks that align with core subject standards.** *Promising Practice: Calipers Project (NSF).* With a focus on physical science standards related to forces and motion and life sciences standards related to populations and ecosystems, Calipers engages students in problem-solving tasks, such as determining the proper angle and speed to rescue an injured skier on an icy mountain.[2]
	
	• **Develop standards-based, balanced approaches to assessment that allow students to demonstrate their knowledge through real-world tasks and building portfolios.** *Promising Practice: The Ohio Performance Assessment Pilot Project* is designed to support the initial research, development and pilot testing of a standards-based, balanced assessment approach, allowing students to demonstrate their knowledge and skills through various real-world tasks and activities, the building of portfolios and other exercises. The pilot program uses multiple measures to evaluate students. By monitoring each school's program and receiving feedback from teachers and administrators, Ohio will begin to develop measures that offer a more comprehensive assessment of academic progress.[3]
	
	• **Develop evidentiary based assessments of 21st century skills that leverage performance data for continuously improved learning.**
	
	  ◦ *Promising Practice: the College and Work Readiness Assessment (CWRA)* measures how students perform on constructed response tasks that require an integrated set of critical thinking, analytic reasoning, problem solving and written communication skills.
	
	  ◦ *Promising Practice: UCLA's IMMEX* (**I**nteractive **M**ulti-**M**edia **EX**ercises) http://www.immex.ucla.edu/

[1] Tucker, Bill. Beyond the Bubble. Rep. Feb. 2009. Education Sector Reports. http://www.educationsector.org/usr_doc/Beyond_the_Bubble.pdf.
[2] Ibid.
[3] Ohio Performance Assessment Pilot Project." Ohio Department of Education. 30 Dec. 2008. 19 Feb. 2009 http://www.ode.state.oh.us.

Guiding Recommendations	Promising Directions
#2: Globally benchmark summative assessments. We must ensure that U.S. students are being measured for their mastery of 21st century skills in ways that allow comparisons with students from other countries. To compete in a global economy, our students must demonstrate excellence on a global scale, not just a local or national scale.	Although they are not fully inclusive of 21st century skills in all cases, PISA and TIMMS are the best examples of this as of the publication of this document. • **Program for International Student Assessment (PISA)** assesses high school students ICT literacy through establishing current skill and testing through various activities. Performance is assessed based not only on the ability to complete tasks, but also the manner in which tasks are completed. http://www.pisa.oecd.org • **Trends in International Mathematics and Science Study (TIMSS)** provides reliable and timely data on the mathematics and science achievement of U.S. 4th- and 8th-grade students compared to that of students in other countries. http://nces.ed.gov/timss/

#3: Build 21st century skills into formative assessment strategies. States and districts should provide teachers with rubrics and checklists—along with the necessary professional development—to assess student mastery of 21st century skills in ways that impact, inform and improve learning in real time.	• **Use rubrics to evaluate 21st century skills.**
	  • *Promising Practice: Catalina Foothills School District* in Arizona has a series of rubrics used to assess students in real time. Rubrics evaluate 21st century skills such as critical thinking, productivity, and self-direction.
	  • *Promising Practice: Lawrence Township* of Indiana currently uses rubrics to evaluate interactive communication and self-direction.
	  • *Promising Practice: New Technology High School* has implemented rubrics for evaluating peer collaboration and teamwork, work ethic and written communication.
	• **Develop innovative performance-based measurements.** *Promising Practice: The North Carolina Business Committee for Education* and the Center for 21st Century Skills are currently entering the second year of work with the N.C. Science, Mathematics and Technology Center and Dr. John Bransford of the University of Washington to develop and pilot a multimedia online interactive scenario-based biology assessment.

#4: Create an aligned accountability system; all assessment strategies should align with 21st century skills standards, professional development and curriculum and instruction. The goal here is to create an *aligned system* that enhances student learning **and** satisfies accountability requirements; for example, combining large-scale and classroom assessments using curriculum embedded performance tasks allows educators at every level to understand how students are progressing and *why*, and to use this information to enhance student learning in real time.[4] Assessment strategies that measure 21st century skills must be developed in concert with standards, curriculum, instruction and professional development approaches.	**Develop valid, reliable assessments aligned to 21st century skills whose results can be used to inform instruction and ensure accountability.** *Promising Practice: West Virginia* is developing a new assessment program to create valid and reliable assessments that 1) are aligned to the 21st century skill descriptors and state content standards and objectives, 2) inform instruction, 3) promote school improvement and 4) produce results that can be used to calculate school, county and state accountability.

[4] Darling-Hammond, Linda. Powerful Learning: What We Know About Teaching for Understanding. San Francisco: John Wiley & Sons, Inc., 2008. pps 210-2-11.

Guiding Recommendations	Promising Directions
#5: Consider ICT literacy assessment as a starting point. ICT literacy assessment, both formative and summative, provides an effective starting point for many states due to the fact that commercial testing products are already available.	**Assess student abilities to navigate, critically evaluate and make sense of information available through digital technology.** *Promising Practices:* • *ETS iSkills Assessment http://www.ets.org/ictliteracy/* • *[U.K. specific:] Key Stage 3 ICT Literacy Assessment, Great Britain* • *Learning.com's TechLiteracy Assessment* • *PISA ICT Literacy Assessment*
#6: Encourage and fund research and development around 21st century skills assessment. State departments of education, state universities, colleges of education and like institutions should focus efforts on a rigorous agenda to work on and have major core competence in assessment of 21st century skills. They should strive to build fundamental centers of excellence around the assessment of 21st century skills, including new item types and uses of technology.	*Promising Practice: Assessment and Teaching of 21st Century Skills* is an international, collaborative effort sponsored by Cisco, Intel and Microsoft intended to provide: clear, operational definitions of 21st Century skills, solutions to technical psychometric problems that confront those seeking to develop tests of these skills, strategies for delivering assessments using ICT, and classroom-based strategies for helping students develop the skills. http://www.atc21s.org/ *Promising Practice: The Educational Testing Service's Cognitively Based Assessment of*, for and as Learning (CBAL) is a technology-based research project in Portland, Maine. In schools with one-to-one laptop programs, the project focuses on the research and development of a cognitive model for how students read and develop reading skills.

#7: Create open repositories for assessment items and rubrics that help measure 21st century skills. State departments of education should become recognized as centers of excellence for measuring 21st century skills, creating open repositories for sharing assessment items, rubrics and promising practices.	• **Align skill assessment rubrics with business expectations for workplace readiness.** *Promising Practice: New Jersey* is incorporating 21st Century Knowledge and Skills into the protocol established by the NJ Performance Assessment Alliance Project.
	• **Collect and review existing assessment tools to formulate state best practices.**
	  • *Promising Practice: Massachusetts* is reviewing rubrics for evaluating high school graduation projects from several other states with the goal of developing their own rubrics based on state standards and frameworks. These will be shared with schools in order to ensure that even these first-stage assessments meet high standards.
	  • *Promising Practice:* in 2004 the ECS National Center for Learning and Citizenship started collecting, judging and coding existing assessment instruments for civic education. The Campaign for the Civic Mission of Schools and the Center for Civic Education have contributed resources to support the creation of this draft database. http://www.ecs.org/Qna/splash_new.asp
	• **Develop high-quality rubrics for self-direction, critical thinking, information literacy and other skill areas.**
	  • *Promising Practice: Catalina Foothills School District (Tucson, AZ)* and *Lawrence Township ISD (IN)* have developed a number of high-quality rubrics focused on specific 21st century skill areas. These can be located on Route 21 (http://www.21stcenturyskills.org/route21/).

Resources

In addition to the listings above, The Partnership for 21st Century Skills has compiled the following list of resources to provide you with background knowledge, models and promising practices in the various areas of assessment, as well as a list of key expert contacts.

Education Sector
Bill Tucker and Elena Silva
http://www.educationsector.org

Microsoft/Cisco/Intel Assessment of 21st Century Skills Project
Bob Kozma
http://www.atc21s.org

The New Technology Foundation
James Popham, Director of Strategic Planning http://www.newtechfoundation.org

Bob Pearlman, Strategy Consultant for Education Reform http://www.bobpearlman.org/

Route 21: P21's online database that includes district-created rubrics for assessing 21st century skills.
http://www.21stcenturyskills.org/route21/

The School Redesign Network
Ray Pecheone, Director
http://www.srnleads.org/

The University of Washington
John Bransford, Professor of Education http://education.washington.edu

A complete updated list of available references, including reports, state initiatives, white papers and more are available at **www.21stcenturyskills.org.**

Free White Paper on 21st Century Skills Assessment
Download "21st Century Skills Assessment" from the Partnership for 21st Century Skills website at http://www.21stcenturyskills.org/documents/21st_century_skills_assessment.pdf.

About the Partnership for 21st Century Skills

The Partnership for 21st Century Skills has emerged as the leading advocacy organization focused on infusing 21st century skills into education. The organization brings together the business community, education leaders and policymakers to define a powerful vision for 21st century education to ensure every child's success as citizens and workers in the 21st century. The Partnership encourages schools, districts and states to advocate for the infusion of 21st century skills into education and provides tools and resources to help facilitate and drive change.

To learn more about 21st century learning and state actions to date, visit **www.21stcenturyskills.org.**

PARTNERSHIP FOR 21ST CENTURY SKILLS

Assessment of 21st Century Skil

[redacted]

THE CASE FOR 21ST CENTURY EDUCATION:

The success of US education in the 21st century depends upon student acquisition of 21st century skills because:

1. **Education is changing.** We can no longer claim that the US educational results are unparalleled. Students around the world outperform American students on assessments that measure 21st century skills. Today's teachers need better tools to address this growing problem.

2. **Competition is changing internationally.** Innovation and creativity no longer set US education apart. Innovators around the world rival Americans in breakthroughs that fuel economic competitiveness.

3. **The workplace, jobs and skill demands are changing.** Today every student, whether he/she plans to go on to a 4-year college, trade school or entry-level job, requires 21st century skills to succeed. We need to ensure that all students are qualified to succeed in work and life in this new global economy.

21st century skills are the skills students need to succeed in work, school and life. They include:

- Core subjects (as defined by NCLB)
- 21st century content: global awareness, financial, economic, business and entrepreneurial literacy, civic literacy and health and wellness awareness
- Learning and thinking skills: critical thinking and problem solving skills, communications skills, creativity and innovation skills, collaboration skills, contextual learning skills and information and media literacy skills
- Information and communications technology literacy
- Life skills: leadership, ethics, accountability, adaptability, personal productivity, personal responsibility, people skills, self-direction and social responsibility

WHY DO WE NEED ASSESSMENTS OF 21ST CENTURY SKILLS?

Most K-12 assessments in widespread use today—whether they be of 21st century skills and content or of traditional core subject areas—measure a student's knowledge of discrete facts, not a student's ability to apply knowledge in complex situations. High stakes assessments alone do not generate evidence of the skill sets that the business and education communities believe will ensure success in the 21st century.

WHAT IS ASSESSMENT OF 21ST CENTURY SKILLS?

This new model of assessment must:

- Measure student mastery of 21st century skills.
- Diagnose where students require intervention in terms of 21st century skills.
- Measure the educational system's effectiveness in teaching 21st century skills.
- Permit students to demonstrate their proficiency in 21st century skills to educational institutions and prospective employers.

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WHAT DOES ASSESSMENT OF 21ST CENTURY SKILLS LOOK LIKE?

As a nation, we must measure what we value. Yet there are no assessments of 21st century skills in widespread use today. Progress is emerging, however, in the following examples, which model how assessment of 21st century skills can be undertaken successfully:

- **The ETS Information, Communication and Technology (ICT) Literacy Assessment is a 75-minute scenario-based test that is designed to measure students' ability to use digital technology, communication tools and networks to solve information problems.** The test measures the ability to use critical thinking skills to define, access, manage, integrate, evaluate, create and communicate information in a technological environment. The Core Level assessment is designed for students transitioning from high school to college, and for first- and second-year students at higher education institutions. The Advanced Level is for rising college juniors and for students transitioning from two-year to four-year institutions.

- **At Coventry High school in Rhode Island, students post online portfolios demonstrating not only their mastery of a content area, but how they mastered it.** Students post their work using both text and multimedia presentations. They also include reflective comments about the process of learning, noting, for example, when collaborative exercises worked well and what information was gained as a result. Teachers gain a more thorough and nuanced view of a student's progress through this type of classroom-based assessment tool.

- **The Collegiate Learning Assessment (CLA), developed by the Council for Aid to Education, is a national effort that provides colleges and universities with information about how well their students are doing with respect to critical thinking, analytic reasoning, and written communication.** Each CLA performance task requires students to use different sets of critical-thinking, analytic-reasoning, problem-solving, and written-communication skills to answer several open-ended questions involving a hypothetical, but realistic, situation. A high-school version has been developed and is currently being piloted.

- **Britain's new Key Stage 3 (for ages 12–13) ICT Onscreen ICT Test assesses both content-area and thinking skills online.** It requires students to use their ICT skills to solve a set of complex problems involving research, communication, information management, and presentation. Test activities take place within a "virtual town," with its visual and informational assets (text, pictures, data, and offline articles, maps, photographs, diagrams, tables, charts, and interview notes or transcripts). Students use these documents to draft their answers to the task's questions within the 90-minute test period.

Questions you can consider about 21st century skills and assessment:

1. **Is my district considering developing or adopting general achievement tests that include 21st century skills?**
2. **Are teachers in my district using classroom-based assessments that measure 21st century skills?**

WHAT IS THE PARTNERSHIP FOR 21ST CENTURY SKILLS?

The Partnership for 21st Century Skills is a coalition of corporations and organizations that serves as a catalyst to position 21st century skills at the center of US K-12 education by building collaborative partnerships among education, business, communities and government.

APPENDIX L

California Youth STEM Community Service Learning Projects

STEM AND SERVICE LEARNING PROJECTS

In 2010, with funding from Learn and Serve America, a federally funded program of the National Corporation for Community Service, Youth Community Service developed a STEM and Service-Learning program for middle and high school students. The goal of this program is to combine STEM education with community service. Students work with their classroom teachers, nonprofit and for-profit organizations, and higher education faculty and students to learn core STEM academic content, while at the same time meet community needs through STEM-related projects. Past projects have included the development of a school site outdoor classroom, designing a solar suitcase for use in a maternity ward in Africa, organizing a "bike to school day", and developing a school-based recycling program.

Current and past participating schools include Sequoia High School, KIPP Collegiate and KIPP Heartwood Academy in San Jose, Stevenson School in Carmel Valley, Marguerite Maze Middle School in Monterey, Thomas Russell Middle School in San Jose, Los Gatos High School, Lincoln High School in San Jose, and Monterey High School.

Examples of past projects include:

Humane Society Silicon Valley
KIPP Heartwood Academy and KIPP San Jose Collegiate
Team Leader: Jaime Allen, Humane Society, Director of Education

Twenty middle and high school students joined Humane Society for a semester-long service learning project to benefit animals at Humane Society Silicon Valley starting in January 2012. The students from KIPP Heartwood Academy and KIPP San Jose Collegiate in San Jose, were selected via essay application, taking into consideration those students who would most benefit - those who were exhibiting at-risk behavior. During the program, the students learned about animal welfare topics like overpopulation, responsible pet care, positive training, and adoption. They trained the shelter animals every day they were at HSSV.

Mini-Biome Project
Stevenson School
Teacher: Mary Ann Wilkerson

In this year-long program, sixth graders at Stevenson School assessed environmental changes at the Hilton Bialek Habitat in Carmel Valley. The students studied abiotic (non-living) and biotic (living) factors at three separate locations in the Habitat - the pond, the bee garden, and the meadow. They gained experience with electronic data collecting devices that measured air temperature, soil temperature, relative humidity, soil moisture, light intensity and soil pH. The students also measured the height and density of plants and made notes of animal activity.

Creating an Outdoor Classroom
Marguerite Maze Middle School
Teacher: Shari Vanderpool

Marguerite Maza Middle School students transformed a weed and flea infested area on the campus into an Outdoor Classroom. Students cleared the area of weeds, turned the soil and laid down mulch made from recycled materials in preparation for plants suitable for a school environment. The students also built two fences, one around the border of the classroom and one around two drainage areas that were potential stumbling hazards for students. Benches and tables to accommodate up to 44 students were installed and stepping stones were made and placed between the plants for both weed cover and art expression. As a final touch, four mini murals were created by students and placed around the outdoor classroom: one mural focused on the Club Live message of health lives, one showed the plants in the outdoor classroom, one had a list of the students' names who created the classroom, and mural showed the students and teachers sitting in the new classroom.

Math Skills and Campus Pride
Thomas Russell Middle School
Teacher: Katy Zamudio

Twenty-three eighth grade math students at Thomas Russell Middle School planned and implemented two service projects aimed at beautifying an area of the school grounds and improving the schools ecological footprint. The students placed two recycling bins for bottles and cans outside their homeroom classroom. They created posters encouraging school staff and students to use these bins. At the end of the collection period, they took the contents of the bins to their local recycling center and donated the money received to the Milipitas Food Bank. Because the students made only $7.96 for their efforts, they wanted to set a high goal of bottles collected/pound.

They applied their math skills to determine the volume of the collecting bins, revenue per unit (bottle, can, glass), and how many additional bottles and cans they would need to collect to reach their goal.

The schools zen garden needed more sand and fewer weeds. The students determined the number and costs of sandbags needed to fill the garden, and raked and pulled weeds, trimmed the garden's bushes, and transplanted new plants.

Solar Suitcases for a Cause
Monterey High School
Project Team Leaders: Earl Declet, Tamisha Smith, James Cook

Forty students created a portable solar powered generator that will power a maternity ward in Africa. The students divided into three groups. One group will work on the actual construction of the generator; the second group will work on fundraising for the project; and the third group will create a presentation and present the project to the public upon its completion. Through this project, the students learned solar usage as well as all the components behind building the suitcases.

Ocean Guardian's
Pacific Grove Middle School
Teacher: Becky Ohsiek

Pacific Grove Middle School science students sought to answer the questions -- What is the impact of marine debris --- specifically plastic pollution --- on the marine ecosystem? And, how can Pacific Grove students reduce the impact of pollution on local marine life?

Pacific Grove students adopted Lovers Point Beach through California Coastal commission's Adopt-A-Beach program. Save Our Shores staff provided training to the students on effective beach clean-up methods, which included categorizing and tallying all trash collected. One clean-up effort yielded eight pounds of trash.

To learn more about the impact of debris on marine life, Ms. Ohsiek created classroom curriculum that included a simulated beach contamination. Students had to identify the contaminant, determine the best method and associated costs to remove the contaminant. For the final reflection, Ms. Ohsiek's students, as well as other students and teachers on the campus, created a reflection quilt that had 168 squares of art and poetry depicting marine life.

APPENDIX M

Love and Logic Institute: Information and Research

The *9 Essential Skills for the Love and Logic Classroom*

Supporting Theory and Research

Updated December 2011

Is Love and Logic research based? Listed below is a sampling of some supporting theory and research:

Neutralizing Student Arguing

Klahr, A., Rueter, M., McGue, M., Iacono, W., & Burt, A. (2011) The relationship between parent-child conflict and adolescent antisocial behavior: confirming shared environmental mediation. *Journal of Abnormal Child Psychology.* 39, 683-694.

Patterson, G. (1976) The aggressive child: Victim and architect of a coercive system. In E. Mash, L. Hamerlynck, & L. Handy (Eds.), *Behavior Modification and Families* (pp. 267-316) New York: Brunner/Mazel.

Webster-Stratton, C. (1988). Mothers' and fathers' perceptions of child deviance: Roles of parent and child behaviors and parent adjustment. *Journal of Consulting and Clinical Psychology,* 56, 909-915.

Delayed Consequences

Rescorla, R. (1988). Pavlovian conditioning: It's not what you think it is. *American Psychologist*, 43, 151-160

Sutton, R. E. (2004). Emotion regulation goals and strategies of teachers. *Social Psychology of Education*, 7, 379–398.

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Thomas, J. A., and Montomery, P. (1998). On becoming a good teacher: Reflective practice with regard to children's voices. *Journal of Teacher Education*, 49: 372–380.

Empathy

Arsenio, W. F., & Lemerise, E. A. (2001). Varieties of childhood bullying: Values, emotion processes and social competence. *Social Development*, 10, 59–73.

Connor, C., Son, S., Hindman, A., & Morrison, F. (2005). Teacher qualifications, classroom practices, and preschool experience: complex effects on first graders' vocabulary and early reading outcomes. *Journal of School Psychology,* 43, 343-375

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Kotulak, R. (1997). *Inside the Brain.* Kansas City, MO: Andrews McNeel Publishing.

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The Recovery Process

Osborne, A. (1996). *Legal Issues in Special Education*. Boston: Allyn and Bacon.

Skiba, R. (2002). Special education and school discipline: A precarious balance. *Behavior Disorders*, 27, 81-97

Wright, D. (2001). Time away: A procedure to enhance instructional control. *Communique,* 29(5). National Association of School Psychologists.

Developing Positive Teacher/Student Relationships

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Kramer-Schlosser, L. (1992). Teacher distance and student disengagement: Schools lives on the margin. *Journal of Teacher Education*, 43, 128-140.

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Data on the *9 Essential Skills Program*

Is there any empirical data supporting the effectiveness of the *9 Essential Skills for the Love and Logic Classroom* teacher training curriculum? The answer is yes:

Spencer (2008) observed that teachers trained in the program believed that it:

- Had a positive impact on their school's learning environment
- Had a positive impact on student achievement
- Allowed them to maximize instructional time
- Enabled them to spend less time dealing with student misbehavior
- Prepared them to deal more effectively with this misbehavior

Spencer, P. (2008). *A logical choice? Perceived impacts of love and logic.* (Doctoral dissertation, Capella University).

Bullock (2011) observed similar findings, with teachers indicating that the program:

- Helped them remain calmer and more positive
- Enabled them to avoid arguing with students
- Allowed them to spend more time teaching
- Helped them gain more cooperation from students
- Improved their relationships with students

Bullock, D. (2011). *Early childhood teachers' perceptions of student behavior after implementing love and logic classroom management and discipline program*. (Doctoral dissertation, Walden University)

Our Own Research

We've also been conducting our own research. Beginning in 2002, when the curricula first became available to schools, we've collected data on teacher's perceptions of: (1) how the 9 Essential Skills affected student behavior; and (2) how these skills affected their own level of stress and confidence as educators. At the time of this printing, we've analyzed 1,426 questionnaires completed by educators around the United States. Tabulated below are basic data describing this sample:

Characteristic	N	Percent or Mean	Standard Deviation
Job Title	1426	61.4% Regular Teacher; 11.5% Special Educator; 3.0% Counselor/Social Worker/Psychologist; 1.8% Administrator; 8.4% Paraprofessional; 13.9% Other	
Grade Level	1416	4.25	2.89
Years of experience	1420	12.61	11.32

Prior to receiving training in the *9 Essential* Skills curricula, participants in this study were asked to rate on a scale of 1-5 how much they agreed with a series of statements pertaining to the behavior of their students, as well as their own perceptions of their experience as educators. (A rating of "1" indicated "Strongly Disagree" whereas a rating of 5 indicated "Strongly Agree") Participants were also asked to complete these ratings after receiving the training. Pre and Post mean scores for each scale are tabulated below:

Statement	Pre training mean	Post training mean
The most behaviorally challenging students…		
...argue with me.	3.17	2.28
...interrupt me when I am teaching.	3.80	3.00
...cooperate with me.	2.89	3.42
...take responsibility for their decisions.	2.29	3.00
...refuse to do their work.	3.04	2.53
...solve their own problems with guidance.	2.80	3.40
I find myself…		
...having fun with students.	4.15	4.34
…feeling really stressed-out and exhausted.	2.85	2.42
...confident that I can handle discipline problems.	3.60	4.11
...enjoying good relationships with challenging students.	3.61	4.00

To further analyze these data, we first, grouped the 10 survey items into two theoretically distinct subscales: The Student Misbehavior Scale (first 6 items) and the Educator Stress Scale (last 4 items). Items were reverse coded as appropriate (e.g., "The most behaviorally challenging students take responsibility for their poor decisions") so that the final subscale scores provided an indicator of the extent of student misbehavior (ranging from 6 to 30) and educator stress (ranging from 4 to 20) respectively. We employed paired samples t tests for all mean comparisons to examine whether there were any significant pre-post differences in the survey items and subscales. We also tested the normality assumptions—i.e., homogeneity of variance, skewness, and kurtosis—underlying the use of the t test (Katz, Restori, & Lee, 2009). We then performed Wilcoxon's signed-ranks test, a non-parametric test that is not sensitive to normality violations (Blair & Higgins, 1985), for any subscale mean comparison that violated one or more of the normality assumptions. We set alpha at .05 for all primary analyses.

Whenever possible, we included *r* as an indicator of effect size to reflect the proportion of variance that taking the *Nine Essential Skills for the Love & Logic Classroom* training accounted for in the outcome variables (student misbehavior and/or educator stress). We used values of $r = .10$, .24, and .37 as indicators of small, medium, and large effect sizes respectively as per Cohen's (1992) classification.

Blair, R. C., & Higgins, J. J. (1985). Comparison of the power of the paired samples t test to that of Wilcoxon's signed-ranks test under various population shapes. *Psychological Bulletin, 97*, 119-128.

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*, 155–159.

Katz, G. S., Restori, A. F., & Lee, H. B. (2009). A Monte Carlo study comparing the Levene test to other homogeneity of variance tests. *North American Journal of Psychology, 11*, 511-522.

Student Misbehavior Scale

As tabulated below, educator-reported student misbehavior declined significantly from pre- to post-training (t (1360) = 28.63, $p < .001$), with subscale scores reduced by 3.67 points (out of 30) on average, a large effect ($r > .37$). Although the distribution was virtually symmetric (skew = .02), it was leptokurtic (kurtosis = .35); thus, further non-parametric analyses were performed. We ran a Wilcoxon's signed-ranks test, which showed that the mean pre-post difference was still statistically significant at $p < .001$. In terms of individual items, all showed significant pre-post reductions ($p < .001$); the two largest pre-post decreases following completion of the *Love & Logic* curriculum for the classroom were that educators reported their students misbehaving less often (item 2) as well as taking more responsibility for their own poor decisions (item 4).

Educator Stress Scale

In the table below, you will also see that self-reported teacher/educator stress also declined significantly from pre- to post-training (t (1394) = 18.75, $p < .001$), with subscale scores reduced by 1.49 points (out of 20) on average, a medium effect ($r > .24$). The distribution was both highly positively skewed (skew = 3.05) and highly leptokurtic (kurtosis = 45.15), indicating that further non-parametric analyses were warranted. We therefore conducted a Wilcoxon's signed-ranks test, which showed that the mean pre-post difference was still statistically significant at $p < .001$. With regard to individual subscale items, all showed significant pre-post changes in the predicted direction at $p < .001$, with the exception of "As an educator, I find myself having fun with my students," which decreased significantly at $p = .012$, but only by .11 points on average. Educators reported the largest increases in their confidence for handling classroom discipline after having taken the *Nine Essential Skills for the Love & Logic Classroom* training.

Subscale	**N**	**Pre-test (*Mean, SD*)**	**Post-test (*Mean, SD*)**	**Paired Samples *t* statistic**	**Pre-Post Significance (*p* value)**	**Effect size** (r)
Student Misbehavior	1361	20.08 (3.92)	16.41 (4.35)	28.63	.000	.40
Educator Stress	1395	9.54 (2.66)	8.05 (2.65)	18.75	.000	.27

Note. Possible score range on the Student Misbehavior Subscale was 6 to 30; possible score range on the Educator Stress subscale was 4 to 20. Higher scores reflect more educator-reported student misbehavior or educator/teacher stress.

To inquire about updates to supporting research, please phone us at 1-800-338-4065. One of our friendly customer care representatives will be happy to assist you.

If you are interested in conduction research on this curriculum, please contact us as well!

EFFECTS OF THE *9 ESSENTIALS SKILLS FOR THE LOVE AND LOGIC CLASSROOM*® TRAINING PROGRAM ON TEACHERS PERCEPTIONS OF THEIR STUDENTS BEHAVIOR AND THEIR OWN TEACHING COMPETENCE: A PRELIMINARY INVESTIGATION

Charles Fay, Ph.D.

Introduction

Over the past thirty years, severe disruptive behavior among American youth has evolved from a relatively minor concern, shared by only a few educators and parents, to a major day-to-day crisis experienced by many. Veteran teachers continually report that the students entering their classrooms today are vastly more challenging than the ones they taught as recently as a decade ago. Clearly, both educators and the general public view child discipline as one of the most challenging and important issues facing today's schools (*American Educator*, 1995-96; Elan, Rose & Gallup, 1996; Lewis, Sugai, & Colvin, 1998). Mirroring these concerns has been research documenting significant increases in the frequency of behaviors ranging from minor disruptions (Walker, Colvin & Ramsey, 1995) to fatal violence (Koop & Lundberg, 1992; Rutherford & Nelson, 1995).

There is no doubt that educators and parents are experiencing ever-increasing needs for practical ways of preventing discipline problems, teaching pro-social behavior, and promoting responsibility. Research has shown that punishment-based approaches actually increase disruptive behaviors (Lewis, Sugai, & Colvin, 1998; Mayer & Sulzer-Azaroff, 1991). Further, approaches that fail to provide clear behavioral limits and consequences have also yielded less poor results (Mayer, 1995). Out of dissatisfaction with many traditional approaches, concerns over the increasing numbers of at-risk students, and requests from parents and educators throughout the United States, the *Love and Logic* theory and set of discipline techniques was developed (see Cline & Fay, 1990; Cline & Fay, 1992; Fay & Funk, 1995; Fay & Cline, 1997). At the theoretical core of this approach is the idea that success for children of all ages rests on a balance of unconditional compassion, firm behavioral limits, and logical consequences.

The primary goal of the Love and Logic program is to give parents, educators, and others working with children practical strategies for reducing behavior problems, increasing motivation, and building assets which contribute to life-long responsibility and resiliency. Benson, Galbraith and Espeland (1995) in their study of 270,000 students grades six through twelve, observed a number of resiliency factors, or "developmental assets" which help children avoid academic failure, emotional problems, criminal behavior, substance abuse, and other negative outcomes. Similar findings have been obtained by others studying the phenomenon of resilience in children (see Garmezy, 1985; Luthar & Zigler, 1991; Masten & Coatsworth, 1998; Werner & Smith, 1992). The Love and Logic theory and set of techniques give specific and practical tools for building the following assets:

Developmental Assets Addressed by the Love and Logic Program

1. Highly supportive and loving families and schools.
2. Parents who establish open communication with their children.
3. Positive parent-teacher relationships and parent involvement.
4. Positive school climate.
5. Appropriate standards for behavior at home and school (i.e., limits).
6. Positive school and parental discipline.
7. Positive relationships between children and adults other than parents.
8. High achievement motivation and aspirations.
9. Learning to use empathy with others.
10. Decision-making skills.
11. Self-esteem.
12. Hope, or a positive view, of the world and the future.

Theoretical and Empirical Roots of the Love and Logic Program

The theoretical and empirical roots of Love and Logic stem from two areas: (1) studies examining basic principles of learning and conditioning, including cognitive or social learning theories (e.g., Bandura, 1977; Pavlov, 1927; Rescorla, 1988; Thorndike, 1905; Skinner, 1953; Watson & Reyner, 1920) and (2) research examining human emotional needs and their relationship to motivation (e.g., Glasser, 1969; Maslow, 1954; Ng, 1980; and Rogers, 1961)

Supporting Theory and Research

The *9 Essential Skills for the Love and Logic Classroom* program is guided by five basic principles, each firmly grounded in research:

1. Preserve and enhance the child's self-concept.
2. Teach children how to own and solve the problems they create.
3. Share the control and decision-making.
4. Combine consequences with high levels of empathy and warmth.
5. Build the adult-child relationship.

A key component of the program involves giving parents and educators a firm rationale for each of the above principles, as well as practical tools for following them.

Preserve and enhance the child's self-concept.

The *Love and Logic* program teaches that each and every intervention or technique must be designed in a way to preserve or enhance the child's self-concept. Research has clearly shown that one's view of self has significant motivational influences on behavior and cognition (Harter, 1986). Further, Bandura (1977) proposed that self-efficacy beliefs stem directly from one's cognitive appraisal of task difficulty, one's abilities, and whether effort or struggle will yield success. The *Love and Logic* program focuses heavily on engineering situations that encourage children to struggle with solvable problems, receive guidance from adults, achieve success, and attribute their success to effort. Weiner (1979) observed that these types of internal attributions to effort or struggle are key to developing high levels of achievement motivation.

Teach children how to own and solve the problems they create.

A key concept guiding the *Love and Logic* program is the idea that children develop problem-solving skills only when two conditions exist: (1) they are required by the adults around them to think about and solve the problems they create; and (2) these adults teach problem-solving skills through modeling and instruction. Regarding this first condition, Kerr and Bowen (1988) argued that one of the most important tasks for individuals and systems is to develop clear boundaries regarding problem-ownership. When parents or educators own problems that should be solved by children, and when children take on adult problems, the health of the family or school system suffers. Everyone is involved in everybody else's problems, and nobody has the energy to deal with their own. In contrast, when adults solve their own problems, and guide children to do the same, the system functions smoother (Kerr & Bowen, 1988; Foster, Prinz & O'Leary, 1983) and those within it have more opportunities to develop self-efficacy (Bandura, 1977).

Regarding the second condition above, when parents and educators model solving their own problems, and guide children to do the same, children begin to learn these crucial skills. Spivak and Sure (1974) in their pioneering research on social problem-solving, have noted that modeling and direct instruction are key strategies for teaching problem-solving skills. Similar propositions have been made by Bandura, 1976; Bandura & Jeffery, 1973; Cormier & Cormier (1991). The *Love and Logic* program gives parents and teachers specific guidelines for using modeling, direct instruction and feedback to teach the following problem-solving process:

1. Identify and define the problem.
2. Brainstorm solutions.
3. Evaluate each solution.
4. Implement the solution chosen.

For research supporting this problem-solving model, see D'Zurilla (1986), as well as Cormier & Cormier (1991).

Share the control and decision-making.

The *Love and Logic* program emphasizes healthy control as a basic human emotional need, and it provides specific parent and educator strategies for enhancing children's perceptions of control. Supporting this approach is research showing that shared control enhances general levels of cooperation (Brehm & Brehm, 1981; Glasser, 1969), people's ability to cope with stressful situations (Glass, McKnight, & Valdinardo, 1993; Glass, Singer, Leonard, Krantz, Cohen, & Cummings, 1973; Rodin, 1976), academic motivation (Aronson, Blaney, Stephan, Sikes, & Snapp, 1978; Sapona, Bauer, & Philips, 1989; Slavin, 1985) and physical health (Langer & Rodin, 1976; Schulz, 1976).

Combine consequences with high levels of empathy and warmth.

The *Love and Logic* program is based on a unique combination of research conducted by behavioral psychologists, as well as studies examining the essential components of helping relationships. From the early work of Thorndike (1905) and Skinner (1953), educators posited a very simple relationship between behavior and its consequences. Behaviors yielding positive consequences tend to increase in frequency, whereas those producing negative consequences tend to diminish. From this basic "Law of Effect," a variety of programs applying behavioral principles to school discipline were developed. Anecdotal feedback from educators across the country, as well as outcome research, has shown that a focus on behavioral principles and consequences alone has the following limitations:

1. Fails to prevent behavior problems.
2. Fails to teach appropriate replacement behaviors.
3. Contributes to student withdrawal, avoidance, or retaliatory aggression.

Researchers examining the behavior change process have repeatedly observed that the rigid application of behavioral principles to human relationships is insufficient for long-term positive change. In contrast, when such principles are combined with high levels of trust, empathy, and warmth, students are more likely to be cooperative and to copy pro-social behavior modeled by adults (Egan, 1990; French & Raven, 1959; Ng, 1980; Rogers, 1958; Strong, 1968). The *Love and Logic* program places strong emphasis on teaching parents, educators, and other adults how to model healthy behavior, provide logical consequences, and do both in a very warm, empathic way.

Build the adult-child relationship.

Pivotal components of the *9 Essential Skills for the Love and Logic Classroom* teacher training program are strategies designed to enhance teacher-student relationships and create a positive school climate for all students. Research has clearly demonstrated that at-risk students who lack positive relationships with their teachers and other adults at school display more disruptive behavior, are more likely to disengage from academic activities and are likely to drop-out before they graduate (Eccles, Midgley, Wigfield Buchanan, Reuman, Flanagan, & Mac Iver, 1993; Finn, 1989). Other research has shown significant improvements in behavior, academic achievement, and on-time attendance

when students experience caring relationships with their teachers and when the overall school climate feels supportive (Baker, Terry, Bridger, & Winsor, 1997; Finn, 1989; Kramer-Schlosser, 1992; Swartz, Merten, & Bursik, 1987).

Although limited empirical research has been conducted on the Love and Logic parent and educator training programs, the limited data available at this time appear promising. One study, conducted at the Livingston Family Center in Michigan, examined the effects of *The Becoming a Love and Logic Parent* program with parents going through divorce court, as well as parents with children involved in the Juvenile Justice system (Hayek, 2000). Results revealed significant reductions in the use of illegal substances, in parent-child conflict, and general negative child behavior. Similar results were obtained by La Rosa et al. (2001).

Applying Love and Logic in an elementary school, Weir (1997) observed high levels of teacher "buy-in" and use of the program in this school. After implementing this program: (a) 87% of teachers reported having more effective tools for managing student behavior; (b) 84% reported improved relationships with their students; (c) 68% reported decreased time spent managing behavior disruptions; (d) 71% reported increased time spent teaching curriculum; and (e) 82% reported having more control over discipline. Weir also observed a 48% decrease in the number of main office referrals for discipline during the first year this school applied the *Love and Logic* program.

Using single-subject methodology, Mckenna (1997) examined the effects of one Love and Logic technique on a nine-year-old female student's academic motivation, personal hygiene, classroom behavior, general demeanor, and self-concept. Outcome measures included teacher ratings, teacher anecdotal observations, and student's performance on the Pierrs-Harris Self-Concept Scale. For a period of nine weeks, two teachers applied the "One-Sentence Intervention," an approach to enhancing student-teacher relationships by systematically noticing and encouraging unique student strengths and interests. Teacher ratings and anecdotal observations revealed: (a) improved personal hygiene; (b) an elevated frequency of positive peer and adult interactions; and (c) increased rates of homework completion. Pre and post test scores on the Pierrs-Harris Self-Concept scale revealed a statistically significant 16-point improvement over the course of intervention.

The current investigation was undertaken to gather pre and post test data from a significantly larger sample of teachers than studied in these earlier evaluations.

Method

Subjects were from nine hundred, sixty-three (963) to one thousand, nineteen (1,019) parents in several states, representing a wide range of socio-economic and ethnic groups.

Each subject participated in the *9 Essential Skills for the Love and Logic Classroom curriculum*. Each course was presented over a nine week period, with one session conducted per week. Each session lasted approximately two hours.

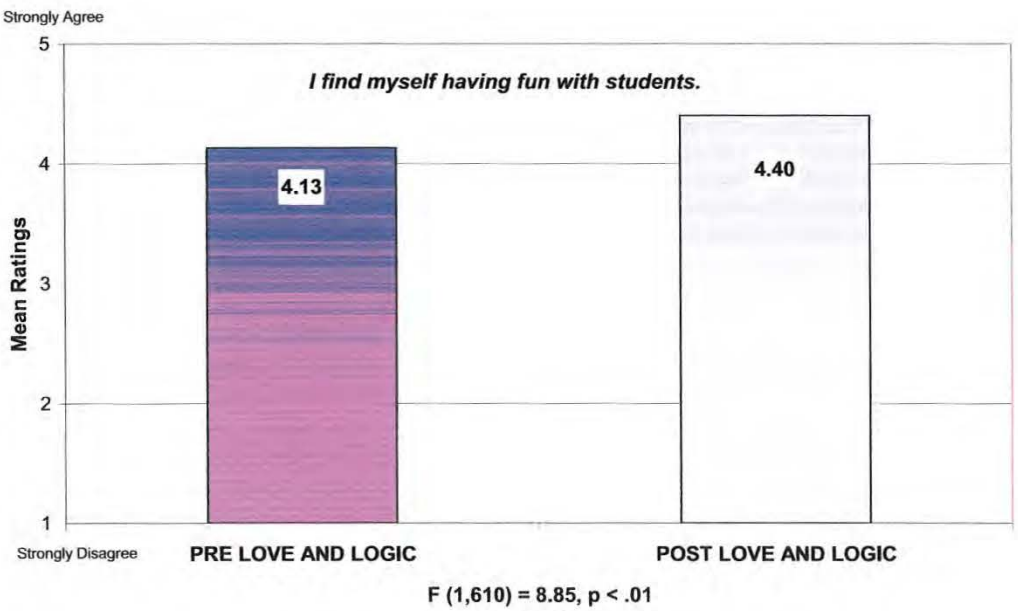
Before the first session, each participant completed the "Before Program" questionnaire (See appendix A). This questionnaire was designed to assess pretest perceptions of their teaching competence, stress, and their students' behaviors.

After the final course session, participants complete the "After Program" questionnaire, to assess any posttest changes in perceived teaching competence, stress, and their students' behaviors. This questionnaire was identical to the "Before Program" measure.

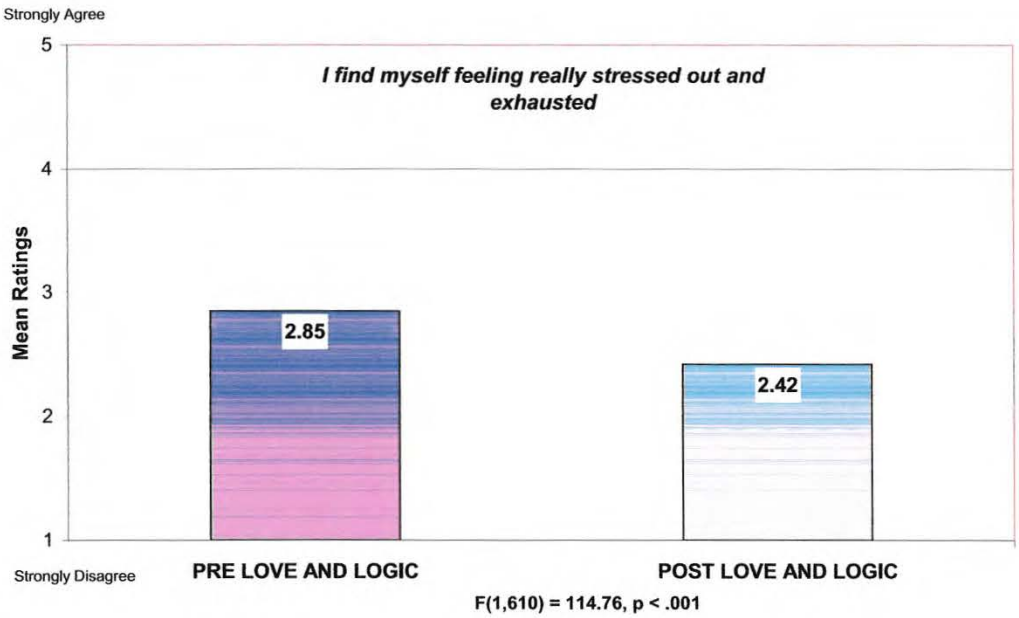
Based on nearly two decades of positive anecdotes from teachers participating in this program, it was hypothesized that statistically significant improvements would be observed on each of the scales assessing teachers' perceptions of their students' behaviors, as well as their own teaching competence.

Results

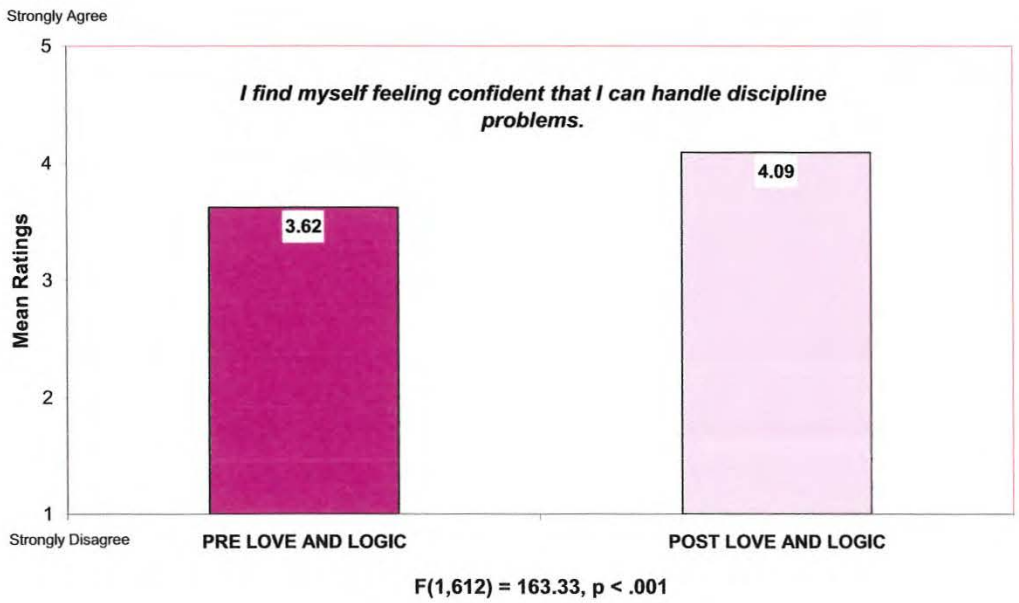
Repeated Measures Analysis of Variance (ANOVA) analyses were conducted to examine pre and post test mean differences for each of the ten scales assessed. To maintain the family-wise error rate at the .05 level, the Tukey procedure was employed.
These results are summarized below:



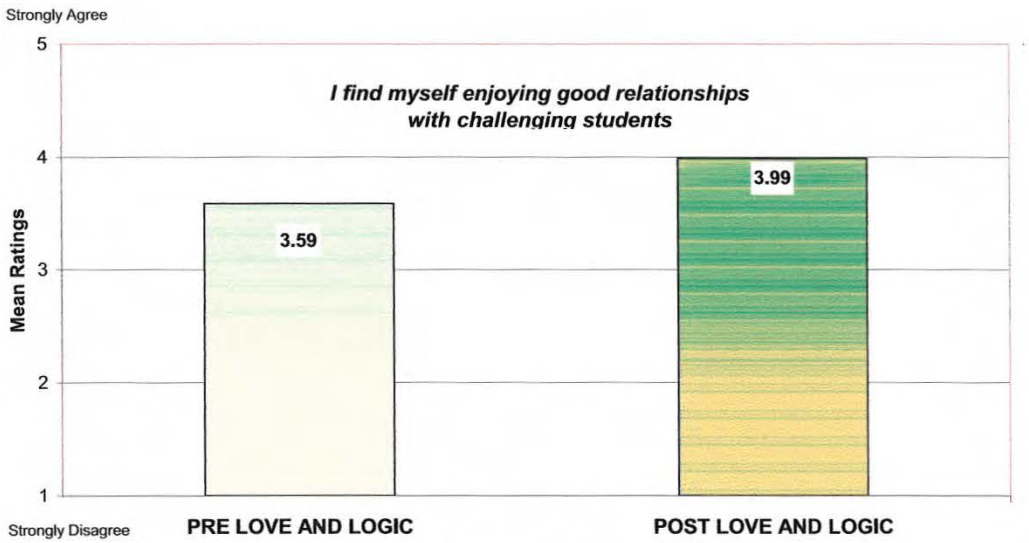
F (1,610) = 8.85, p < .01



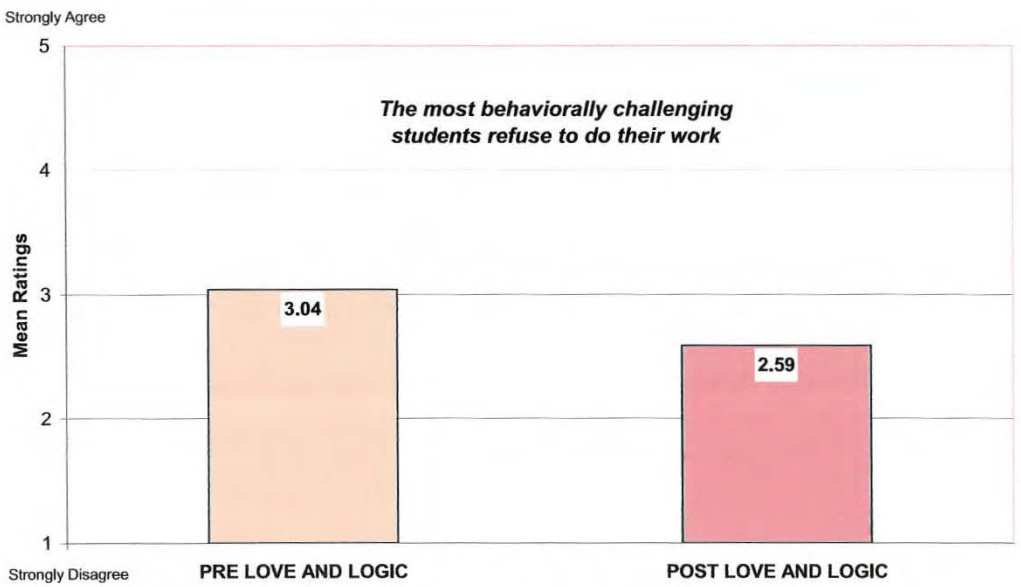
F(1,610) = 114.76, p < .001



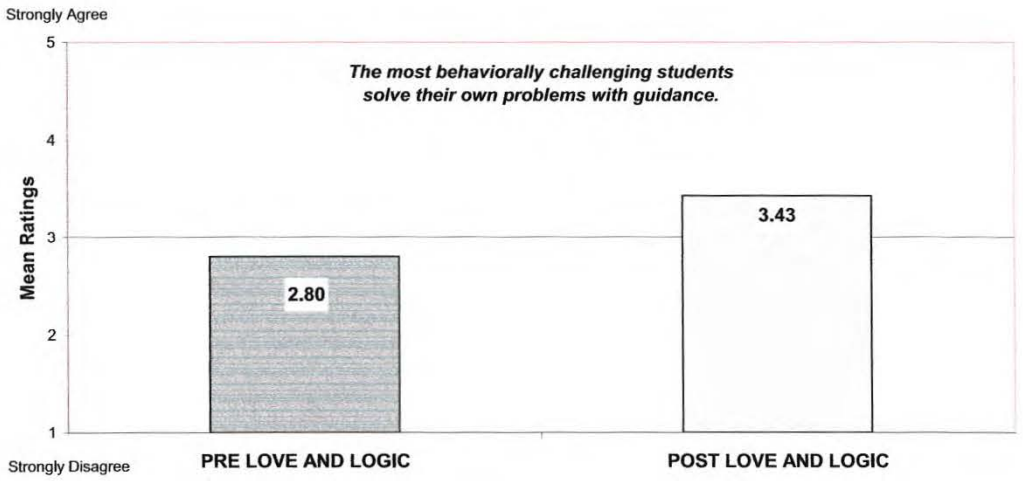
F(1,612) = 163.33, p < .001



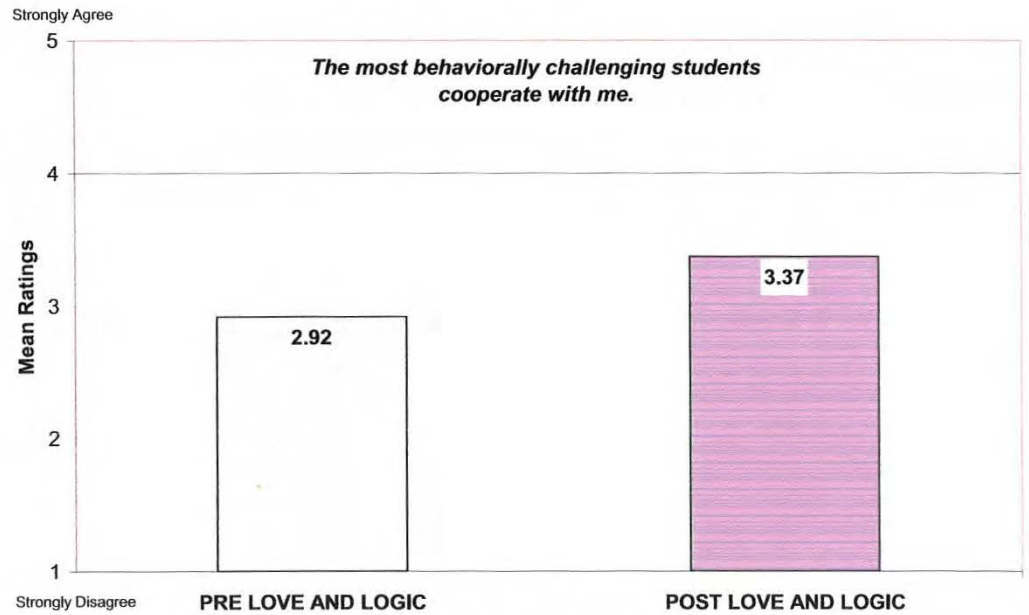
F(1,612) = 104.03, p < .001



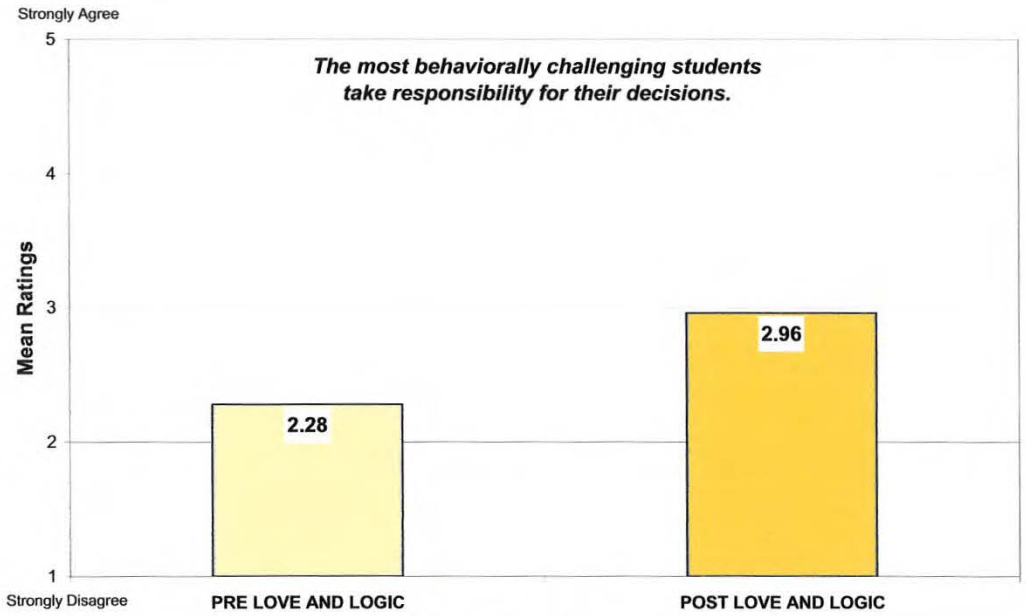
F(1,589) = 73, p < .001



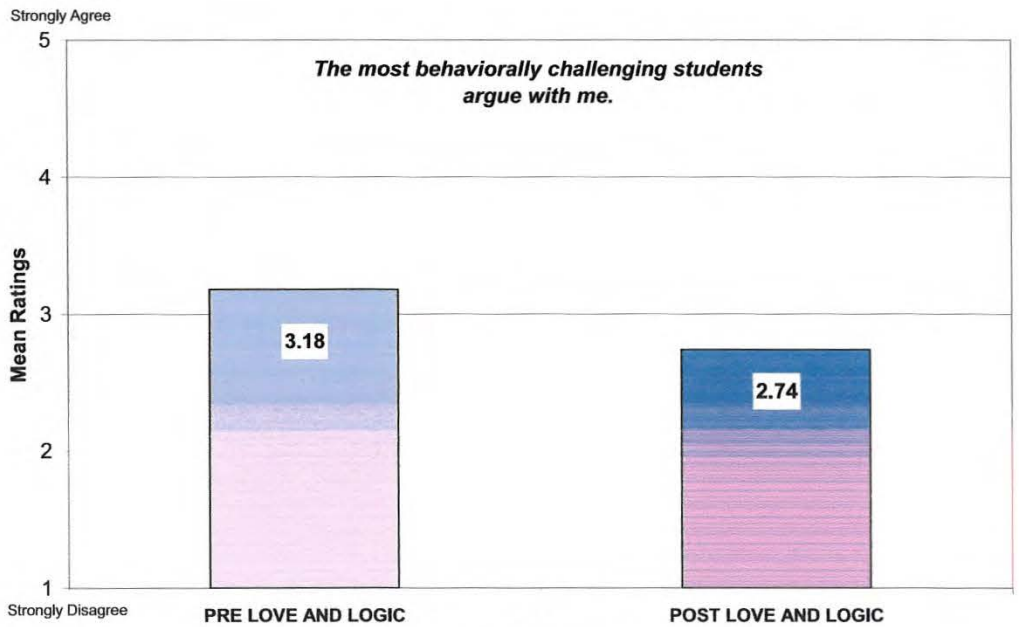
F(1,598) = 165.51, p <.001



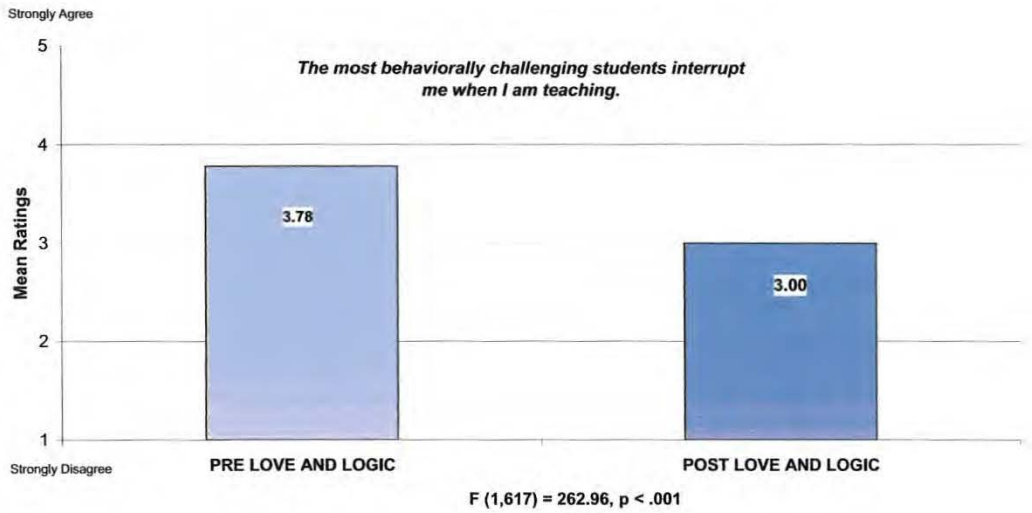
F(1,610) = 75.56, p < .001



F(1,610) = 149.58, p < .001



F(1,617) = 93.55, p < .001



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For more information on this program, phone 800-338-4065 or visit www.loveandlogic.com

Appendix A

Nine Essential Skills for the Love and Logic Classroom®

Before Program Questionnaire

Thanks for joining us! Soon you'll be hearing plenty of practical skills for preventing hassles with challenging students, teaching responsibility, and lowering your blood pressure in the classroom.

Will you help us by completing the following questionnaire? The information you provide will NOT be shared with anyone, and your participation is completely voluntary.

If you choose to participate, we will also ask you to complete a similar questionnaire after the last class. To help us match your first and second questionnaires, please include your name (or code) in the following blank: _____

General Information

What is your position or job title? (circle one)

Regular Ed. Teacher Special Ed. Teacher Counselor Social Worker

Psychologist Administrator Paraprofessional

Other: _____

What grade level(s) do you work with? _____

How many years of experience do you have? _____

Circle how much you agree with the following statements:

The most behaviorally challenging students…

argue with me

1----------2----------3----------4----------5
Strongly Disagree **Strongly Agree**

often misbehave in ways that interrupt my teaching or other work

Continued on next page

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

cooperate with me when I ask them to do something…or stop doing something

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

take responsibility for their poor decisions

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

refuse to do their school work

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

solve their own problems with my guidance

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

Circle how much you agree with the following statements about yourself:

As an educator, I find myself…

having fun with students

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

being really stressed-out and exhausted by the end of each day

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

Continued on next page

feeling confident that I can handle discipline problems

1----------2----------3----------4----------5

Strongly Disagree **Strongly Agree**

enjoying good relationships with challenging students

1----------2----------3----------4----------5

Strongly Disagree Strongly Agree

By the time you complete this program, what question or questions would you most like answered? (Include this in the space below.)

Nine Essential Skills for the Love and Logic Classroom®

After Program Questionnaire

Thanks for participating in our class!

On the first day, you completed a questionnaire that asked you some questions about how your students act and how you feel as an educator. To evaluate the effectiveness of this program, we'd appreciate your help once more.

Again, the information you provide will NOT be shared with anyone, and your participation is completely voluntary.

To help us match this questionnaire with your first one, please include your name (or code) in the following blank: _____

General Information

What is your position or job title? (circle one)

Regular Ed. Teacher Special Ed. Teacher Counselor Social Worker

Psychologist Administrator Paraprofessional

Other: _____

What grade level(s) do you work with? _____

How many years of experience do you have? _____

Circle how much you agree with the following statements:

The most behaviorally challenging students…

argue with me

1----------2----------3----------4----------5
Strongly Disagree **Strongly Agree**

misbehave in ways that interrupt my teaching or other work

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

Continued on next page

cooperate with me when I ask them to do something…or stop doing something

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

take responsibility for their poor decisions

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

refuse to do their schoolwork

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

solve their own problems with my guidance

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

Circle how much you agree with the following statements about yourself:

As an educator, I find myself…

having fun with my students

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

being really stressed-out and exhausted by the end of each day

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

feeling confident that I can handle classroom discipline problems

1----------2----------3----------4----------5
Strongly Disagree **Strongly Agree**

Continued on next page

enjoying good relationships with challenging students

1----------2----------3----------4----------5
Strongly Disagree Strongly Agree

Identify the most valuable thing you learned in this class, and explain why you feel this way:

(Optional) Describe a situation you handled successfully with Love and Logic.

APPENDIX N

Critical Friends Group Model:
Training from Annenberg Institute of School Reform

CRITICAL FRIENDS GROUP TRAINING SEMINAR

Annenberg Institute for School Reform

CRITICAL FRIENDS SEMINAR

"When you have a community of reliable inquiry capable of drawing on strengths, multiple sources of knowledge, and multiple sources of intuition in a context where something is at stake, and where our worry is how to take action, with a sense that we have to take action, and there is a we here… under those circumstances there is greatest grounds for hope, because it's there that we will liberate our human capacity for understanding and perceiving."

Donald A. Schon

Seminar outcomes

Participant will:

- Engage in ongoing inquiry, reflection and construction of knowledge. Document the learning they do individually and as a group during the five-day institution.
- Explore the theories and practices around the development of professional learning communities.
- Explore the relationship between adult collaboration and improved student learning. Formulate plans for documenting the positive effects of adult collaboration and student learning.
- Learn about and practice several methods for examining student work collaboratively. Engage in reflective discourse based on ideas contained in various kinds of "texts". Observe colleagues' practice, give feed back to and receive feedback from colleagues.

Why protocols

First what are protocols?

- A protocol consists of agreed upon guidelines for a conversation, and it is the existence of this structure, which everyone understands and has agreed to, that permits a certain kind of conversation to occur, often a kind of conversation which people are not in the habit of having.

- Protocols are vehicles for building the skills, and culture, necessary for collaborative work. Thus, using protocols often allows groups to build trust by actually doing substantive work together.

Why use a protocol?

A protocol creates a structure that makes it safe to ask challenging questions of each other; it also ensures that there is some equality and parity in terms of how each person's issue is attended to. The presenter has the opportunity not only to reflect on and describe an issue or a dilemma, but also to have interesting questions asked of him or her, and to gain differing perspectives and new insights. Protocols build in a space for listening, and often give people a license to listen, without having to continually respond.

In schools, many people say that time is of essence, and time is the one resource that no one seems to have enough of. We have been experimenting with protocols as a way to make the most of the time people have. (Have you ever been in a meeting where you have a burning issue you want to discuss, and what happens is that everyone "dumps" his or her issue, and feeds off each other, but you walk away from the meeting feeling unsatisfied, not really having anything new of significance that will help you with your issue? A protocol guards you against this)

Finally, it is important to remember that the point is not to do the protocol well, but to have an in-depth, insightful conversation about teaching and learning.

A Rational for Protocols

The word "protocol" has taken on a more specific meaning in education in recent years. In context of educators working to improve their practice, a protocol is a structured process or set of guidelines to promote meaningful and efficient communication and learning. Gene Thompson-Grove, co director of the national CFG project, writes, "[protocols] permit a certain kind of conversation to occur, often a kind of conversation which people are not in the habit of having. Protocols are vehicles for building skills, and culture necessary for collaborative work. Thus, using protocols often allows groups to build trust by actually doing substantive work together."

Many protocols involve one or a small group of resenting educators and another small of "consulting" educators. The tuning protocol was one of the first, and the term is sometimes used as a generic term for many similar protocols. Protocols are sometimes modified by their user, but it is highly recommended that users try them exactly as they are written several times before making modifications. Please feel free to contact SMP staff if you have any questions about protocols.

Why should we use a process for communication that feels so artificial, awkward and restrictive?

This is probably the most frequently asked question about protocols. There are two "rules" in many protocols that seem to cause the most discomfort; they are worth regularly acknowledgement before using these protocols with educators.

1. In many protocols there are restrictions on when the presenting educator(s) can talk and when the consulting educators can talk; almost everyone feels awkward at first when told they "can't talk now."
2. In many protocols there is a segment during which the consulting educators talk among each other, purposely leaving the presenter(s) out of the conversation, in the third person, almost as though they were not present!

Benefits

However, both of these restrictions have benefits, as descried below. The bottom line is that using protocols almost always increase learning, even for those who generally don't like the structure, by:

1. Giving the consulting educators time to listen carefully to the entire presentation without needing quickly generate questions and comments;

2. Giving the presenting educators time to simply listen and write (during feedback time) without needing to think about providing eye contact or immediately responding to consultant educators;

3. Having time limits that make it less likely that a small number of individuals will dominate the air time; and
4. Providing guidelines that safeguard the vulnerability of presenters who put some of their weaknesses "on the table"; these guidelines make it safe to answer challenging questions of each other.

Of course, guidelines alone are not enough to safeguard vulnerability. participants still need to be considerate in how they speak. "Cool" or "hard" feedback may be evaluative in nature, but it can be heard much better if it's expressed in the form of a question or with some qualification and a measure of humility, e.g. "I wonder if…", rather than "I think you should…" doing this implicitly acknowledges that the consulting educator doesn't know the context of the situation well enough to tell the presenting educator what should they do. Passionate discussion is wonderful as long as the tone is collegial; self monitoring of tone of voice and body language is important to maximize learning. We don't want to shut people down when we're trying to support them opening up.

As with all protocols, the facilitator should move the group to the next section of the protocol before the allotted time is up if the group seems ready. In addition, the group can give more time to a section before the protocol begins, and the group may want to give the facilitator some flexibility to add a small amount of time to a section during the protocol.

Remember, the point of a protocol is to have an in depth, insightful conversation about teaching and learning, not to do a perfect protocol.

Looking At Student Work

"To be a teacher in the right sense is to be a learner. Instruction begins when you, the teacher, learn from the learner, put yourself in his place so that you may understand what he understands and in the way he understands it."

Soren Kierkegaad

Principles of looking at student work:

- Students' work in schools is serious
- Students' work is the key data about the life of the school
- Must be connected to serious changes in curriculum, instruction and professional development.

Purpose of looking at student work:

- Professional development
- Accountability (determining effectiveness of curriculum and instruction)
- Setting standards
- Reflecting on student learning and development

Protocols:
What?

- Guidelines for conversation
- Vehicle for building collaborative work

Why?

- Creates a structural environment for: speaking, listening, and questioning
- Makes the most limited time
- Promotes deep, meaningful conversation about teaching and learning

How?

- Incorporate into your study group meetings/grade level meetings/staff meetings
- Connect it to crucial teaching and learning issues in your study group/ grade level/school
- Practice it regularly

Results:
Teachers who present work typically find:

- Some of their own impressions about student work are confirmed
- They are likely to gain new insights into the thinking of their students

- The strengths and weaknesses of their assignments

Other teachers who participate:

- Develop a sense of the kind and quality of the work going on the inside their school.
- Learn about student they will teach in the future years.
- See how students they taught in previous years have developed
- Gain new ideas for their own classrooms.
- Begin to develop a shared understanding of standards in different domains and the steps students go trough to meet them.

Some Guidelines For Learning From Student Work
HORACE, November 1996, p2

In "learning from student work," Eric Buchovecky of the ATLAS communities' project has described a collaborative process adapted from the work of Mark Driscoll at education Development Center and that of Steve Seidel and others at Howard University's project Zero. The piece lays out useful reminders for how participants can stay focused on the evidence before them and the listening to multiple perspectives, rather than getting bogged down in assumptions or evaluations. Those norms are summarized with the author's permission here.

When looking for evidence of students thinking:

- Stay focused on the evidence that is present in the work.
- Look openly and broadly; don't let your expectations cloud your vision.
- Look for patterns in the evidence that provide clues to how and what the student was thinking.

When listening to colleagues' thinking:

- Listen without judging.
- Tune in to differences in perspective.
- Use controversy as an opportunity to explore and understand each others perspectives.
- Focus on understanding where different interpretations come from.
- Make your own thinking clear to others
- Be patient and persistent.

When reflecting on your thinking:

- Ask yourself "why do I see this student work in this way?
- What does this tell me about what is important to me?
- Look for patterns in your own thinking.
- Tune in to the questions that the student work and your colleagues' comments raise for you.
- Compare what you see to what you think about the student work with what you do in the classroom.
- When you reflect on the process of looking at student work:

- What did you see in the student's work that was interesting or surprising?
- What did you learn about how this student's thinks and learns?
- What about this process helped you see and learn these things?

- What did you learn from listening to your colleagues that was interesting and surprising?
- What new perspectives did your colleague provide?
- How can you make use of your colleagues' perspectives?
- What questions about teaching and assessment did looking at this students work raise for you?
- How can you pursue theses questions further?
- Are there things you would like to try in your classroom as a result of looking at the students work?

Glossary of Common Protocol Terms
(and related suggestions)

Clarifying questions:

Clarifying questions have brief, factual answers. They ask the presenters "who, what, where, when, and how." These are not "why" or "what other approaches have you considered" questions. They can be answered quickly and succinctly, often with a phrase or two. The purpose of clarifying questions is to help the questioner better understand the presenters situation; these questions are not likely to offer any "food for thought" to the presenter.

Probing questions:

The purpose of probing questions is to help the presenters clarify and expand their own thinking about the matter they have presented to the group. This is the time to ask open-ended questions such as:

- Why…?
- What other approaches have you considered regarding…?
- What do you think would happen if…?

These questions take longer to answer, and often require deep thought on the part of the presenter(s) before they speak.

Group discussion:

The group talks with each other while the presenter(s) listen and takes notes; the presenter(s) are not allowed to speak at this time. It is helpful for the presenters to pull their chairs back slightly away from the group where they can more easily attend to listening and note taken without feeling the need to give eye contact or any kind of response to the speakers. The group talks about the presenters in the third person, almost as if they are not there. As awkward as this may feel at first, it often opens up a richer conversation, and it is only for fifteen minutes or less! It is the group's job to offer an analysis of the situation; it is not necessary to solve the problem or offer a definitive answer. Members of the group may wish to characterize their comments as "warm" or "cool" feedback if they wish. Cool feedback is often best received if expressed with some qualification, or asked in a form of a question, e.g. "I wonder if…" rather than "I think I should." By the same token, it is important for the presenters to listen in a non defensive manner.

Presenter response:

The point of this time period is not for the presenters to respond to everything the group said. Rather, this is the time for the presenters to talk about what were, for them, the most significant comments, ideas and questions they heard. They can also share any new

thoughts or questions they had while listening to the group. Once the presenters have responded to their satisfaction and wish to engage in a more free-flowing dialogue, they indicate so to the group by inviting group members to share additional comments, ideas and questions.

Reflection/Debrief:

It's important to give everyone a chance to discuss their feelings about the process. Often hearing others talk about how the process worked for them helps people see the value of using a structured protocol.

Keys to Successful Meetings
Guide Sheet #14

Using Ground Rules

Write them as a team.

•

Review then often.

•

Post them in a meeting room.

•

Confront behaviors which violate them.

•

Revise them as needed.

•

Give new members opportunities for input.

•

Evaluate group performance.

Keys To Successful Meetings
Guide Sheet #15

Sample ground rules #1

Ground rules for meetings:

1. Start on time.
2. Develop and review the agenda.
3. Conduct one piece of business at a time.
4. Participation is a right… and responsibility.
5. Initiate ideas.
6. Support… challenge… counter. Differences resolved constructively lead to creative problem solving.
7. Give others a chance to talk. Silence does not always mean agreement.
8. Communicate authentically; what a person says should reflect what he thinks as well as what he feels.
9. Conduct group business in front of the group.
10. Conduct personal business outside of the meeting.
11. Develop conditions of respect, acceptance, trust, and caring.
12. Develop alternative approaches to the solution of a problem.
13. Test for readiness to make decisions.
14. Make the decisions.
15. Assign follow-up actions and responsibilities.
16. Summarize what has been accomplished.
17. End on time.

Norms for LFSW Sessions.

Developed by the National School Reform Faculty (NSRF), January 2003

General guidelines for participants

When looking at student work in order to learn from it, having a shared set of guidelines helps everybody participate in a manner that is respectable as well as conductive to effective feedback. Below is one set of guidelines. The group should never go over the guidelines and the schedule before starting the protocol. The facilitator should remind participants of the guidelines and the schedule when needed at any time during the process.

1. Be respectful of the presenter, and of the student and his or her work. By making their work more public, educators are exposing themselves to kinds of critiques they may not be used to receiving. If inappropriate comments or questions are posed, the facilitator should make sure that they are blocked or withdrawn.
2. Contribute to substantive conversation. Resist blanket praise or silence. Without thoughtful descriptions, questions, and comments, the presenter will not benefit from using the protocol to understand the student, the student work, or his/her own practice. Be specific when giving feedback or making comments.
3. Keep the conversation constructive. There is a productive middle ground somewhere between feedback that only affirms and feedback that goes damage. It is the facilitator's job to make sure that a healthy balance is maintained. At the end of the session, the presenter should be able to revise the work productively on the basis of what was said.
4. Be appreciative of the facilitator role, particularly in regards to following the guidelines and keeping time. A complete protocol is sometimes run on a tight schedule. A protocol that doesn't allow for all of the steps to be enacted properly will do a disservice to the presenter and to the presenter and to the participants.
5. Try to keep your comments succinct, and monitor you own air time.
6. Maintain confidentiality.
7. Don't skip the debrief at the end.

General guidelines for facilitators

1. Be assertive about keeping time.
2. Be an advocate for the presenter.
3. Encourage substantive conversation.
4. As facilitator, decide whether you will also participate, and make the nature of your participation clear to the group. Many facilitators participate in the actual process of giving feedback only if the group is small (fewer than four people, including the presenter).

Norms put the "golden rule" into practice for groups

By Joan Richardson

Lillian always arrives late and thinks nothing of chatting with her seatmate while someone else is trying to make a point. Arthur routinely reads a newspaper during each meeting. Barbara can't wait until each meeting ends so she can head to the parking lot to tell someone what she could have said at the meeting. Later most of them grumble that "these meetings are just a waste of my time. We never get anything accomplished." Having a set of norms or ground rules that a group follows encourages behaviors that will help a group do its work and discourages behaviors that interfere with a group's effectiveness. Think of norms as "a behavior contract," said Kathryn Blumsack, an educational consultant from Maryland who specializes in team development. Norms are the unwritten rules for how to act and what we do. They are the rules the govern how we interact with each other, how we conduct business, how we make decisions, how we communicate, even how we dress when we get together. "Norms are part of the culture. They exist whether or not you acknowledge them. They exist whether or not you formalize the," Blumsack said. Pat Roy, director of the Delaware Professional Development Center, said identifying a set of norms is an effective way to democratize a group. Writing norms helps create groups that are able to have honest discussions that enable everyone to participate and be heard, she said.

Who needs norms?

Any group that meets regularly or that is trying to "do business" needs to identify its existing norms or develop new norms. In school districts, that would include department groups, grad level teams, interdisciplinary teams, content area teams, school improvement teams, action teams, curriculum committees, leadership teams, advisory committees, and special project groups. Although a group can pause and set norms at any time, Blumsack and Roy agree that it's ideal to set norms at the beginning of a groups work together. "If you don't set norms at the beginning, when the behaviors become ineffective you have a harder time pulling behavior back to where it should be," Roy said. Because every group has unspoken norms for behavior, groups need to work at being explicit about what they expect from each other. "Get those assumptions out on the table," Blumsack said.

Creating norms

Some groups prefer to have a set of norms handed to them. But Roy and Blumsack both said groups will feel more ownership of the norms if they identify and write their own.

"If they don't do this, 10 minutes after you've handed them a list, they'll begin violating the norms because they aren't their norms," Roy said.

There are two distinct ways to write norms, the first is by observing and writing down norms that already are in use.

That's how the NSDC board meets for two days twice a year, each time with a lengthy agenda of material that must be addressed.

The norms grew out of a board discussion about how it operated and how it wanted to operate. Pat Roy, who was then a board member, was tapped to observe the board's implicit norms during one meeting and draft a set of norms. "Essentially, I wrote down what I saw in operation, "Roy said.

Roy's first draft was edited and refined by staff and other board members. That set of initial norms has been largely unchanged over the years.

The second way is to have group members suggest ideal behaviors for groups, eventually refining those suggested behaviors into a set of norms.

Blumsack cautions the norms must fit the group. Not every group would feel comfortable with the same set of rules, which is why each group should create its own set of rules, she said.

For example, she said recently worked with a group that was "very chatty, very extroverted." Initially, the group wanted a norm that banned side conversations. Two days into their work, the group was frustrated because Blumsack, as the facilitator, kept trying to enforce the norm against side conversations. Finally, the group agreed to modify the norm to fit its unique personality. Their new norm was: "if you need to make a comment, do so but return quickly to the main conversation."

Publicizing the norms

Simply writing norms does not guarantee that the group will remember and respect them. Groups need to continually remind themselves about the norms they've identified.

At the minimum, the norms should be posted in the groups meeting room, Roy said. "Post them and celebrate them," she said.

Blumsack recommends creating tented name cards for each group member. On the side facing out, write the group members name; on the side facing the member, print the group's norms.

The NSDC board receives a list of its norms along with materials for each of it's twice a year board meetings. Then, at the beginning of each meeting, the president reintroduces the norms to reacquaint board members with them. Since new board members join each year, this also helps to acculturate newcomers with the board's expectations.

Sometimes, the board uses activities to aid in that. During one meeting, for example, each board member was asked to illustrate one norm and the others tried to identify the norm based on those illustrations. Those illustrations were then taped to the meeting room's

walls and visual reminders to be vigilant about the norms. Another time, board members were asked to write down as many board norms as they could recall from memory.

Enforcing the norms

Perhaps the toughest part of living with norms is having the norms enforced.

"The reality is that every group will violate every norm at one time or another. So you have to talk about violations and how you'll deal with them," Roy said.

Blumsack agrees. "If you don't call attention to the fact that a norm has been violated, in effect you're creating a second set of norms. For example, a common norm is expecting everyone to be on time. If you don't point out when someone violates that norm, then in effect, you're saying that it's really not important to be on time," Blumsack said.

After a group identifies its norms, they suggest asking how they would like to be notified that they have violated a norm.

Roy recommends finding light, humorous ways to point out violations. One group she worked with kept a basket of foam rubber balls in the middle of the table. Violation of a norm meant being pelted with foam rubber balls. Other groups have used small colored cards, flags, or hankies that could be waved when a violation was noted.

Having all group members take responsibility for enforcing the norm is the key, Blumsack said. Enforcing the norms should not be just the job of the group's leader.

Evaluating the norms

Finally, each group needs to periodically evaluate its adherence to the norms. A group that meets once or twice a year might evaluate each time they meet; a group that meets weekly might evaluate once a month or so.

Blumsack recommends giving each group member an opportunity to speak about what he or she has observed or take each statement and ask group members "how well did we do on this norm?"

Each member should be encouraged to identify the group's areas of strength as well as its areas of weaknesses, but not to single out violator's.

"The more 'up front' you are about how the group is doing, the easier it will be to communicate about the other issues you're dealing with," Blumsack said.

Compass points

Personal work style inventory for group/team work

Purpose:

The purpose of the compass points activity is to help members of teams:

1. Identify their individual styles of working within a group
2. To identify the value of all styles when working toward a common teal goal or product

Overview:

The activity includes:

1. Identifying of ones style of work within a group.
2. Working with others of the sane style to identify a particular style's, strengths, and limitations with members of other styles.
3. Sharing strengths and limitations with members of other styles.
4. Developing a common group value for all compass point styles, validating everyone's contributions while recognizing ones own limitations.

Participants:

Compass points works best within a group between 20 and 40 members. If the group is smaller, some parts of the activity need to be adjusted (group discussion and debriefing) and results ma not be as dramatic. If the group is larger, more time should be allotted to the discussions and debriefing.

Time commitment:

From start to finish, compass points take about 1hour to complete.

Directions:

1. Pass out compass point worksheet. Have members circle individually which direction they believe accurately describes the way they work within a group. (It

is important to make the distinction as we often work differently within a group than we do on our own.) Have members do this without and discussion.

If members need more information about the various compass points to identify themselves.

North: need to get the work done now-or as quickly as possible; product driven.

South: need to have all members share their thoughts and be sure everyone is supported.

East: need to express their visions of the project, big idea people.

West: need to get their questions answered before proceeding with the work.

2. After individuals have identified themselves privately on paper (1-5 minutes), separate the group into 4 smaller groups of each direction. **give the groups the direction that they need to answer the questions on the back of the worksheet, chart their responses on a piece of chart paper and be prepared to report back to full group.

**do not give any more directions than the last sentence! The manner in which each group proceeds with the task is very telling about their styles of work!

**do give groups a 30-40 minute time limit. Be firm about the time limits the way that groups deal with the time limits is also very telling!

**do give groups a large sheet of chart paper to record their answers.

**do not give groups any direction or requirements about the way their answers should be recorded or about the way they should report back to the full group. The styles that groups use to even make a wall chart are telling!

3. If the activity is being conducted by a leader or group of leaders who have previously done compass points, it can be interesting and useful to have leaders sit in with the 4 groups as strictly observers. It is often valuable for a leader to sit in on a group that does not match his/her personal style. For example, if you see yourself as an east, sit in as an observer on the north, etc. do not give any comments or let your facial expressions give away what you observe!

4. When the 30-40 minutes is up, reconvene as a large group and post the chart paper posters. The leaders can suggest that everyone take a look at what different groups used to complete the task.

5. Have direction groups take turns sharing their responses with the full group. Members can feel free to ask question or make some remarks, but mostly this time should be used to listen and learn, not discuss relative merits of the styles. If

leaders or others served as a group observer, it can be valuable to have them share their observations of the manner in which different groups approached their task.

6. When groups have finished, the leader or leaders can facilitate the group in a "debriefing" of the activity. The following questions can be useful in providing insights for the entire group. Leaders should feel free to use any or all of these questions in whatever order works for them.

    - Did individuals believe they were in the right direction group?
    - How could they tell?
    - What ratio of the different compass points would make and effective and productive team?
    - What would happen if one of the teams was missing one of the directions?
    - What would happen if a team was made up of only one direction?
    - How can knowing his information be useful in your work as a team?
    - How can a team balance having fun, getting work done, and allowing for personal styles, too?
    - Is there a connection between the way you approach your regular job and your personal style of working in groups? Are they similar or different?
    - How about your relationship with family/friends?

North, South, East, and West

Decide which of the four "directions" most closely describes your personal style. Then spend 15 minutes answering the following questions as a group.

1. What are the strengths of your style? (4 adjectives)

2. What are the limitations of your style? (4 adjectives)

3. What style do you find most difficult to work with? Why?

4. What do people from the other "directions" or styles need to know about you so you can work together effectively?

5. What do you value about the other three styles?

Compass Points Questions

1. What are 4 strengths of your style?

2. What are 4 limitations of your style?

3. What is the style you have most difficulty working with? Why?

4. What would you want others to know about your style?

Activity: Group Norms

Purposes: to have school teams establish a code of conduct to live by during the week. Continue the team building process and model group norming processes that will be used in the school building.

Participants: school cluster

Recommended time: 30 minutes

Supplies: chart paper, markers

Overview: it is important that a schools team understand the value of norming any decision making group. The dialogue must be open and honest to produce the best results. Group norms are a set of agreed upon standards and procedures under which the group will operate.

Process:

1. Brainstorm the purpose of norming a group (benefits): establish procedures, develop skills, control conflict, confront real issues, build trust, etc…
2. Brainstorm characteristics of norming
   suggested categories:

Things

- Agenda
- Roles
- Responsibilities
- Commitment

Self

- roles
- responsibilities
- commitment

Ideas

- Decisions
- Power/influence
- Problem solving/conflict
- Responsibilities

People

- Communication
- Participation
- Support

3. Discuss for clarity and definition. (In round robin fashion, seek clarity of definition for each purpose.)
4. Come to consensus on the characteristics the whole group agrees to follow. (See note on consensus in supplement material.)

Connections

What are connections?

Connections is a way for people to build a bridge from where they are or have been (mentally, physically, etc.) to where they will be going and what they will be doing. It is a time for individuals to reflect within the context of a group upon a thought, a story, an insight, a question, or a feeling that they are carrying with them into the session, and then connect in to the work they are about to do. Most people engage in connections at the beginning of a meeting, class, or gathering.

There are a few things to emphasize about connections for it to go well…

- It is about connecting people's thoughts to the work they are doing or about to do.
- Silence is ok, as is using the time to write, to just sit and think. Assure people that they will spend a specific amount of time in connections, whether or not anyone speaks out loud. Some groups and people within groups value the quiet, reflective time above all else.
- If an issue the group clearly wants to respond to come up in connections, he group can decide to make time for a discussion about the issue after connections is over.

The "rules" for connections are quite simple:

- Speak if you want to.
- Don't speak if you don't want to.
- Speak only once until everyone that wants to speak as done so.
- Listen and note what people say, but do not respond. Connections are not the time to engage in a discussion.

Facilitating the process is also straightforward. Begin by saying "a connection is open," and let people know how long it will last. A few minutes before the time is up, let people know that there are a few minutes remaining, so that anyone who hasn't yet spoken might speak. With a minute or so to go, let the group know that you will be drawing connections to a close, and again ask if anyone who hasn't spoken would like to speak. Before ending, ask if anyone who has spoken would like to speak again. Then end.

Ten minutes is usually enough time for groups of 10 people or fewer, fifteen minutes for groups of 11-20 people and twenty minutes for any groups larger than 20 people. Communications generally shouldn't last more than 20 minutes. People can't sustain to it. The one expectation is when there is a group that has been together for a period of time doing intensive work, and it is the last or next day of their gathering.

Some people will say that communication is misnamed, since people don't connect to (or build on) what other people have said. However, the process is a connecting on; and

powerful connections can still occur, even though they are not necessarily the result of back and forth conversation.

Warp Speed

Warp speed is an activity that uses a coosh ball and a circle of 10-20 people.

Task:
The task for the group is to create a pattern of throwing and receiving the ball until each person has caught and thrown the ball once. Once a pattern is established the group seeks to improve their effectiveness and cut down the time it takes to pass the ball from the first to the last person.

1. Ask everyone to get into a circle.
2. Ask each person to toss and catch the coosh ball one time until each person in the group has caught and thrown the ball.
3. Explain that a toss has a low, high and low point and is different than a pass off or hand off.
4. If the ball drops, it should be picked up and the pattern continues.
5. You should be the first person to throw the ball and the last to receive it.
6. Ask the participants to call out the persons name before they throw the ball.
7. Begin creating the pattern by calling out one persons name and throwing the ball.
8. Double check to make sure that everyone has participated and that each person has thrown and the received the ball.
9. Ask the group to repeat the same pattern and to toss the ball again and see how fast they can complete the pattern. Say 1, 2, 3 go, and time them.
10. Report the elapsed time to the group, and ask them if they think they can d better.
11. Repeat activity and time again. Report results and ask team to set a goal.
12. Conduct the activity a third time and report the results.
13. After reporting the results, explain that there is a reason for the name of warp speed, it comes from the star trek, and refers to speed that is much faster than the speed of light. Explain that their real challenge as a group is to get the warp speed. This speed for them is half of the time it took for their third time effort.
14. They may try a few times without success. You may want to ask them what their understanding is of the rules. The only rules that they need to follow are; A. continue to throw and receive from the same person. B. toss the ball, with a low, high and low point. (If asked by the group, anything else is ok. i.e., changing the shape of circle, pattern of people, not calling names, etc.)
15. Keep giving them encouraging words, without information, if necessary; ask the group questions to help them discover how to be successful.

Processing Of Experience

What did it take for your group to be successful/improve? What did cooperation look like in this activity? How did you help each other to be successful as a group? How were new ideas received by the group? How did setting a goal by the group affect your work as a team? What effect did the setting of an external goal have? How did your perceptions related to the possible success or failure of the group effect your performance individually, collectively?

Will any of the goals you've set for your work appear to be light years beyond the reach for some of your staff? Given the experience, what might you do to be successful at warp speed goals next year?

Group Juggle

The group juggle consists of a variety of objects to be used for juggling.

Task: the object for the group juggle is for the team to juggle as many objects in the air as possible.

Rules:

1. Each person must throw to the same person and receive from the same person throughout the activity.
2. A toss has a low and high point. A toss is different then a pass or hand off.
3. Objects that fall can be left alone or brought back into play.
4. A group is only allowed to use their own objects.

Facilitator

- Ask the group to form a circle.
- As the facilitator, explain that you want to create a pattern of tossing the ball as a team by calling out the persons name and then throwing the object to him/her.
- After a person receives the ball, he/she is asked to throw the ball to someone else in the group until everyone has thrown and received the ball only once.
- Ask the group to remember the pattern and try the pattern again to make sure that they know to whom they throw, and receive the ball from.
- After the object is passed through the group a second time, explain the nation of juggling multiple objects. Invite the group to try again and to see how many objects they can toss.
- Let them know that when you count aloud 1, 2, 3, STOP then the group needs to stop and see how many objects they have in play.
- After 2 or 3 rounds, ask the group to set their own goal of what they believe they can accomplish and then invite them to try again.

Processing Questions:

- How would you describe your feelings related to the juggling from the beginning, middle, and end?
- How would you describe your group's effectiveness for the beginning, middle, and end?
- What did it take for you to be successful as a group?
- As we work to strengthen our learning community as a staff, what should we keep in mind?
- What might we do differently with our students as a result of this experiment?
- What problems were you trying to solve?
- How did you solve the problems we faced?
- Was there any fear of failure minimized by the activity and/or the group?

- How did the establishment of a goal impact on your team's ability to work together and solve the problem?
- What kinds of reflection, intervention, and staff developmement/remediaton, or redirection took place to improve your effectiveness?
- Are there any connections between group success in this activity and your work?

Scrambled Sentences

1. Divide larger group into smaller groups of six.
2. Have each group choose one person as the judge/observer. This person's role is to make sure that all participants adhere to the rules and to record what they observe during the activity.
3. Each smaller group will receive a set of five envelopes containing individual words on cards that they will have to form into five meaningful sentences.
4. Give the following instructions:

"Working in small groups, I would like you to put together some meaningful sentences. This is not as easy as it sounds. I'm going to give each of you an envelope that contains individual words on cards. Please do not open the envelope until I tell you to begin. Distributed among the five of you are the words to make five meaningful sentences. Each of you need to assemble one sentence in front of you. The first word of each sentence has been capitalized. The task is not complete until each person in the group has formed a meaningful sentence. You may give cards to the other members of the group, but no member may speak. You may not ask for a card any other member has; you must wait for that member to give it to you. You must observe the following rules while putting together your sentences and the judge/observers have the job of strictly enforcing these rules:

- Each of you must construct a meaningful sentence directly in front of yourself.
- You may not ask for a word card from another person. This means no talking, gesturing, motioning, or signaling in any other way to get a word card from any other member of your group. The only way you can get a word card from another person is for that person to give it to you.
- You may pass any of your word cards to any other group member at any time. You do not need to wait for a "turn".
- No member is to talk at any time. The only person who may talk is the judge/observer, who can only interrupt only to stop a violation of the rules. The observer may not make suggestions to the players.

5. Clarify any questions members have and have them begin the work.

To prepare the materials, write one word on a card and place the word cards in the envelopes as follows:

1. Spring, begun, eager, into
2. Here, blinded, have, dashed, the
3. Is, the start, reading, the
4. Sunlight, barking, I'm, cat, house
5. The, me, dogs, to

The unscrambled sentence are:

1. Spring is here.
2. The sunlight blinded me.
3. The dogs have begun barking.
4. I'm eager to start reading.

5. The cat dashed into the house.

**it may be possible to form other meaningful sentences with these words, so do not require groups to arrive at exactly theses sentences. The only requirement is that each member of the group complete a sentence that is grammatically and syntactically correct.

Mine Walk

The mine walk consists of a winding pathway or two ropes/tape. There are objects (representing obstacles to powerful learning) that are placed along the pathway. The challenge is for the group to stay connected at all times and to make it from the desert to the center for powerful learning without touching the ropes/tape, any of the obstacles, or stepping outside the boundary.

Facilitator:

1. Ask the group to identify obstacles to powerful learning. (Write these on a flip chart).
2. Ask the group to select the 6 most challenging obstacles.
3. After the group selects the most challenging obstacles, ask them to look at the available objects and select objects that best symbolize the obstacles they have identified.
4. Place these objects (or some of the objects while the facilitator places the others) in the path through the minefield or let members of the group do so. (How often do we place our own obstacles?)
5. Invite the group to join you in the desert at one end of the minefield. Explain that all in front of them is minefield. The only way to pass it through is by way of the path determined by the rope/tape.
6. Point out the center of powerful learning and ask the group if they would like to go there.
7. Explain the following rules:

    a) All members of the group must stay connected while moving through the minefield until they reach the center of powerful learning.
    b) If any group member touches any obstacles, steps on the boundary, or steps off the path, the entire group must return to the desert.
    c) Just as in any other group, there are individuals with additional challenges.

        i. 2 members of the group cannot speak.
        ii. 6 members of the group cannot see.
        iii. 2 members of the group cannot walk.

8. Ask one or two members of the group to be observers/recorders. Their job is to watch the group interact and record their observations.
9. The facilitator (or group member) should monitor the group for "infractions." (Stepping out of bounds, touching objects, disconnecting, etc.)

Process of Experience:

- What new challenges did you face in the mine walk?
- What did you notice about the work of you group in the beginning, middle, and end?

- What happened when you were not successful initially?
- How would you describe your communication throughout the experience?
- Who served as leaders? And how did they lead?
- Did you reach a point of discouragement? Did that change? What contributed to the change?
- How does the mine walk experience relate to our work back at home as we think about moving to powerful learning experiences in out classrooms and schools?
- What might we intentionally do to support each other and our challenges given our experiences with the mine walk?

Ice Breakers and Warm Ups

The following exercises designed to help people to get to know one another were shared by the participants of the national meeting of CFG seminar facilitators in June 2000.

1. If you were to write you autobiography, what would the title be, and why?
2. Write on the inside of your tent card (table name card) a fact about yourself that no one would be likely to guess. Reading them out loud gives people a hook. (i.e. "faith, which raises sheep.")
3. Draw a picture that describes who you are: can be symbols, colors, you doing something.
4. Create a flower: Each person puts one petal on the flower, on which is written something important about them. If we can find something that we all have in common we put it in the center.
5. Human scavenger hunt: where you find things interesting about each person from a list that might be work related or not. Items like, find someone who has coached a CFG already, someone who has taught in another country, someone who has created a portfolio that works. People share who they found in the whole group.
6. People at each table find four things they have in common and share with the large group as an introduction. Can't be anything about education. (At one table, all had an Uncle Harry they didn't like.
7. People post one clue about themselves (with no name) on a bulletin board. Later in the day, add another clue beside the first clue (more if there is time) and people guess identities from the clues at the end of the day. People make assumptions and then they find it's very revealing and fun.
8. Post cards from the edge: bring a collection of wild postcards and hand them out. Each person finds something in the post card that relates to their experience as a teacher or principle, and shares that with the group.
9. Give out pennies and look at the dates: go around the room and share something that occurred for you in the year of that penny. It can be something about your education (as a child, a teacher, etc.) or it can just be about life. You'll need a good collection of pennies with varied dates.
10. Skittles: people grab one, there is a guide by color: yellow, something you're doing this summer; green, something about work; red, an adventure you've had in education, etc. whatever you want for categories.
11. North, south, east, and west: it establishes strengths: north: do it now (action); west, organizational (structure); east: vision (meaning); south: feelings (caring). See directions in almost any CFG handout collection.
12. Gingerbread people: hand out gingerbread people, who have a question on each of their body parts: what gives you indigestion (stomach), what drives you crazy (head), what you love (heart), what you bring (one leg), what you want to let go of (hand), what you want to take away? Each person takes a turn introducing themselves and answering questions. They can write them in and post them all, with their names on the gingerbread people.

13. Draw your school: either a picture, or a floor plan, show challenges, and strengths. Personalize your school by what you think makes it special. Share pictures.
14. Write down powerful learning experiences from when you were ages 10-13. Share them.
15. Line up in birth order and share schooling in small groups that break up roughly by generations or clusters of years and share out.
16. Movie titles that describe your school experience and why.
17. Change style indicator and score yourself, validate conservers, valuators, and initiators of change, pragmatist. (You'll need the directions to do this.)
18. Read Alexander's Horrible Rotten Day (children's book) aloud, and then ask people to share their bad morning experiences.
19. Two truths and a lie: you share two things that are true and one lie about yourself (as an educator or a person, decide on one) and the group tries to guess which one is the lie. "What you would like to be true?" is the follow up question.

Continuum Dialogue

Time: from thirty minutes to an hour and a half.
Role: facilitator and participants.
Purpose and description: the continuum dialogue is a provocative yet non threatening way to get to know the people one works with: their perspectives, their beliefs, their beliefs, their opinions on hard issues, how they think about themselves and others, what they think about teaching and learning. It is also useful to see where people stand on difficult issues that need decisions and hear them out with respect and interest.

The continuum dialogue requires the participants to physically stand on a continuum are according to where each person places themselves between two statements that form the beginning and the end of the continuum. The continuum is in an arc rather than a straight line so people can see one another as they speak and listen.

The facilitator of a continuum is generally a neutral person who is not part of the group doing the continuum. As a group gets more experienced with this process, an "insider" can effectively facilitate. The reason for an outside facilitator is that it is important for every person in the group to stand on the continuum arc.
The facilitator establishes norms for the continuum, which are:

- Listen with respect and interest.
- Speak with candor.
- No ones comments will be challenged or argued
- Thoughtful reflection on others responses are okay.
- The facilitator is responsible for the process until he/she steps back.
- When the facilitator steps back, everyone is responsible for the process.

The statement that establish the ends of the continuum must allow for differences without there being a right and wrong place to stand. For example a continuum that addresses the length of the school day goes from "I think our school day is too long for elementary students" to "I think our school day is too short for elementary students." That is a reasonable continuum as neither end is right or wrong. However, the topic "who should teach?" with the extremes being, "I think it is okay for people who dislike children to teach;" to "I don't think anyone who dislikes children should be teaching." Wouldn't work as the "dislikes children and can teach" end could be assumed to be a bad place to stand by most people.

When the topic and the two ends of the continuum have been established, the facilitator stands in the open side of the arc and asks people at different points in the continuum why they chose to stand there with no interruptions or questions. There is no need to ask everyone unless it matters to hear from every person for some reason. As generally there will be a serried of continuums that make up the dialogue and everyone should be called on at some point to respond. Sometimes, "why did you choose to stand there?" isn't the right question to ask. For example of different questions, see the practice rounds in the steps.

After several continuums, or when group of people is accustomed to then, the facilitator can step back and people in the continuum can ask others why they choose to stand where they did. The facilitator would step forward and intervene should there be

any confrontational questions asked, disrespect shown, or any rebuttal to the person who explained why they choose to stand where they did. When the dialogue progresses to the point of the facilitator stepping back, secondary questions or comments may come forth after the initial "why did you choose to stand here?" such as, "I expected that you would have stood further toward 'this' end. It is interesting to me to see how much I assumed about you without asking you what you really thought." Or, "I had no idea you had gone through all of that. It explains so much!" or, "I hadn't thought of it in that way. In fact I think I have to move around the continuum closer to you." The dialogue portion happens at this point, always centered around, "why did you choose to stand there?" and with respectful listening. Sometimes there are no comments, only careful listening to people as they state their reasons for standing where they are, and that is fine.

In a continuum that will address a hard issue it is generally best to have several continuums prior to the "big" question to establish norms of response and to learn about each other in helpful ways. An example might be a difference of opinion as to whether a high school should go to block scheduling or stay with a seven period day. Possible questions for a series of continuum:

- How do students learn best? "Students this age learn best through a variety of shorter learning experiences," to "students this age learn best when they can focus on a few in depth learning experiences at a time."
- How do students learn best? "Students learn best when they have constant, daily, classes," to "students learn best when they have space between classes for reflection and synthesis."
- Time for in-depth work. "I think our students have plenty of opportunities to do in depth work" to "I don't think our students have adequate opportunities to do in-depth work."
- What are the gains and losses in block scheduling? "There's a lot to lose by going to block scheduling," to "There's a lot to gain by going to block scheduling."
- How is my teaching affected? "I do my best teaching in smaller, consistent blocks of time;" to "I do my best teaching when I have fewer students for a longer time to do in-depth work."
- How does this affect me personally? "I am unsure how to teach in longer blocks of time;" to "I have some ideas about how to teach in longer blocks of time."

A Continuum should never be a vote, or even consensus. It wouldn't work to say "At this point, I want to change to block scheduling," to "At this point, I don't want to change to block scheduling." All those standing somewhere in the middle make it a useless attempt at decision-making. One could state the topic as "Let's see where we are on the topic of block scheduling," then ask the questions and listen to everyone's reasons for standing where they are. Thus it becomes a learning experience that can lead to a good decision. People calmly listen to other perspectives and grow in understanding their colleagues. Solutions even rise as the Continuum unfolds.

As people get accustomed to the Continuum Dialogue, it is possible to take three more steps:

1. At the end of a Continuum the facilitator can invite anyone who has changed their mind one way or the other and wants to move, to do so, and explain why they chose to move.

2. The facilitator can ask if anyone in the group has a Continuum they would like to propose. That person sets up the Continuum and facilitates the discussion with the support of the regular facilitator. This gives participants the opportunity to go deeper than the facilitator might. It requires trust to do this well, although sometimes people want to ask fairly simple questions that just didn't occur to the facilitator. It is the facilitator's responsibility to be sure the Continuum is productive and not a hidden question to get at something or someone.

3. The facilitator can give anyone in the Continuum permission to move anyone else to the place they think they should be and tell the whole group why they moved that person there. The person moved can respond and either stay there or go back to where they were. This process gets to the differences between what we know of ourselves and what we project to others. For example on a continuum like "I think I am a capable leader," to "Leadership is not my strongest attribute," a surprising amount of moving goes on as many very effective leaders do not perceive themselves that way, and learn a lot about how their colleagues perceive them.

Steps:

1. The facilitator describes the process of the Continuum:
   - How statements representing the extremes of a topic mark the two ends of the Continuum
   - Where the Continuum will be by physically walking from one end to the other
   - Explains the Norms

2. The facilitator gives the group one or more practice rounds. Below are possibilities:
   The topic is stated and the extremes of the topic are the Continuum.
   - The importance of time:
     always on time.....time doesn't mean anything
     (a secondary question might be, "What does time feel like to you?)
   - Your desk at school (or at home)
     neat and orderly nearly all the time.....utter chaos (a better question here is, "What role does your desk play for you?")
   - Time of day you do your best work:
     Dawn.....Deep in the dark night

Tolerance for ambiguity:
Like detailed, written plans.....Go with whatever comes

Size of group you work best with:
Alone.....The whole school, even the district, maybe the world

Physical proximity boundaries - how close people can stand and talk with you. (practice

this one and you'll see exactly where boundaries are as people back up when you get to the boundary)
2 inches.....2 feet
(another question here is "What happens when people pass your boundary?)

3. The facilitator begins the Continuum Dialogue by stating the first question/topic and physically walking off the Continuum, stating the two end preferences that mark the Continuum.

4. Participants go and stand in the place that best represents their preference/opinion/belief.

5. The facilitator asks a variety of people at a variety of points on the Continuum why they chose to stand where they did, or another question if that is not the appropriate one - but it usually is.

6. After enough people have been asked, the facilitator either invites people to move if they have changed their opinion, stating why; opens the dialogue by stepping back and allowing participants to ask one another questions or comment on their new understandings; or moves on to the next question. As Continuum have their own pace, the facilitator has to judge when to move on and when to extend the dialogue. Use as many Continuums as are appropriate to the topic at hand or to the time allotted.

7. Several variations can happen here:
- Participants can propose the questions/topics, set up the Continuum, and facilitate
- The facilitator can invite participants to move other participants to spots they think are more representative of that person, and tell why. The moved person can respond.

8. The group sits down in a circle to debrief, talking about what they learned and how that might impact the work they do together. Discuss the process - what worked, what didn't and what might be improved for another time.

The Continuum Dialogue was developed by Marylyn of Arundel, Maine, and expanded by many facilitators In the National School Reform Faculty.

Continuum Questions

Creating and supporting Professional Learning Communities

We tend to divide up and work as individuals.

We are aware of where we are in our development as a learning community and where we want to be.

Members of our community are uncomfortable speaking their minds.

Developing community is a priority for us.

Some members of our community are clearly more important than others.

We seek support from and give each other support.

We view situations through our eyes and through the eyes of others.

We are satisfied with our processes and procedures.

We are critical but careful with each other.

Our common goals and values provide us with a sense of community.

Choosing CFG Tools and Strategies

If people in your CFG had the following questions/issues related to their practice, what strategies or tools would you recommend they use to learn more? Where would you suggest each of them begin, and what sequence of work might they undertake in order to address these issues/questions?

- Examine Student Work
- Examine Teacher/Practitioner Work
- Present Consultancy Dilemmas
- Do Peer Observation and Debriefing
- Engage in Text-Based Discussions
- Other

1. It feels like a small group of disruptive students is taking over my class! What should I do?

2. I just found out that one of my students has been diagnosed with Asperger's Syndrome. He always interrupts and asks never-ending questions. How can I support him while still attending to the rest of the class?

3. I just gave a test and over half the class failed. They seemed to get it along the way, so I am not sure what happened. This is the second or third time this year this has happened, and I am concerned. What should I do?

4. The focus on standards has filled my curriculum to overflowing, and I feel like I can't achieve depth in anything. How can I address the state and district standards and focus on something deeply at the same time?

5. This unit fell flat with the kids. They grumbled the whole way through and handed in half finished work. The curriculum frameworks demand that we cover this topic. How can I make the unit more engaging?

6. One of my students handed in something disturbing—both because it doesn't address the assignment, and because it reflects some troubling thoughts on the part of the student. How should I handle it?

7. I suspect that one of my quiet students who always does mediocre work could do remarkable work, but I haven't figured out how to draw her out.

8. My 9th graders read well when the material is fictional or in narrative form, but they seem to have a lot of trouble reading non-fiction or their textbooks. What are some good reading strategies for 6th graders?

9. I can't figure out how to work effectively with a group of students who are culturally and racially different from me. What can I do?

10. I tried a new way of assessing students in my social studies class. They loved doing the project, but I don't think the work was rigorous enough. What should I do?

Constructivist Protocol for Adult work
Adapted from Daniel Baron's version by Jennifer Fischer-Mueller

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The purpose of this activity is to gain a deeper understanding of how you do your best work. With this understanding and heightened awareness, you can more consciously provide what you need to do your best work more often.

Individual writing (15 minutes)
Write about a time you did your very best work, a time you really "nailed it." Describe the work. Use the following *guiding questions* to fully describe your work:

- What was it that you did?
- Why were you doing it?
- Did you have support? What did that support look like?
- Did you work alone or with other people?
- Was this work hard? Risky? Safe?
- What motivated you?
- How did you know your work was good? What were the qualities of your work?
- Did you know you "nailed it" immediately or did that knowledge come to you later?

Paired Sharing (30 minutes)
With a partner, share what you wrote. As you talk, your partner will be listening for "working conditions." Working conditions can be the structures, supports, atmosphere, purpose, standards, risk level etc. that you describe as aspects of your situation that led to your success.

Partners may ask clarifying and probing questions to gain a better sense of your "working conditions."

Partners take notes and then tell you what "working conditions" they heard you describe. Check for accuracy and agreement. Put these conditions on newsprint to be posted.

Switch roles and repeat the sharing process (15 minutes for each person).

Full Group (25 minutes)
Post newsprint lists of "working conditions."
Graze and React — What do we see? Any surprises?

What does this mean for our work as CFG Coaches? How can we bring our best work to CFGs? What "working conditions" do we need, individually and collectively, to do our best work as CFG coaches?

Debrief the protocol experience (10 minutes)
Extension (10 minutes) How could this activity be used in CFGs? With students?

Chalk Talk

Chalk Talk is a silent way to do reflection, generate ideas, check on learning, develop projects or solve problems. It can be used productively with any group—students, faculty, workshop participants, committees. Because is it done completely in silence, it gives groups a change of pace and encourages thoughtful contemplation. It can be an unforgettable experience. Middle Level students absolutely love it—it's the quietest they'll ever be!

Format

Time: Varies according to need; can be from 5 minutes to an hour.
Materials: Chalk board and chalk or paper roll on the wall and markers.

Process

1. The facilitator explains VERY BRIEFLY that chalk talk is a silent activity. No one may talk at all and anyone may add to the chalk talk as they please. You can comment on other people's ideas simply by drawing a connecting line to the comment. It can also be very effective to say nothing at all except to put finger to lips in a gesture of silence and simply begin with #2.

2. The facilitator writes a relevant question in a circle on the board.
   Sample questions:
   - What did you learn today?
   - So What? or Now What?
   - What do you think about social responsibility and schooling?
   - How can we involve the community in the school, and the school in community?
   - How can we keep the noise level down in this room?
   - What do you want to tell the scheduling committee?
   - What do you know about Croatia?
   - How are decimals used in the world?

3. The facilitator either hands a piece of chalk to everyone, or places many pieces of chalk at the board and hands several pieces to people at random.

4. People write as they feel moved. There are likely to be long silences—that is natural, so allow plenty of wait time before deciding it is over.

5. How the facilitator chooses to interact with the Chalk Talk influences its outcome. The facilitator can stand back and let it unfold or expand thinking by:

   - circling other interesting ideas, thereby inviting comments to broaden
   - writing questions about a participant comment
   - adding his/her own reflections or ideas

- connecting two interesting ideas/comments together with a line and adding a question mark

Actively interacting invites participants to do the same kinds of expansions. A Chalk Talk can be an uncomplicated silent reflection or a spirited, but silent, exchange of ideas. It has been known to solve vexing problems, surprise everyone with how much is collectively known about something, get an entire project planned, or give a committee everything it needs to know without any verbal sparring.

6. When it's done, it's done.

Feedback Nightmares

Purpose: To address our fears about both getting and giving feedback. To derive a set of principles for a respectful feedback process.

Time allotted: From 30 to 40 minutes. If time is tight, cut the writing time.

The Activity:

Individual writing — ask everyone to write for 5-10 minutes — about a time when they got feedback and it was a negative experience and about a time that they gave someone feedback and it was a negative experience.

Pairs — share any part of the writing that you are willing to share. Draw up a list of five feedback do's and five don'ts.

Large group — share out do's and don'ts — each pair adding to the list. As a group, derive the norms for good feedback that flow from those lists.

Reflection:
Why did we focus on negative experiences instead of good ones? Should we have?
Was it difficult writing/sharing about these experiences?
What is the value of an exercise like this?

GIVING FEEDBACK AND RECEIVING BEEDBACK

(Instead of Praise and Criticism)

Criticism shuts us down, were usually too defensive to listen and evaluate and asses what we're hearing.
Empty praise, like criticism, often judges the doer, not the deed. Praise often make us uncomfortable and anxious. It doest tell us what we did that was good or valued. We end up seeking approval of the person who's judging up, rather than focusing on our behavior and the goals we set for ourselves.

Examples of empty praise: "Good job" "you're doing great." Excellent" "You're terrific." "You've improved" since last week."

Giving Feedback

Give feedback on the deed not the doer. Feedback about the deed puts the focus on what you did or said and how you did it, not whether you are a good or bad person. Think of feedback as a way of playing back the video tape of what just happened. Feedback lets the other person know that we were paying attention. Feedback places the "receiver" in control of the data. When people receive feedback, they can asses on their own how they did. The "receiver" can choose what to use, what to consider, what to incorporate in "next time" behaviors and responses.

Use concrete, specific language that indicates what you saw, heard, felt, or experienced. If you use "fat words" like okay, great, interesting, not good enough, that's better, the "receiver" won't get specific information that is really helpful.

Feedback statements begin in different ways:

- **Naming what you heard a person say or saw a person do:** Examples: "You let me take as much time as I needed." You made everyone in the group feel welcome by inviting them to all say something in the beginning." You spoke loud enough so that we all could hear you." "You found three different solutions to the problem."

- **Giving reactions for your perspectives:** when someone gives us feedback, they're letting us know how our words and behavior affected them. For example: "I liked it when you… I noticed that… I observed that you… I appreciated it when you… it would have helped me understand better if you had… this policy isn't clear to me. I'm not sure what to do."

Receiving Feedback

For the receivers: "Think of feedback as a package you receive in the mail. You can choose to:

- Return to sender; it came to the wrong address.
- Keep the package and communicate that you've received it.
- Keep the package, open it, and use what's in the right away.
- Keep it on the shelf for now; you might want to use it in the future.

Feedback Principles

Giving Feedback

Constructive feedback is indispensable to productive collaboration. Positive feedback is easy to give and receive; when the response highlights a need to improve it is harder to say and much harder to hear. When it is done properly, feedback is a very specific kind of communication: it focuses on sharing with another person the impact of their behavior and its purpose is to help that person become more effective. Feedback is most useful when is it *audible, credible,* and *actionable.* Following the guidelines below will help you achieve that goal.

Give it with care. To be useful, feedback requires the giver to want to help, not hurt, the other person.

Let the recipient invite it. Feedback is most effective when the receiver has invited the comments. Doing so indicates that the receiver is ready to hear the feedback and gives that person an opportunity to specify areas of interest and concern.

Be specific. Good feedback deals clearly with particular incidents and behavior. Making vague or woolly statements is of little value. The most helpful feedback is concrete and covers the area of interest specified by the receiver.

Include feelings. Effective feedback requires more than a simple statement of observed behaviors. It is important to express how you felt so that the receiver can judge the full impact of the behavior being discussed. For example, you might say, "When you come late to meetings, I feel angry and frustrated because …"

Avoid evaluative judgments. The most useful feedback describes behaviors without value labels such as "irresponsible", "unprofessional", or even "good" and "bad". If the recipient asks you to make a judgment, be sure to state clearly that this is *your* opinion.

Speak for yourself. When giving feedback, be sure to discuss only things you have witnessed. Do not refer to absent or anonymous people (e.g. "A lot of people didn't like it").

Pick an appropriate time and place. The most useful feedback is given at a time and in a place that make it easy for the receiver to hear it, e.g., away from other people and distractions. It should also be given sufficiently close to the particular event being discussed for the event to be fresh in the mind.

Make the feedback readily actionable. To be most useful, feedback should concern behavior that can be changed by the receiver. Feedback concerning matters outside the control of the receiver is less useful and often causes resentment.

Giving Feedback: Summary

1. Find out and respond to the receiver's concerns.
2. Be specific about the behavior and your reactions.
3. Speak for yourself only.
4. Don't evaluate.
5. Help the receiver figure out how to act on your feedback.

Receiving Feedback

Breathe. This may seem overly simple, but remembering to do it can make a difference. Our bodies are conditioned to react to stressful situations as if they were physical assaults (e.g. muscles tense, breathing becomes shallow and rapid, etc.). Taking full breaths will help your body to relax and your brain to focus.

Specify the behavior about which you want feedback. The more specific you can be about the feedback you want, the more likely you are to be able to act upon it. For example, if you want to know how students reacted to an assignment, ask, "What did the students in the small group you observed do after I finished answering their questions?" rather than, "How did it go?"

Listen carefully. Don't interrupt or discourage the person giving feedback. Don't defend yourself ("It wasn't my fault … ") and don't justify ("I only did that because … ").

Clarify your understanding of the feedback. You need to get clear feedback in order for it to be helpful. Ask for specific examples, e.g. "Can you describe what I do or say that makes me appear aggressive to you?"
Summarize your understanding of the feedback. Paraphrase the message in your own words to be sure you have heard and understood what was said.

Take time to sort out what you heard. You may need time to think about what was said and how you feel about it or to check with others before responding to the feedback. This is a normal response but should not be used as an excuse to avoid the issue.

Check out possible responses with the person who gave you feedback. A good way to pre-test an alternative approach to a situation that has caused problems for you in the past is to ask the person who gave the feedback if s/he thinks it will be more effective. That provides a first screen, and makes the feedback-giver feel heard.

Receiving Feedback: Summary

1. Be specific about the feedback that you want.

2. Be open to the feedback:
   a) don't ask for it if you don't want to know
   b) avoid defensiveness
   c) don't justify

3. Clarify/check your understanding of the feedback.

4. Summarize your understanding of the feedback.

5. Share your reaction to the feedback.

Probing Questions Exercise

Probing Questions are part of several protocols for Looking at Student Work. They are tricky questions as people tend to ask more detailed clarifying questions or questions that pertain to what the speaker wishes to say or know, rather than questions clearly for the benefit of the presenter. This exercise was designed by JoAnne Dowd and John D'Anieri of Poland High School, Poland, ME, in order to help people become skillful at this important aspect of the Protocols.

Steps

1. The facilitator introduces the concept of probing questions. Probing Questions are meant to help the presenter think more deeply, challenge his or her assumptions or consider ways to rethink some aspect of their practice. Probing Questions are for the presenter, not the one asking the question. They should be genuine questions, not judgments or advice, though sometimes ideas to consider are either implicit or explicit in the question.
2. Give everyone in the group (usually groups of 12 or less) an index card and ask them to write a dilemma they are faced with on one side only.
3. The first person (volunteer) reads their card only.
4. Anyone on the group asks a clarifying question — only two total. The reader answers. This is to help the difference between clarifying and probing questions.
5. Anyone in the group asks a probing question. The reader writes it on the back of the card but does not respond. Four more people ask a probing question and the reader writes them down, for a total of five probing questions.
6. The reader considers them and tells the group which one caused him/her to think the most deeply, was the most "probing." It is possible to tease out the attribute(s) of that question and begin a list of "the attributes of a probing question." This is not necessary.
7. The next person reads his/her dilemma and the process is repeated. This can be repeated as many times as necessary for the group to improve their ability to ask good probing questions, or as long as time allows.
8. Debrief the process by talking about what people now understand about probing questions, and/or by reviewing the "attributes of a probing question" if that step was done.

Pocket Guide To Probing Questions

The distinction between clarifying questions and probing questions is very difficult for most people working with protocols. So is the distinction between probing questions and recommendations for action. The basic distinctions are:

Clarifying Questions are simple questions of fact. They clarify the dilemma and provide the nuts and bolts so that the participants can ask good probing questions and provide useful feedback later in the protocol. Clarifying questions are for the participants, and should not go beyond the boundaries of the presenter's dilemma. They have brief, factual answers, and don't provide any new "food for thought" for the presenter. The litmus test for a clarifying question is: Does the presenter have to think before s/he answers? If so, it's almost certainly a probing question.
Some examples of clarifying questions:

- How much time does the project take?
- How were the students grouped?
- What resources did the students have available for this project?

Probing Questions are intended to help the presenter think more deeply about the issue at hand. If a probing question doesn't have that effect, it is either a clarifying question or a recommendation with an upward inflection at the end. If you find yourself saying "Don't you think you should …?" you've gone beyond probing questions. The presenter often doesn't have a ready answer to a genuine probing question. Since probing questions are the hardest to create productively, we offer the following suggestions:

- Check to see if you have a "right" answer in mind. If so, delete the judgment from the question, or don't ask it.
- Refer to the presenter's original question/focus point. What did s/he ask for your help with? Check your probing questions for relevance.
- Check to see if you are asserting your own agenda. If so, return to the presenter's agenda.
- Sometimes a simple "why…?" asked as an advocate for the presenter's success can be very effective, as can several why questions asked in a row.
- Try using verbs: What do you fear? Want? Get? Assume? Expect?
- Think about the concentric circles of comfort, risk and danger. Use these as a barometer. Don't avoid risk, but don't push the presenter into the "danger zone."
- Think of probing questions as being on a continuum, from recommendation to most effective probing question. For example [on next page — from an actual Consultancy session in which a teacher was trying to figure out why the strongest math students in the class weren't buying in and doing their best work on what seemed to be interesting math "problems of the week"]:

1. You could have students use the rubric to assess their own papers? (recommendation re-stated as a question)

2. What would happen if students used the rubric to assess their own work? (recommendation re-stated as a probing question)
3. What do the students think is an interesting math problem? (good probing question)
4. What would have to change for students to work more for themselves? (better probing question)

In summary, good probing questions:

- are general and widely useful
- don't place blame on anyone
- allow for multiple responses
- help create a paradigm shift
- empower the person with the dilemma to solve his or her own problem (rather than deferring to someone with greater or different expertise)
- avoid yes/no responses
- are usually brief
- elicit a slow response
- move thinking from reaction to reflection
- encourage taking another party's perspective

Some final hints for crafting probing questions. Try the following questions and/or question stems. Some of them come from Charlotte Danielson's Pathwise work, in which she refers to them as "meditational questions."

- Why do you think this is the case?
- What would have to change in order for…?
- What do you feel is right in your heart?
- What do you wish…?
- What's another way you might…?
- What would it look like if…?
- What do you think would happen if…?
- How was…different from…?
- What sort of an impact do you think…?
- What criteria did you use to…?
- When have you done/experienced something like this before?
- What might you see happening in your classroom if…?
- How did you decide/determine/conclude…?
- What is your hunch about ….?
- What was your intention when ….?
- What do you assume to be true about ….?
- What is the connection between…and…?
- What if the opposite were true? Then what?
- How might your assumptions about…have influenced how you are thinking about…?
- Why is this such a dilemma for you?

Some Examples of Probing Questions:

- Why is a "stand-and-deliver" format the best way to introduce this concept?
- How do you think your own comfort with the material has influenced your choice of instructional strategies?
- What do the students think is quality work?
- You have observed that this student's work lacks focus – what makes you say that?
- What would the students involved say about this issue?
- How have your perspectives on current events influenced how you have structured this activity?
- Why aren't the science teachers involved in planning this unit?
- Why do you think the team hasn't moved to interdisciplinary curriculum planning?
- What would understanding of this mathematical concept look like? How would you know students have "gotten it"?
- Why did allowing students to create their own study questions cause a problem for you?
- Why do you think the expected outcomes of this unit weren't communicated to parents?
- What was your intention when you assigned students to oversee the group activity in this assignment?
- What evidence do you have from this student's work that her ability to reach substantiated conclusions has improved?
- How might your assumptions about the reasons why parents aren't involved have influenced what you have tried so far?
- How do you think your expectations for students might have influenced their work on this project?
- What do you think would happen if you restated your professional goals as questions?
- What other approaches have you considered for communicating with parents about their children's progress?

Pre-Conference Protocol

Purpose:

- To become more familiar with questions to ask at a preconference
- To become more comfortable matching protocols and situations
- To recognize that more than one protocol can be effective in any given situation

1. Presenter makes a brief presentation of the work they will be presenting to the CFG.
2. The rest of the group is broken into pairs. Each "Pair" will function as a "Coach."
3. The Coach/pairs, after hearing the presentation, peruse the protocols and choose two they feel will work
4. The Coach/pairs also prepare a follow-up question to ask the presenter.
5. During this time the presenter is also perusing the protocols to see which one might work (the presenter can also be given a guardian angel to help choose a protocol).
6. Go around the room and have each Coach/pair ask their question.
7. Presenter answers the questions as they are asked.
8. Once all the questions have been asked and answered there are a few minutes for any other necessary clarifying questions.
9. Each Coach/pair then makes their final decision about which protocol they feel would be most appropriate and WHY.
10. Go around the coach/pairs and hear the ideas for protocols and reasons why.
11. Presenter makes the final choice which protocol he/she would like to use.

Describing Students' Work

This description has been adapted by Marylyn Wentworth from many sources: an outline used by Fulton Academy of Geographic and Life Sciences and Fort Pitt Elementary School, Pittsburgh, PA, and passed on through the Summer 1997 CFG Coaches Training by Vinessa Turpin, Trish Rygalski, and Jerone Morris; as well as the input of Steve Hoffman and of the Alternative Community School in Ithaca, NY, and Steven Strull of DuSable High School, Chicago, IL. Pooling our growing knowledge is hopefully making this intriguing protocol more useful and doable within the time constraints of public schools.

The Prospect Archive and Center for Education and Research in North Bennington, Vermont, has, over many years, developed the concept of "Descriptive Review of the Child." The work done by these dedicated educators has seeded a dialogue about children's work all across the country that deserves gratitude and acknowledgement. The Describing Students' Work is not the same as a Descriptive Review of the Child, but the purpose stems from the same root. The goal of the Describing Students' Work is to focus on the work of one student as a way to better understand that student's way of knowing.

Time 1 hour (can be as much as 2 hours)

Roles Presenting Teacher(s)
Facilitator
Review Group

Preparation:

- Teacher designated for presentation or teacher volunteers
- Group determined (keep to 10 or less)
- Chairperson/facilitator designated
- Meeting of facilitator and teacher presenter for planning:
  - Choose the work (1 to 6 samples of one child's work).
  - Why has the teacher chosen this work? Is it indicative of what the child does?
  - Are there questions or dilemmas the presenter wishes to explore?
  - How will the work be presented to the group — how much background, etc?

Review Process

1. Chairperson/presenter reviews the descriptive process. (5 minutes)

- This process is grounded in description, not judgment or evaluation.
- The major assumption is that all work bears the imprint and signature of the author and so offers important access to the maker's interest, ways of creating order, and point of view. The purpose is to understand this student's way of knowing.

- The process is formal. The group speaks in go-arounds. You are free to pass. Everyone listens carefully. There is no cross dialogue. Comments are kept short (if you keep hearing yourself say "and" you've said too much.)
- Use action words, descriptive words and phrases.
- The chair sets the focus for each round, listens, takes notes for common ground.

2. Setting the Tone for Description. (5-15 minutes) Since true description is difficult, start with a reflection/description exercise, such as:
- Group is given a word, object, or witnesses an event and responds with free association in a round, i.e., storm — impending, wet, wind … or a doll — 6 inches, dark hair …
- A 3-5 minute reflective writing, describing a word, object, event …
- If this is the first time the group has used this process, it may be wise to do several practice rounds with a short paragraph or piece of art work to practice responding descriptively. The skill of the group in being descriptive rather than evaluative dictates how much practice is needed.

3. Teacher/presenter puts the work out for reading by the group. (5-10 minutes)
- Teacher may choose to read some of the work aloud or have someone else do so.
- Amount of time needed depends upon amount of student work, complexity, and number of group members.

4. Teacher/presenter gives a brief introduction to the work. (5 minutes)
- The description tends to be less evaluative if the teacher does not give too much information, as too much pre-knowledge may prejudice the view of the ream … Often NO information is given other than the work itself.
- she/he may give the child's name, age, time in school, siblings and other pertinent background/context information, as desired or as may help the process. she/he may pose a question or dilemma for the group to consider concerning this student.

5. Rounds begin. (30 to 90 minutes)
- Each round (or rounds if the same focus is used for several rounds) is summarized by the facilitator and the focus for the next round set.
- Facilitator may vary the beginning person for rounds, and change the order from clockwise to counter-clockwise.
- Facilitator may choose to insert a clarifying question round, where group members can ask the presenter(s) clarifying questions — not probing questions.
- A pause for presenter(s) to reflect on what they are learning, either silently or aloud to the group, can be interjected into the rounds.
- There is no absolute order, nor focus for rounds, except for literal description rounds which must always be done: "What do you see?" Six colors used; one cloud, two people, one with red pants ….

Descriptive Rounds

Seventeen rounds is unrealistic, so obviously there is some careful selection that reflects the purpose of the review, and is appropriate to the work. Literal Description rounds are

always done, as are the Debrief/ Feedback rounds. The others are selected for appropriateness. Sometimes a particular focus within a round (i.e., "how the student is visible in the work") may be done more than once.

Literal Description Rounds

- General impressions
- Physical description – what do you see? (likely to be more than one round)

What Student is Working On Rounds?

- Elements that seems apparent (style, rhythm, tone, form …)
- Tasks student is trying to accomplish
- How the student is visible in the work
- What does the student appear to value
- What does he/she know how to do re: skills
- What does the student seem on the verge of understanding
- "I wonder" Optional Teaching Focus Rounds (Very difficult as evaluation is hard to avoid)
- Implications for teaching this child
- Changes teacher might make in instruction or curriculum practices, in assessment tools, or in attitude toward student

Debrief/Feedback on Process Rounds

- How did this work, or not
- What did you learn
- Suggestions for facilitation
- Time for presenter to say what was learned about this student

Description, Interpretation, or Evaluation?

How do description, interpretation, and evaluation differ? Consider these brief definitions and examples.

Description involves identifying in very literal terms what constitutes the piece or work being observed. Generally, there is little disagreement among group members about comments that are truly descriptive. Descriptive comments might sound like this:

- I see a yellow circle
- I see that the yellow circle is surrounded by blue.
- There is no white space left on the page.

Interpretation involves assigning some meaning or intent to what is in the work. For example, the following comments involve interpretation (or speculation):

- There's a sun in the deep blue sky.
- I see a full moon in the night sky.
- That looks like a round, shiny UFO in outer space.
- I think that the student was afraid of leaving any blank space on the page

Evaluation attaches values or personal preferences to the work being examined. For example:

- The sun in drawn skillfully.
- I see a very creative student at work here.
- I don't like the way there's no room left on the page-it feels so crowed.

Collaborative Assessment Conference: Overview

The following description is excerpted, with slight adaptations, from looking together at student work by Tine Blythe, David Allen, and Barbara S Powell (New York: Teachers College Press, 1999

A piece of student work has the potential to reveal not only the student's mastery of the curriculum's goals, but also a wealth of information about the student him/herself: his/her intellectual interests, his/her strengths, and his/her struggles. The Collaborative Assessment Conference was designed to give teachers a systematic way to mine this richness. It provides a structure by which teachers come together to look at a piece of work, first to determine what it reveals about the student and the issues s/he cares about, and then to consider how the student's issues and concerns relate to the teacher's goals for the student. The last part of the conversation – the discussion of classroom practice – grows out of these initial considerations.

The structure for the conference evolved from three key ideas:

- First, students use school assignments, especially open-ended ones, to tackle important problems in which they are personally interested. Sometimes these problems are the same ones that the teacher has assigned them to work on, sometimes not.

- Second, we can only begin to see and understand the serious work that students undertake if we suspend judgment long enough to look carefully and closely at what is actually in the work rather than what we hope to see in it.

- Third, we need the perspective of others — especially those who are not intimate with our goals for our students — to help us to see aspects of the student and the work that would otherwise escape us, and we need others to help us generate ideas about how to use this information to shape our daily practice.

Since 1988, when Steve Seidel and his colleagues at Project Zero developed this process, the Collaborative Assessment Conference has been used in a variety of ways: to give teachers the opportunity to hone their ability to look closely at and interpret students' work; to explore the strengths and needs of a particular child; to reflect on the work collected in student portfolios; to foster conversations among faculty about the kind of work students are doing and how faculty can best support that work.

In the Collaborative Assessment Conference, the presenting teacher brings a piece of student work to share with a group of five to ten colleagues (usually other teachers and administrators). The process begins with the presenting teacher showing (or distributing copies of) the piece to the group. Throughout the first part of the conference, the

presenting teacher says nothing, giving no information about the student, the assignment, or the context in which the student worked.

Through a series of questions asked by the facilitator, the group works to understand the piece by describing it in detail and looking for clues that would suggest the problems or issues or aspects of the work with which the student was most engaged. They do this without judgments about the quality of work or how it suits their personal tastes. The facilitator helps this process by asking participants to point out the evidence on which they based the judgments that inevitably slip out. For example, if someone comments that the work seems very creative, the facilitator might ask him or her to describe the aspect of the work that led him or her to say that.

In the second part of the conference, the focus broadens. Having concentrated intensively on the piece itself, the group, in conversation with the presenting teacher, now considers the conditions under which the work was created as well as broader issues of teaching and learning. First, the presenting teacher provides any information that s/he thinks is relevant about the context of the work. This might include describing the assignment, responding to the discussion, answering questions (though s/he does not have to respond to all the questions raised in the first part of the conference), describing other work by the child, and/or commenting on how his/her own reading or observation of the work compares to that of the group.

Next, the facilitator asks the whole group (presenting teacher included) to reflect on the ideas generated by the discussion of the piece. These might be reflections about specific next steps for the child in question; ideas about what the participants might do in their own classes or thoughts about the teaching and learning process in general. Finally, the whole group reflects on the conference itself.

The following steps are a working agenda for a Collaborative Assessment Conference. The time allotted for each step of the conference is not fixed, since the time needed for each step will vary in accordance with the work being considered. At each stage, the facilitator should use his or her judgment in deciding when to move the group on to the next step. Typically, Collaborative Assessment Conferences take from forty-five minutes to an hour and fifteen minutes.

The Collaborative Assessment Conference Protocol

Developed by Steve Seidel and colleagues at Harvard Project Zero

1. **Getting Started**
   - The group chooses a facilitator who will make sure the group stays focused on the particular issue addressed in each step.
   - The presenting teacher puts the selected work in a place where everyone can see it or provides copies for the other participants. S/he says nothing about the work, the context in which it was created, or the student, until Step 5.
   - The participants observe or read the work in silence, perhaps making brief notes about aspects of it that they particularly notice.

2. **Describing the Work**
   - The facilitator asks the group, "What do you see?"
   - Group members provide answers without making judgments about the quality of the work or their personal preferences.
   - If a judgment emerges, the facilitator asks for the evidence on which the judgment is based.

3. **Asking Questions About the Work**
   - The facilitator asks the group, "What questions does this work raise for you?"
   - Group members state any questions they have about the work, the child, the assignment, the circumstances under which the work was carried out, and so on.
   - The presenting teacher may choose to make notes about these questions, but s/he is does not respond to them now--nor is s/he obligated to respond to them in Step 5 during the time when the presenting teacher speaks.

4. **Speculating About What the Student Is Working On**
   - The facilitator asks the group, "What do you think the child is working on?"
   - Participants, based on their reading or observation of the work, make suggestions about the problems or issues that the student might have been focused on in carrying out the assignment.

5. **Hearing from the Presenting Teacher**
   - The facilitator invites the presenting teacher to speak.
   - The presenting teacher provides his or her perspective on the student's work, describing what she/he sees in it, responding (if s/he chooses) to one or more of the questions raised, and adding any other information that s/he feels is important to share with the group.
   - The presenting teacher also comments on anything surprising or unexpected that s/he heard during the describing, questioning and speculating phases.

6. **Discussing Implications for Teaching and Learning**

The facilitator invites everyone (the participants and the presenting teacher) to share any thoughts they have about their own teaching, children's learning, or ways to support this particular child in future instruction.

7. **Reflecting on the Collaborative Assessment Conference**
   The group reflects on the experiences of or reactions to the conference as a whole or to particular parts of it.

8. **Thanks to the Presenting Teacher**

Examples of Debriefing Questions at the end of a Looking at Student Work Session

- What did we learn? What helped us to do that learning?
- What worked well? Not so well? How could we improve our work together?
- Did the conversation move us closer to our goals? How?
- How did the discussion relate to other school issues?
- Did we do what we said we would — in terms of our purposes and our questions? Did we actually focus on the students' work, or on other issues?
- Did we follow the process as we planned? If not, why? How could we improve our process?
- How might we build on this conversation? How might we make examining student work a more frequent and important part of our own work?

Consultancy: Overview

The following descriptions of the Consultancy, how to frame Consultancy dilemmas and questions, and directions for preparing to present a dilemma were written by Gene Thompson-Grove, founding Co-Director of the National School Reform Faculty (NSRF

A Consultancy is a structured process for helping an individual or a team think more expansively about a particular, concrete dilemma. Outside perspective is critical to this protocol working effectively; therefore, some of the participants in the group must be people who do not share the presenter's specific dilemma at that time. When putting together a Consultancy group, be sure to include people with differing perspectives.

The consultancy Protocol was developed by Gene Thomas-Grove as a part of the coalition of the Essential Schools' National Re: Learning Faculty Program, and further adapted and revised as a part of work of the National School Reform Faculty Program (NSRF)

Framing Consultancy Dilemmas and Consultancy Questions

A dilemma is a puzzle, an issue that raises questions, an idea that seems to have conceptual gaps, something about process or product that you just can't figure out. Sometimes it will include samples of student or adult work that illustrate the dilemma, but often it is a dilemma that crosses over many parts of the educational process.

1. Think about your dilemma.

- Dilemmas deal with issues with which you are struggling or that you are unsure about. Some criteria for a dilemma might include:
- Is it something that is bothering you enough that your thoughts regularly return to the dilemma?
- Is it an issue/dilemma that is not already on its way to being resolved?
- Is it an issue/ dilemma that does not depend on getting other people to change (in other words, can you affect the dilemma by changing your practice)?
- Is it something that is important to you, and is it something you are actually willing to work on?

2. Do some reflective writing about your dilemma.
   Some questions that might help are:

- Why is this a dilemma for you? Why is this dilemma important to you?
- If you could take a snapshot of this dilemma, what would you/we see
- What have you done already to try to remedy or manage the dilemma?
- What have been the results of those attempts?

- Who do you hope changes? Who do you hope will take action to resolve this dilemma? If your answer is not you; you need to change your focus. You will want to present a dilemma that is about your practice, actions, behaviors, beliefs, and assumptions, and not someone else's.
- What do you assume to be true about this dilemma, and how have these assumptions influenced your thinking about the dilemma?
- What is your focus question? A focus question summarizes your dilemma and helps focus the feedback (see the next step).

3. Frame a focus question for your Consultancy group: Put your dilemma into question format.
- Try to pose a question around the dilemma that seems to you to get to the heart of the matter.
- Remember that the question you pose will guide the Consultancy group in their discussion of the dilemma.

4. Critique your focus question.
- Is this question important to my practice?
- Is this question important to student learning?
- Is this question important to others in my profession?

Some Generic Examples of Dilemmas

- The teaching staff seems to love the idea of involving the students in meaningful learning that connects the students to real issues and an audience beyond school, but nothing seems to be happening in reality.
  Question: What can I do to capitalize on teachers' interest and to help them translate theory into practice?

- The community is participating in visioning work, but the work doesn't seem to relate to the actual life of the school — it is just too utopian.
  Question: How do I mesh dreams and reality?

- Teachers love doing projects with the students, but the projects never seem to connect to one another or have very coherent educational goals or focus; they are just fun.
  Question: How do I work with teachers so they move to deep learning about important concepts while still staying connected to hands-on learning?

- We keep getting grants to do specific projects with students and the community, but when the money is gone, the work doesn't continue.
  Question: How does sustainability actually work? What needs to change for it to work?

- No matter how hard I try to be inclusive and ask for everyone's ideas, about half of the people don't want to do anything new — they think things were just fine before.

Question: How do I work with the people who don't want to change without alienating them?

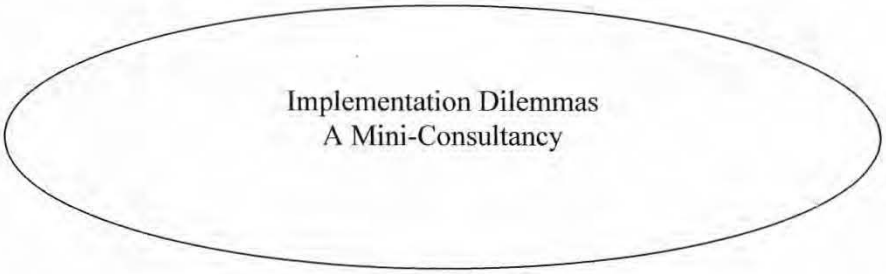
Preparing to Present a Dilemma in a Consultancy Protocol

Come to the session with a description of a dilemma related to your practice. Write your dilemma with as much contextual description as you feel you need for understanding. One page is generally sufficient; even a half page is often enough. If you prefer not to write it out, you can make notes for yourself and do an oral presentation, but please do some preparation ahead of time.

End your description with a specific question. Frame your question thoughtfully. What do you REALLY want to know? What is your real dilemma? This question will help your Consultancy group focus its feedback. Questions that can be answered with a "yes" or "no" generally provide less feedback for the person with the dilemma, so avoid those kinds of questions. (See the previous pages for a process for framing Consultancy dilemmas and questions.)

Dilemmas deal with issues with which you are struggling — something that is problematic or has not been as effective as you would like it to be — anything related to your work. Consultancies give presenters an opportunity to tap the expertise in a group, and if past experiences offer any indication, you will be able to rely on the people in your Consultancy group to provide respectful, thoughtful, experienced-based responses to your dilemma.

A couple of caveats — we have found that Consultancies don't go well when people bring dilemmas that they are well on the way to figuring out themselves, or when they bring a dilemma that involves only getting other people to change. To get the most out of this experience, bring something that is still puzzling you about your practice. It is riskier to do, but we guarantee that you will learn more.



Part One: individual writing (7-10 minutes)

Think about implementing CFGs and collaboration at your school site.

NOTE: the most powerful feedback will come from choosing an issue which is a true dilemma for you.

What aspects of the process are you most wondering about?

What questions does this raise for you?

What barriers/challenge might arise in this area?

What are some options you are considering?

Part Two: Mini consultancy in triads

Note the following steps are for one "round" in the consultancy process… a trial will do 3 rounds, so each person has an opportunity to receive feedback on their dilemma.

Step One: 2-3 minutes

Presenter reads his/her dilemma… others listen only…

Step Two: 3-5

Listeners ask "clarifying questions" to better understand presenter's context… Clarifying questions are for those giving feedback, and should be simple, short answer questions.

Example: How many teachers do you have on staff?

Is this your first year as a Chancellor School?

Step Three: 7-10 minutes

Listeners discuss what they understood the dilemma to be, and what they think the presenter's questions and concerns are…

CAUTION: as tempting as it will be, your job isn't to SOLVE the dilemma… your role is reflect the dilemma back for the presenter to think deeply about…

PRESENTER is SILENT… the others have a conversation as if the presenter is not in the room.

Step Four: 3-5 minutes

PRESENTER speaks… at this point she/he can share any insights gained from listening to the conversations, or questions that will lead to further thought. Then, if they choose, all three participants have a brief conversation about the implications of this dilemma for the school leadership in general.

Following theses steps, a trial can do three mini-consultancies in one hour

Consultancy Protocol

Developed by Gene Thompson-Grove,
Founding Co-Director of National School Reform Faculty Project (NSRF)

Purpose: A Consultancy is a structured process for helping an individual or a team think more expansively about a particular, concrete dilemma.

Time: Approximately 50 minutes
Roles: Presenter (whose work is being discussed by the group)
Facilitator (who sometimes participates, depending on the size of the group)

Steps:

1. The presenter gives an overview of the dilemma with which s/he is struggling, and frames a question for the Consultancy group to consider. The framing of this question, as well as the quality of the presenter's reflection on the dilemma being discussed, are key features of this protocol. If the presenter has brought student work, educator work, or other "artifacts," there is a pause here to silently examine the work/ documents. The focus of the group's conversation is on the dilemma. (5-10 minutes)

2. The Consultancy group asks clarifying questions of the presenter — that is, questions that have brief, factual answers. (5 minutes)

3. The group asks probing questions of the presenter. These questions should be worded so that they help the presenter clarify and expand his/her thinking about the dilemma presented to the Consultancy group. The goal here is for the presenter to learn more about the question s/he framed or to do some analysis of the dilemma presented. The presenter may respond to the group's questions, but there is no discussion by the Consultancy group of the presenter's responses. At the end of the ten minutes, the facilitator asks the presenter to re-state his/her question for the group. (10 minutes)

4. The group talks with each other about the dilemma presented. (15 minutes)
Possible questions to frame the discussion:

What did we hear?
What didn't we hear that they think might be relevant?
What assumptions seem to be operating?
What questions does the dilemma raise for us?
What do we think about the dilemma?
What might we do or try if faced with a similar dilemma? What have we done in similar situations?

Members of the group sometimes suggest actions the presenter might consider taking. Most often, however, they work to define the issues more thoroughly and objectively. The presenter doesn't speak during this discussion, but instead listens and takes notes.

5. The presenter reflects on what s/he heard and on what s/he is now thinking, sharing with the group anything that particularly resonated for him or her during any part of the Consultancy. (5 minutes)

6. The facilitator leads a brief conversation about the group's observation of the Consultancy process. (5 minutes)

Some Tips

Step 1: The success of the Consultancy often depends on the quality of the presenter's reflection in Step 1 as well as on the quality and authenticity of the question framed for the Consultancy group. However, it is not uncommon for the presenter, at the end of a Consultancy, to say, "Now I know what my real question is." That is fine, too. It is sometimes helpful for the presenter to prepare ahead of time a brief (one-two page) written description of the dilemma and the issues related to it for the Consultancy group to read as part of

Step 2: Clarifying questions are for the person asking them. They ask the presenter "who, what, where, when, and how." These are not "why" questions. They can be answered quickly and succinctly, often with a phrase or two.

Step 3: Probing questions are for the person answering them. They ask the presenter "why" (among other things), and are open-ended. They take longer to answer, and often require deep thought on the part of the presenter before s/he speaks.

Step 4: When the group talks while the presenter listens, it is helpful for the presenter to pull his/her chair back slightly away from the group. This protocol asks the Consultancy group to talk about the presenter in the third person, almost as if s/he is not there. As awkward as this may feel at first, it often opens up a rich conversation, and it gives the presenter an opportunity to listen and take notes, without having to respond to the group in any way. Remember that it is the group's job to offer an analysis of the dilemma or question presented. It is not necessary to solve the dilemma or to offer a definitive answer.

It is important for the presenter to listen in a non-defensive manner. Listen for new ideas, perspectives, and approaches. Listen to the group's analysis of your question/issues. Listen for assumptions — both your own and the group's — implicit in the conversation. Don't listen for judgment of you by the group. This is not supposed to be about you, but about a question you have raised. Remember that you asked the group to help you with this dilemma.

Step 5: The point of this time period is not for the presenter to give a "blow by blow" response to the group's conversation, nor is it to defend or further explain. Rather, this is a time for the presenter to talk about what were, for him/her, the most significant comments, ideas and questions s/he heard. The presenter can also share any new thoughts or questions s/he had while listening to the Consultancy group.

Step 6: Debriefing the process is key. Don't short-change this step.

Tuning Protocol: Overview

The following description is excerpted, with slight adaptation, from looking together at Student Work by Tina Blythe, David Allen, and Barbara S. Powell (New York: Teachers College Press, 1999)

The tuning protocol was originally developed as a means for the five high schools in the Coalition of Essential School's Exhibitions Project to receive feedback and fine-tune their developing student assessment systems, including exhibitions, portfolios and design projects. Recognizing the complexities involved in developing new forms of assessment, the project staff developed a facilitated process to support educators in sharing their students' work and, with colleagues, reflecting upon the lessons that are embedded there. This collaborative reflection helps educators to design and refine their assessment systems, as well as to support higher quality student performance. Since its trial run in 1992, the Tuning Protocol has been widely used and adapted for professional development purpose in and among schools across the country.

To take part in the Tuning Protocol, educators bring samples of either own work or their students' work on paper and, whenever possible, on video, as well as some of the materials they have created to support student performance, such as assignment descriptions and scoring rubrics. In a circle of about six to ten "critical friends" (usually other educators), a facilitator guides the group through the process and keeps time. The presenting educator, or team of educators, describes the context for the student work (the task or project) - uninterrupted by questions or comments from participants.

Often the presenter begins with a focusing question or area about which she would especially welcome feedback, for example, "Are you seeing evidence of persuasive writing in the students' work?" Participants have time to examine the student work and ask clarifying questions. Then, with the presenter listening but silent, participants offer warm and cool feedback - both supportive and challenging. Presenters often frame their feedback as a question, for example, "How might the project be different if students chose their research topics?"

After this feedback is offered, the presenter has the opportunity, again uninterrupted, to reflect on the feedback and address any comments or questions she chooses. Time is reserved for debriefing the experience. Both presenting and participating educators have found the tuning experience to be a powerful stimulus for encouraging reflection on their practice

Tuning Protocol Guidelines

Participation in a structured process of professional collaboration like this can be intimidating and anxiety producing, especially for the teacher presenting student work. Having a shared set of guidelines or norms helps everybody participate in a manner that is respectful as well as conducive to helpful feedback. Below is one set of guidelines; teachers may want to create their own. In any case, the group should go over the guidelines and the schedule before starting the protocol. The facilitator must feel free to remind participants of the guidelines and schedule at any time in the process.

1. **Be respectful of presenters.** By making their work more public, teachers are exposing themselves to kinds of critiques they may not be used to receiving. If inappropriate comments or questions are posed, the facilitator should make sure they are blocked or withdrawn.

2. **Contribute to substantive discourse.** Resist offering only blanket praise or silence. Without thoughtful, probing questions and comments, the presenter will not benefit from the tuning protocol.

3. **Be appreciative of the facilitator's role**, particularly in regard to following the norms and keeping time. A tuning protocol that doesn't allow for all components (presentation, feedback, response, debrief) to be enacted properly will do a disservice to the teacher-presenters and to the participants.

4. **Facilitators need to keep the conversation constructive.** There is a delicate balance between feedback that only strokes and feedback that does damage. It is the facilitator's job to make sure that balance is maintained. At the end of the session, the presenter should be able to revise the work productively on the basis of what was said.

5. **Don't skip the debrief.** It is tempting to move to the next item of business once the feedback section is over. If you do that, the quality of responses will not improve and the presenters will not get increasingly useful kinds of feedback.

Tuning Protocol

1. **Introduction** (5 minutes)
   - Facilitator briefly introduces protocol goals, guidelines, and schedule
   - Participants briefly introduce themselves (if necessary)

2. **Presentation** (15 minutes)

The presenter has an opportunity to share the context for the student work:

- Information about the students and/or the class — what the students tend to be like, where they are in school, where they are in the year
- Assignment or prompt that generated the student work
- Student learning goals or standards that inform the work
- Samples of student work — photocopies of work, video clips, etc. — with student names removed
- Evaluation format — scoring rubric and/or assessment criteria, etc.
- Focusing question for feedback
- Participants are silent; no questions are entertained at this time.

3. **Clarifying Questions** (5 minutes)
   - Participants have an opportunity to ask "clarifying" questions in order to get information that may have been omitted in the presentation that they feel would help them to understand the context for the student work. Clarifying questions are matters of "fact."
   - The facilitator should be sure to limit the questions to those that are "clarifying," judging which questions more properly belong in the warm/cool feedback section.

4. **Examination of Student Work Sample**s (15 minutes)
   - Participants look closely at the work, taking notes on where it seems to be in tune with the stated goals, and where there might be a problem. Participants focus particularly on the presenter's focusing question.
   - Presenter is silent; participants do this work silently.

5. **Pause to reflect on warm and cool feedback** (2-3 minutes)
   - Participants take a couple of minutes to reflect on what they would like to contribute to the feedback session.
   - Presenter is silent; participants do this work silently.

6. **Warm and Cool Feedback** (15 minutes)
   - Participants share feedback with each other while the presenter is silent. The feedback generally begins with a few minutes of warm feedback, moves on to a few minutes of cool feedback (sometimes phrased in the form of reflective questions), and then moves back and forth between warm and cool feedback.
   - Warm feedback may include comments about how the work presented seems to meet the desired goals; cool feedback may include possible "disconnects," gaps, or

problems. Often participants offer ideas or suggestions for strengthening the work presented.

- The facilitator may need to remind participants of the presenter's focusing question, which should be posted for all to see.
- Presenter is silent and takes notes.

7. **Reflection** (5 minutes)
- Presenter speaks to those comments/questions he or she chooses while participants are silent.
- This is not a time to defend oneself, but is instead a time for the presenter to reflect aloud on those ideas or questions that seemed particularly interesting.
- Facilitator may intervene to focus, clarify, etc.

8. **Debrief** (5 minutes)
- Facilitator-led discussion of this tuning experience.

The Charrette: Overview

History:

The Charrette is a term and process borrowed from the architectural community. Its purpose is to improve a piece of work. As described by Carol Coe at Puyallup High School (WA), Charrettes are used to "kick up" the level of performance. Individuals or teams call for a Charrette when they are "stuck" — when the members of the team have reached a point in the process where they cannot easily move forward on their own. They bring their current ideas, or the actual work in progress, to the Charrette, and then ask the group to "work on the work" for them.

Using the Protocol:

Charrettes are not normally held after the completion of a project. Instead, they are held in a low stakes/no stakes environment, where the requesting team has much to gain from the process and virtually nothing to lose. In short, Charrettes are used to scrutinize and improve work while it is still in progress, before it is ever placed in a high stakes environment. They can be used whenever an individual or small group has a design problem or issue.

One other consideration: the Charrette is used only when there is sufficient trust present in a group, and when the prevailing atmosphere is one of cooperation rather than competition. Underlying the successful use of the Charrette are two fundamental beliefs:

1. Individuals or groups working together can usually produce better work than individuals or groups working in isolation ("none of us is as smart as all of us"), and
2. There is no piece of work that with more time, thought and effort couldn't be improved ("with learning
there is no finish line").

The Charrette Protocol

The following list of steps attempts to formalize the process for others interested in using it.

1. A group or an individual from the group requests a Charrette when:
a. the group is experiencing difficulty with the work,
b. a stopping point has been reached, or
c. additional minds (thinkers new to the work) could help move it
d. forward

2. A second group, ranging in size from three to six people, is formed to look at the work a moderator/facilitator is designated from the newly formed group. It is the moderator's job to observe the Charrette, record information that is being created, ask questions along the way, and occasionally summarize the discussion.

3. The requesting team presents its "work in progress" while the other group listens. (there are no strict time limits, but this usually takes five or ten minutes.) sometimes, the invited group needs to ask two or three clarifying questions before moving on to step 4.

4. The requesting team states what it needs or wants from the Charrette, thereby accepting responsibility for focusing the discussion. This focus is usually made in the form of a specific request, but it can be as generic as "How can we make this better?" or "What is our next step?"

5. The invited group then discusses while the requesting team listens and takes notes. There are no hard and fast rules here. Occasionally (but not usually) the requesting team joins in the discussion process. The emphasis is on improving the work, which now belongs to the entire group. The atmosphere is one of "we're in this together," and our single purpose is "to make a good thing even better."

6. When the requesting group knows that it has gotten what it needs from the invited group, they stop the process, briefly summarize what was gained, thank the participants and moderator and return to the "drawing board."

Student Work Gallery

1. The Student Work Gallery has two purposes:

- To help a group become familiar with the kind of work being done by the participants' students, to become aware of what participants value, and/or to become aware of what participants are concerned about.

- To give everyone at least some feedback, since there is no way all the student work brought to a single session can be the subject of an in-depth look using a protocol.

2. When the Gallery is done in a school, rather than at a network meeting, people begin to see the scope of work being done in a school. They see progressions, holes in the progression, spiraling, repetition, differences in approach etc. It really helps people in a school to become familiar with the "whole" of their students' experience with them.

3. If a large number of people have brought student work for the gallery, set up two sets of the work you have so everyone has a chance to look at it without sitting around waiting for a turn.

4. Encourage people to respond to as many of the pieces as possible, but ask them to also notice whose work has questions on it, and to be sure to distribute the group's responses among the pieces of work as evenly as possible.

5. Be sure to set people up well. Ask them not to make judgmental statements or to evaluate the work in any way. Ask them to be interested in what the student is trying to do, and in what the teacher believes and wants for the students. Ask them to be curious about why students might choose to do things the way they did, what strategies they used, what reflects their voices and perspectives. Ask them to look for strengths, what the maker of the work knows.

The comments should be in the form of questions, and the questions should come from wondering, from observing and noticing, from a place of curiosity. It is possible to veil criticism and judgment behind "I wonder" statements, but at least it is a little harder. The Gallery is also good practice for being more interested and curious, as opposed to being judgmental and evaluative. Many participants say that having to ask questions helps them to uncover their own assumptions and biases.

6. Set a time limit as it can become compelling enough to take up a good deal of time. Thirty minutes is usually enough time to have quite a few good comments attached to all the work (on post-its), to do some reflective writing, and to debrief

— and still have the energy and focus needed to do an in-depth exploration with a protocol.

7. It is important for everyone to have time to read the comments put on the work they brought and to debrief with at least a couple of other people. Recently, one teacher was a bit disturbed by some of the comments — several seemed very critical and made assumptions that were not fair, and wouldn't have been made had the people known the context for the work. The facilitator wouldn't have known that except that the teacher was the one selected to have the in-depth protocol with that piece of work. It turned out to be one of the most profound experiences the group had with examining student work, but the lesson was learned. Leave time for 10 minutes of debriefing around the comments made — if it is a large group, break into groups of 5 or 6 and have each teacher with work talk about how the comments felt — what they learned, what disturbed them, etc.

8. The Process

a. Set up the gallery of student work; participants respond to the work:

   - What questions do you have for the teacher who brought this work? and/or
   - If the students who created/produced this work were here, what questions would you want to ask them?

b. Reflective Writing: What does looking at this work by these students make me think about my practice?

c. Debrief: both in smaller groups (about the questions on the post-it notes) and as a large group (about the process of the gallery and about the insights people had as part of their journal writing).

Protocols Matching Activity

This activity is adapted from one developed by Gene Thompson-Grove, Simone Waite, and Faith Dunne of the National School Reform Faculty. It is designed to help you match a protocol to a particular teacher's concerns and the work that he or she wants to share.

There is no single right answer to any of these scenarios presented below. Arguments can be made to use different protocols for the same piece of work, depending on the teacher's particular need or concern. However, there are protocols that clearly don't fit a particular scenario. Eliminate those protocols first, then choose what might be appropriate for the work and the question the teacher has.

The scenarios below can be addressed with the three protocols that are included on pages 61-62 of this packet.

Collaborative Assessment Conference	ATLAS Protocol
Consultancy	Charrette
Turning Protocol	Describing Students' Work

To do this activity, it will be necessary to have these protocols easily accessible as well as the chart that summarizes them. Of course, dozens of other protocols exist, any one of which might (or might not) be appropriate for any of the situations below. (See, especially, The Power of Protocols by McDonald, et al., 2003.)

Steps in the Activity

1. Scan the protocols.
2. Read the scenarios and jot down your first thoughts about which protocols might be useful to the teacher and which ones clearly are not. (Writing on post-it pads may make it easier to compare notes with other participants in the next step.)
3. Move into groups of three or four and compare notes. Go through one scenario at a time, taking notes on your points of agreement and difference. Go back to the protocols the group chose and re-read them carefully.
4. Talk again about which one or two protocols might work, and how you would go about picking one. Remember, in the protocol, you don't have to look at all of the work the teacher has.

Scenario 1

By March, Karla, who teaches elementary school, doesn't know what to do about Hannah, a second grader whom she also had as a first grader. Hannah has some language-related problems, including a speech articulation difficulty. Her writing is not close to being at grade level, yet informal reading assessments suggest that she is reading above grade level. Getting Hannah to write even a few sentences is like pulling teeth. Karla has exhausted her repertoire with Hannah and wants some guidance on what to do next. She has brought several pieces of Hannah's written work and some comparative pieces from other students in the class. She is willing to work with any or all of the student work she has brought to answer her question about how to help Hannah improve her writing skills.

Scenario 2
Bruce teaches eighth grade science. He has developed an earth science curriculum that focuses on inquiry projects, labs, and cooperative learning. This year he has in his class three students, all of whom have behavior problems, ranging from inappropriate interpersonal behavior to some more severe behavior disorders. These students have an aide assigned to them full-time, but she can't manage adequately unless the class is doing very structured work — teacher-led questions and answers, or silent work at their desks. When small groups are working collaboratively, or when individuals are moving around the room to work on labs or projects, these three students often become vocally disruptive. Bruce does not want to dismantle a curriculum that serves the rest of the class well, but he doesn't know what to do. He has brought several pieces of these students' work and also a couple of projects that small groups have done, which he thinks demonstrate the success of his curriculum.

Scenario 3
Debra is a sixth grade math teacher. She likes the state standards that focus on mathematical reasoning rather than algorithms, and agrees that by eighth grade all students should have a fluent grasp of mathematics reasoning and problem solving, just as the state standards require. Her students took their first state assessment in fourth grade and scored very poorly, and she knows from their math portfolios that most of the class didn't do much better in the fifth grade. Debra knows that she can't leave the job for the seventh and eighth grade teachers to handle. If she doesn't start now, and convince the seventh and eighth grade teachers to continue, these students won't be able to pass the eighth-grade state tests. She has brought the state standards, some "up-to-standard" work samples provided by the state, several of her assignments that ask students to use mathematical reasoning and problem-solving strategies, and representative samples of student work from two of these assignments, which she says range from "the mediocre to the god-awful."

Scenario 4
Monica is a high school Special Education teacher. She co-teaches with a ninth grade English teacher, and they recently tried an alternative assessment with their third period class where they had the students create free-form maps on The Diary of Anne Frank. She has three examples from the class that represent the level of work the teachers received. She thinks students did a decent job but wonders if most students dug deeply enough into the text. She would like to use this type of alternative assessment in the future (all the kids enjoyed it and all were actually talking about the text, including the special education students), but she needs some guidance and wants to hear others' perspectives.

Scenario 5
Paula is a middle school assistant principal in charge of curriculum and instruction. After the last school wide writing prompt was administered, faculty representatives gathered to score the writing according to a rubric they had developed as a school. As they grouped the papers according to their scores and matched the code on the papers with the names

of the students, they quickly noticed a disturbing trend. Students who were eligible for a free or reduced lunch program tended to score lower on the assessment. To complicate matters further, when they looked closely at just the sixth grade assessments, they saw that all of the papers that received a score of "1" or "2" were written by African American and Hispanic students, and none of the papers that were given a "4" (the highest score) were from students who were eligible for a free or reduced lunch. She has the disaggregated data, as well as representative papers from all three of the grade levels.

Scenario 6
Ben, Larry, and Anita are members of an eighth grade interdisciplinary team. They are developing a curriculum that combines science, language arts, and social studies into a semester-long unit that has an environmental focus. They have a clear set of goals for each of the subjects represented, and an idea that they want to use the river that runs through the city as a project base. But they are worried that they won't be able to achieve all of the individual subject matter goals if they just study the river. They want help moving forward, because their work has begun to degenerate into the same arguments, over and over. They have brought the work on the unit they have done so far.

Scenario 7
Jamal is a high school art teacher. This is his second year as a teacher. He has a student in his class who baffles him. Mike takes each assignment and does something with it that is different from everyone else. If they are working on form, he seems to be experimenting with color. If they are doing still life, he seems to be working on abstraction (although he can do representational drawing when he wants to). He also refuses to write in the journal he asks students to keep as homework while they are working on each art project. "I don't need to write," he says. "This is an art class." He isn't sure what to make of Mike's work, since it is so different from everyone else's. He has brought a sample of his work and several comparative samples from the same assignment done by other students.

Scenario 8
Ted is a Science Educational Specialist in a large school district; he is responsible for all of the secondary schools, including the charter high school. He began his tenure by working with a majority of the secondary science teachers in innovative teaching strategies that encourage critical thinking. Teachers in four of the six schools have been using the new strategies, many with great success, but most of the teachers in the remaining two schools are still working in a "business as usual" mode. He would like to find a way to encourage the teachers in these two schools to at least try some of the strategies before he has to report on his work to the District's K-12 Science Curriculum Coordinator. Any suggestions?

Scenario 9
Ronald is a fourth grade teacher. He has a math assignment he has given for the past several years that asks students to demonstrate what they know about elementary geometry (shapes, lines, and angles) by creating advertisements for innovative products. His students from past years have loved the assignment, and he has given essentially the

same assignment for the last three years with good success. Students have looked forward to the assignment, and have come to fourth grade knowing they would "get to do it." This year, however, he was dismayed by the lack of interest and effort by students, and by the lack of creativity in the final products. Students did the work, but essentially either used his examples, or used ideas from students' work in past years, and did little else that was new. He is wondering if it is time to create a fresh, new assignment, or if he simply needs to make changes in the current assignment. He has the assignment, a pretty rudimentary rubric for assessing the work, a range of samples from this year's class, and a couple of outstanding examples from past years that he showed the class before they began.

Text-Based Seminar

Guidelines

Purpose

Enlargement of understanding of a text, not the achievement of some particular understanding.

Ground Rules

1. Listen actively.
2. Build on what others say.
3. Don't step on others' talk. Silences and pauses are OK.
4. Let the conversation flow as much as possible without raising hands or using a speaker's list.
5. Make the assumptions underlying your comments explicit to others.
6. Emphasize clarification, amplification, and implications of ideas.
7. Watch your own air time-both in terms of how often you speak, and in terms of how much you say when you speak.
8. Refer to the text; challenge others to go to the text.

Notes to Facilitators

Text-Based Seminars can be remarkably engaging and productive for both students and adults. A Text-Based Seminar facilitator has two primary tasks: posing the framing question and keeping the group focused without pushing any particular agenda.

Facilitating a seminar is not terribly difficult, but it can be challenging. A few tips might make the job easier:

1. Invest time in creating the framing question. It needs to be substantive, clear, relevant to the participants' experience, and likely to push their thinking in new directions. Above all, constructing a response to the question should require close reading of the text. We recommend that the framing question be genuine for everyone, including the facilitator, so that the entire group is engaged in the inquiry. Framing questions are often based on a quote from the text, which begins to establish a pattern of using the document as a basis for the conversation.

2. In addition to the framing question, create a few follow-up questions that seem to raise the level of participant's thinking. If the groups takes off, you may never use them (or you may create new ones that come from the conversation itself). But it's a good idea to have something in your hip pocket, especially if you aren't very experienced at this kind of facilitation.

3. Unless the entire group does Text-Based Seminars routinely, it is useful to go over the purposes and ground rules before you begin. Because so many conversations (in

school and out) are based more on opinion than evidence, and aim toward winning the argument rather than constructing new knowledge, it is often important to remind the group of the basics: work from the text strive to enlarge your understanding.

4. Give the group time (about 15 minutes) to re-read the text with the framing question in mind.

5. The most common facilitation problems in this kind of seminar come from two kinds of participants: the folks who have to win, and those who want to express opinions independent of the text and will use any quote they can find as a springboard. Usually, a reminder of the ground rules will pull them back, although it is sometimes necessary to redirect the conversation if you are dealing with a particularly insistent "winner". With the "winner", asking the group to examine closely the assumptions underneath the arguments or opinions being presented sometimes helps. When someone doesn't stick to the text, it is often helpful to ask the group to look for evidence of the opinion being expressed in the text. What you don't want to do is ask these two types of participants a direction question, or ask them to cite the evidence in the text for their opinions (although you might be tempted to do so). The goal is to redirect the conversation away from these folks, not to get them to talk more!

6.It is sometimes useful to keep running notes of the conversation, and to periodically summarize for the group what has been said.

7. It is also sometimes useful (especially if you are nervous to have a "plant" among participants—someone who will model ideal participant behavior at an early point in the seminar.

8 .It is sometimes useful to keep running notes of the conversation, and to periodically summarize for the group what has been said.

9. As is always the case when facilitating, try to keep the conversation balanced. Don't let one or two people dominate. If there are many quiet people, asking them to speak in pairs for a few minutes on a particular point can sometimes give them an entry into the conversation when you come back to the large group. Sometimes you just have to say, "lets have someone who hasn't said much yet speak," and then use **lots** of wait time, even though it may feel somewhat uncomfortable to do so.

Source: Annenberg Institute for School Reform

Text-Based Seminar Guidelines

Purpose: Enlargement of understanding a text, not the achievement of some particular understanding.

Ground Rules:

- Refer to the text, and challenge others to go to the text. Use page numbers. Wait for others to get to the quote, then read it aloud.
- Listen actively.
- Build on what others say, referring to them by name.
- Don't step on others' talk. Allow for silences and pauses. Make time and space so everyone can participate.
- Converse directly with each other, and let the conversation flow as much as possible—without raising hands or using a speaker's list.
- Make the assumptions underlying your comments explicit to others.
- Ask questions of others in order to build understanding.
- Watch your own air time—both in terms of how often you speak, and in terms of how much you say when you speak.

Source: Annenberg Institute for School Reform

Jigsaw Description

This Jigsaw Description is adapted from the work of Spencer Kagan of Resources for Teachers in San Juan Capistrano, CA.

This jigsaw Description is shared learning. Members of a group become "experts" in a particular area of a mutual pursuit and share their learning/research with the other group members. It is also used when a lot of learning needs to happen in a short time. Chapters of books can be split up, various approaches to the same outcome can be researched, different experiments with the same materials can be conducted, different viewpoints on the same issue can be studied, and the results shared. This is effective for students or adults. There are several ways this can happen:

Within Team Jigsaw:
Each member of a team/group works independently to master a portion of a topic or skill. When each team member has completed the work as planned, the gather at an agreed upon time to share the new knowledge. Often there is some kind of synthesis of the shared knowledge. Example: There are four protocols for observing in a classroom. Each person ina group of four reads one of the observation protocols and presents that approach to the other team members, with guiding questions to assist the shared learning, such as "What kind of feedback is generated by this protocol?" "What kind of observation is most appropriate for this protocol?" What is the value of this protocol in terms of student learning; teacher practice?" The group compares and contrasts the four protocols.

Team Jigsaw:
Each team becomes an "expert" on one topic or skill. Team members spread out to share their new knowledge with the rest of the teams. Team #1 spreads out and sends a member to each of the other teams to share, then Team#2 does the same. There's a bit of math to do here as there have to be enough "experts" to share with all the other teams, or teams have to be combined to share "experts:. Two teams can research the same topic and check with one another for completeness and agreement before they "consult" with the other teams—this provides some checks and balances. Synthesis can be done as a whole group or in teams. Example: There are four protocols for observing in a classroom. The room is divided into 4 teams of 3 people, (or 6 people). Each team studies one protocol, talking together and planning the best way to present the protocol to the other teams, using the guiding questions. Each team takes turns sending its "experts' out to the other teams (alone or as a pair) to share the protocol they have studied. A whole group synthesis that compares the four approaches.

Expert Group Jigsaw:
Each member of a team takes on a portion/aspect of a topic of skill. More than one member of the team will take on the same portion/aspect if there are more group members than portions/aspects. The team splits up and everyone goes to an "expert" group of all the people from all the teams taking on the same portion/aspect. The "expert"

group masters the topic/skill or does the research necessary. The "expert" group plans a way to present their learning in the best possible way and practices the presentation if necessary. The "experts" all return to their teams where they make presentations to their team members. Synthesis is done in the teams. *Example: there are four protocols for observing in a classroom. Each team assigns its members one of the four protocols. The team members break up and go with the appropriate "expert" group to study the protocol, discuss it together for understanding, using the guiding questions. They plan a presentation. The "experts" return to their team and each protocol is presented in turn. The protocols are compared in the teams.*

Source: Annenberg Institute for School Reform

The Final Word

Purpose: The purpose of this discussion format is to give each person in the group an opportunity to have their ideas, understandings, and perspective enhanced by hearing from others. With this format, the group can explore an article, clarify their thinking, and have their assumptions and beliefs questioned in order to gain a deeper understanding of the issue. This version of The Final Word was adapted from the original by Jennifer Fischer-Mueller and the Gene Thompson-Grove for NSRF—June, 2002.

Roles: Facilitator/ timekeeper (who also participates); participants

Facilitation: Have participants identify one "most" significant idea from the text (underlined or highlighted ahead of time), stick to the time limits, avoid dialogue, have equal sized circles so all small groups finish at approximately the same time.

Process:

- Sit in a circle, and identify a facilitator/time-keeper.
- Each person needs to have one "most" significant idea from the text underlined or highlighted in the article. It is often helpful to identify a "back up" quote as well.
- The first person begins by reading what "struck him or her the most" from the article. Have this person to where the quote is in the text – one thought or quote only. Then, in less than 3 minutes, this person describes why that quote struck him or her. For example, why does s/he agree/disagree with the quote, what questions does s/he have about that quote, what issues doe it raise for I'm or her, what does s/he now wonder about in relation to that quote?
- Continuing around the circle each person responds to that quote and what the presenter said, briefly, in less than a minute. The purpose of the response is:
  - to expand on the presenter's thinking about the quote and the issues raised for him or her by the quote,
  - to provide a different look at the quote,
  - to clarify the presenter's thinking about the quote, and/or
  - to question the present's assumptions about the quote and the issues raised (although at this time there is no response from the presenter).
- After going around the circle with each person having responded for less than one minute, the person that began has the "final word". In no more than one minute the presenter responds to what has been said. Now what is s/he thinking? What is his or her reaction to what s/he has heard?

Source: Annenberg Institute for School Reform

- The next person in the circle then begins by sharing what struck him or her most from the text. Proceed around the circle, responding to this next presenter's quote in the same way as the first presenter's. This process continues until each person has had a round with his or her quote.

- For each round, allow about 8 minutes (circles of 5 participants: presenter 3 minutes, response 1 minute for 4 people, final word for presenter 1 minute). The role of the facilitator is to keep the process moving, keep it clear and directed to the article, and keep time so everyone gets an opportunity for a round. Total time is about a forty minutes for a group of 5 (32 minutes for a group of 4, 48 minutes for a group of 6). End by debriefing the process in your small group.

Source: Annenberg Institute for School Reform

Text-Based Discussion: Quotes and Questions

"Facilitation involves moving from the known to the unknown. A facilitator begins with information regarding the situation or the problem and the participants; however, the outcome or resolution is not set when the facilitator begins. The design and plan of action as well as the outcome emerge as the group works on the situation or problem…

While learning may be by-product of facilitation, it is not its primary goal. Facilitators choose from among varied strategies and tools as the interaction evolves. The facilitator creates a nurturing environment for individuals to achieve whatever they are comfortable achieving in an undefined time frame."

--Killion & Simmons, "The Zen of Facilitation"

"By being more directive we are actually being more democratic. We are designating leaders, insisting upon structure, and building in habits. It takes strong, directive facilitation to really engage people in learning. Passive facilitation allows group members to disengage. When facilitators value the knowledge of the group, they are also valuing their own knowledge bout how the members of the group will do their best work. They are the experts at design, members are the experts at what they know and need to know. Facilitators are process, members are content. Facilitators are the teachers, but all are the students."

--Mohr, "Constructivist Facilitation: When Zen is Not Enough"

Questions:

- Are there important differences between "Zen facilitation" and "constructivist facilitation" as defined by these authors? IF so, what are the differences and why are they important? If not, why does Nancy Mohr think there is a difference?

- How would these authors define the role of the CFG coach? How do their definitions interact with your own sense of your role?

- Here are some possible follow-ups:

- Is facilitation as it is defined here the different from teaching?
- What in these articles most represents what your group needs and expects from you? According to these writers, how responsive do you need to be to those expectations?

Source: Annenberg Institute for School Reform

Three Levels of Text Protocol

Purpose: To deepen understanding of a text and explore implications for a participants' work.

Facilitation: Stick to the time limits. Each round takes up to 5 minutes per person in a group. Emphasize the need to watch air time during the brief "group response" segment. Do 1—3 rounds. Can be used as a prelude to a Text-based Discussion or by itself.

Roles: Facilitator/timekeeper (who also participates); participants

Process:

1. Sit in a circle and identify a facilitator/timekeeper

2. If participants have not done so ahead of time, have them read the text and identify passages (and a couple of back-ups) that they feel may have important implications for their work.

3. A Round consists of:

- One person using up to 3 minutes to:

  LEVEL 1: Read aloud the passage she/he hass selected

  LEVEL 2: Say what she/he thinks about the passage (interpretation, connection to past experiences, etc.)

  LEVEL 3: Say what she/he sees as the implications for his/her work.

- The group responding (for a **TOTAL** of up to 2 minutes) to what has been said.

4. After all rounds have been completed, debrief the process.

The Text Rendering Experience

Purpose:

Source: Annenberg Institute for School Reform

To collaboratively construct meaning, clarify, and expand our thinking about a text or document.

Roles:
A facilitator to guide the process.
A scribe to track the phrases and words that are shared.

Set Up:
Take a few moments to review the document and mark the sentence, the phrase, ad the word that you think is particularly important for our work.

Steps:
1. First Round: Each person shares a sentence from the document he/she think/feels is particularly significant.

2. Second Round: Each person shares a phrase that he/she thinks/feels is particularly significant. Then scribe records each phrase.

3. Third Round: Each person shares the word that he/she thinks/feels is particularly significant. The scribe records each word.

4. The group discusses what they heard and what it says about the document.

5. The group shares the words that emerged and any new insights about the document.

6. The group debriefs the text rendering process.

THE ZEN OF FACILITATION
Joellen P. Killion
Lynn A. Simmons

Source: Annenberg Institute for School Reform

The belief system of a facilitator is presented to clarify the distinction between trainers and facilitators.

Staff developers are assuming new roles and responsibilities as facilitators. In this capacity, they use behaviors, skills, and practices which they did not use as frequently as a trainer. To be successful in this new role, staff developers will need to go beyond the application of new skills, knowledge, and practices—they will need to adopt the belief system of a facilitator, and share a process for moving from the familiar mind set of the trainer to the zen of facilitation.

Distinction between Training and Facilitation

Learning how to facilitate groups rather than train people was new for us. As staff development trainers for a school district, we found ourselves on a journey from training to facilitation that required us to expand our skills, learn new strategies, and adopt what actually differentiated facilitation from training.

Initially our work with facilitation seemed to be no different than training. We found that the skills and strategies which we had learned about facilitation fit nicely into our training sessions.

In many respects the line between training and facilitation seemed to be a fine one. However, as we became more experienced as facilitators, the differences between training and facilitation became clearer to us. We offer one view of these differences to help frame our discussions about the Zen of facilitation.

Training

Training involves moving from the known to the known. It is focused by a set of specific outcomes or objectives established prior to the training. It focuses on a specific set of skills or knowledge that can be applied in the workplace. When designing and delivering training, a trainer determines clear outcomes and establishes a plan of action to achieve those outcomes with learners. Both outcomes and the steps to achieve those outcomes are determined before training begins.

The trainer designs a tightly structured, sequential set of learning experiences to direct participants to achieve the outcomes in the time frame prescribed. Based on a diagnosis of the participants, an understanding of their needs, and a set of outcomes of the training, the trainer develops a specific plan moving toward these outcomes. For example, a trainer who is teaching cooperative learning to a group of high school teachers will develop a plan to teach the critical elements of cooperative learning and the skills that will enable teachers to apply cooperative learning in their various content areas.

Facilitation

Source: Annenberg Institute for School Reform

Facilitation involves moving from the known to the unknown. A facilitator begins with information regarding the situation or the problem and the participants; however, the outcome or resolution is not set when the facilitator begins. The design and plan of action as well as the outcome emerge as the group works on the situation or problem. Facilitation requires orchestration of meaningful interactions which lead to changes in mindset (Oakley & Krug, 1992). Meaningful interaction is an open, honest discussion in

a safe and respectful setting. This interaction can lead to problem solving, decision making, conflict resolution, and task accomplishment.

While learning may be a by-product of facilitation, it is not its primary goal. Facilitators choose from among various strategies and tools as the interaction evolves. The facilitator creates a nurturing environment for individuals to achieve whatever they are comfortable achieving in an undefined time frame.

Distinctions

In essence, training involves a using set or prior (beforehand) plans, while facilitation involves applying a set of decisions made in media res (in the middle of things; during the process).

We acknowledge that trainers make decisions in media res to adjust their delivery; however, they operate from a pre-established plan that directs participants toward the achievement of specified outcomes.

Some of the distinctions between training and facilitation which we have identified from our experiences are listed in Figure 1. However, we recognize that the line between training and facilitation is not definitive. We have discovered that it is not what we do or how we do it that separates a trainer from a facilitator. Rather, it is the belief system driving the actions that makes the difference (Wing, 1986).

Zen of Facilitation

Zen is the practice of seeking the truth. Buddhists, who practice Zen, seek enlightenment through direct intuition and reflections (Reps.n.d.). The Zen of facilitation is not a religious practice, but rather a strong set of beliefs that drives our choices and actions and urges us toward discovering the "truth" through reflection. "It [Zen] has been described as: "A special teaching without scriptures, beyond words and letters, pointing to the mid-essence of man, seeing directly into one's nature, attaining enlightenment." (Reps, n.d.,p.3)

From our experiences, we have discovered that the beliefs we hold about our work are powerful and affect actions we take. Our beliefs determine how we at as well as how make sense experience we have (Senge, 1990). We have identified three essential beliefs which influence our choices and actions as facilitators.

Belief 1: Facilitators trust the group's ability to its own direction and resolution.

Source: Annenberg Institute for School Reform

To be successful in this new role, staff developers will need to go beyond the application of new skills, knowledge, and practices—they will need to adopt the belief system of facilitators.

"Remember that you are facilitating another person's process. It is not your process. Do not intrude. Do not control. Do not control. Do not force your own needs and insights into the foreground. If you do not trust a person's process, that person will not trust you." (Heider, 1985 p.33)

Figure 1.
Distinctions Between Trainers and Facilitators

Trainers	**Facilitators**
1. Give information and skill	1. Provide nurturance
2. Direct learning	2. Guide interaction
3. Operate from specified outcomes	3. Operate from an overarching goal
4 Have an established time frame	4. Have an undetermined time frame
5. Plan the sequence to achieve the outcomes	5. Have a repertoire to draw from but no predetermined plan.
6. Are cognitive	6. Are intuitive
7. Use a priori design	7. Use an in media res design
8. Move from known to known	8. Move from unknown to known

Asking questions and listening are primary functions of an effective facilitator. They replace giving answers, assuming the group's needs, or providing solutions.

The Zen of Facilitation

Source: Annenberg Institute for School Reform

A facilitator believes that the group establishes its own purpose and is capable of achieving its own outcome. In every situation, the facilitator believes the solution is possible any time before, during, or after an event. The facilitator assumes the group's perspective rather than maintaining his or her own.

By listening to the group's discussion and particularly to the language used, the facilitator discovers both the surface and underlying issues in the group. Only after the issues are clarified does the facilitator make decisions about how to resolve the issues.

Using a variety of strategies, the facilitator guides the group in examining the issues, generating alternatives, and selecting a course of action appropriate for this particular group at this time. Believing that the group has its own best solution and that it will emerge at the best time, the facilitator supports their interactions that lead the group to discover that solution.

When facilitators live by this belief, the do two things:

*Ask *questions and listen*. Asking questions and listening are the primary functions of an effective facilitator. These replace giving answers, assuming the group's needs, or providing solutions.

*Recognize *that when it's time, it's time*. All issues can be resolved if the time and conditions are right. For example, when the climatic conditions of temperature, moisture and barometric pressure are right, thunderstorms occur.

In facilitation, there are both external and internal conditions that affect the movement of the group towards is goal. When group participants reach a level of understanding, acceptrance, and openness, resolution occurs.

When the facilitator models the productive behaviors of respectful listening, maintaining personal safety, honoring various perspectives, sharing, trusting, risk-taking, and disclosing, then group members will mirror these behaviors.

The facilitator strives to create and/or adjust the conditions for the group to be successful. Sometimes this means structuring communication systems or permitting adequate time for the group to establish the conditions. It might also mean acting as a catalyst to alter the conditions by speaking the unspoken, offering suggestions, or hypothesizing about the reasons for the group's behavior.

Belief 2: A sense of community creates a forum for group work.

"Community is a group of people who have learned to communicate honestly with each other, whose relationships go deeper than their masks of composure, and who have developed some significant commitment to 'rejoice together,' and to 'delight in each other, make others' conditions our own...' (Peck, 1987, p. 67)

The Zen of Facilitation

Source: Annenberg Institute for School Reform

A facilitator believes that a community that a community provides a forum for meaningful interaction, which in turn leads the group to its own solutions. When facilitators live by this belief, they do five things.

- *Model attitudes and behavior.* Group members attitudes and behaviors are strongly influenced by the facilitators' attitudes and behaviors. When the facilitator models the productive behaviors of respectful listening, maintaining personal safety, honoring various perspectives, sharing, trusting, risk-taking, and disclosing, then group members will mirror these behaviors. Through this process, a nurturing environment emerges.
- *Reveal their thinking.* Facilitators further the development of community by revealing their observations about behaviors within the group. The facilitator may also offer possible reasons for these behaviors, discuss potential interventions and reasons for them, or suggest various strategies.
- *Foster independence.* Building the group's independence is another way the facilitator furthers community. This is accomplished by providing opportunities for all group members to be leaders, thus equalizing everyone's sense of power. In essence, the facilitator is responsible for helping group members develop comfort with one another so that meaningful interaction occurs.
- *Stay in the here and now.* The facilitator needs to stay in the present in order to focus clearly on what is occurring in the group. The past and future do not exist for the facilitator. The only information or interaction matters I what is current.
- *Trust their intuition.* Facilitators operate not so much from knowledge of "how to" but more from "gut feelings." This is particularly difficult for facilitators who feel more comfortable with specific plans, clear directions, and precise outcomes. Facilitators develop a "seat-of-the-pants" feel for what is happening and what needs to happen next. That feeling will be blocked if facilitators are not in tune with their "knowing place."

Belief 3: The facilitator has preconceived notions.

"When I let go of what I am, I become what I might be. When I let go of what I have, I receive what I need… My best work is done when I forget my own point of view; the less I make of myself, the more I am… This is the wisdom: to let go in order to achieve." (Heider, 1985, p.43)

Facilitators believe that groups will generate their own best solutions. Facilitators give up the need to be right and to heal, convert, solve, or fix the group. Facilitators take a backseat to the process and allow the group to drive itself. This behavior is antithetical to the trainers' role of directing the group towards specific outcomes.

Facilitators need to let go of preconceived notions about how "it" should be and allow the group to shape its own future. To do this, the facilitator has to be flexible, egoless, and confident of the power in the group.

When facilitators live by this belief, they do three things:

- Go slowly to go fast. In any situation it is necessary to go slowly to build relationships, a common knowledge base, awareness of other viewpoints, an understanding of one another before any tasks can be accomplished. To rush into a complex situation and resolve it quickly is like putting a band-aid on a crack in a dam. According to Kouzes

and Posner (1990), "There are two ways to bring about change: you can force it or you can let it happen naturally. The former is faster but it increases resistance…The latter is slower but it tends to receive greater acceptance: (p.236). Facilitators recognize the importance of letting go of time constraints. Spending time up front to establish well grounded relationships will ensure efficient work later.

- Use the energy. Facilitators need to recognize the energy in group settings. We typically are more comfortable with those members who are overtly positive and supportive. However, negative energy is a symptom that deeper, sometimes more significant issues are not being faced. If these issues are not addressed, they may sabotage resolution attempts.
- Facilitators often avoid the negative energy in a group out of fear. Letting go of the fear associated with negative energy in a group of fear associated with negative individuals or issues, acknowledging those issues, and appreciating the underlying negative energy as a valuable energy source for moving a group forward.
- If unsure what to do, do nothing. The facilitator needs to be comfortable with not taking action. Whenever the facilitator is unsure about what to do, he or she should choose to do nothing. By not intervening, the group is provided with an opportunity to determine its own next step or to provide additional information which will clarify what the facilitator's choice should be. While choosing nothing is often difficult, it can be a powerful intervention.

Recommendations for learning Facilitators

Acquiring the skills, practices, and beliefs of an effective facilitator is a process of evolution and internalization. We find the following example of internalization from science particularly illustrative:

"Suppose, for example, that we deposit a drop of black ink into a glass of clear water. Initially its presence is quite ordered. That is, all the molecules of ink are located in one small area and are clearly segregated from the molecules of water. As time passes, however, natural molecular motion will cause the black ink molecules to steadily intersperse with the clear water molecules until they are distributed evenly throughout the glass, resulting in a murky homogeneous liquid with no structure or order whatsoever…" (Zukav, 1979, p.221)

For us, internalization means a change of focus from theories and techniques to the wholeness of the process. There are three stages in this evolution: learning, engaging, and reflection. Initial learning is the result of training in the concepts, skills, strategies, and techniques of facilitation.

Armed with these tools, facilitators move next into real-world application. When engaged with groups, facilitators may feel overwhelmed by all that is happening. Facilitators seek to make the "right' choice from among options.

Source: Annenberg Institute for School Reform

Facilitators must go beyond knowledge and strategies to seek the truth and enlightenment that come only from practice, reflection, and following their beliefs.

At this stage facilitators often face uncertainty and self-doubt. Facilitators might be haunted by questions such as "Did I make the right choice? What if I had....?"

Eventually the unsettled state is resolved when facilitators fully adopt the Zen of facilitation. Through reflection, questioning, and discussion with other facilitators, the underlying beliefs are crystallized. The role and responsibilities become less frightening as facilitators move from conscious decision making to trusting the underlying beliefs to guide decisions. The facilitator begins to see the murky liquid rather than the ink and water. As Heider (1985) observes,

"Beginners acquire new theories and techniques until their minds are cluttered with options. Advanced students forgot their many options. They allow the theories and techniques that they have learned to recede into the background." (p.95)

We have learned that facilitation is not easy and that it requires tremendous dedication to practice and reflection, is not learned quickly, is continually humbling, and is fascinating. For staff developers beginning the journey from training to facilitation, we believe the critical component of success is the understanding of the Zen of facilitation.

If we have learned one thing on our journey, it is that the tools or techniques alone are insufficient for long-term effectiveness. Facilitators must go beyond knowledge and strategies to seek truth and enlightenment that come only from practice, reflection, and following their beliefs.

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Chapter I

The Basic Ideas

In some educational organization, protocols may at first seem foolish—their artifice an unwarranted interference in ordinary business. The more dysfunctional this business, the stronger the negative reaction may be. For example, school or colleges mired in norms of private practice, and used to ignoring actual impact of the practice students' learning, may not take easily to learning with protocols. Encouraged to try them anyway, however, and pressed to see them all the way through, even reluctant participants may find something refreshing about protocols. Then, urged to reflect on the nature of this refreshment, the participants may find that the protocols help them imagine alternatives to ordinary habits of working together, learning, and leading.

Thus emerges the possibility of what we call a new workplace for educators—the kind that Peter Senge (1990) with great resonance calls a learning organization. In this chapter, we describe four basic ideas concerning the continuing professional education of educators. These basic ideas underpin all the protocols presented in Chapters 2 through 5, and all our advice concerning their use. Together, they also constitute the basis of our vision of a new workplace for educators. As we suggested in the Preface, readers can choose merely to use this book as a handbook of professional development activities, but we hope they will use it also as an invitation to help create such a workplace within their own contexts.

EDUCATING OURSELVES

The first basic idea is that we professional educators should take charge or our own learning. That is because only we can direct it toward managing the real problems of our work, and toward meeting our students' real needs. Because these problems and needs are vastly more complex than they typically appear to others, inside perspectives crucial to understanding them (Lampert, 2001). To say that we ought to educate ourselves, therefore, means hat professional development activities for educators that are designed and conducted without benefit of inside perspectives are not worth the time and money they cost. It does not mean, however, that we should cut ourselves off from outside sources of learning. On the contrary, we desperately need what outside expertise can offer. However, we cannot effectively use outside expertise except in combination with our own intimate knowledge of practice.

It is important to not the plural in the phrase educating ourselves. The work it describes is necessarily collective. No educator works alone, though we seem to. Yes, we make lots of private moves, and our work demands an individual capacity for spontaneity, improvisation, and good judgment. But all our efforts for better or worse are mediated by the efforts of our colleagues. What they do matters as much to the learning of our students ad the running of our programs as what we do. Thus their values, standards, and methods are our business—as ours are their business—and the problems of practice are inescapably mutual ones. For this reason, we must give up our pervasive tendency to try to manage them alone.

Indeed, we may even fail to see what our actual problems of practice are unless we dare to inquire about them together. This is because so much of our knowledge of practice is tacit, and becomes subject to critique only when we reflect on it in the

company of others (Schon, 1983). It is also because certain aspects of practice—as we explain below—cause us to overlook the problems that inhere in it; and it is our colleagues who are best situated to help us to understand this limit on our ordinary perspective. Finally, it is because the identification analysis of problems require certain organizational components that are often absent within educational institutions. These norms for open and honest conversation; meeting habits that support inquiry, dialogue, and reflection; opportunities for those immersed in particular work to take direct action to improve it; and facilitative leadership capable of encouraging of encouraging participation, ensuring equity, and building trust. The only way to ensure the presence of these things within our educational institutions is through collective work on the inside. No amount of external pressure can by itself manage the task, nor can any amount of solo effort.

EXPLORING STUDENT WORK

One good way for us to educate ourselves is to pause periodically in our practice to become deliberate students of our students. This is the second basic idea underpinning this book. The point is to reach a different understanding of our students than the kind we're used to, one deeper than what is required merely to keep our teaching and their learning in sync. But this demands a great shift of energy, both practical and organizational. Instead of pressing for student work flow as we usually do, judging quickly the value of the flow's direction, we must on a regular basis suspend flow, capture images of the work interrupted, study the images calmly and deliberately, and explore together what they may mean.

Along with a broad alliance of teachers, school leaders, teacher educators, and reform-minded educators with many other job titles, we often refer to this great shift of energy with the simple phrase "looking at student work" (Allen, 1998). Here, however, we acknowledge that the "looking" we advocate is simple in the deep and disciplined way that Thoreau's looking was simple at Walden Pond and Annie Dillard's at the Tinker Creek. Simple but elemental. Simple but difficult.

Students' work is the text we read in order to understand our own work. It is where our moves as educators and their impact on students are most traceable (McDonald, 200 lb, 2002). It is where what we know and also what we don't know become most apparent. For these reasons, our efforts to explore student work—*together*—are crucial to our efforts to revise and improve the collective work of our educational institutions. But for these reasons, too, such efforts are threatening. This is why protocols are useful.

PROTOCOL-BASED LEARNING

The third basic idea underlying this book concerns our use of the word *protocol*. It may seem at first an odd fit with our purpose. In diplomacy, protocol governs who greets whom first when the President and Prime Minister meet, and other such matters. In

technology, protocols enable machines to "talk" with one another by precisely defining the language they use. In science and medicine, protocols are regimens that ensure faithful replication of an experiment or treatment; they tell the scientist or doctor to do this first, then that, and so on. An in social science, they are scripted question that an interviewer covers, or the template for an observation. But in the professional education of educators? One could argue that elaborate etiquette, communicative precision, faithful replication, and scripts would prove counterproductive here. Don't we best learn from each other by just talking with each other?

No, we claim. Among educators especially, just talking may not be enough. The Kind of talking needed to educate ourselves cannot rise spontaneously and unaided from just talking it needs to be carefully planned and scaffolded.

Making Our Work Transparent

Why should educators in particular need protocols? It is because belief in the efficacy of our efforts is a principal tool of our trade. Even when our students seem resistant, it is partly our persistence in believing in the possibilities of their learning that gives them in the time the faith they need to perform well. But our unconditional believing is an occupational hazard when it comes to reflecting on our own practice. That is when, as Peter Elbow (1986) argues, the educator must temper methodological belief with methodological doubt. A good way to do this, he claims, is to alternate the two. This idea was one of several important inspirations for the design of the Tuning Protocol, whose debut we describe in the Preface. Another was the practice of the National Writing Project (NWP) in juxtaposing in its summer workshops for teachers three risky opportunities. The first involves sharing drafts of their own writing with each other. The second involves sharing examples of their teaching of writing with each other. And the third involves learning about the teaching of writing from experts and expert texts (Lieberman & Wood, 2003). In facing up to the first two risks—and thus gaining the benefits they offer—NWP teachers become open to understanding the comparable risk of the third and thus gaining its benefit, too. Of course, teachers hear from experts all the time—for example, in professional development workshops; but they gain real benefit from such encounters only when they dare to put their own expertise at risk (McDonald, Buchanan, & Sterling, in press).

This is difficult for us educators because we must believe in ourselves as much as in our students. We must project confidence in the directions we offer, or our students lose faith in these directions. But this has its downside. It encourages us to hide the real complexities of our work from our students, and inadvertently even from ourselves. We project such confidence in the directions we set that we conceal the choices, hunches, and inescapable uncertainty and arbitrariness that underlie them. Over time, this habit can insulate us from the gaps and faults of our own expertise, and seal us off from new expertise. Dangerously for both ourselves and our students, it can also mask the real dynamics of learning.

Protocols force transparency. By specifying, for example, who speaks when and who listens when, protocols segment elements of a conversation whose boundaries otherwise blur. They make between describing and judging, or between proposing and

giving feedback. In the process, they call attention to role and value of each of these in learning, and make the steps of our learning visible and replicable.

Meanwhile, absent any effort our part to make our work more transparent, our students group up thinking that everything in education is clearer and more certain than it actually is—for example, what to teach, how to teach it, whether the students have learned it, what to do if they haven't, how to organize the school or other institution, and how to make it effective. Then some of the students grow up to be school board members, trustee, mayors, members of Congress, even President—and in these roles, they make policy decisions have consequences. We work among the residual effects (in our organizational structures, institutional culture, and work routines) of nearly a century off efforts to make education as predictable (and controllable) as it seems it should be. Educators have responded to these efforts in turn by submitting harried privacy and spurious certainty for the publicly accountable authorativeness and creative uncertainty that our work really requires (McDonald, 1992). One of the benefits of working with protocols is that they disturb the privacy and certainty by interrupting the ordinary flow of conversation. Some of them force the raising of questions, the suspension of judgment, and the withholding of response.

Enriching Learning

In our experience, teachers who participate in protocol-based learning in their own education often adapt the protocols for their teaching. This happens, we think, because teachers already organize their practice in terms of routines—ones for which protocols may substitute, and also because teachers continually use their own learning experiences as grist for their teaching plans. Recently, Nancy Mohr worked with a group of teachers from the Packer Collegiate Institute in Brooklyn, New Your, who were learning to use protocols to explore their students' work. Over the course of several months, the teachers also adapted many of these protocols to use with the students themselves, and were impressed with the quality of the work that resulted. One adapted a protocol to help her students identify whether they were a predominantly visual or auditory learners, and then to reflect on what this means. The students came up with powerful lists. They were first graders. Another teacher used a protocol to help his students explore their own artwork in the same way that he and his colleagues had done.

We hope that one benefit of this book will be that readers and their colleagues will not only use the protocols we describe to educate themselves, but to educate their students as well.

Thus protocols may encourage an environment for learning (by educators and their students) based on the theory that knowledge is socially constructed. That is, encounters with other people's understanding enable learners to gain and deepen their own understanding enable learners to gain and deepen their own understanding. It is a theory well supported by research (Bransford, Brown & Cocking, 1999). Moreover, along with John Dewey, we believe such learning environments foster democracy as well as cognition. They encourage learners—whether they are first graders, graduate students, or colleagues in professional education—to appreciate the value of diverse ideas and deliberative communities (Glickman, 1998; Greene 1988; Oakes & Lipton, 1999)

Like their counterparts in diplomacy, technology, science, medicine, and social science, the kind of protocols we describe ad promote I this book constrain behavior in

order to enhance experience. Some protocols enable enemies to sit at the same table and make peace. Others enable scientific advancements and medical cures. Still others ensure reliable data collection and valid inference. The ones we write about help enrich educators' descriptive powers, intensify their listening, enhance their qualities of judgment, and facilitate their communication with each other. They help us to become genuinely professional and genuinely accountable.

A NEW WORKPLACE FOR EDUCATORS

The fourth basic idea informing this book concerns the consequences of taking the other ideas seriously—of educating ourselves, exploring student work together, ad gaining experience in the facilitation of protocols. These can lead, we believe to the development of what we call a new workplace for educators. This is one where the power to assess outcomes and to take action to improve them is distributed throughout the organization, and where the people who do the work are able, willing, and even eager—in consultation with their colleagues—to make changes as needed in order to make the work more effective.

Management theorists call this a high-performance workplace (Applebaum, Bailey, Berg, & Kalleberg, 2000; Ichniowski, Levine, Olson, & Strauss, 2000). Eileen Applebaum and her colleagues outline its components within the manufacturing sector of the economy against the backdrop of the traditional workplace:

> In traditional manufacturing plans, conceptualizing and planning what needs to be done is separated from carrying out work tasks and executing plans…Most employees have little autonomy or control over work tasks and methods. Managers coordinate the gathering and processing of information…and then use knowledge concentrated within management ranks to make decisions based on the information they have gathered. There are few opportunities for ideas to flow upward from front-line workers. Once decisions have been made, orders are relayed back down the chain of command to the front-line workers, who carry them out. Supervisors act as monitors…Workers are paid to follow orders, not to think. In this setting, time spent in training or in problem-solving meeting represents lost productivity. (pp.101-102)

With some modification, this description fits certain sectors of traditional American education too, especially urban schooling. Indeed, the original design of urban schooling in the United States, with its emphasis on mass production and "scientific management," was imported from manufacturing (Callahan, 1962; Tyack, 1974). Sadly, evidence of these roots may be stronger today than in recent decades, given today's heightened attention to accountability are often filtered through the century-old organizational paradigm, resulting in ever more scripted curriculum, ever closer monitoring, and ultimately spurious accountability.

The lesson from the 1990's turnaround in American manufacturing, however is that high performance requires a change of organizational paradigm rather than greater dedication to the existing one. The heart of the change in manufacturing, according to Applebaum and her colleagues (2000), has been to reorganize work "to permit front-line workers to participate in decisions that alter organizational routines" (p.7). Specifically,

this has involved more front-line authority exercised in production teams; greater communication within and among the teams, between teams and managers, and between teams and experts in other parts of the organization; and participation by front-line workers in off-line problem solving. In the manufacturing enterprises that Applebaum and her colleagues studied, these changes resulted in greater profitability and worker satisfaction.

The high-performance workplace shows up today also in the service sector of the American economy—at least, the high end of it. Charles Fishman (1996), for example, describes the high-performance workplace of the profitable and upscale Whole Foods Supermarket chain:

> The Whole Foods culture is premised on decentralized teamwork. "The team," not the hierarchy, is the defining unit of activity. Each of the 43 stores is an autonomous profit center composed of an average of 10 self-managed teams—produce, grocery, prepared foods, and so on—with designated leaders and clear performance targets. The team leaders in each store are a team; store leaders in each region are a team; the company's six regional presidents are a team. Whole Foods supports teamwork with a wide-open financial system. It collects and distributes information to an extent that would be unimaginable almost anywhere else. Sensitive figures on store sales, team sales, profit margins, even salaries are available to every person in every location. In fact, the company shares so much information so widely tat the SEC has designated all 6,500 employees "insiders" for stock-trading purposes. (p.103)

Of course, measures of success in education are different that in steel or apparel manufacturing or in the retailing of natural food; and the kinds of information that people need to work smartly in school and colleges and other educational organizations are different, too. Still, it seems plausible that some work place innovations in manufacturing and high-end service may also work well in our field. These may especially include the use of teams—both "front-line" (to do the work) and "off-line" (to study ways to improve the work); richer information systems and far broader access to them; and the cultivation of a commitment to the organization's mission at all levels, purchased by the decentralization of management authority and accountability.

Some recent studies of school reform bear this out. Here the high-performance workplace has been associated with the development of what are called professional communities of practice. Reporting on a 4-year study of 16 high schools in to states, for example, Milbrey McLaughlin and Joan Talbert (2001) depict a subsample of schools that consistently engage diverse students in challenging academic work, and kept them engaged and successful over time. These schools were notable for the presence of a "strong professional community committed to making innovations that support student and teacher learning and success" (pp. 38-39). Similarly, Fred Newmann ad Gary Wehlage (1995), reporting on a national study of 24 restructured schools, conclude that "the most successful schools were the ones that used restructuring tools to help them function as professional communities of practice" (p.3). Where such communities had the right cultural and structural conditions to exert continual leadership, the researchers say, and where they focused on improving the intellectual quality of their students' work, the work did improve (Newmann & Associates, 1996; Newmann & Wehlage, 1995).

In a recent national survey of American public school teachers, 69% reported a higher amount of collaboration in their work life than 3 years before, with 36% reporting a "lot more" collaboration (Belden Russonello & Stewart Research and Communications, 2000). Still, the presence of professional communities of practice in American schooling

seems far from the norm. Indeed, the same survey suggests that the decline in front-line privacy reported by teachers has been accompanied by increased rather than decreased bureaucratic constraints on their work, especially in the form of testing requirements.

Meanwhile, many calls for accountability in education and plans for achieving it continue to take little account of the gap between aspiration and organizational reality. For example, some reformers argue that malfunctioning urban school systems can be redirected toward student achievement by turning them over to "accountable" mayors (Kirst, 2002). Cities now implementing this "reform" include New York City, Boston, Chicago, Cleveland, and Detroit. (Gewertz, 2002). It is as if accountability were a kind of fluid that could be squeezed through an educational organization starting from the top, and as if the organization were a kind of vacuum of accountability to begin with.

We think differently. For one thing, we know that the status quo is not an accountability vacuum but different (though inadequate) kind of accountability system based on different assumptions about the goals of education (Abelmann & Elmore, 1999). These are rooted in policy-making focused on controlling how every job is done, rather than on building capacity for doing the real job well (Darling-Hammond, 1998). Doing the real job well involves unlearning the controls, and substituting an accountability based on faithfulness to learning. This is one that combines front-line scrutiny of student work, collective responsiveness to individual student needs, and strategic flexibility at all levels of the organization. In this way the smallest units of the organization become the source of its cohesion overall, as Margaret Wheatley (2000) explains:

> If the organization can stay in a continuous conversation about what it is and what it is becoming, then leaders don't have to undertake the impossible task of trying to hold it all together. Organizations that are clear at their core hold themselves together because of their deep congruence. (p.343)

The best way to be clear at the core, we think, is to build professional communities of practice (McLaughlin & Talbert, 2001). This is where educators can learn and unlearn whatever scrutiny, responsiveness, ad strategic flexibility require. This is where they can educate themselves accordingly. Such education is usually needed, since no education preset in its purposes—whether offered in outside courses and workshops or "in-service" ones—can fully meet the needs of professionals really attentive to their own students and their own contexts. Professional communities of practice inevitably need learning that only its own members can supply.

FACILITATIVE LEADERSHIP

Karen Seashore Louis and her colleagues (1996) argue that the crucial components of professional communities of practices are the following:

- Focus on student learning
- Deprivatization of practice
- Collaboration
- Shared norms and values
- Reflective dialogue

Source: Annenberg Institute for School Reform

The first two of these require difficult shifts in organizational values and structures. By and large, most educational organizations today are focused more on their own smooth running than on student learning, and this smooth running depends in large measure on keeping practice private and serious talk about practice minimal. Some reformers aim to improve matters quickly by pressing directly for a focus on student learning and/or the deprivatization of practice, while paying insufficient attention to the rest of the items on the researchers' list. These reformers may insist, for example, on accountability with respect to certain indicators of student learning such as test scores, but neglect the problem of how educators used to working alone and ignoring such indicators might suddenly reverse emphasis. Or they may insist on educators working in teams, but provide no models or coaching. Or they may provide time for educators to meet together for planning, but no norms for planning or frameworks of values to guide it.

We argue that all the elements on the list are crucial, and that efforts to achieve a new and more genuinely accountable workplace for educators must work simultaneously to cultivate them all. We argue further that a good way to do this is to invest systematically in the development of distributed facilitative leadership. This means working to ensure that there are people throughout the organization who know how to do the following (Schwarz, 1994):

- Gather colleagues together with a purpose
- Establish effective ground rules for the gathering
- Enforce the ground rules by identifying behaviors consistent ad inconsistent with them
- Enable the colleagues to share information freely with each other
- Help them attend fully to each other's perspectives
- Help them make a collective commitment to the choice the group may make

When we use the word *facilitator* in this book, we mean someone empowered by role or opportunity to do these things. In an educational organization, this someone may be a workshop or task force leader; a member of teaching team; the principal, dean, or other administrator; the chair of a standing committee; a parent or student leader; or any staff member suddenly called upon on an ad hoc basis to organize others to learn together, improve practice, solve problems, or develop action plans. Of course, the facilitator may also be an outside consultant. However, over time—and partly as a result of the thoughtful use of outside consultants—enough inside can become good facilitators that outsiders are needed only in special circumstances. This is when the organizations may be said to have developed facilitative leadership.

One of the values of using protocols as learning formats, in our view, is that they can accelerate the development of facilitative leadership, and thus assist in the creation of new workplaces for educators. This is because in some important respects they make the tasks of facilitation more transparent. Of course, facilitators of protocols still have to make many important on-the-job calls: how to strike and keep balance between comfort and alertness, whether to speed up the pace or slow it down, how to press for honesty but also soften its occasionally hard impact, and so on. On the other hand, they do not have to make many other calls—for example, who talks when and for how long, and even what

they talk about. That is because many protocols preset these. Moreover—at least as we promote the role and the task—facilitators of protocols do not decide the purposes of learning they facilitate, nor judge its ultimate effects. Our claim that we professional educators need to educate ourselves means especially that these decisions need to be collectively made.

Thus freed from some kinds of decision-making, facilitators of protocols have more energy for making the decisions they must, and for reflecting on the results. Such experience over time can make them good facilitators of other meeting formats besides protocol-based ones, and thus deepen their organization's overall capacity with respect to facilitative leadership.

In the next chapter we examine more deeply the facilitator's role, and offer practical advice to facilitators—including some protocols they may use to manage some parts of their role. Here we say merely00and in conclusion—that this role may be more powerful than it usually seems; that those good at managing the "process" or educational reform may, in the end, control the fate of its "content"; and that the more and educational organization cultivates people who can play this role well, the healthier it may become.

Chapter 2

Facilitating

At its heart, facilitating is about promoting participation, ensuring equity, and building trust. This is true whether the facilitating involves a protocol or another kid of meeting format. The difference is that protocols are deliberately designed with these tasks in mind, while most other meeting formats are rife with opportunities for ignoring them. We all know the result: the faculty "meeting" that turns into a monologue by the principal or the chairperson, the "discussion" that two or three people dominate, or the task force that manages to suppress dissent.

Of course, protocols are no panacea for these or any other kinds of collegial problems, but they are valuable in highlighting the fact the problems exist. In offering colleagues the image of an alternative reality, they may also encourage efforts to address the problems, Thus someone might say, "Lets have more of the kind of faulty meetings we had that one time, when everyone got a chance to talk, and everybody's ideas got heard and responded to."

To promote participation, ensure equity, and promote trust, the facilitator needs, first of all, an "appointment". It may be a formal one—as in the announcement that "George will lead the task force," or it may be informal, as in a colleague's asking, "Hey, George, why don't you facilitate the group this time?" "In either case, George also has to have a full understanding of what the appointment entails. He has to understand the three tasks—involving participation, equity, and trust—are at the heart of the work he is being asked to do. Further more, he must be willing (missing text)

Try to love the Questions Themselves

FINDING AND FRAMING A RESEARCH QUESTION

> Be patient toward all that is unsolved in your heart and try to love the questions themselves.
>
> Rainer Maria Rilke, 1934

THE DUNNE-ZA, a branch of the Athabaskan tribe, says that a person who speaks from the authority of his or her own experience "little bit know something." Knowledge, the elders say, empowers a person to live in this world with intelligence and understanding (Ridington 1990). Dunne-Za men and women expect their children to gain power by observing the animals and natural forces around them through a series of quests called "vision quests." Every person "knows something" from these experiences and from the stories that emerge from the quests.

The goals of teacher-researchers, like those of the Dunne-a on vision quests, it to "little bit know something" about their students' abilities and learning strategies. New knowledge not only better enables teachers to understand students and their world but also empowers the learners themselves.

Teacher-researchers at all grade levels – from kindergarten to graduate level are increasingly turning to qualitative or ethnographic research methods. Observational studies help the teacher understand the student's world from the *student's point of view* rather than that of the teacher's own culture. Students are the informants in teacher research, helping us to learn both the recipes for behavior in their cultures and the learning strategies that they employ. And Central to the role of the informants is being an active collaborator in these research endeavors.

Teachers just beginning their own classroom research often feel over-whelmed; there is so much to study in their classrooms that they wonder how other teachers have known how to start. As Glenda Bissex writes, "A teacher-

researcher may start out not with a hypotheses to test, but with a wondering to pursue" (1987, p.3). All teachers have wonderings worth pursuing. Transforming wonderings into questions is the start of teacher research.

FINDING THE QUESTION

In qualitative research, the questions come from real-world observations and dilemmas. Here are some examples of the wonderings that teacher-researchers we know are pursuing:

- What procedures or activities promote or encourage students to revise their writing?
- How does a writing-workshop approach affect the growth of students' skills in the mechanics of writing?
- How does a whole language/process approach affect a learning-disabled child?
- What problems does a pre-service teacher solve as she begins to teach without her mentor teacher?
- What happens when eighth graders choose their own reading material in a reading-workshop situation?
- What language occurs in mathematics learning and what role does it play?
- What can my eighth graders and I learn about our writing when they respond to a paper I've written?
- How do children resolve problems in their own in their improvisational dramatic play?
- How do teachers of writing change their instruction after participating in a writing institute?
- What is the difference between the genres of writing students use on a class message board and those they attempt in writing folders?
- How do students evaluate the reading and writing of peers?
- What strategies of students use to help peers during whole-class writing discussions?

The questions these teachers chose to pursue arose out of their classroom queries; they were important questions for their teaching.

Kimberly Campbell, a high-school teacher, struggled with the role of conferences in her classroom. In her teaching journal, Kim wrote:

> I find that as I move around the room to ask. "How's it going?" I get very few responses. Often, I end up feeling like an intruder, an interruption in their process... I also find myself struggling with the how's and when's of conferencing. For example, today I had five students ready for editing conferences, but only had time for two. I was interrupted three times during one conference by other students. And I had no time to do brief content conferences. I'm feeling confused and overwhelmed.

As the term progressed, Kim was able to focus her concerns into questions for research: "*What is the role of conferencing in a high-school writing workshop? How do peer conferences differ from teacher conferences?*"

First-grade teacher, Christine Randall, also used her writing to focus on concerns about her interactions with students. But her observations led to much different questions:

Going to lunch is one of the many hassles faced with youngsters in a portable classroom. We need at least fifteen minutes to wash hands, put on outer gear, and clean our room. Usually we are keeping some other class waiting. Last week the procedure was much the same. On our way into the main building they spy it. The line stops. "What's that?" "Is that a starfish?" What's that starfish doing on top of the clam?" "Lookit! I just saw that clam thing open its shell." Questions are being asked faster than can possibly be answered. We are all fascinated with the saltwater aquarium. I reluctantly pull myself back from the tank with "Let's go, gang. We can come back later to look at the aquarium." The questions continued after lunch and throughout the rest of the day. Within days of the aquarium begins to show up in writing.

In creating a language-rich environment for young children, I have capitalized on the interest in the saltwater aquarium. We wrote a group story, went to research materials, and returned to the main building with observation logs in hand. Teachable moment? As a teacher in search of stimulating topics, I could hardly pass it up.

Teachable Moment. Developmentally appropriate practice. Process approach. Cooperative Learning. Least restrictive environment. Whole language,

Buzz words suggest that the transition be made from focusing on how the child succeeds with the curriculum to how the curriculum succeeds with the child.

But is success determined by the products of tests or the processes observed and documented? If the curriculum is rich and diverse in language-building activities, what about remedial services like speech and language therapy? Do children need to be pulled out for remedial services to work on specific skills?

Like Christina, many teachers have to do some wandering to get to their wonderings. Often questions for research start with a feeling of tension. Christina wants to looks beyond faddish buzz words and rapid implementation of new teaching methods to try to figure out what is really going on with language development in her students and what this means for the system of intervention established in schools. Kim wants to understand why her expectations for conferences are so often at offs with the expectations of her students, and how this might affect her future conference with students.

It is not surprising that the root word of question is *quest.* Teacher researchers embark on a new kind of vision quest as the look for research topics in their classrooms. They want questions to research that can lead to a new vision of themselves as teachers and their students as learners. These questions often involve seeing their students in new ways.

Jack Campbell, a teacher-researcher from Fairbanks, Alaska, realized he needed to take a closer look at his students and their culture if he wanted them to become better writers.

This past year, I've watched Native writers become confused because of the way their writing has been edited. When they receive feedback, either from their response groups… or from me, sometimes they lose confidence because they take criticism 'personal'. When these criticisms occur in their experienced-based writing… they seem to interpret their writing as being ineffective. When a novice writer offers an essay on his or her personal experiences, and these in turn are criticized, perhaps for legitimate technical reasons, their writing voices lose authority and direction. The critiques, without explanations, becomes forms of cultural tyrannies.

As Jack thought about changing his teaching to meet the needs of his students, he wanted to be able to document how these strategies affected his Students. He

crafted his teaching dilemma into the following question: How can Alaskan Native writers establish a stronger writing voice?

Natalie Goldberg advises writers to be specific. "Not car, but Cadillac. Not fruit, but apple. Not bird, but wren. Not a codependent, neurotic man, but Harry, who runs to open the refrigerator for his wife, thinking she wants an apple, when she is headed for the gas stove to light her cigarette…Get below the label and be specific to the person" (1990, p.3). Goldberg stresses that the best way to create a vivid and true picture with words is through specific, tangible, concrete images. The same can be said of a good teacher-research question. All these teachers started with specific instances of tension in their classrooms—a lack of rapport in conferences, in inability to get students to line up, hurt feelings when revision suggestions were made. As these teacher-researchers thought about these tensions, they began to focus on larger issues of culture, learning and school structure. The questions they asked ere not aimed at quick-fix solutions to errors in classroom technique. While asking these questions might help these teachers with their methods, the explorations have even greater implications. All involve understanding students and teaching in much deeper ways.

This attempt at new understanding often leads beyond the classroom door. Joan Merriam, a fourth-grade resource-room teacher, was happy with the successes of her students. But her case study of Charles started when she realized that everyone involved in Charles's schooling did not share her definition of success:

> On Parent Conference night, Charles's entire family arrived in my room at the appointed time. Charles chose some poetry books and took his younger sister to the couch and read to her while I talked with his parents.
>
> They had just come from a conference with Charles's classroom teacher, and concern was on their faces. Fourth grade is the first level in our school that assigns letter grades, so letters on the rank card were a new experience for them. Charles had received C's in science, social studies, and spelling. Although his teacher had tried to assure them that C was average, they were not convinced. My glowing report of Charles's progress in reading and his grade of A did little to allay their fears. They were all too aware that *The Boxcar Children* in which Charles was reading so well was written at a third-grade reading level. When he goes on to fifth grade, Charles will rotate among four teachers for classes. Both parents expressed concern that Charles might have difficulty "keeping up" with the rest of the class next year. While I did my best to reassure them that Charles was progressing, it was evident that they left the conference with some lingering doubts. That conference left me with doubts as well. Charles's parents and I had been operating at different levels. I was excited at how far Charles had come, while they were very worried about how far he had to go. When writing Charles's progress report I had only considered his success during the one hour a day he worked in my room. I needed to look beyond my room for ways to help him succeed in his classroom and at home.

As a result of that conference, Joan established two research questions worth exploring: *How could she help Charles attain a high level of "success" in his other classroom? How could she better communicate with his parents about his progress?*

Joan was willing to look beyond the one hour Charles spent daily in her classroom to understand his needs. Jack's research question would take him into Native American culture so that he could better understand what criticism meant to his students. The answers to these teachers' research questions won't necessarily validate their teaching practices. More likely, these teachers will discover that they need to change how they work with students and how they view young learners.

Nancie Atwell, a well-known teacher-researcher from Edgecomb, Maine, remembers her first years as teacher-researcher. Over time, she found her research questions changing as her view of her own teaching changed:

> For six years I studied the writing of eighth graders. Over these six years, the nature of the questions I asked in my classroom changed, as my understandings of research have changed. In the beginning I wanted to know, What should I do in my classroom? What will happen when I do it? I wanted to measure the effects of my teaching ad prove my methods. My research was inevitably some variation of the same question: When I perform—say, write in my journal when I tell students to write in theirs—what wonderful things will my students do?...The focus was on my methods. The focus was on me. It was a truncated version of classroom research.
>
> Then, as I started looking—really looking, through the prism of the stunning naturalistic studies of children's writing of the last decade—my teaching methods took a back seat. My students climbed up front and became my focus. I conducted research to learn from them about their uses and view of written language. (Atwell 1991, pp. 315-316)

Nancie's evolution as a researcher involved a willingness to change. Kim, Christina, Jack and Joan are also unthreatened by change. They all could have easily developed questions throughout their observations from a defensive stance, a determination to maintain the classroom status quo. Kim could have asked, "How can I make my students understand the importance of my conferences with them?" Christina could have asked, "How can I get students to spend more time on task?" Instead, the research questions, if answered, will probably result in changes in the teachers—not merely in their methods, but in their teaching philosophies and attitudes toward students.

FRAMING THE QUESTION

"One purpose of qualitative methods is to discover important questions, processes, and relationships, not to test them" (Marshall and Rossman 1989, p.43). To keep the research process open to continual discovery, the framing of research questions is critical.

The first consideration while framing questions is to make sure the question is open-ended enough to allow possibilities the research hasn't imagined to emerge. This rules out the kind of closed yes or no questions that are developed in

experimental studies to test the differences between control and experimental groups…

Look again at some of the sample questions listed in the previous section on "Finding the Question." What do you notice about them? The patterns that you see in your colleagues' research questions can help you frame your own. You will notice that these questions are posed in a way that will be answered by descriptions and observations. The key words are most often how or what, leaving the teacher-researcher open to describing the process and changes as they emerge. Framing the questions in this way helps make the research feasible for us as teachers in the midst of our teaching; we are not tied to a rigid procedure that my interfere with the flow of the classroom and with the changing needs of students.

When posing your research question for the first time, come back to what intrigues you in your classroom, what you wonder about. You might begin by thinking about a particular student that you are not quite sure how to help. What is working for her in the classroom and what is causing her problems? Perhaps poetry seems to be the one avenue that is meaningful to her. What is it about poetry that facilitates writing for her and other students? You might frame a question that allows you to follow and describe the writing behaviors of this student and others in the classroom in relation to the poetry that they read, write, and hear.

You might instead want to investigate class wide teaching dilemmas that arisen, as Kim did in her question about the conferences in her high school writing class or as Jack did in his question about ways to help his Native Alaskan writers retain their voices in their writing. What are you puzzled by in your classroom? Teachers often need to rely on their intuitive hunches. Trust these hunches to guide you in the genesis of your research question. Remember that research is a process "that religiously uses logical analysis as a critical tool in the refinement of ideas, but which often begins at a very different place, where imagery, metaphor, and analogy, 'intuitive hunches', kinesthetic feeling states, and even dreams and dream-like states are proponent" (Bargar and Duncan 1982, p.3).

When you create your questions, build in enough time for observations to take shape ad even for the nature of the questions to shift in focus. The questions we pursue evolve and become richer when we allow our ideas and observations to incubate. Harry Matrone found his questions and research going through the same early evolution that Nancie Atwell describes. He reflects on his own research experiences and urges new researchers to give themselves the gift of time:

> As a result of my experience I'm wondering, shouldn't the first year of a teacher-researcher study be just doing observations—with the eye of the researcher—on things going on in onc's classroom? Then, after making these observations, a teacher-researcher could identify an area to study during year two. I think my original question is being considered too soon. What I should really be looking at this year are the changes in topics that kids in my workshops experience over the course of a semester or two. Kids invest themselves in learning to the degree that their emotions allow them to. I realized a month or so into the school year that I had put my eye on the cognitive sight before I had considered the emotional.
>
> As far as discoveries related to my original question, while I may have set out I the beginning to check out the strategies kids develop when their instruction is less structured and

Source: Annenberg Institute for School Reform

directed, what I've really done is check out how well they an apply the procedures that I teach. The reality is that the choices my students have are much more limited than my original question implies. At this point, I'm less taken with the idea of trying to write on my original question than I am to write on some other area I've become more aware of. I fee good about the effort. I'm learning a great deal.

Teacher-researchers know that when it comes to research, the process needs to be as fulfilling as the final results. Finding and framing questions takes time and may involve lots of exploration through wonderings. But as Harry notes, much can be learned along the way. The benefits of teacher research begin with finding and enjoying the possibilities in your questions, not with analyzing research results. And the research cycle continues with new questions as well as possible answers.

SUGGESTIONS FOR GETTING STARTED

1. Keep a teaching journal for at least one week, and preferably longer. Set aside some time at the start or end of the school day to write in this journal, reflecting on what you have noticed in the classroom. There is no specific format for this kind of writing; you may choose to keep a journal, a diary, or a record of observations. If keeping this kind of record is new to you, try timed practice writing for about ten minutes a day: Put your pen to paper and keep your hand moving, writing about the things that happened in your classroom. If you get stuck, write, "I remember in class today…" and just keep going. After several days of this kind of reflection, reread your journal entries and look for what surprises or intrigues you. See if there are some patterns in your concerns or delights that bear further inquiry.
2. Brainstorm a list of the things that you wonder about in your classroom. Write down at least ten things and don't censor your list. Make an appointment to get together with a teaching colleague to talk about your list. (We suggest meeting off school grounds—for lunch on a weekend or at your favorite café after school. Treat yourself to a comfortable and inviting environment in which to explore your research agenda!) As you sip some tea or share a meal, talk through your list. We find that just airing possibilities with a trusted colleague can help you focus on the area that really intrigues you.
3. Be specific in your concerns. Many teachers reject their first questions or needlessly broaden them. They don't always believe that their concerns are worth of study. "What works well in writing workshops?" is a question we have been presented with more than once by teacher-researchers, like "How are Julie's perceptions of her role in writing response groups changing over time?", The question is often followed with, "But I know that's not important enough to study." For too long, educational research has tried to answer big questions with short-term, large-scale questions that ignore the complexity of teacher and student interactions. Your research will probably start from a different point—

Source: Annenberg Institute for School Reform

individual students and their needs in your classroom. The more specific you are, the easier it will be to develop research procedures.

4. Once you have narrowed your area, write down your question, *considering it a first draft.* Don't worry yet about how it is framed; just get it down on paper as a question. Write it as fully as you need to, as a whole paragraph if necessary. Give yourself permission to play with it, writing it in several different ways until you have all the information you want included in it. Now, read it again. Does it still intrigue you? Are you still itching to investigate this area? If the answer is no, look over your process and see where you lost your enthusiasm. Make sure you get that aspect back into your draft before you move on the refining stage.
5. When you are ready to focus your question, look back over the sample questions in this chapter. Try beginning yours in the same way: "What is the role of....? "How do....? "What procedures...? "What happens when...?" You may find that you need to make adjustments for your own particular question, but these stems are often a good first step.
6. Our final advice is the most important: Give yourself the time you need and the permission to modify your question as you continue your investigation. Carry poet Rainer Marie Rilke's advice with you as you begin your endeavor: "Be patient toward all that is unsolved in your heart and try to love the questions themselves."

Source: Annenberg Institute for School Reform

Stages of Team Development

Lessons from the Struggles of Site Based Management

Nancy Mohr and Alan Dichter

Source: Annenberg Institute for School Reform

One major focus of the work of the Annenberg Institute for School Reform is developing and supporting educational leadership with the vision and expertise needed to transform schooling. The Institute's Leadership initiative seeks to influence, support, and sustain models of shared leadership (teacher, principal, superintendent, community) that help to improve student achievement.

As part of its work in promoting effective leadership practices, the Leadership initiative staff convened a group of practitioners affiliated with the Institute's programs to reflect on and write about innovative and effective leadership. Ten of the resulting essays were published in a two-part series on Leadership for Learning in the September 2000 and June 2001 issues of Phi Delta Kappan. A shorter version of "Stages of Team Development" appeared in the June 2001 segment.

The Annenberg Institute for School Reform was established at Brown University in 1993. Its mission is to develop, share, and act on knowledge that improves the conditions and outcome of Schooling in America, especially in urban communities and in schools serving disadvantaged children. The Institute pursues its mission in four initiative areas: Leadership, Opportunity and Accountability, District Redesign, and Community-Centered Education Reform.

For more information on the work of the Annenberg Institute, visit our Web site at <www.annenberginstitute.org>.

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Source: Annenberg Institute for School Reform

Stages of Team Development

Lessons from Struggles of Site Based Management

Nancy Mohr and Alan Dichter

Organization wants to happen. Human organizations emerge from processes that can be comprehended but never controlled.

– Margaret J. Wheatley and Myron Kellner-Rogers
A Simpler Way

We had sensed for some time that something was wrong – site-based management had not been delivering the goods. We formed leadership teams; they met; we shared decision making – but teaching and learning didn't change. "Perhaps too much had been expected from simply the transfer of power," suggest Priscilla Wohlstetter and Susan Albers Mohrman, who have written an extensive study looking at the outcomes of sharing decision making in schools. The idea always was to improve education for kids; but instead what seemed to have happened in many places was that there was another meeting to attend and nothing much else was new. "Is the theory flawed? Is the current wave of decentralization just another swing of the pendulum?" ask these authors, whose study of practice looked at thirty schools in nine school districts, each of which had at least four years' experience with school-based management.

We were asking ourselves the same questions. As principals of alternative high schools in New York City, we each had been deeply involved in school reform for over fifteen years. Each of our schools struggled incessantly with "group management" at Satellite Academy High School and consensus- based decision making at University Heights High School. During this time, our own experiences and observations, combined with those shared in professional development opportunities with colleagues in other New York schools and around the country, helped us learn a number of valuable lessons.

We saw for ourselves the tremendous power that can be generated within a school when the professional staff genuinely experiences a sense of ownership. But we learned that adult empowerment, for its own sake, is too limited a goal. We found that adult ownership, while necessary, does not in and of itself make learning more powerful for students. We learned how to get beyond ownership as a goal and how to develop professional communities of learners, focused on teaching and learning, that are able to take advantage of the multiple perspectives a community can offer.

Our conclusions, based on hands-on experience, are supported and illuminated by research findings in recent literature. Michael Fullan (1993) cites several studies of site-based-management projects, none of which found evidence of a strong connection between shared decision making per se and student learning. "The point is not that participation in decision making is a bad thing," Fullan cautions, but "that it is not focusing on the right things – the cultural core of curriculum and instruction."

Source: Annenberg Institute for School Reform

Participation may be necessary in order to build the habits of collaboration, which are essential, but it is not sufficient for improving student outcomes.

Robert Evans (1996) explores the kinds of shared decision making that do create a link between adult empowerment, student learning, and leader behavior. "Teachers who are empowered to make decisions about their school will structure their classrooms to empower students in the learning process, encouraging students to take greater responsibility for their own education," he asserts. "A key point … is that empowerment's true target is not teachers or any other constituency, but the school. … To achieve it requires an authentic leader to take the primary role in both shaping the framework and nurturing the capacity of others to help shape it."

Fred Newmann and Gary Wehlage (1995) show that higher student achievement has been directly linked to the building of professional communities – groups of educators who regularly meet to discuss each other's work and to learn from each other about ways to improve teaching and learning. Newmann's work on authentic learning (1996) points out why some schools in his study had higher student achievement than others. In addition to focusing on student learning, the achieving schools nurtured professional community inside the school and understood that "the promotion of intellectual quality and professional community depended on a complex interaction of cultural and structural conditions."

The most fundamental conclusion we have drawn is that learning to share decision making in a professional community that focuses on student learning is a developmental process, and each stage of that process offers discrete challenges and opportunities. When teachers form teams in their classrooms, the student groups will go through these stages. When superintendents work with principals, or their own staff, the same lessons apply. Just as it is useful to remember that our children will and must go through the terrible twos, it's comforting to remember that even our adult communities will and must go through stages in their development and will have to work through some fairly predictable problems in order to emerge in a more mature state.

We now fully appreciate that the driving question underlying this journey is not "When does shared decision making work and when does it not work?" but rather "What do you have to do to develop a professional community to the point where it is promoting rigor in teaching and learning throughout a school?" We also know that leadership is essential to the successful negotiating of this journey. And we don't mean only principal leadership; teachers, parents, students, and district administrators must all play essential leadership roles.

The observations that follow illustrate the developmental stages that faculties go through en route to becoming learning organizations. Are these stages as clear-cut and neat as we make them sound? Of course not. We've lived through these steps, and, like anyone who has worked with groups, we know that little can be predicted and much can go wrong. But these observations represent years of reflection, and we strongly believe that a thorough understanding of such a complex conceptual framework – one which requires endless work and struggle to implement truly and honestly, but which has the potential to genuinely transform what happens in classrooms for kids – is an indispensable tool on this journey. In that spirit, we would like to share our experiences – some joyous, some not – about how that process plays out, what each stage involves, and what is needed to work through each stage and move on to the next.

Source: Annenberg Institute for School Reform

The Honeymoon Stage
Emerging Community

This is terrific! Before, I was powerless; nobody even asked my opinion. Finally, I'm part of a group that meets with the leader. At last, I feel valued; I am so happy that my voice is going to be heard.

I'm not always comfortable disagreeing with the group, so far, especially when I have to do it publicly, but it is exciting to feel that we will be able to make real change; soon we'll be making a lot of important decisions.

The eager group may begin by thinking that this is going to be easy. It may forget to build, earlier rather than later, some common goals. Is the intent to give everyone a voice, or is it to improve the intellectual quality of the school? Making decisions without a clear sense of mission or shared vision can create a battleground for personal interests. Now is the time to clarify the method of making decisions: why to make them, how to make them, and which ones are appropriately made by the group. The leader must unapologetically set limits to the scope of the group's initial work. These limits can be open to discussion, but to pretend that everything is up for grabs creates a lack of security inappropriate for group health.

The leader must also be prepared to share and move toward a vision of greater group involvement based on capacity and on priorities. Problems can be averted if consensus is introduced early as the mode. Voting leads to factions, polarization, and a history of resentment, since there are always losers along with the winners. Consensus means having to look for the win-win solution, which is not the same as seeking a 100 percent vote and being held hostage by the hold-outs.

The leader's role in this stage is that of designer. Groups are powerful, not in spite of, but because of having multiple points of view. A variety of viewpoints, however, does not necessarily produce the most creative outcomes. When a group is in the early stages of working together, it does not yet have a lot of collective knowledge. It is sometimes useful for the leader to solicit input, envision a design, and then present a plan to the group. The group can digest it, modify it, and then look for agreement. Another strategy is for the group to brainstorm possibilities, with a small group or a leader putting it together into a design or plan.

What does not work is for a leader to come to the group and say, "How do you want to schedule classes? This is your school, so it's up to you to tell me what you want to do." There is something a bit hostile in this last approach. A leader had better be self-reflective and should be clear if sharing leadership is, in fact, what she/he wants.

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Nancy bought bagels for her staff every Friday. It was to thank them for their hard work, a personal way of appreciating them. When students came into her office early in the morning and asked for bagels, she gave them to them as a reward for being early to school. One Friday a teacher expressed her sense that the bagels should be for the teachers only and "proposed" to the staff, for agreement, that there be no bagels for students. What Nancy had to point out was that these were her bagels, purchased with her money, and she was going to give them to whomever she wanted. The teacher in the glow of the Honeymoon Stage thought that teachers would now make decisions about everything that happened in the school. It was disappointing to her to find out that the Friday bagels were not in her purview.

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Source: Annenberg Institute for School Reform

The Conflict Stage
The Honeymoon Is Over

Who made that decision? I can't buy in unless I'm
a part of what's going on.

I can't work with that group.

We are supposed to be talking about instruction,
but we keep arguing about career day, the new
schedule, the budget for art supplies, and who's
going to teach that split program. When are we
going to work on something of substance?

Sometimes I feel like going back to my classroom and closing the door; working with kids is easy compared to this!

This is a natural (and valuable) stage for groups – the stage of emerging controversy. And group development theory tells us that not only is this inevitable, but it is essential to developing a healthy group. "In fact, a group without conflict may be in serious difficulty; points of view are being masked and inhibited, and good solutions cannot be worked out" (Miles 1971). Whether it's a group of two (a marriage) or one hundred (the U.S. Senate), where there are different people, there are different points of view. What really matters is how you learn to deal with those differences. So the very same conflict resolution principles we use for students apply to adults as well: an absolute insistence upon resolving (not hiding) conflicts – combined with a few ground rules for civil discourse – should do nicely for starters.

It is helpful to warn the group that this stage will come – before it happens. Knowing that conflict is inevitable will lessen anxiety. The group would do well to avoid being overly nice – trying to smooth things over, ignoring problems. Dealing with petty dilemmas skillfully will allow the group to venture into the important (and difficult) issues – ones about teaching and learning. Everyone has to learn how to be a negotiator and/or mediator.

The leader's role in this stage is to help the group manage conflict. First, the leader must make sure that all are committed to working on conflict management. The temptation to avoid dealing with conflict leads to resentment-collection and to the mediocrity that comes of too much compromise. There is also the temptation on the part of the group to revert to being top-down because it's "easier" or "clearer," and this must be acknowledged and stopped. The leader should resist the urge to say, with pride, "See, they *want* me to make all the decisions."

The leader in this stage is both a mediator and a teacher of mediation and negotiation. "In the schools in which faculty members were direct with one another and had developed processes for airing controversy, the faculty made changes that endured and grew stronger over time. Where faculty members had no capacity to deal with controversy they were unable to move beyond existing practices" (Wasley et al. 1997). Effective leaders have the courage to confront difficult issues of race, gender, class, etc. But they also "move from being the ones who manage conflicts among group members to being the ones who teach group members how to manage their own conflicts" (Schwarz 1994).

However, effective leaders do not allow the group to be used to settle issues that belong in face to- face, private conversations: "People around here

Source: Annenberg Institute for School Reform

are late a lot; I think we should do something about it" could be a legitimate topic for a group to take on if it really is about a slippage in group norms. It could also be a cover-up for the speaker's unwillingness or inability to assertively confront one person who is chronically late.

Leaders must also help groups set norms. Good leaders do this publicly, taking every opportunity to reinforce them with the group. This might take the form of reviewing a written document or of routinely reminding people how certain events were consistent with shared agreements. This reinforcement comes from regularly reflecting on how the group is doing and on whether or not the norms are still the ones we believe are important. Leaders continually remind the group about "how we do things around here," especially when it has been tough to do the right thing. Norms are different from rules – we know we will sometimes fall back, but there are no recriminations when this happens.

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In the early days of building a new school, Nancy found that each semester teachers were changing their teaching teams. At first she felt it was good to let people choose the teachers they wanted to work with and encouraged the staff to make adjustments in order to come up with the best configurations. The problem was that eventually there were some people who couldn't or wouldn't work with anyone else. Once she realized what was happening, she knew that it had to stop. The building of community in a school has to be more like marriage than dating. Problems have to be worked out. Issues have to be addressed. And you can't continually change partners rather than work things through. It became clear that the same thing had been happening in classrooms. Students (and teachers) looked forward to the next semester when they could change groupings, hoping that things would be better next time. The school realized that students and teachers became much stronger and wiser when they learned how to work out their differences and learned to stay together over time – leading to relationships where members had deeper knowledge of one another. When this happened, the teaching and learning could take place on a new level because teachers knew how individual students learned best and students knew that they could work out problems with adults. Adults and students could appreciate each other because of, not in spite of, all their complexity.

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Alan's school, which had four sites, each with its own teacher-director, had had a history of competition among the sites. Resources were either strictly divided or they were allocated through a convoluted reliving of the history: "You got extra funding two years ago." "Remember that time we let you buy books? Now it's our turn." It took an enormous amount of work to redesign the culture of the school to become one in which the greater good could be the deciding factor in how allocations were made. Sites began to see themselves as part of a whole instead of as rival factions. How was this done? The only way changes to a culture take place: over time and through constant reinforcement. Alan had to not only voice the new set of norms and beliefs, but also ensure that they were always being practiced. And he had to do this not as an authoritarian, but as someone whose responsibility it was to regularly remind the group of what it stood for and why it was there. And he had to do it over and over. It took several years; there just was no fast way. They all knew they had "arrived" when the management teams from all four sites readily agreed to a proposal from Alan that one site which was going through a particularly difficult transition be funded for an extra teacher for the entire year simply because they needed it. And rather than resent it, the members of the group spoke about feeling good about their collective ability to get beyond their individual interests.

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Source: Annenberg Institute for School Reform

The Confusion-about-Democracy Stage
What's the Leader Supposed to Do?

Sure, you say I'm empowered, but as long as we have a leader; he/she still holds all of the chips.

Sometimes decisions are made without me – why should I feel buy-in? Furthermore, who decides who gets to make which decisions? We need specific processes and procedures.

If we're a democratic group, why does the leader have more influence than I have? If we're all leaders, why do we need someone in charge? There's always a hidden agenda.

I may be ready for empowerment, but I'm not so sure about the others. I don't know if they're as committed/talented/trustworthy as I am. Maybe it's better to just forget about it and let the leader do it all – then at least we know who to blame.

"The role of school management – principals and superintendents – has not received much attention in SBM [school-based management] plans," Wohlstetter and Mohrman (1996) note. "Private sector experience has found that such roles are pivotal in successful decentralization." Groups come to learn that the roles that leaders play are essential – after all, who is going to push us when we get stuck, do that work we'd rather not do, and remind us of our agreements? In fact, without a strong leader making sure these things happen, our "democratic" process sometimes stalls because one or two people dominate the conversation and we all get disgusted. Evans (1996) calls this kind of leadership "authentic":

> Authentic leaders … want to optimize collective involvement and professional community, but … they will not sacrifice substance for process, clarity and focus for a management modality. They do not abandon traditional authority; they use it judiciously, building involvement as they can in a variety of informal as well as formal ways, but asserting themselves as they must. They provide a binary leadership that is both top-down and bottom-up. In this way they avoid the pitfalls that can turn empowerment and collaboration into quagmires and they help school communities deepen the commitment on which improvement depends.

Leadership can vary and move around, but when it comes down to it, no matter how much decision making is shared, there does have to be someone who is in charge – and we have to know who that is. Otherwise, we all can spend an inordinate amount of time either duplicating each other's efforts or waiting for someone to be decisive.

This stage can be confusing to everyone. Wohlstetter and Mohrman (1996) state that "studies of effective public schools agree that a strong central leader, like the principal, is key to successful management. An effective leader can set the school's vision, serve as an instructional leader, coordinate reform efforts and rally support for the school." Yet, in the same document, under "Why School-Based Management Fails," the authors caution That

> principals who work from their own agenda, not helping to develop a common one … is perceived as too autocratic by their staffs. … [T]his often led to a power struggle between teachers and the principal over who controlled the school. … Teachers frequently referred to "the

Source: Annenberg Institute for School Reform

principal's vision" in schools where the leadership was autocratic

Making sense of all of this is not impossible, but reconciling concepts which seem to be in opposition to each other is what makes the job of the leader so complex and so far above the more clear-cut management hierarchies of the past.

Leaders at this stage must strive to prevent the group from falling into "process worship," where following the procedures and processes, designed to make sure that voices are heard, and becomes the goal rather than the means to an end. Allowing processes to become a substitute for using judgment can lead to well-executed but terrible decisions. Or even worse, it can lead to stagnation and frustration. It's the leader's job to regularly prioritize and reprioritize and help the group to keep straight what's important.

The leader needs to make sure that the changes that are taking place are systemic, not cosmetic. "Schools struggled with SBM when they simply layered SBM on top of what they were already doing" (Wohlstetter and Mohrman, 1996). The leader must not be seen as playing favorites and must keep the process honest. The leader must teach all of the players to develop the habit of consulting one another regularly and must facilitate that consultation, making sure that it happens. And then the leader has to help the group see that it has a responsibility to not only trust each other but to trust the leader as well, just as the leader has trusted them. The leader both models and teaches inclusion. It is not good enough to say, "You had the opportunity to object, participate, etc." Opportunities not only have to be presented, but promoted. Involvement and involving others are not options. And the leader has to be comfortable being a leader.

One responsibility that must be assumed by everyone involved in an organization where shared decision making is taking place is to avoid the "in-crowd/out-crowd syndrome." Groups that work effectively within larger organizations understand that they must spend a lot of time communicating with those outside the group – and those outside the group have an equal responsibility for being willing to believe that the group's purpose is to help the whole and that being a good group member means not wasting one another's time. This means not whining, not forgetting the real reason you are all there.

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Alan's school was confronted with a problem at one of the sites. There was a staff member who was not an effective teacher, and the staff wanted the teacher-director to deal with the problem. So he did ... and asked the teacher to leave the school. Then the staff was upset, saying it was their right to make decisions and that they had wanted the director to deal with the problem, but not make a decision on his own. They were told that the decision would stand, but that there would have to be an immediate plan for an intervention process so that in the future whenever there was a personnel issue, it would be clear how it would be handled and the process would be known to everyone. There was resistance to making this plan. The crisis was over and they wanted to "move on." The leader had to insist. This is one example of a changing leadership role. While it was no longer appropriate for the leader to make unilateral decisions, it was essential to take the lead in making sure that there were procedures in place, ones which ensured democratic outcomes and which did not rely on peer pressure alone for accountability.

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Source: Annenberg Institute for School Reform

The Messy Stage
Now Things Are Even Less Clear

This team's work is sloppy; I need more clarity and control.

If this is supposed to make me feel "bought-in," it's not working. I'm working harder now and getting less done.

It's fun to be collegial, but where is it getting us?

I'm still not always comfortable with all of our decisions. Sometimes I don't even remember why I agreed to something. And when we have to include a different perspective – kids, parents, etc. – that really slows us down.

There's no time to do anything right, let alone get to the important issues.

Learning to love risk-taking and ambiguity is a tall order, but it has to happen. It's hard to celebrate mistakes and avoid the safe route. To help it happen, there must be systems in place to maximize communications among all of the members of the group. Instead of a clear line of authority that is very neat but not very effective, there can and should be multiple forms of communicating – a sort of circulatory system for the organism, one which keeps the blood moving.

The organization needs multiple groups with varied tasks and foci. This way the power is truly dispersed throughout the school and is not simply vested in one group instead of the principal. So the next time someone says, "What, another meeting?" there has to be a reminder that meetings, when well run, are truly valuable. The alternative would be to go back to a clear line of authority with meetings that are used only to transmit information, top down. Meetings can themselves be learning experiences if run effectively, but that means planning and organization. Wohlstetter and Mohrman (1996) "found that school-based management required a redesign of the whole school organization that goes far beyond a change in school governance."

Another source of messiness is the need to include all stakeholders.

> Involving stakeholders … isn't enough to ensure all voices are heard. … Decisions that emerge from integrating multiple perspectives are bound to be better than decisions made by a single person or from a single perspective. Yet it takes time and skill to integrate multiple perspectives, especially when there are power differences among the diverse groups. This is a challenge worth meeting if school teams are to think creatively and in new ways to better serve all their students. (Hergert 1997)

The leader's role in this stage is to help the group be comfortable with messiness, pointing out that it's OK and is part of real life. "Comfortable" doesn't always mean relaxed and happy. When members of the group say, "I'm not comfortable with that," they can be gently encouraged to understand that their comfort is not the major goal of the school and that maybe their discomfort is a sign that there is learning taking place. The goal is to feel safe enough to indulge in risk-taking. The leader resists being "Father/Mother Knows Best" and continues to help the group appreciate that it can find a good route, and that there is no one right answer. The leader cannot and should not try to prevent mistakes from

Source: Annenberg Institute for School Reform

happening. Mistakes should be welcomed, examined, and understood as natural phenomena – a necessary part of learning.

On the other hand, leaders must strive to develop those systems and communications that will eventually bring order out of chaos and follow up, follow up, follow up. Solutions have to be real. Miles (1990) distinguishes between traditional coping (e.g., using normal routines or working harder as the way to solve the problem) and "deep coping," which is doing whatever has to be done to solve the problem (e.g., change the schedule, provide time, make sure it happens). "Serious reform … is changing the culture and structure of the school," says Michael Fullan (1991). "As long as we have schools and principals, if the principal does not lead changes in the culture of the school, or if he or she leaves it to others, it normally will not get done."

The leader must also lead professional development. Leaders foster professional practice by putting in place processes and structures that promote teacher collaboration and collective responsibility (Lieberman et al. 1988, McLaughlin and Yee 1988). The leader plays a key role in fostering a sense of collective responsibility among the faculty such that problems of teachers' performance are viewed not as individual failure but as the concern of the whole faculty (McLaughlin and Yee 1988).

It is important for both the leader and the group to begin to see their work as engaging in problem solving and learning, rather than "problem hiding" (McLaughlin and Yee 1988). When the group focuses on learning, it finds that it is making better decisions and that its process becomes more and more seamless (and more efficient). As the group sees itself learning together through professional dialogue, through seeking out information

and evidence, through self-reflection and a feedback process, then they are moving to becoming a professional community. The group and the leader are able to now use the skills they were developing in earlier stages. "Learning and improvement of performance will occur only from serious peer and group assessments of how well their own judgments are working" (Louis and Miles 1990).

There is a particular problem of messiness for the leader, who is expected to simultaneously strengthen cross-fertilization and collaboration; maintain calm, order, and the sense that someone is in control; promote strong cultural norms, values, and beliefs; and include everyone's voice in setting the agenda. Making sense of these seemingly disparate goals is the hard but critical work of the leader in this stage.

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Nancy came to understand that her role as the professional development leader of the school meant that she not only had the responsibility to design and run professional development activities at staff meetings (where announcements were banned), but she also spent her entire day in a variety of meetings – leadership team, curriculum planners, office staff, long-term planners, etc. Each of these meetings was a part of the professional development web in the school. But the realization grew that it was simple enough to spend meeting time perseverating about details. So, the rule became that every meeting would have as half of its agenda a professional topic, and that the topic would come first, not after the business (when it frequently didn't happen at all). This became a school community habit and each team that met understood that its purpose, first and foremost, was to learn together, and this included reading articles and building on prior knowledge. For Nancy, as the principal, it meant doing all of those other principal's chores early in the morning and late in the day. She felt it was worth it to keep these multiple conversations going.

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Source: Annenberg Institute for School Reform

The Scary Stage
Where's the Authority and Accountability?

I know I said I wanted to be a part of a professional community, but maybe "they" do know better than we. Actually, I sometimes hope so, because I feel less and less sure about what should happen.

Whose fault is it if something goes wrong? Suddenly I don't feel so powerful; I just feel more of a heavy responsibility.

Where's the validation; what are the rules?

I'm just not sure I want to be responsible for talking about what's going on in other people's classrooms, about what standards should be, about what we should teach. After all, if we open that up, then I have to be willing to hear stuff about my own work, and that is truly scary.

Participation in making decisions does not in any way ensure that the group automatically takes on real responsibility for what happens; in fact, it can sometimes get the urge to back off and look around for someone or something to blame. Evans (1996) remarks that "few teachers, it seems, want to be fully empowered and collegial."

It is important that the group build an accountability system that ensures its work is based on substantive information and data and not solely on the opinions and preferences of its members. Accountability is built on the lateral flow of information sharing and on the group's ability to critique itself. It is in this stage that the group begins to see itself as a professional learning community rather than merely a decision-making group. It really is moving into genuinely shared leadership. Once this happens, the group sees that what makes a true professional community is a systemic approach to a "collective rather than individual accounting for school outcomes" (McLaughlin and Yee 1998). Now the group is shifting to an instructional focus and aligning its teaching practice with those values and beliefs by using reflective practice and dialogue.

What can be really scary is when there is no improvement in student performance after the group has been working so hard. Remember the findings: higher student achievement has been directly linked to the building of professional community (Newmann and Wehlage 1995). So the group has to make sure it is not only working hard, but working together in productive ways. Wasley, Hampel, and Clark (1997) describe some of the key conditions that foster teacher learning (see sidebar).

By now, the group will have a history of successfully dealing with challenges. The leader's role at this stage is to move the group from its initial successes toward the next stage: public accountability. The leader reminds the group of what has been learned and cites specific examples of the group exceeding its own expectations. The leader reminds the group that it has already been accountable in many ways and that institutionalizing a collective accountability is the last challenge. Having built in the habit of reflection, the leader will now find the group ready to be more publicly accountable. This will not, however, be an instinctive next step. The courageous leader starts by being self-reflective and then helps the group to hold a mirror up to itself.

Source: Annenberg Institute for School Reform

KEYS TO FOSTERING TEACHER LEARNING

- Time: "Few faculty or central office staff or state departments have yet created adequate conditions for adult learning in their schools."
- Collegiality: "Despite the fact that we have understood the importance of collegiality for a number of years, most schools maintain a strong culture of individuality and isolation."
- Analytical capacity: "Reflective activity needs to be more critically analytical. … [Teachers] need to ask themselves why they are attempting new techniques; … then they need to examine whether the changes they are attempting are getting what they hoped for. … To be more critically analytical, teachers need to develop the skills of giving and receiving regular feedback on their work in classrooms."
- Expertise: "Teachers need a readily available support system of experts who are knowledgeable. … A common practice is to suggest that a teacher who has been out to a workshop function as the resident expert for the school. Unfortunately, sophisticated understanding takes a great deal more time and effort."

(from Wasley et al. 1997)

Peer assessment and accountability in Alan's school had, over the years, come to exist more in theory than in practice. People met in "peer groups," having found many reasons not to visit one another's classes; or, if they did visit, by all accounts they gave each other very superficial and very positive feedback. There was a growing concern that a number of teachers who were in need of substantial support and help were, in fact, not getting the kind of "critical friendship" they needed. In order to revitalize this theoretically existing procedure, Alan kept bringing the question to the table: What are we doing about this? Let's share examples. Let's be a problem-solving group. Why are we resisting? What is so difficult about giving and getting critical feedback? How can we stop letting ourselves off the hook? He would hear from staff members privately that they were concerned, but they were reluctant to say it out loud. His goal was to make that voice public. His job was not "enforcer" but "relentless advocate" for the group to grow and collectively look at the problem, to make sure that the environment was safe, that there was respect and that there was a reduced tolerance for collective denial.

Source: Annenberg Institute for School Reform

A Mature-Group Stage
A Professional Learning Community

Finally, we're proactive and make our own agendas rather than reacting to those of others. We also have learned to be inclusive and are avoiding "us" and "them" scenarios.

We have learned to focus on learning as a group rather than making decisions before we have enough knowledge. In fact, we have realized that the point is to make high-quality decisions – ones that are better because they include more points of view.

We realize that we have to give up some of our own preferences in order to see the bigger picture and to work on the common good. We can agree to delegate more often, and while we seek critical feedback, we don't waste each other's time in micromanagement.

Our meetings are themselves now professional development opportunities instead of battlegrounds for issues.

Now, finally, we're talking about teaching and learning and about raising standards, not merely "setting" them. And we're all taking responsibility for making sure that happens; we've stopped pointing the mental finger at one another.

The leader's role in this stage is to keep the group from becoming complacent, making it clear that "we'll probably never be 'there,' " and that there is always a next step in the cycle of assessment and reforming. But, at the same time, the leader helps the group appreciate the habits they have institutionalized and the cultural norms that support the progress that has been made.

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In Alan's school, annual reports, a synthesis of teacher reflections, were written by each of the four sites. In order to maintain this valued but burdensome expectation, he instituted a process that improved its chances of being valued by the school community. Not only were copies shared with everyone (an accountability strategy) but the leaders of the sites spent two hours critiquing the overall report. Routinely, these reports were introduced by a reminder of the number of years the school had done this, and a ten-year timeline was developed tracing the critical growth of the school directly through these documents. And while everyone still found the process burden-some, no one would consider finishing out the year without an annual report. And everyone made sure their reflections were included.

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The concept of the "church year" helped Nancy understand what she had to do in her school. Having grown up a minister's daughter, she was very familiar with the cycle but never quite understood its value. Every October there was an appreciation of the harvest. There were the same lessons, the same hymns, even the same colors used. In her school, it became clear that October had a different meaning – it was the "conflict month." After the "honeymoon" of September, there were inevitably squabbles among students and even among staff. It helped enormously to anticipate this and say, "October is coming." This reminded the school community to have conversations in family groups about handling conflict and to have staff meetings where there were reviews of the procedures needed and the ways to prevent conflict from becoming combat. Not only were new members of the community introduced to the habits and the culture of the school, but older members was honored for their roles in the school's history and at the same time had their memories jogged.

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Source: Annenberg Institute for School Reform

A Transforming Experience

In your years evolving understanding about leadership, empowerment, and professional community, we learned, as principles, to be better learners and teachers ourselves. It was simply not good enough to hope learning would happen because we set up structures, brought in outside experts, and/or sent teachers to workshops. Authentic learning required an authentic learning community, one that learned from research, from its own experience, and from its own analysis of that experience. And all of that required that we do that same thing.

Forming a learning community was like planning for a class and we learned that just as a good teacher in a rigid, arbitrary manner, neither would she/he initially turn it over to the students. Good teachers know that it is their job to teach students how to be good learners, how to take on responsibility, and how to value one another's voices. And good teachers do not leave it to chance. It's no different for good leaders.

We found that developing and participating in a genuine learning community, with shared decision making and focused on student learning, is more than a task; it is a changed way of being. For a group to learn to see professional development as a collective rather than as an individual responsibility, it must challenge deeply ingrained ways of doing things. John Goodlad (1994) comments on this same realization on a broader forum:

> It is difficult for many and impossible for some groups and enterprises to align their self-interests with the public good, and that is what an educative role in the positive sense invariably requires. It is equally difficult for a public which was educated much more for individual development and competition than for the personal responsibility and community welfare to sort out the degree to which adversaries are indeed locked in struggles that affect us all when one side claims to be for the common good. … Such matters are not part of the human conversation for most of us.

We also learned that a genuine learning community must never forget that building consensus and focusing on adult learning are not ends in themselves but only a starting place, a structure that works no miracles unless it is used wisely and well. These efforts are only really useful if student achievement is the overarching goal. Focusing on adult learning requires, paradoxically, that we not focus on ourselves, our needs, and our comfort level. Rather, our learning has to be about what works for kids, whatever it takes. Whenever we loose sight of that, we squander precious time and energy.

None of this happens overnight. By being prepared for the problems that adult groups will encounter as they struggle with how to work together effectively to increase student learning, educators can mindfully evolve, stage by stage, into true learning communities. They will learn to view power differently, to make learning more meaningful for kids, and maybe even to model a just democratic mini-society.

Source: Annenberg Institute for School Reform

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Source: Annenberg Institute for School Reform

Using Observation Protocols

Introduction

As a facilitator for CFG New Coach Seminars, I was troubled by the dilemma of how to automatically introduce future CGF coaches to peer observation protocols when real classrooms were no available for observation during training seminars. The educational videos that I had access to were full of voice over's and sophisticated editing tricks. They looked slick, but were no accurate examples of what might occur in a typical classroom. I hope that this tape fills the gap. This video consists of 28 minutes of footage of real classrooms, real teachers, and real students involved in real learning. The footage is designed to complement the "Observation Protocols" handout that is distributed by NSRF.

Contents

Before showing any of these classroom examples, **it is extremely important to feedback norms**. Discuss the issues of trust and vulnerability: how might a lack of trust affect a peer observation relationship? Even though the teachers whose work is featured in the video will not be present at your session, encourage the participants to phrase their feedback as if they were.

I. Ghost Visit

Ghost visits involve observing a classroom when class is not in session. Since they focus on classroom environment rather than teacher behavior, ghost visits are a non-threatening way to introduce peer observation to a learning community. Teachers are usually quite excited to get a glimpse of other teachers' classrooms.

What you see

Through a series of short clips, you will view a classroom that is used for eighth grade English and seventh grade reading classes. There are no people in the classroom. If you find the background music distracting; simply turn the volume down on your TV set.

Suggestions for using the clip

Ask participants to look for evidence of specific qualities in this classroom.

What evidence do you see?

Classroom management?
A child friendly environment?
Student achievement?
Student work?
A print rich environment?

Practice making statements that are purely descriptive, NOT interpretive or judging. For example, instead of saying "the students must read a lot for that teacher," say "I observed several shelves of books."

Debrief

How could you use ghost visits in your work setting?

What is the value of limiting comments to descriptions?

Was it difficult to limit your comments to descriptions instead of interpretations and evaluations? Why?

What can you summarize about a teachers practice by looking at her classroom when class is not in session??

What can you not summarize?

What questions have been raised about your own practice?

GHOST CLASSROOM VISIT QUESTIONS

What evidence did you see of…?

1. Classroom management.

2. A child friendly environment.

3. Student achievement.

4. Student work.

Collaborative Ghost Walk

A structured process for the collaborative walk through of a school when classes are not in session.

1. School host shares a brief presentation that gives visitors a focus for their feedback, i.e. "Tone of decency" or "personalization," etc. (5-10 minutes)

2. Visitors brainstorm evidence that they would expect to see in a school or classroom where _____ was a focus. Expectations are charted.
3. (10 minutes)

4. Visitors walk through the building silently, making note of evidence they observe that supports or doesn't support the hosts focus. (15-20 minutes)

5. Visitors return to meeting room and share their observations, which are charted next to their expectations. The group discusses their findings, looking for patterns or surprises. The host listens and takes notes.
6. (10 minutes)

7. Host responds to anything that challenged, pushed, and/or added to his/her thinking. The host does not respond to everything heard. There is no need to explain the school or classroom visitors. (5 minutes)

8. Debrief the process.
   - How might you use this process with your challenges?
   - What adjustments would you make to the process?
   - Other comments?
   - (5minutes

Ghost Walk Data Collection Sheet

Focus _____

I expect to observe…	Evidence I observed…

II. Observer as Learner

The primary learner in this protocol is the observer who can focus on whatever he or she wishes.

What you see:

Eighth grade science teacher Mr. Hartman describes his teaching philosophy and takes a class on a field trip to the local bayou to study the food web. The footage ends with Mr. Hartman facilitating a whole class debriefing conversation about the students' exploration of the bayou.

Suggestions for using this clip:

The entire clip is over fourteen minutes long, so you may want to show just a portion of it.

Practice giving warm feedback.

I really liked…
I would like to try…
You made me think…

Practice giving cool feedback in the form of questions.

I'm wondering…
Have you tried…
Have you considered…
A question that has been raised for me…

Debrief:

Note: "Given the potential feeling of vulnerability on the part of the observed in any situation, and especially in a situation such as this is where the observed may have little idea of what the observer is focusing on, its important that the observer try to ask questions during the debriefing in a way that does not put the observed on the defensive." (From "observation protocols" handout distributed by NSRF)

Share some warm feedback for Mr. Hartman.
Share some cool feedback for Mr. Hartman.
What questions would you like to ask Mr. Hartman?
Did you see anything that reminded you of your own practice?
Is there anything in your own practice that you might work on or change as a result of observing this teacher?
How well did our group stick to its feedback norms?

Observation Protocol #5: Observer as Learner

The primary "learner" in this protocol is the observer. The observer's only purpose is to learn how to improve his or her own practice. Since the observer has little responsibility to the observed, the duration of the observation and even the level of attention to what's going on is determined by the observer, as long as this is fine with the person being observed. This protocol may significantly increase the frequency of visits to each other's classrooms since observers may be able to do some quiet paperwork during their stay, and therefore are more likely to use a prep period to visit another teacher's classroom. The time involved may also be reduced if neither party desires a pre-observation conference.

Pre-Observation Conference:
It is not necessary to have a pre-conference unless either party would like to have one. A pre-conference would help to orient the observer as to what will be happening.

Observation: The observer focuses on whatever s/he wishes.

Debriefing:
The observer often asks the observed questions that might help him or her better understand the choices made by the observed.

Note:
Given the potential feeling of vulnerability on the part of the observed in any situation, and especially in a situation such as this where the observed may have little idea of what the observer is focusing on, it's important that the observer try to ask questions during the debriefing in a way that does not put the observed on the defensive.

III. Focus Point

This protocol is designed to help deepen the observed's understanding of his practice. The observer's role is to note those events that relate to a particular aspect of the observed's practice.

What you see?

Eighth grade science teacher Mr. Hartman asks his critical friend (You!) to visit his classroom and focus on a specific teaching dilemma how can he disseminate important non instructional information without loosing the attention of the students? You will then view the first few minutes of the class.

Suggestions for using the clip

It may be helpful to have participants look for specific pieces of evidence related to Mr. Hartman's teaching dilemma.

What opening procedures are already in place for this class?

Are any students engaged with the presentation? How can you tell?

Are any students disengaged for the presentation? How can you tell?

Debrief

Discuss the participants' observations. Encourage cool feedback to be framed as questions.

What connections could they make between their own practice and Mr. Hartman's?

Note: "events and questions not directly related to the focus of the observation should only be raised after asking the permission from the observed, and some practitioners think even asking for permission is inappropriate. The observer should refrain for stating her ideas and perspective on the issues unless specifically invite to do so." (from "observation protocols" handout distributed by NSRF)

Be prepared to redirect the conversation if participants' feedback strays from the stated focus.

Observation Protocol #2: Focus Point

This protocol is designed to help deepen the observed's understanding of his or her practice. The observer(s)' role is to note those events that relate to a particular aspect of the observed's practice and to then act as an active listener as the observed attempts to make sense of those events.

Pre-Observation Conference:
In addition to outlining what will be occurring during the observation, the person to be observed asks the observer(s) to focus on a particular aspect of his practice. Example: "Would you look at how I respond to student questions?"

Observation:
The observer(s) focus on that aspect of practice raised during the pre-observation conference. Field notes include both descriptions of "focus" events and related questions that the observer may wish to raise during the debriefing. The observer(s) may also wish to note events and questions outside the focus of the observation, but these may or may not be discussed during the debriefing.

Debriefing
The observer(s) begin by restating the focus and asking the observed to share her thoughts. Example: "What did you notice about how you responded to student questions?" As the observed talks, the observer(s) 1) supply specific events that either corroborate or contrast with the observed's statements, 2) summarize what the observed is saying, 3) ask clarifying questions, and/or 4) raise questions related to the focus that were noted during the observation.

Note: Events and questions not directly related to the focus of the observation should only be raised after asking for permission from the observed, and some practitioners think even asking for permission is inappropriate. The observer(s) should refrain from stating their ideas and perspective on the issues unless specifically invited to do so. An important principle in this process is that at all times the person who is being observed is the one who is in control of the situation.

Further Thoughts on the Process, especially when the observer has been designated as the "coach:"

- Each person should choose the person or people with whom they will work. They should agree to take turns being the observer and observed.
- The pair (or triad) should establish ground rules for giving and receiving feedback. (For example: *"Our observation data will remain confidential; we will meet to follow up on the observation within 24 hours of the observation."*)

- The person asking for feedback specifies the areas in which they want feedback. (For example: *"Track the kinds of questions I ask: are they memory questions, or do they require evaluation? Do I give enough time for students to answer? Do I ask boys more questions than girls? How did the small groups work together when I wasn't there?"*)
- The observer(s), armed with a short list of what to look for from the person being observed, comes and watches the class or meeting for a short time (15-20 minutes at first, longer as they become more comfortable with both the observation and the feedback).
- The two people meet afterwards — undisturbed — for 10 minutes (it needs to be short at first).
  During this meeting:
  - The observed and observer(s) should sit with the data between them.
- The observed should refocus on the questions s/he asked. That is, reflect on the questions in light of the data being brought back by the observer.
- The observer(s) should share the things they saw, heard, and tracked rather than what they thought about them. Allowing the observer(s) to evaluate or judge the observed will poison the process quickly.
- There should be some talk of what did and didn't happen and how the observed could make it happen next time.
- The observed should encourage the observer to reflect on the relevance of the data to the questions.
- Both the observer(s) and observed should watch for defensive behavior.
- All should work to make sure the observed doesn't get into a defend/attack dialogue (if the observed feels a need to defend him or herself, s/he should stop the conversation and talk about why s/he feels that way and what it would take to reduce that behavior).
- The observer(s) should check for signals to see when the observed has had enough.

Reflections of the Videographer

Creating this video has been a long learning journey for me. Along the way, my belief in the value of making my practice public has been enormously strengthened. Although the finished product is by no means perfect, it is far stronger than the first collection of classroom footage that I shared with a cohort of educators in a CFG New Coach Seminar. Many thanks to my own critical friends who offered so much valuable feedback during that past four months. After one particularly grueling Charrette session my husband commented, "I know that was a little rough on you, but the video will be so much better!" it's true I could not have produced this final product if I had worked in isolation.

On the other hand, the process of designing this video also raised important issues about my collaborative work. After the first showing, I was disheartened about the comments that some educators made about my friends who had so graciously allowed me and my video camera into their classrooms. For these participants, many of them administrators or university professors, "observation" meant "evaluation." Their judgmental comments were probably exacerbated by the fact that most classroom videos that we see are picture-perfect, scripted showpieces. When theses particular participants saw parts of a classroom or presentation that did not meet their own standards, they abandoned protocol. I was afraid that these participants would leave the seminar thinking that peer observations and CFG work in general were just processes to be done to somebody rather than with somebody. I seriously doubted if I could create a peer observation video that maintained the dignity of featured teachers. To be useful, the video had to show classrooms warts and all, yet it took immense bravery to expose those warts to a wider audience

This experience made me reflect further on some basic questions such as. Who are my peers? Who do I trust to help me? What exactly is my work or practice? Is making my practice public worth the emotional strain that accompanies the process? What about when my practice involves other peoples practice? How can some protocols be tweaked to increase safety and decrease vulnerability while still maintaining their edge of leading the presenter to deeper thinking?

This long learning journey has brought me to a place of deeper thinking and deeper understanding of my own teaching and learning. My hope is that watching and interacting with the video will fuel other educator's journeys as well.

Peer Observation and Debriefing

Peer observation, in classrooms or in other school venues, provides opportunities for colleagues to develop and to share their understanding and knowledge about

- Professional practices
- Student achievement, and
- Their school community

It offers an opportunity to witness the implementation of the schools mission and standards for teaching and learning. When incorporated into the professional culture of the school, peer observation can serve to strengthen the development and function of professional learning communities.

The observation should be requested by the person who will be observed. Please respect the process by allowing ample time, avoiding a mere ten minute snapshot, for example.

The observation may be specific (with a particular purpose, question, or focus specified by the person being observed) or non-specific and more open-ended. The observer and the person observed should establish a clear understanding of what is to be the nature of the observation and what is expected of the observer (e.g., scripting observations, focusing on particular element of practice, identifying anything of interest). In any case, the observer should take notes that include description rather than interpretation or judgment.

Debriefing conversation should be scheduled to occur as soon as possible after the observation. During these conversations, the observer will share with the person observed those notes that best address the purpose of the peer observation, whether the format was specific or non-specific. (If a particular observation protocol is used, the protocol will likely include some guidelines for this conversation or debriefing). In general, the debriefing should allow both participants to share what each of them has learned from the observation experience.

In giving feedback during the debriefing, the observer should remember that he/she was asked to assume the role of a second pair of eyes, helping the person observed to fill in an account of what took place during the observation session. This is where the observer's notes (as a record of evidence) can be especially valuable.

The observer's feedback/comments should be specific, with reference to events noted, and should address the expressed interests of the person observed. During the debriefing, the observer and the person observed should have the opportunity to share observations, questions, and suggestions about changes in professional practice that could restructure the learning opportunities for students. Student performance and achievement should be at the center of this process of peer observation.

Observation Protocol #6: Person Observed as Coach

This model is similar to #5, Observer as Learner, and as such is intended primarily to increase the learning of the person doing the observing. The debriefing is intended to help the observer learn more about the reasoning, strategies, and results of the work designed by the person observed.

Coaching Steps

- Each person should choose the person with whom they will work. This choice should be based on a sincere desire to learn something in particular from that person. (For example: "I have a hard time getting the kids to talk to each other rather than running everything through me. I know that you have a lot of success doing that, and I want to find out how.")
- Observer and coach (the person who is observed) should have a pre-conference, in which the coach helps the observer specify what s/he wants to learn more about. It may be helpful for the coach to give the observer relevant materials to review before the observation.
- The observer comes to the observation with a clear idea of what to look for, watches the session, and takes careful notes. It is important to remember where to focus — if you are looking for participant behaviors, you have to watch the participants, not the person leading the session. (For example, an observer interested in how an administrator manages a meeting to maximize faculty participation in decision-making will look closely at the points where interaction is highest, and note the administrator generated activities and presentations that seem to trigger that behavior.)
- After the observation, the observer and the coach meet for a few minutes (15-30, depending on how many questions the observer has). During this meeting:
    - The observer should lead the discussion, so as to gain the maximum amount of learning from it.
    - The observer should refocus on the original purpose of the observation, noting what she/he wanted to learn in the first place.
    - The observer should share the things s/he saw, heard, and tracked that were relevant to his or her learning area.
    - The observer should avoid evaluation or judgment, focusing on what she/he learned, not on what worked better or not as well.
    - The observer should ask questions about things that s/he wants to know more about – for instance, strategies that s/he found especially interesting or puzzling or incidents where more seemed to be going on than met the eye.
    - The coach should add any relevant explanation of decisions; share other strategies that have worked in the past, or offer any materials or ideas that might help the observer.

Note: All questioning needs to be done carefully, with an eye to enhanced observer learning. It should not be allowed to turn into an unprepared peer supervision session, where the focus is on improving the practice of the observed.

Student Observation Protocol: Focus Point

Purpose:
This protocol is designed to help deepen the observed's understanding of the effect of his/her practice on students. The observer's role is to note those events that relate to a particular aspect of the observed's practice and to then act as an active listener as the observed attempts to make sense of those events.

Process:
Pre-Observation Conference:
In addition to outlining what will be occurring during the observation, the person to be observed asks the observer to focus on a particular aspect of his or her practice. For example: "Would you look at how students respond to my questions?" or "Would you look at how my response to student questions affects students?"

Observation:
The observer focuses on the impact of that aspect of practice raised during the pre-observation conference. Field notes include both descriptions of "focus" events and related questions that the observer may wish to raise during the debriefing.

Debriefing:
The observer begins by restating the focus and asking the observed to share his/her thoughts. Example: "What did you notice about the impact of your responses to student questions on the classroom?" As the observed talks, the observer may 1) supply specific events that either corroborate or contrast with the observed's statements, 2) summarize what the observed is saying, 3) ask clarifying questions, or 4) raise questions related to the focus that were noted during the observation.

Note: Events and questions not directly related to the focus of the observation should only be raised after asking for permission from the observed. Some practitioner's think even asking for permission is inappropriate. The observer should refrain from stating his/her ideas and perspective on the issues unless specifically invited to do so.

Reflection:
How will what I learned today impact my classroom practice? What will I do differently next time? What do I need to remember to do again?

Student Observation Protocol: Observer as Learner

Purpose:
The primary "learner" in this protocol is the observer. The observer's only purpose is to learn how to improve his/her own practice by observing colleagues' students. Since the observer has little responsibility to the observed, the duration of the observation and the level of attention to what's going on is determined by the observer.

Process:
Pre-Observation Conference:
It is not necessary to have a pre-observation conference unless either party would like to have one. A preconference would help to orient the observer as to what will be happening.

Observation:
The observer focuses on whatever she/he wishes.

Debriefing:
There is no debriefing conversation between the observer and the observed other than: "Thanks for letting me visit!" Both observer and observed reflect on the observation by themselves.

Reflection:
How will what I learned today impact my classroom practice? What will I do differently next time? What do I need to remember to do again?

Student Observation Protocol: Interesting Moments

Purpose:
The underlying assumption for this protocol is that the observer and the observed will work together to create some new knowledge — they are in it together. The observation of the students is a shared experience, and so is the debriefing. There is an underlying assumption that both the observer and the observed will focus on respect, and that each believes the relationship is one of co-mentoring.

Process:
Pre-Observation Conference:
Because this form of observation is more open-ended, it is not strictly necessary to have a pre-conference, although it may help to orient the observer to what will be happening.

Observation:
The observer maintains an open field of vision, focusing on the students. S/he notes anything that strikes him/her as particularly interesting — anything that may lead to deep questions.

Debriefing:
Either participant begins by raising a point of interest, stating as clearly or fully as possible what occurred for the students. A conversation develops around the point of interest with both observer and observed attempting to sort out, "What was going on here?" As the ideas build, both are responsible for keeping the conversation on track while maintaining the flexibility necessary to create new understandings.

Reflection:
How will what I learned today impact my classroom practice? What will I do differently next time? What do I need to remember to do again?

Note: Prerequisite for this protocol is a high level of respect between the two participants. This respect is demonstrated by language that recognizes the debriefing is not about evaluation, that each will be thoughtful, will listen and respond, and that whatever knowledge is created will be shared knowledge.

	VIDEO CAMERA	FOCUS POINT	INTERESTING MOMENTS
Pre Observation conference	Person to be observed gives context regarding the class or lesson	Person to be observed gives context regarding the class or lesson AND offers a specific question or aspect of her practice on which the observer should focus.	[Pre-observation conference may not be necessary but may be deemed useful in providing context]
Observation	Record: observer scripts the class or lesson Pure description, without interpretation or evaluation	Observer notes events and/or questions related to the focus identified by the person observed	Observer notes anything that strikes her as interesting leading to questions that will help the observed and the observer gain greater insight into the class or lesson.
Post-observation conference	Playback: observer shares what she observed-person observed identifies details of which she was unaware and the adds her own (details not mentioned by the observer)	Observer restates the focus and asks the person observed to share her thoughts-observer offers evidence to support or to challenge the observed's comments and may ask clarifying questions or raise other questions related to the designated focus	Either the observed or the observer begins by identifying an event of interest that occurred during the observation-both talk about the incident in trying to develop their understanding of what had happened

Examples of Focusing Questions for Looking at Student Work Sessions

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1. **About the quality of student work:**

   - Is the work good enough?
   - What is "good enough"?
   - In what ways does this work meet or fail to meet a particular set of standards?

2. **About teaching practice:**

   - What do the students' responses indicate about the effectiveness of the prompt or assignment? How might the assignment be improved?
   - What kinds of instruction support high quality student performances?

3. **About students' understanding:**

   - What does this work tell us about how well the student understands the topic of the assignment?
   - What initial understandings do we see beginning to emerge in this work?

4. **About students' growth:**

   - How does this range of work from a single student demonstrate growth over time?
   - How can I support student growth more effectively?

5. **About students' intent:**

   - What issues or questions is this student focused on?
   - What aspects of the assignment intrigued this student?
   - Into which parts of the assignment did the student put the most effort?
   - To what extent is the student challenging him or herself? In what ways?

Reflective Guide

In preparation for our meeting, please use this guide to:

- Identify a question about your practice.
- Select student work, or other work/data, that relates most directly to your question.

1. What questions do I have about my practice as an educator?

2. Which of these questions (from #1) most directly affects student learning? Why?

3. Of the questions generated in #2, which ONE question do I want to learn more about with the help of other colleagues? Why this question?

4. What data (student work, educator work, or other data) do I have—or can I obtain—that relates most directly to this question? How does this data relate to my question?

Please bring at least 10 copies of the work you have identified along with this completed cover sheet to the meeting.

At the meeting, you will meet with a colleague before your session to:

- Identify the kind of feedback you want to help you adapt your practice to improve student learning.
- Identify the protocol that most appropriately suits your needs.

Facilitator Critical Friend Feedback Form

The facilitator made the group feel comfortable with the process.

The facilitator allowed the process to stop when necessary for clarification.

The facilitator kept the process moving forward and did not allow for sidetracks.

The facilitator followed the steps of the protocol as stated.

The facilitator attended to the needs of the presenter/was aware of the presenter's feelings and cues.

The facilitator encouraged all group members to participate and remain engaged in the process.

The facilitator led a debriefing session at the end of the protocol.

The facilitator thanked the presenter and the participants for their participants.

Any other comments/kudos or things for the facilitator to take into account for next time they facilitate.

Facilitator Critical Friend Feedback Form

The facilitator made the group feel comfortable with the process.

The facilitator allowed the process to stop when necessary for clarification.

The facilitator kept the process moving forward and did not allow for sidetracks.

The facilitator followed the steps of the protocol as stated.

The facilitator attended to the needs of the presenter/was aware of the presenter's feelings and cues.

The facilitator encouraged all group members to participate and remain engaged in the process.

The facilitator led a debriefing session at the end of the protocol.

The facilitator thanked the presenter and the participants for their participants.

Any other comments/kudos or things for the facilitator to take into account for next time they facilitate.

Creating an Action Plan

Beginning Questions

1. What do you know about the people with whom you will be working in your school or in your CFG — your relationships with them, their relationships with each other, their expectations, their participation in the larger school? How do you imagine CFGs will serve you, its other members, your students, and the larger school community?

2. Imagine a particularly productive CFG meeting. What are you doing? What kinds of interactions, sharing of work and reflective dialogue are occurring?

3. What presently exists in the school (people, structure, and culture) in which you will be working that will support your evolving vision of this group? What's going to get in the way of this work? What strengths do you bring to this work?

    - Guiding Questions for Coaches Planning CFG Work

    - How will you introduce the idea of professional community and its relationship to student learning? The purpose and commitments of being a CFG member?

    - How will you help your CFG become a professional learning community? In what ways will you share leadership? How will you and your CFG members develop your collaborative skills?

    - How will you help your CFG members focus their work? Will you identify questions for inquiry into your practice? Agree upon a set of shared goals/standards/outcomes for your students and/or for your practice? How will you raise and address issues of educational equity and the achievement gap?

    - How will you introduce strategies for looking at student and adult work? For peer observation and debriefing? For reading texts together? What other work do you imagine doing together?

    - How will you help your CFG members create both a safe climate AND a culture in which they are challenged to stretch their thinking?

    - How will you create an environment that is safe yet challenging?

    - How will you create group norms?

    - What are your goal as a coach and your member's individual goals?

- How will the group create standards for work (student teacher, CFG)?
- When hand how will you begin to examine teacher/student work?

Using your responses to the above questions, please develop a plan which will enable your group to achieve their year goals. Your plan needs to include a timeline with general descriptions, activities, and processes.

Structures for Discussion

These structures can be used to facilitate a discussion. The leader/facilitator should give some thought to the purpose of the session and choose the structure which will best lead to the desired outcome(s), given the size and composition of the group at each site. Attention should also be paid to having some variety so that the participants are not always doing the same kind of activity. It is also useful, as part of the debriefing process in each case, to ask, "Would you use this activity in your school?" This will encourage the expansion f the principles' professional development repertories.

All structures and discussions should include debriefing. If you consider this an analytic process, it will seem less "touchy-feely" and more like critical thinking. If an activity is carried out but not reflected upon, a lot is lost. The meta-cognitive thinking that you want to take place cannot be taken for granted.

Debriefing/Analysis to be done after each of these structures:

> Purpose: to reflect on the "why" of having done the activity, and on the learning, both individual and collective, that took place. In addition, this will reinforce the idea that these activities are meant as models and are hoped to inspire their use in school and other local settings.

Questions to ask: What? So what? Now what?

- What? What new learning? If any, came up, either individually, as a group?
- So what? What meaning did it have for you?
- Now what? How did this activity work for you and your group? Would you use it in your school/other setting? How would you modify it?

Structures:

Consensus-Building

Purpose: To build consensus among members of the group

Structure: Begin with pairs-agree upon an answer; then two pairs join and agree upon an answer-depending upon numbers, can also have fours join to form eights. Discuss how answers changed with the added input was it an improvement or did it lose something?

Writing

Purpose: To encourage individual thinking before discussion

Structure: Ask members of group to write individually for 5-8 minutes. Writing can be shared in pairs who then report the issues/common themes which have emerged.

Pair/Share

Purpose: To maximize opportunity for sharing thinking before large group discussion

Structure: Have pairs talk before opening up the discussion to the group. It is sometimes useful to ask members of the group to pair up with those they don't usually get to talk to

Other Pair/Share Structures:

- Appointment: schedule appointments with three other people. Share ideas with the first appointment for 5 minutes, move on to next appointment, etc. Follow with a large group discussion.

- Inside/outside; form two large circles, one on the inside of the other. Ask the group on the inside to face the outside group. Converse with the person on the opposite, after 5 minutes the outside group rotates clockwise. Talk with a second person, etc

Constructivist Groups

Purpose: To build answers for difficult questions.

Structure: Form groups of five; each member has a number from 1 to 5. Each group answers the question, the facilitator calls a number and that number in each

group gives the group answer (which means each member of the group has to be prepared to answer .) a different number is called on each time.

Go-Round

Purpose: to elicit everyone's input; ensure that all voices are heard. A simple, but powerful tool.

Structure: simply say, "lets go round we can start anywhere, but then we'll go in turn." Model the idea that there will be no interruptions and no responses until the round is over. This can be called in the middle of the discussion when there are some dominant voices and/or some pithy arguments ensuing.

Triads

Purpose: When time is short and there are many questions; also as an opening to get thinking on a subject; or as a closing to get closure on a conversation.

Structure: Form three's either by counting off, or just forming them where people sit. Ask the triads to sit "knee to knee" and tell them they will have three minutes to answer a question which means one minute each. When it is someone's minute, the other two are not to talk but actively listen, and nod encouragingly. You can either tell them each time a minute is up or ask them to try to mind their own time. It is optional whether or not you want the triads to share with the whole group at the end.

Marvin's Model

Purpose: When time is short and you want to develop a shared context.

Structure: In groups of 8-10, in turn respond to questions posed by the facilitator. One question is posed each person speaks for 30 seconds. Then the next question is posed. There is no dialog, just each person speaking in turn. This is especially useful in introducing a topic and getting participants to share there points of view. There may or may not be open discussion around these questions in the large group; it depends on time.

Structured Controversy

Purpose: To look at and appreciate the different positions on a controversial subject.

Structure: One half of the group is assigned one "side" of the question and the other half the other. They give their arguments. Then the group reverses their

positions and gives new arguments. After this, all participants are asked to formulate a response to the question that incorporates the best thinking they've heard.

Continuum

Purpose: To get a quick read of the group on values related questions.

Structure: Give the group a values related question and ask them to line up from one side to the other with one wall representing "strongly agree" and the other "stronger disagree" once in place, ask a sampling of the group t explain why they chose their positions. This can be done with a series of questions.

Group Interview

Purpose: To share information and determine the true attitudes and feelings of the larger group.

Structure: Set up several groups, each with 6, 8, or 10 people, arranged in two equal rows facing one another. There is a set of questions; the first row has the questions in order, the second as the same set of questions in reverse order. To begin, the participants interview each other in pairs. They ask each other their questions and gather as much information as possible. Each answer should take 3 minutes following this, one row moves over one chair and the process continues until every person has answered all the questions

The large group is then regrouped so that those who were asking the same questions share their data and analyze it.

Each group should prepare a list of Truths, Trends, and Unique ideas. The information is shared with the larger group.

Text-Based Seminar

Purpose: To enlarge understanding of a specific text, not achieve some particular understanding.

Structure: Determine a facilitator and a well-thought through question about the text. In a group of 12-20 discuss the text. Emphasize certain norms. The conversation should focus on the text using references and not related opinions or experience. Participants should be actively listening and building on what's jus been said. There should be an emphasis on clarification, amplification, and implication. There is no need to go through the facilitator, no hand raising, but lots of direct conversation.

Fish Bowl

Purpose: To gain a better understanding of other ideas and develop observational and listening skills.

Structure: 4-6 participants gather together and have a conversation about t a particular topic. The others circle around the group of 4-6. When one or more participants feel that they have exhausted their ideas, they leave the group by tapping a person from the outside group. The person tapped joins the conversation. When the discussion is completed, debrief what was said and what was heard.

Statement Strips

Purpose: To become acquainted with each others ideas before a discussion

Structure: write a beginning statement, such as "peer observation is…" and post on chart paper. As participants enter the room, ask them to complete the sentence on a strip of paper or a Post-It and place it under the sentences. As the session begins, ask participants if they wish to explain the meaning of their sentences. Follow with a full discussion on the topic.

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CFG Coaching log

Coach

Date:

Members present:

+ What's Working:	Current Focus-Challenges-Concerns
Group's Next Steps:	Coach's Next Steps/Resources Needed:

Date for next meeting:	Focus:

APPENDIX O

Data Analysis and Cycle of Inquiry Tool Samples

Paramount Education

21st Century Readiness for All Students

DATA DRIVEN DECISION MAKING

&

CYCLE OF INQUIRY TOOLS

CONTENT CLUSTERS
Sample Data Analysis
(Class Roster)

Questions	Answers
1. On which standards/clusters were students most successful?	
2. Which standards/clusters did students struggle with the most?	
3. Which students had similar scores on the same standards/clusters?	
4. Are students in need of intervention properly placed?	
5. What other interventions are needed?	
Which standards/clusters need to be emphasized?	
How can I incorporate this content?	
How will I scaffold?	
Will this be taught whole class or small group?	
What resources do I have?	
What resources do I need?	
How will I know that students have mastered the information?	

Benchmark Data Analysis

Questions	Answers
1. On which standards were students most successful?	
2. Which standards did students struggle with the most?	
3. Which students had similar scores on the same standards?	
4. Are students in need of intervention properly placed?	
5. What other interventions are needed?	

Which standards need to be retaught?	
How can I incorporate this content?	
How will I scaffold?	
Will this be taught whole class or small group?	
What resources do I have?	
What resources do I need?	
How will I know that students have mastered the information?	

Interpret Data
[Sample]

On-the-Surface Statements	What are some patterns or trends in the data?	What questions do these patterns raise?	What other data do we need to answer these questions?
• 10 students remained at the Basic proficiency level when comparing 2014 and 2015 SBAC ELA data.	• 25 students improved their scaled score within the Basic proficiency band • EL subgroups are significant and below the required proficiency of 24.4% • 15 students were Hispanic and EL less than or equal to 3 on CELDT proficiency • 20 students had not moved out of Basic in two years	• How many students are within 10 (20) points of ELA proficiency? • How many Hispanic/EL students are within 10 (20) points of ELA proficiency? • Could all of the Hispanic/EL students reach proficiency in 2011? • What are the grade levels for these students? • What are the ELA cluster scores for these students?	• Whose classrooms are these students in? • What are the CELDT sub-skill scores for these students? • What extended learning opportunities have these students received? • What are these students' weakest ELA clusters? • What instructional strategies could increase student achievement for these students? • How will we know that student achievement is improving prior to SBAC?

Interpret Data

On-the-Surface Statements	What are some patterns or trends in the data?	What questions do these patterns raise?	What other data do we need to answer these questions?

Why "Focus Students"?

Answers to Some Common Questions about Selecting Focal Students

Questions	Answers
Shouldn't I be collecting data on my whole class, not just my focal students?	Yes. Data collection and analysis of the skills of each student in your class is an important part of making sure that you are providing each student with appropriate rigorous instruction- and that each student makes improvements. However, in order to close the achievement gap, we must *accelerate* the learning of the lowest performing students, which means assessing them and analyzing their growth more often and more intensively to make sure we are meeting their needs. It also means taking a closer, more frequent look at our own instruction and interaction with these students.
So examining the learning of focal students and my instructional choices with these students, is a way to focus my improvement efforts in a manageable way?	Exactly. Focal students can be viewed as a sample population on which to conduct inquiry. Social scientists also study and collect data on sample groups rather than entire populations. What you learn from your study of your focal students will help strengthen your teaching practices to address problems experienced by other students.
Does selecting focal students mean I am only differentiating instruction for them? Shouldn't I be paying special attention to my whole class?	Teachers should differentiate instruction for all of their students. But lower achieving students need small group and specialized instruction more often in order to meet proficiency.
If I spend time studying the learning (and my instruction) of my focal students, will the rest of my class fall behind?	Some teachers fear that identifying only two focal students means teaching only two students. Of course, teachers working with focal students should continue to respond to the needs of all of the students in their classes. Keeping one's finger on the pulse of the needs of each individual student is one mark of a good teacher. Research shows that focusing on improving instruction for the lowest students benefits the entire class.

School or Grade Level (Sample)
Fall Semester Assessment Summary

Assessment (s)	Overall Data Trends	Needs	Implementations
Fall ELA Benchmark			
Fall Math Benchmark			
SBAC ELA			
SBAC Math			

Fall Summative-ELA			
Fall Summative-Math			
Fall Digital Portfolio Compilations			
Fall Semester Grades			

ACTION PLANNING GUIDE
(Sample)

Teacher_____ **Data Chat Date**_____

Focus Area:		**SMART Goal:** S-Specific M-Measurable A-Attainable R-Relevant T-Time Sensitive	
#1	**Action Step (What)**	**When?**	**Why?**
#2			
#3			

Focus Students: 1. 2. 3.	
Identified Need(s):	**Identified Instructional Strategies:**

Next Data Chat Session: _____

APPENDIX P

Sample Personal Learning Plans

9th Grade Personalized Learning Plan
Student: _____

Date: _____

Innovator Norms and SEL Standards

The two innovator norms I am strongest at are:
The two innovator norms I am weakest at are:
Things I will do this year to improve in these two areas:
What will make it difficult for me to improve in these two areas:
The two SEL standards I am strongest at are:
The two SEL standards I am weakest at are:
Things I will do this year to improve in these two areas:
What will make it difficult for me to improve in these two areas:
Other resources I can use to help me improve in above:

Classes and Grades

The Grades I want to get this year:

a. Earn a(n) _____ in English. Last year I earned a(n) _____
b. Earn a(n) _____ in Math. Last year I earned a(n) _____
c. Earn a(n) _____ in Science. Last year I earned a(n) _____
d. Earn a(n) _____ in History. Last year I earned a(n) _____
e. Earn a(n) _____ in Spanish. Last year I earned a(n) _____

The class I feel I am strongest at is _____ because _____

_____

The class I feel I am weakest at is _____ because _____

_____

I want to focus on improving in these areas at school this year (pick 2 from this list of topics we will be working on in Advisory this year):

- resolving conflicts
- working in groups
- being organized
- creating quality work
- studying for tests
- acting "professional at school"

I want to focus on improving in these two areas because (give details!!!) _____

_____

Things I want to do this year

One thing I know about college is
One thing I'd like to learn about college is:
One question I have about college is:
One college I'd be interested in going to is: because:
This year I'd like to learn the following about colleges:
Some careers I'm interested in are/because:
One area I know I would never be interested in/because:

I will visit or want to visit these colleges: _____

I will join or start the following club(s) at school: _____

I will also do these activities this year (other classes you will take, skills you want to learn, volunteer activities): _____

_____

Daily Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Before 8:00am							
8-12:20	Class	Class	Class	Class	Class		
Lunch							
1:00-3:10	Class	Class	Class	Class	Class		
3-4							
4-5							
5-6							
6-7							
7-8							
8-9							
9-10							

Personalized Learning Plan for 20__-20__ Grade 12

Student:
Date:

Long Term Goals

College (type, major, program)

Career

Personal Development: SEL and Innovator Norms

Community Contribution

Finance

Short Term Goals

Innovator Norms:

The two innovator norms I am strongest at are:

The two innovator norms I am weakest at are:

Things I will do this year to improve in these two areas:

What will make it difficult for me to improve in these two areas:

The two SEL standards I am strongest at are:

The two SEL standards I am weakest at are:

Things I will do this year to improve in these two areas:

What will make it difficult for me to improve in these two areas:

Other resources I can use to help me improve in above:

Apply to college – Please indicate your current status of each of the steps of this process. During your PLP, you will discuss and/or define a step-by-step plan for completing your applications.

a. Selecting at least four colleges to which to apply – Indicate your list and the deadline for their application
   Stretch/Reach:_____
   Target:_____
   Safety:_____
   Safety:_____

b. Completing the applications
   I have downloaded the application for each of my schools____
   I have determined what I need for each application___
   I have noted the deadline for each application ____
   I have completed a rough draft of the application ____
   I have asked a reliable person to edit my rough draft ____

c. Make sure your transcript is complete and accurate
   List the intersession courses you have taken for each year
   9th grade _____
   10th grade _____
   11th grade _____

   List any community college courses you have taken (College and course)
   1.
   2.
   3.

   List any other schools you have attended:

d. Taking the SAT I or ACT Exam – Indicate your best scores:
   Reading
   Writing
   Math
   Science (ACT Only)

e. Taking the SAT II Exam (if appropriate for your list of schools) – Indicate which exams and scores

f. College Essay / Personal Statement – Indicate your progress
   I have determined if my colleges required an essay and if so, what the questions are
_____

I have brainstormed topics to address the questions _____
I have drafted a piece of writing in response _____
People have edited my writing _____
I have polished the writing _____

g. Decide if you will apply for financial aid
If you will apply, work with your parents to complete the FAFSA
Scholarships applying to:

Grades

Earn a _____ grade point average in my five academic courses, thereby improving (may be appropriate to maintain) my grade point average by _____ points. a.
Earn a(n) _____ in English. Last year I earned a(n) _____.
Earn a(n) _____ in math. Last year I earned a(n) _____.
Earn a(n) _____ in science. Last year I earned a(n) _____.
Earn a(n) _____ in Social Studies. Last year I earned a(n) _____.
Earn a(n) _____ in Spanish. Last year I earned a(n) _____.

Items to be completed this year
Take AP exams (list as many as you think you will take)

Take SAT (circle applicable date(s)
October November December

Take ACT (circle applicable date(s)
September October December

Take one or more SAT Subject Test exams (if applicable) – remember you can't take SAT I and SAT Subject Tests on the same date
October November December

Attend the following college admission presentations (see list):
1.
2.
3.

Visit the following colleges
1.
2.
3.

Extra curricular activities
- Club

- School / community service
- Leadership

Weekly Strategies and Calendar

- Preparing college applications
- Raising GPA
- Preparing for AP
- Preparing for SAT I
- Preparing for SAT Subject Tests
- Innovator Norms and SEL

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Before 8:00am							
8-12:20	Class	Class	Class	Class	Class		
Lunch							
1:00-3:10	Class	Class	Class	Class	Class		
3-4							
4-5							
5-6							
6-7							
7-8							
8-9							
9-10							

APPENDIX Q

Sample Physical Education Log

BASIS @ FAME
Physical Education Log

Student Name: _____ Student Number: _____
Grade level: _____ IST: _____ IST #: _____
Dates: From _____ to _____

Week One

Activities practiced (check all that apply or use the blank space provided below) **Total Minutes per week:** _____
____ Muscular Strength (weight training) sit-ups, push-ups, pull-ups, or leg raises
____ Flexibility Stretching (calf stretch, camel and cat stretch, or arm and leg stretch)
____ Strength and Endurance (running, jogging, or walking)
____ Aerobic Exercise
____ Sports: (Basketball, Football, Soccer, Volleyball, Tennis, Swimming, Roller Skating, etc.)
____ Other Exercises: _____
Skills learned (check those that apply)
____Motor skills/fine muscle coordination; ____Body parts awareness and abilities; ____ Spatial Awareness
____ Rhythm; ____ Hand and Eye coordination; ____ Perception
____ Other Skills: _____

Week Two

Activities practiced (check all that apply or use the blank space provided below) **Total Minutes per week:** _____
____ Muscular Strength (weight training) sit-ups, push-ups, pull-ups, or leg raises
____ Flexibility Stretching (calf stretch, camel and cat stretch, or arm and leg stretch)
____ Strength and Endurance (running, jogging, or walking)
____ Aerobic Exercise
____ Sports: (Basketball, Football, Soccer, Volleyball, Tennis, Swimming, Roller Skating, etc.)
____ Other Exercises: _____
Skills learned (check those that apply)
____Motor skills/fine muscle coordination; ____Body parts awareness and abilities; ____ Spatial Awareness
____ Rhythm; ____ Hand and Eye coordination; ____ Perception
____ Other Skills: _____

Week Three

Activities practiced (check all that apply or use the blank space provided below) **Total Minutes per week:** _____
____ Muscular Strength (weight training) sit-ups, push-ups, pull-ups, or leg raises
____ Flexibility Stretching (calf stretch, camel and cat stretch, or arm and leg stretch)
____ Strength and Endurance (running, jogging, or walking)
____ Aerobic Exercise
____ Sports: (Basketball, Football, Soccer, Volleyball, Tennis, Swimming, Roller Skating, etc.)
____ Other Exercises: _____
Skills learned (check those that apply)
____Motor skills/fine muscle coordination; ____Body parts awareness and abilities; ____ Spatial Awareness
____ Rhythm; ____ Hand and Eye coordination; ____ Perception
____ Other Skills: _____

Week Four

Activities practiced (check all that apply or use the blank space provided below) **Total Minutes per week:** _____
____ Muscular Strength (weight training) sit-ups, push-ups, pull-ups, or leg raises
____ Flexibility Stretching (calf stretch, camel and cat stretch, or arm and leg stretch)
____ Strength and Endurance (running, jogging, or walking)
____ Aerobic Exercise
____ Sports: (Basketball, Football, Soccer, Volleyball, Tennis, Swimming, Roller Skating, etc.)
____ Other Exercises: _____
Skills learned (check those that apply)
____Motor skills/fine muscle coordination; ____Body parts awareness and abilities; ____ Spatial Awareness
____ Rhythm; ____ Hand and Eye coordination; ____ Perception
____ Other Skills: _____

Minimum Requirements: For Kindergarten through 8th grade: 100 minutes per week
For 9th grade through 12th grade: 200 minutes per week

APPENDIX R

Sample Student Success Team Forms
Spanish and English

SST SUMMARY FORM

STUDENT: _____ SCHOOL: _____ TEAM: _____ DATE OF INITIAL SST: _____

PRIMARY LANGUAGE: _____ GRADE: _____ BIRTHDATE: _____ PARENTS: _____

STRENGTHS	KNOWN		CONCERNS (Prioritize)	QUESTIONS (Clarification)	STRATEGIES (Brainstorm)	ACTIONS (Prioritize)		
	Information	Modifications					Who	When

Follow Up Date: _____ ***Invite:*** _____

Team Members' Signature & Position:

1. Parent _____ 5. _____ / _____
2. Student _____ 6. _____ / _____
3. Administrator _____ 7. _____ / _____
4. Referring Teacher _____ 8. _____ / _____

SST SUMMARY FORM – REV 2000

SST SUMMARY FORM

STUDENT: _____*Lorena Lopez*_____ SCHOOL: _____ *Clearwater* _____ TEAM: ___ *"SST3"* ___ DATE OF INITIAL SST: __ *March 31, 1997* ___

PRIMARY LANGUAGE: ___ *English* _____ GRADE: __ *7* ___ BIRTHDATE: ___ *1/25/85*_____ PARENTS: ___ *Navidad & Jorge Lopez* _____

STRENGTHS	KNOWN Information	KNOWN Modifications	CONCERNS Prioritize	QUESTIONS	STRATEGIES Brainstorm	ACTIONS (Prioritize)	Who	When
Great dancer *Break dancer* *POP* *Likes science* *Good attendance* *Supportive family* *Likes to read sports* *Risk taker* *Enjoys helping young children* *Works hard*	*Family-* *Lives with mom and 13-yr-old brother* *School-* *3 elementary schools* *Grades-* *Soc. Studies-D* *English-F* *Math-D* *PE-C* *Health-* *Glasses in 4th grade. Ear aches as a child* *Normal birth* *Physical 3 years ago*	*+ one-to-one tutor for English* *+ met with mom* *- seat change* *- suspended 3 times* *- Saturday school* *+ Uncle helping with math*	(2) *Not staying on task - talking* (1) *Verbal conflicts with some peers and some staff* (3) *Academics - falling behind, especially English Comprehension weak*	*Does she have a hearing problem?* *An auditory processing problem?* *Does she need glasses*	*1-Counseling at church* *1-Time-out place in class* *2-summer school* *2-homework center* *2- Daily planner* *2-re-check vision and hearing* *2-quiet place to work with aunt at home* *2-librarycard*	*Counseling at church* *Counseling will contact home* *Teacher will set up* *Student will purchase and use* *Mom will set up appointment* *Mom and aunt will help set up* *Dad*	*Mom and student* *Counselor* *Teacher* *Student* *Mom* *Mom*	*By 4/15* *By 4/30* *By 4/12* *By 4/12* *By 4/12* *By 4/30*

Example of an Exemplary SST Summary Form

Follow Up Date: _____ *May 15, 1997* _____ ***Invite:*** _____*both mom and dad and aunt*_____

Team Members' Signature & Position:

1. Parent _____ *Navidad Lopez*_____
2. Student _____ *Lorena Lopez* _____
3. Administrator _____ *Michelle Allen*_____
4. Referring Teacher _____ *Barney Scnorr* _____
5. _____ *Guilda Lowenstein* _____ / _____ *Teacher* _____
6. _____ *Mel Jurisch*__ _____ / _____ *ORC* _____
7. _____ *Belinda Guterrez* _____ / _____
8. _____ *Nurse*__ _____ / _____

FORMULARIO RECORDATIVO DEL SST

Fecha Presente: _____

ESTUDIANTE: _____ ESCUELA: _____ EQUIPO/MIEMBROS DE: _____ FECHA INICIAL DE SST: _____

IDIOMA PRINCIPAL: _____ GRADO: _____FECHA DE NACIMIENTO: _____ PADRE DE FAMILIA: _____

INFORMACION NUEVA	ACCIONES PREVIAS	RESULTADOS	ACCIONES NUEVAS	Quien	Cuando

Fecha Recordativa: _____ ***Invita:*** _____

Firma del Miembro/Puesto:

1. Padre de familia _____
2. Estudiante_____
3. Administrador _____
4. Maestro de Referencia_____
5. _____ / _____
6. _____ / _____
7. _____ / _____
8. _____ / _____

SST FOLLOW UP FORM

Today's Date: _____

STUDENT: _____ SCHOOL: _____ TEAM: _____ DATE OF INTITAL SST: _____

PRIMARY LANGUAGE: _____ GRADE: _____ BIRTHDATE: _____ PARENTS: _____

NEW INFORMATION	PREVIOUS ACTIONS	OUTCOMES	NEW ACTIONS	Who	When

Follow-up Date: _____ ***Invite:*** _____

Team Members' Signature & Position:

1. Parent _____ 5. _____ / _____
2. Student _____ 6. _____ / _____
3. Administrator _____ 7. _____ / _____
4. Referring Teacher _____ 8. _____ / _____

FORMULARIO RECORDATIVO DEL SST

Fecha Presente: _____

ESTUDIANTE: _____ ESCUELA: _____ EQUIPO/MIEMBROS DE: _____ Fecha Inicial de SST: _____

IDIOMA PRINCIPAL: _____ GRADO: _____FECHA DE NACIMIENTO: _____ PADRE DE FAMILIA: _____

PREOCUPACIONES PREVIAS	ACCIONES NUEVAS	Quien	Cuando

Fecha Recordativa: _____ ***Invita:*** _____

Firma del Miembro/Puesto:

1. Padre de familia _____
2. Estudiante_____
3. Administrador _____
4. Maestro de Referencia_____
5. _____ / _____
6. _____ / _____
7. _____ / _____
8. _____ / _____

REQUEST FOR STUDENT SUCCESS TEAM MEETING

Date referral received: _____

Student _____ Birthdate _____

Address _____ Home phone _____

Parent _____ Work phone _____

Grade _____ Teacher _____ Room # _____

Student receiving: Chapter I _____ ELD _____ Speech _____ Counseling _____

Attendance: Days Absent _____ Excused _____ Unexcused _____ Tardies _____

Circle retention grade: **K 1 2 3 4 5 6 7 8**

Significant health concerns _____

_____

Test Scores: Date _____ Reading _____ Language _____ Math _____

Proficiencies _____

Referred to SST by: _____ Position: _____

Describe your specific academic and non-academic concerns regarding this student:

_____

_____

_____

Have you met with the parent to discuss your concerns and explain the Student Success Team process? _____

Method: _____ Dates: _____

Results of parent contact: _____

_____

_____

_____

SST Meeting scheduled:

Date: _____ Room: _____

Time _____

SST STUDENT INTERVENTION LOG

Date _____

Student Name _____ **Birthdate** _____

Age: _____ **Grade:** _____ **Referring Teacher:** _____

School: _____

Target Behavior:		
Date Initiated	**Interventions Implemented**	**Outcomes**
Target Behavior:		
Date Initiated	**Interventions Implemented**	**Outcomes**
Target Behavior:		
Date Initiated	**Interventions Implemented**	**Outcomes**
Target Behavior:		
Date Initiated	**Interventions Implemented**	**Outcomes**
Target Behavior:		
Date Initiated	**Interventions Implemented**	**Outcomes**

Additional Comments: _____

_____

STUDENT SUCCESS TEAM (SST) LOG FORM 1

Log Dates from _____ **to** _____

Contact Person Responsible for Maintaining Log _____

School _____ **School Number** _____

Student Name	Referral Source	Birth Date	Ethnicity	Date SST Referral	Type of Referral	Date SST Mtg. #1	Outcome See Legend	Date SST Mtg. #2	Outcome	Comments
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										

A. Stop – resolved
B. Transferred or withdrawn
C. Develop/use a support system in the school
D. Develop/use a support system with community assistance
E. District Resources/Alternatives outside the school site
F. Referred for Special Program assessment, determination of eligibility; specify program
G. Other, specify in Comments box

Type of Referral: Attendance, Behavior Academic, Other, etc.

REFERRING TEACHER PREPARATION
Elementary

The referring teacher will be aware that the other team members will expect them to have background information. The referring teacher should have seen a blank SST summary sheet.

Materials to bring:

1. **Cumulative Folder**
   - **a.** information regarding parent contacts
   - **b.** previous test data
   - **c.** hearing and vision screening results
2. **Recent work samples**
   - **a.** spelling
   - **b.** reading
   - **c.** math
   - **d.** language

Be ready to discuss the following:

1. Reasons for referral and a specific statement of the problem or problems.
2. Areas of the student's strengths and weaknesses.
   - **a.** Academic skills

     Examples: Good in math, loves to do handwriting, enjoys art, good in sports, difficult time reading textbooks, unable to phonetically sound out words, handwriting poor.

   - **b.** Classroom behavior: Peer relationships, adult relationships, work habits.

     Examples: Very cooperative, willing to please, chosen by classmates to be a leader, doesn't complete work or turn it in, poor study skills, talks a lot.
3. What do you expect to get out of this meeting?

REFERRING TEACHER (OR COUNSELOR) PREPARATION
Secondary

The referring teacher will be aware that the other team members will expect them to have background information. The referring teacher should have seen a blank SST summary sheet.

Materials to bring:

1. Records of student's functioning
2. Recent work samples

Be ready to discuss the following:

1. Reason for referral
   a. Specific statement of the problem or problems.
2. Areas of the student's strengths and weaknesses.
   a. Academic skills as observed in class

      Examples: Good in math, enjoys art, good in sports, difficult time reading textbooks, handwriting poor.

   b. Classroom behavior: Peer relationships, adult relationships, work habits.

      Examples: Very cooperative, willing to please, chosen by classmates to be a leader, doesn't complete work or turn it in, poor study skills, talks a lot.
3. What do you expect to get out of this meeting?

Bilingual Interview/Teacher _____

Person Interviewed _____

SST REFERRAL ADDENDUM:

Critical Issues for English Language Learning Students

Name _____ Date _____

Grade _____ Birthdate _____

Results of parent contact (include dates): _____

_____

_____

1. Primary Language _____ Dominant Language _____
2. Year in U.S. _____ Country of Birth _____
3. Pupil's language with: parents _____
   siblings _____
   peers _____

Comments _____

_____

4. Language Dominance
   Test used: (current testing) _____ Date _____
   Test used: _____ Date _____

Dominant Language: Level: _____

LEP: NES _____ LES _____ FES _____

FEP: _____

Test Used: _____

Date _____ Level: _____

LEP: NES _____ LES _____ FES _____

FEP: _____

5. Total years of formal instruction: In U.S. _____ In native country _____
6. Number of schools attended in U.S. _____
7. Attendance: Regular _____ Irregular _____

   Comments _____

8. Language/Instructional programs and services by grade level (circle X):

English only	Pre K	K	1	2	3	4	5	6	7	8
Bilingual	Pre K	K	1	2	3	4	5	6	7	8
BILP	Pre K	K	1	2	3	4	5	6	7	8
ELD	Pre K	K	1	2	3	4	5	6	7	8

Primary reading instructor: Bilingual Teacher _____ Waivered Teacher _____ Aide _____

Problems/Comments: _____

9. Has language of instruction in reading, math, and written language been uniform in all grades?

Yes _____ No _____ Comments _____

_____

10. Peer comparison: a) How is pupil significantly different from others of similar educational, cultural, or linguistic background? b) Delays in common childhood tasks?

_____

11. Sibling comparison: How does child's progress compare to that of siblings (academically, linguistically, socially)?

_____

12. Are there any cultural or environmental factors which may affect learning?

_____

13. Describe any drastic family changes (moving, deaths) that have occurred during the child's lifetime.

_____

14. Health concerns (major health problems, medication, etc.)

_____

15. a) Degree of parent's English schooling: _____

b) Where did parents spend childhood? _____

c) Highest grade of school completed: father _____ mother _____

16. Did anyone in the family have learning problems? (Who?) Explain

_____

17. General comments/other relevant information (optional)

Entrevista bilingüe/maestro _____

Persona entrevistada _____

APENDICE DE REFERENCIA SST

ARTICULOS CRITICOS PARA ESTUDIANTES MINORITARIOS EN EL IDIOMA

Nombre _____ Fecha de macimiento _____

Grado _____ Fecha _____

Resultado de contactos con los padres (incluir fechas) _____

_____

_____

1. Lengua natal _____ Lengua dominante _____
2. Años en U.S. _____ País natal _____
3. Uso de lenguaje con el alumno: padres _____
   hermanos _____
   compañeros _____
   Comentarios: _____

_____

4. Idioma dominante Exámen de Habilidad
   Exámen usado (Exámen actual) _____ Fecha _____
   Exámen usada: _____ Fecha _____
   Idioma dominante Nivel: _____
   LEP: NES _____ LES _____ FES _____
   FEP: _____ _____
   Exámen usada: _____ Fecha _____
   Nivel: _____
   LEP: NES _____ LES _____ FES _____
   FEP: _____
5. Total de años de instrucción formal: En U.S. _____ en el país natal _____
6. Número de escuelas atendidas en U.S. _ _____
7. Asistencia: Regular _____ Irregular _____
   Comentarios: _____

8. Programa de idiomas/instrucción y servicios por nivel (circule):

Solo inglés	Pre K	K	1	2	3	4	5	6	7	8
Bilingüe	Pre K	K	1	2	3	4	5	6	7	8
BILP	Pre K	K	1	2	3	4	5	6	7	8
ELD	Pre K	K	1	2	3	4	5	6	7	8

Instructor de lectura primaria: maestro bilingual: _____ maestro diferido _____ ayudante _____

Problemas/comentarios: _____

9. Tiene instrucción en lectura, metemáticas y escritura en todos los grados.

Si _____ No _____ Comentarios: _____

_____

10. Comparación con los compañeros: a) Cuál es la diferencia de dicción del alumno, de otros de similar cultura?
b) Demoras en tareas comunes de la niñez?

_____

11. Comparación con el hermano: ¿Cómo se compara el progreso del niño al de los hermanos (academicamente, lenguísticamente, socialmente)?

_____

12. ¿Hay algún factor cultural o ambiental que pueda afectar el aprendizaje?

_____

13. Describir algún cambio drástico (mudanzas, fallecimientos) que hayan ocurrido durante la vida del niño.

_____

14. Preocupaciones de salud (problemas mayores de salud, medicamentos, etc.)

_____

15. a) ¿Diploma de escuela inglesa de los padres? _____
b) ¿Donde pasaron la niñez los padres? _____
c) El grado más alto de escuela completa: padre _____ madre _____

16. Alguien de la familia ha tenido problemas de aprendizaje? (¿Quién?) Explicar

_____

17. Comentarios generales/otra relevante información (optativo)

_____

Dear Parents and Guardians:

We know students are most successful when there is a cooperative effort between parents and school personnel. In a spirit of shared responsibility, the Student Success Team meets at school, exploring and problem solving, in order to help students. Parents and students are an important part of this team.

What is the student success team? The Student Success Team (SST) is a process of regular education. The team reviews individual student's concerns and plans ways of handling those concerns in the regular classroom.

How is a student selected to be discussed at the SST? Usually the classroom teacher (or the principal) indicates that the student's learning and/or emotional needs are not being adequately met under existing circumstances. Parents may also request an SST if they have a concern.

Will anything have been done to help a child before the SST? Yes, usually the teacher has already made some modifications in the classroom. then the principal and teacher meet to review the student's progress and make additional modifications as necessary.

What does "program modification" mean? Program modifications are measures taken to accommodate special needs. Some examples of modifications are:

- change of seating resulting from vision and hearing screening
- use of diagnostic materials
- visual/auditory aids in giving instruction
- cross-age tutors
- notebooks for assignments
- change of group
- additional lab time
- counseling services
- additional health services and referral

How many people will be at the SST? The team will always include parents, the teacher, the teacher referring the student to the SST, and sufficient staff to review the student's needs.

Are there any other staff members who might be present? Other staff who might be present are: Resource Specialist, Psychologist, Speech and Language Specialist, School Nurse, Counselor, and other specialists.

We look forward to meeting with you to develop a program that will meet the needs of your child.

Our SST meeting for _____ will be held:

Date: _____ Time: _____

Location: _____

Sincerely,

_____ _____

Teacher Principal

Estimados Padres:

Todos sabemos que los estudiantes tienen más éxito en la Escuela cuando los padres y maestros trabajan juntos. En el espiritu de compartir la responsabilidad de la Educación, tenemos un equipo de maestros que se reúnen a estudiar los problemas de aprendizaje y a buscar soluciones para ayudar a los estudiantes. A este equipo lo llamamos **Student Success Team (SST)** Los padres y estudiantes son muy importantes en este estudio.

¿Qué es The Student Success Team? El SST es un proceso de educación regular. El equipo revisa las necesidades personales del estudiante, tomando en cuenta las informaciones que aportan los padres, sus preocupaciónes y las habilidades especiales de los estudiantes. El equipo estudia soluciones que se pueden aplicar en la clase regular.

¿Cómo se seleccionan los estudiantes para discutir su caso en el SST? Generalmente los estudiantes son referidos por su maestro (o la Directora) cuando se considera que el estudiante no está alcanzando el nivel adecuado de aprendizaje o desarrollo emocional en las circustancias normales. Los padres también pueden pedir un estudio de SST si tienen alguna preocupación acerca de su estudiante.

¿Qué se ha hecho antes de llamar a un SST? Antes de llamar a esta junta de maestros, se han hecho los cambios apropiados para resolver el problema en la clase del estudiante. La maestra y la directora se han reunido para modificar el programa y revisar los progresos del estudiante.

¿ Qué significa modificar el programa? Significa tomar algunas medidas para acomodarse a las necesidades especiales del alumno; por ejemplo:

- Cambio de asiento si se descubre que el estudiante no ve o no oye bien.
- Uso de materiales especiales; auditivos o visuales para enseñarle.
- Tutores personales para ayuda escolar.
- Uso de cuadernos para tareas.
- Cambio de su grupo de estudio.
- Tiempo adicional para sus laboratorios.
- Servicio de consejeros, salud y referencia a otros servicios.

¿Cuántas personas estarán en la reunión de SST? El equipo siempre incluirá a los padres del estudiante, su maestro, la persona que llamó a la reunión y personal necesario para revisar las necesidades del estudiante.

¿Hay otras personas que estarán presentes? Otras personas que podrán estar presentes son: Maestros de recursos, Psicólogo, Especialista del habla y de aprendizaje, Enfermera de la Escuela, Consejero y otros especialistas.

Esperamos reunirnos con usted para desarrollar un programa que esté de acuerdo con las necesidades de su estudiante.

Nuestro SST para _____

será: Fecha_____ Hora_____

Lugar_____

Sinceramente,

_____ _____

Maestro Directora

15-SST-REF-LTR-SPANISH.doc

What is the Future?

At the end of the meeting, a follow up date will be scheduled to review progress. You will be invited to meet again with members of the SST to evaluate changes and growth in your student.

Additional testing through Special Education resources may be recommended at this time. This recommendation comes from the members of the SST only after modifications and suggestions have not proven to be successful.

What is the Role of the Parent in the SST Process?

The parent:

- provides valuable information and another viewpoint for planning an effective program,
- shares the child's strengths and concerns with school staff,
- participates in the development of a positive intervention plan for their child.

Parent Preparation Questionnaire

My child's strengths are (interests, hobbies, skills): _____

_____

Concerns for my child are: _____

_____

What motivates my child is:_____

_____

Expectations I have for my child are: _____

_____

Student Questionnaire

My strengths are: _____

_____

Things I like about school are: _____

_____

My concerns are: _____

_____

At Home

Ways my family helps me: _____

_____

My Future

When I finish high school I want to _____

_____

Jobs I would enjoy are: _____

_____

STUDENT SUCCESS TEAM

Parents • School • Community

Parent Brochure

(Name & address of School)

Student Success Team

What is the Student Success Team (SST)?

Students are most successful where there is a strong spirit of cooperation between home and school.

Based on our shared responsibility, the SST meets at school to explore possibilities and strategies that will best meet the educational needs of your student.

How does it Work?

The Process:

Students are typically referred by the classroom teacher, but any member of the school staff may request support from the SST for a student whose learning, behavior or emotional needs are not being met under existing circumstances.

Prior to the first formal SST meeting, teachers have met to review classroom modifications that enhance learning for students. A modification may be as simple as a change in seating location, a daily assignment sheet, or an increase in the use of visual teaching aids. Sometimes a simple change can make a big difference for a student.

Any modification that has been tried or is currently in place will be discussed with you at the SST meeting. Using this information, the team can suggest further steps to help the student.

The Student Success Team Meeting:

Staff members will come prepared with information about your student. Information may include work samples, attendance records or assessment results. All information will be listed on the **SST Summary Form.**

The SST Summary will contain areas of:

- Student Strengths
- Information
- Modifications
- Areas of Concern
- Questions
- Strategies
- Action
- Responsible Person(s)

Other members of the team may include support staff such as: a nurse or psychologist and a meeting facilitator.

¿Que es el Futuro?

Al término de la junta una fecha consecutiva se fijará para revisar el progreso. Una vez mas se le extenderá una cordial invitación con los miembros de la SST para evaluar los cambios y el desorrollo en el alumno.

¿Cual es el papel del Padre en el Proceso de la SST?

El Padre:

- proporciona información valiosa y ofrece otro punto de vista para planear un programa efectivo,
- comparte las fortalezas y preocupaciones del hijo/a con el personal instructivo escolar,
- participa en el desarrollo de un plan de intervención positivo para el hijo/a.

Cuestionario de Padres Para Preparación

Los esfuerzas de mi niño/a son: (inter"Es, tena favorita, habilidades): _____

_____

Preocupaciones de mi niño/a: _____

_____

Lo que le da anima a mi niño/a es: _____

_____

Expectatiras que you tengo/quisiera para mi niño/a son: _____

_____

Cuestionario Estudiantil

Mis fuerzas son: _____

_____

Cosas que me gustan de la escuela son: _____

_____

Mis preocupaciones son: _____

_____

En Casa

Modos en que mi familia me ayuda: _____

_____

Mi Futuro

Cuando yo término la escuela preparatoria, yo quisiera: _____

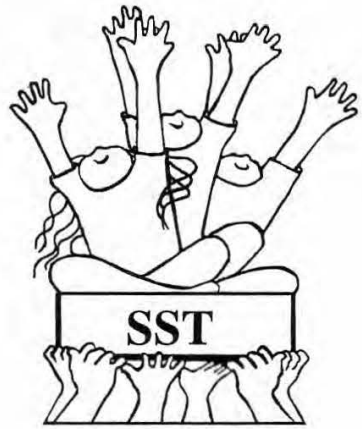
_____

Trabajos que yo quisiera son:

_____

_____

EQUIPO ESTUDIANTIL DE EXITO



Folleto del Padre

Correspondencia a este domicilio:

Equipo Estudiantil dé Exito

El Distrito Escolar Unificado de Moreno Valley se compromete en proporcionar las mejores oportunidades educativas para el alumno.

Para crear el mejor medio ambiente de aprendizaje para el alumno, el Distrito Escolar Unificado de Moreno Valley ofrece un recurso educativo de una Equipo Estudiantil dé Exito (SST).

¿Que Significa Equipo Estudiantil dé Exito (SST)?

El alumno logra más éxito cuando funciona un fuerta espírtu de cooperación entre hogar y la escuela.

Basándonos sobre nuestras responsabilidades compartidas, la SST hace sus juntas en la escuela para explorar posibilidades y estrategias para mejorar y ofrecer la necesidades educativas del alumno.

¿Como Trabaja?

El Proceso:

Típicamente el alumno es referido por el maestro del salón de clase, pero cualquier personal educativo puede hacer una petición de apoyo de la SST para algún alumno cuyo aprendizaje, su comportamiento o necesidades emocionales que no eston cumplidas bajo las circunstancias existentes.

Los maestros han hecho una junta para revisar cambios en los salones de clase para intensificar el aprendizaje del alumno antes de hacer la primer junta formal con la SST. Un cambio puede ser tan sencillo como una locación nueva donde esta sentado el alumno, uno hoja de lecciones diariamente, o el aumento de uso en ayuda instructiva de ilustraciones. A veces un cambio sencillo puede ser una gran diferencia en el alumno.

Cualquier cambio que se ha intentado o que aún está al corriente, será descutido con usted en la junta de la SST. Con el uso de ésta información, la asociación puede sugerir otros procedimientos para ayudar al estudiante.

La Junta del Equipo Estudiantil de Exito:

Miembros del personal educativo van a llegar con información sobre el alumno. La información puede incluir muestras de lecciones de su trabajo, anotaciones de asistencia a la escuela o los resultados de las colocaciones del alumno. Toda información irá registrada en la forma de resumen de la SST.

El resumen de la SST llevará el contenido en las regiones de:

- Reforzar el alumno
- Información
- Cambíos
- Areas de preocupación
- Preguntas
- Estrategias
- Acción
- Persona(as) de responsabilidad

Otros miembros de la asociación pueden incluir miembros del personal educativo para apoyar como la enfermera o el psicólogo y un facilitador de junta.

STUDENT SUCCESS TEAM
Annual Evaluation Survey

Directions: Please complete and return to _____ *By* _____

1.0 Number of trained facilitators _____

2.0 Number of SST Teams _____

1. Number of referrals to SST for the _____ school year _____

2. Total number of students at site _____

3. When are SST meetings held (e.g., weekly, monthly)? _____

4. Approximate length of time from request for SST to initial meeting. _____

5. Percent of students with successful resolution through SST intervention _____

3.0 Number of referrals for special education assessments as a result of SST process _____

4.0 Number of special education referrals who qualified for services _____

5.0 Number of referrals to alternative programs other than special education as an outcome of SST process (e.g., opportunity program, etc.) _____

6.0 Percentage of parents attending SST meetings _____

7.0 List in prioritized order the most common types of SST referrals. (1 = most common)

1. _____
2. _____
3. _____
4.

8.0 List in prioritized order training needs for next year. (1 = most needed)

1. _____
2. _____
3. _____
4.

Strengths of your SST process	**Areas of concern**	**Successful school-wide interventions occurring at your site**
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.

Completed by: _____ Site: _____

SST MEETING COMPETENCY CHECKLIST

MEETING PREPARATION	
	• Appropriate meeting place arranged ahead of time
	• Equipment and furniture ready for meeting
	• Meeting place free from interruption
	• Team members notified and prepared
	• Parent(s) personally invited and have filled out prep sheet
	• Student has filled out worksheet
	• Team members understand rules and roles for team interaction
	• Outreach to and engagement of parents
TEAM ROLES	
Facilitator	• Is supportive, knowledgeable and empowered to lead
	• Makes introductions
	• Explains process and purpose of meeting
	• Stands in front of group
	• Appoints timekeeper
	• Assists Recorder
	• Helps group stay focused on the banner
	• Helps group move to close
Recorder	• Writes succinctly the essence of what is said
	• Shortens, abbreviates
	• Checks when there is a question
	• Writes legibly
	• Keeps information organized
	• Uses colored markers to highlight information
Group Members	• Function as a team more than as individuals
	• Make sure information is recorded accurately
	• Avoid side conversations
	• Assume responsibility for actions when appropriate
	• Assist facilitator with process without taking over
EVALUATING MEETING DYNAMICS	
	• Supportive, knowledge and empowered to lead
	• Uses a positive, caring approach
	• Parent(s) encouraged to participate
	• Student encouraged to participate Student encouraged to participate
	• Team members and facilitator spot generalizations and ask for specific observable facts
	• Concerns prioritized
	• Strategies brainstormed
	• Participants encouraged to be creative in generating strategies
	• Action plan is based on student's strengths
	• Actions shared by team members, including parents and student
	• Persons responsible for actions identified on SST summary
	• Follow-up meeting date set
	• Arrangements made for parent and student to get copy of SST summary
	• Meeting completed in 30-45 minutes

APPENDIX S

Operations

Learning Sciences
MARZANO CENTER
TEACHER & LEADER EVALUATION

SCALES AND EVIDENCES

for the MARZANO TEACHER EVALUATION MODEL

Prepared by
Learning Sciences Marzano Center

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Marzano Art and Scienf Teaching Framework
Learning Map

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

LearningSciencesInternational LEARNING AND PERFORMANCE MANAGEMENT

Domain 1: Classroortrategies and Behaviors

Domain 1 is based on the and Science of Teaching Framework and identifies the 41 elements or instructional categories that happen in the classroom. The 41 instructional categories arganized into 9 Design Questions (DQs) and further grouped into 3 Lesson Segments to define the Observation and Feedback Protocol.

Lesson Segmen Involving Routine Ets

DQ1: Communicati Learning Goals and Feedback
1. Providing Clear Learning Goals a Scales (Rubrics)
2. Tracking Student Progress
3. Celebrating Succ

DQ6: Establishing F and Procedures
4. Establishing Classn Routines
5. Organizing the Plal Layout of the Classroom

Note: DQ refers to Designstion in the Marzano Art and Scienf Teaching framework. Thee DQs organize the 41 elements omain 1.

The final Design Question,10: Developing Effective LessOrganized into a Cohesive Unit, is coned in Domain 2: Planning and Piring.

Lesson Segment Addressing Content

DQ2: Helping Students Interact with New Knowledge
6. Identifying Critical Information
7. Organizing Students to Interact with New Knowledge
8. Previewing New Content
9. Chunking Content into "Digestible Bites"
10. Processing of New Information
11. Elaborating on New Information
12. Recording and Representing Knowledge
13. Reflecting on Learning

DQ3: Helping Students Practice and Deepen New Knowledge
14. Reviewing Content
15. Organizing Students to Practice and Deepen Knowledge
16. Using Homework
17. Examining Similarities and Differences
18. Examining Errors in Reasoning
19. Practicing Skills, Strategies, and Processes
20. Revising Knowledge

DQ4: Helping Students Generate and Test Hypotheses
21. Organizing Students for Cognitively Complex Tasks
22. Engaging Students in Cognitively Complex Tasks Involving Hypothesis Generation and Testing
23. Providing Resources and Guidance

Lesson Segment Enacted on the Spot

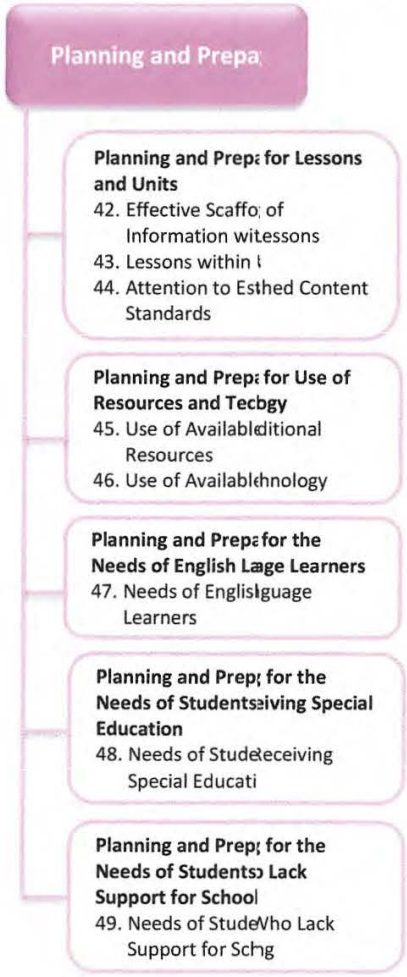
DQ5: Engaging Students
24. Noticing When Students are Not Engaged
25. Using Academic Games
26. Managing Response Rates
27. Using Physical Movement
28. Maintaining a Lively Pace
29. Demonstrating Intensity and Enthusiasm
30. Using Friendly Controversy
31. Providing Opportunities for Students to Talk about Themselves
32. Presenting Unusual or Intriguing Information

DQ7: Recognizing Adherence to Rules and Procedures
33. Demonstrating "withitness"
34. Applying Consequences for Lack of Adherence to Rules and Procedures
35. Acknowledging Adherence to Rules and Procedures

DQ8: Establishing and Maintaining Effective Relationships with Students
36. Understanding Students' Interests and Backgrounds
37. Using Verbal and Nonverbal Behaviors that Indicate Affection for Students
38. Displaying Objectivity and Control

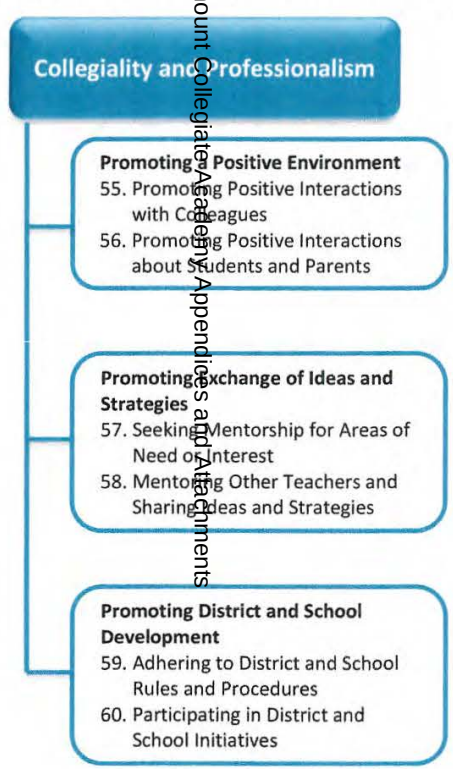
DQ9: Communicating High Expectations for All Students
39. Demonstrating Value and Respect for Low Expectancy Students
40. Asking Questions of Low-Expectancy Students
41. Probing Incorrect Answers with Low Expectancy Students

Domain 2: Planninnd Preparing



Domain 3: Reflecting on Teaching

Domain 4: Collegiality and Professionalism



Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

Marzano Protocol: Lesson Segments Involving Routine Events

Design Question #1: What will I do to establish and communicate learning goals, track student progress, and celebrate success?

1. Providing Clear Learning Goals and Scales (Rubrics)

The teacher provides a clearly stated learning goal accompanied by scale or rubric that describes levels of performance relative to the learning goal.

Teacher Evidence

- ❒ Teacher has a learning goal posted so that all students can see it
- ❒ The learning goal is a clear statement of knowledge or information as opposed to an activity or assignment
- ❒ Teacher makes reference to the learning goal throughout the lesson
- ❒ Teacher has a scale or rubric that relates to the learning goal posted so that all students can see it
- ❒ Teacher makes reference to the scale or rubric throughout the lesson

Student Evidence

- ❒ When asked, students can explain the learning goal for the lesson
- ❒ When asked, students can explain how their current activities relate to the learning goal
- ❒ When asked, students can explain the meaning of the levels of performance articulated in the scale or rubric

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Providing clear learning goals and scales (rubrics)	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Provides a clearly stated learning goal accompanied by a scale or rubric that describes levels of performance, but the majority of students are not monitored for the desired effect of the strategy.	Provides a clearly stated learning goal accompanied by a scale or rubric that describes levels of performance and monitors for evidence of the majority of students understanding of the learning goal and the levels of performance.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Providing clear learning goals and scales (rubrics)	How can you begin to incorporate some aspects of this strategy into your instruction?	How can you provide a clearly stated learning goal accompanied by a scale or rubric that describes levels of	In addition to providing a clearly stated learning goal accompanied by a scale or rubric that describes levels of [illegible] students understanding of the learning goal and the levels of performance?	How might you adapt and create new strategies for providing clearly stated learning [illegible] address the unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

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2. Tracking Student Progress

The teacher facilitates tracking of student progress on one or more learning goals using a formative approach to assessment.

Teacher Evidence

- ❒ Teacher helps student track their individual progress on the learning goal
- ❒ Teacher uses formal and informal means to assign scores to students on the scale or rubric depicting student status on the learning goal
- ❒ Teacher charts the progress of the entire class on the learning goal

Student Evidence

- ❒ When asked, students can describe their status relative to the learning goal using the scale or rubric
- ❒ Students systematically update their status on the learning goal

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Tracking student progress	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Facilitates tracking of student progress using a formative approach to assessment, but the majority of students are not monitored for the desired effect of the strategy.	Facilitates tracking of student progress using a formative approach to assessment and monitors for evidence of the extent to which the majority of students understand their level of performance.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Tracking student progress	How can you begin to incorporate some aspects of this strategy into your instruction?	How can you facilitate tracking of student progress using a formative approach to assessment?	In addition to facilitating tracking of student progress using a formative approach to assessment, how can you monitor the extent to which students understand their level of performance?	How might you adapt and create new strategies for facilitating tracking of student progress using a formative approach to assessment, that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

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3. Celebrating Success

The teacher provides students with recognition of their current status and their knowledge gain relative to the learning goal.

Teacher Evidence

- ❒ Teacher acknowledges students who have achieved a certain score on the scale or rubric
- ❒ Teacher acknowledges students who have made gains in their knowledge and skill relative to the learning goal
- ❒ Teacher acknowledges and celebrates the final status and progress of the entire class
- ❒ Teacher uses a variety of ways to celebrate success
  - Show of hands
  - Certification of success
  - Parent notification
  - Round of applause

Student Evidence

- ❒ Student show signs of pride regarding their accomplishments in the class
- ❒ When asked, students say they want to continue to make progress

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Celebrating success	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Provides students with recognition of their current status and their knowledge gain relative to the learning goal, but the majority of students are not monitored for the desired effect of the strategy.	Provides students with recognition of their current status and their knowledge gain relative to the learning goal and monitors for evidence of the extent to which the majority of students are motivated to enhance their status.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Celebrating success	How can you begin to incorporate some aspects of this strategy into your instruction?	How can you provide students with recognition of their current status and their knowledge gain relative to the learning goal?	In addition to providing students with recognition of their current status and their knowledge gain relative to the learning goal, how can you monitor the extent to which students are motivated to enhance their status?	How might you adapt and create new strategies for providing students with recognition of their current status and their knowledge gain relative to the learning goal that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Student Interviews

- What learning goal did today's lesson focus on?
- How well are you doing on that learning goal?
- Describe the different levels you can be at on the learning goal.

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Design Question #6: What will I do to establish and maintain classroom rules and procedures?

4. Establishing Classroom Routines

The teacher reviews expectations regarding rules and procedures to ensure their effective execution.

Teacher Evidence

- ❒ Teacher involves students in designing classroom routines
- ❒ Teacher uses classroom meetings to review and process rules and procedures
- ❒ Teacher reminds students of rules and procedures
- ❒ Teacher asks students to restate or explain rules and procedures
- ❒ Teacher provides cues or signals when a rule or procedure should be used

Student Evidence

- ❒ Students follow clear routines during class
- ❒ When asked, students can describe established rules and procedures
- ❒ When asked, students describe the classroom as an orderly place
- ❒ Students recognize cues and signals by the teacher
- ❒ Students regulate their own behavior

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Establishing classroom routines	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Establishes and reviews expectations regarding rules and procedures, but the majority of students are not monitored for the desired effect of the strategy.	Establishes and reviews expectations regarding rules and procedures and monitors for evidence of the extent to which the majority of students understand the rules and procedures.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Establishing classroom routines	How can you begin to incorporate some aspects of this strategy into your instruction?	How can you establish and review expectations regarding rules and procedures?	In addition to establishing and reviewing expectations regarding rules and procedures, how can you monitor the extent to which students understand the rules and	How might you adapt and create strategies for establishing and reviewing expectations, rules, and procedures that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

5. Organizing the Physical Layout of the Classroom

The teacher organizes the physical layout of the classroom to facilitate movement and focus on learning.

Teacher Evidence

- ❒ The physical layout of the classroom has clear traffic patterns
- ❒ The physical layout of the classroom provides easy access to materials and centers
- ❒ The classroom is decorated in a way that enhances student learning:
  - Bulletin boards relate to current content
  - Students work is displayed

Student Evidence

- ❒ Students move easily about the classroom
- ❒ Students make use of materials and learning centers
- ❒ Students attend to examples of their work that are displayed
- ❒ Students attend to information on the bulletin boards
- ❒ Students can easily focus on instruction

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Organizing the physical layout of the classroom	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Organizes the physical layout of the classroom to facilitate movement and focus on learning, but the majority of students are not monitored for the desired effect of the strategy.	Organizes the physical layout of the classroom to facilitate movement and focus on learning and monitors for evidence of the impact of the environment on the majority of student learning.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Organizing the physical layout of the classroom	How can you begin to incorporate some aspects of this strategy into your instruction?	How can you organize the physical layout of the classroom to facilitate movement and focus on learning?	In addition to organizing the physical layout of the classroom to facilitate movement and focus on learning, how can you monitor the impact of the environment on student learning?	How might you adapt and create new strategies for organizing the physical layout of the classroom to facilitate movement and focus on learning that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Student Interviews

- What are the regular rules and procedures you are expected to follow in class?
- How well do you do at following the rules and procedures and why?

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

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Marzano Protocol: Lesson Segments Addressing Content

Design Question #2: What will I do to help students effectively interact with new knowledge?

6. Identifying Critical Information

The teacher identifies a lesson or part of a lesson as involving important information to which students should pay particular attention.

Teacher Evidence

- ❒ Teacher begins the lesson by explaining why upcoming content is important
- ❒ Teacher tells students to get ready for some important information
- ❒ Teacher cues the importance of upcoming information in some indirect fashion
  - Tone of voice
  - Body position
  - Level of excitement

Student Evidence

- ❒ When asked, students can describe the level of importance of the information addressed in class
- ❒ When asked, students can explain why the content is important to pay attention to
- ❒ Students visibly adjust their level of engagement

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Identifying critical information	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Signals to students which content is critical versus non-critical, but the majority of students are not monitored for the desired effect of the strategy.	Signals to students which content is critical versus non-critical and monitors for evidence of the extent to which the majority of students are attending to critical information.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Identifying critical information	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you signal to students which content is critical versus non-critical?	In addition to signaling to students which content is critical versus non-critical, how might you monitor the extent to which students attend	How might you adapt and create new strategies for identifying critical information that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Learning Sciences Marzano Center Teacher & Leader Evaluation

Learning Sciences International
Learning and Performance Management

7. Organizing Students to Interact with New Knowledge

The teacher organizes students into small groups to facilitate the processing of new information.

Teacher Evidence

- ❒ Teacher has established routines for student grouping and student interaction in groups
- ❒ Teacher organizes students into ad hoc groups for the lesson
  - Diads
  - Triads
  - Small groups up to about 5

Student Evidence

- ❒ Students move to groups in an orderly fashion
- ❒ Students appear to understand expectations about appropriate behavior in groups
  - Respect opinions of others
  - Add their perspective to discussions
  - Ask and answer questions

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Organizing students to interact with new knowledge	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Organizes students into small groups to facilitate the processing of new knowledge, but the majority of students are not monitored for the desired effect of the strategy.	Organizes students into small groups to facilitate the processing of new knowledge for the majority of students and monitors for evidence of group processing.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Organizing students to interact with new knowledge	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you organize students into small groups to facilitate the processing of new knowledge?	In addition to organizing students into small groups to facilitate the processing of new knowledge, how can you monitor group processes?	How might you adapt and create new strategies for organizing students to interact with new knowledge that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

8. Previewing New Content

The teacher engages students in activities that help them link what they already know to the new content about to be addressed and facilitates these linkages.

Teacher Evidence

- ❒ Teacher uses preview question before reading
- ❒ Teacher uses K-W-L strategy or variation of it
- ❒ Teacher asks or reminds students what they already know about the topic
- ❒ Teacher provides an advanced organizer
  - Outline
  - Graphic organizer
- ❒ Teacher has students brainstorm
- ❒ Teacher uses anticipation guide
- ❒ Teacher uses motivational hook/launching activity
  - Anecdotes
  - Short selection from video
- ❒ Teacher uses word splash activity to connect vocabulary to upcoming content

Student Evidence

- ❒ When asked, students can explain linkages with prior knowledge
- ❒ When asked, students make predictions about upcoming content
- ❒ When asked, students can provide a purpose for what they are about to learn
- ❒ Students actively engage in previewing activities

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Previewing new content	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Engages students in learning activities that require them to preview and link new knowledge to what has been addressed, but the majority of students are not monitored for the desired effect of the strategy.	Engages students in learning activities that require them to preview and link new knowledge to what has been addressed and monitors for evidence of the extent to which the majority of students are making linkages.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Previewing new content	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you engage students in learning activities that require them to preview and link new knowledge to what has been addressed?	In addition to engaging students in learning activities that require them to preview and link new knowledge to what has been addressed, how can you also monitor the [illegible] linkages?	How might you adapt and create new strategies for previewing new content that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

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9. Chunking Content into "Digestible Bites"

Based on student needs, the teacher breaks the content into small chunks (i.e. digestible bites) of information that can be easily processed by students.

Teacher Evidence

- ❒ Teacher stops at strategic points in a verbal presentation
- ❒ While playing a video tape, the teacher turns the tape off at key junctures
- ❒ While providing a demonstration, the teacher stops at strategic points
- ❒ While students are reading information or stories orally as a class, the teacher stops at strategic points

Student Evidence

- ❒ When asked, students can explain why the teacher is stopping at various points
- ❒ Students appear to know what is expected of them when the teacher stops at strategic points

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Chunking content into digestible bites	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Breaks input experiences into small chunks based on student needs, but the majority of students are not monitored for the desired effect of the strategy.	Breaks input experiences into small chunks based on student needs and monitors for evidence of the extent to which chunks are appropriate for the majority of the students.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Chunking content into digestible bites	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you break input experiences into small chunks based on student needs?	In addition to breaking input experiences into small chunks based on student needs, how can you also monitor the extent to which chunks are appropriate?	How might you adapt and create new strategies for chunking content into digestible bites that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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10. Processing New Information

During breaks in the presentation of content, the teacher engages students in actively processing new information.

Teacher Evidence

- ❒ Teacher has group members summarize new information
- ❒ Teacher employs formal group processing strategies
  - Jigsaw
  - Reciprocal Teaching
  - Concept attainment

Student Evidence

- ❒ When asked, students can explain what they have just learned
- ❒ Students volunteer predictions
- ❒ Students voluntarily ask clarification questions
- ❒ Groups are actively discussing the content
  - Group members ask each other and answer questions about the information
  - Group members make predictions about what they expect next

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Processing new information	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Engages students in summarizing, predicting, and questioning activities, but the majority of students are not monitored for the desired effect of the strategy.	Engages students in summarizing, predicting, and questioning activities and monitors for evidence of the extent to which the activities enhance the majority of students' understanding.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Processing new information	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you engage students in summarizing, predicting, and questioning activities?	In addition to engaging students in summarizing, predicting, and questioning activities, how can you monitor the extent to which the activities enhance students' understanding?	How might you adapt and create new strategies for processing new information that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

11. Elaborating on New Information

The teacher asks questions or engages students in activities that require elaborative inferences that go beyond what was explicitly taught.

Teacher Evidence

- ❒ Teacher asks explicit questions that require students to make elaborative inferences about the content
- ❒ Teacher asks students to explain and defend their inferences
- ❒ Teacher presents situations or problems that require inferences

Student Evidence

- ❒ Students volunteer answers to inferential questions
- ❒ Students provide explanations and "proofs" for inferences

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Elaborating on new information	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Engages students in answering inferential questions, but the majority of students are not monitored for the desired effect of the strategy.	Engages students in answering inferential questions and monitors for evidence of the extent to which the majority of students elaborate on what was explicitly taught.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Elaborating on new information	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you engage students in answering inferential questions?	In addition to engaging students in answering inferential questions, how can you monitor the extent to which students elaborate on what was explicitly taught?	How might you adapt and create new strategies for elaborating on new information that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

12. Recording and Representing Knowledge

The teacher engages students in activities that help them record their understanding of new content in linguistic ways and/or represent the content in nonlinguistic ways.

Teacher Evidence

- ❒ Teacher asks students to summarize the information they have learned
- ❒ Teacher asks students to generate notes that identify critical information in the content
- ❒ Teacher asks students to create nonlinguistic representations for new content
  - Graphic organizers
  - Pictures
  - Pictographs
  - Flow charts
- ❒ Teacher asks students to create mnemonics that organize the content

Student Evidence

- ❒ Students' summaries and notes include critical content
- ❒ Students' nonlinguistic representations include critical content
- ❒ When asked, students can explain main points of the lesson

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Recording and representing knowledge	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Engages students in activities that help them record their understanding of new content in linguistic ways and/or in nonlinguistic ways, but the majority of students are not monitored for the desired effect of the strategy.	Engages students in activities that help them record their understanding of new content in linguistic ways and/or in nonlinguistic ways and monitors for evidence of the extent to which this enhances the majority of students' understanding.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Recording and representing knowledge	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you engage students in activities that help them record their understanding of new content in linguistic ways and/or in nonlinguistic ways?	In addition to engaging students in activities that help them record their understanding of new content in linguistic ways and/or in nonlinguistic ways, how can you monitor the extent to which this enhances	How might you adapt and create new strategies for recording and representing knowledge that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

13. Reflecting on Learning

The teacher engages students in activities that help them reflect on their learning and the learning process.

Teacher Evidence

- ❒ Teacher asks students to state or record what they are clear about and what they are confused about
- ❒ Teacher asks students to state or record how hard they tried
- ❒ Teacher asks students to state or record what they might have done to enhance their learning

Student Evidence

- ❒ When asked, students can explain what they are clear about and what they are confused about
- ❒ When asked, students can describe how hard they tried
- ❒ When asked, students can explain what they could have done to enhance their learning

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Reflecting on learning	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Engages students in reflecting on their own learning and the learning process, but the majority of students are not monitored for the desired effect of the strategy.	Engages students in reflecting on their own learning and the learning process and monitors for evidence of the extent to which the majority of students self-assess their understanding and effort.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Reflecting on learning	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you engage students in reflecting on their own learning and the learning process?	In addition to engaging students in reflecting on their own learning and the learning process, how can you monitor the extent to which students self-assess their understanding and effort?	How might you adapt and create new strategies for reflecting on learning that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Student Interviews

Student Questions:

- How do you know what are the most important things to pay attention to?
- What are the main points of this lesson?

Design Question #3: What will I do to help students practice and deepen their understanding of new knowledge?

14. Reviewing Content

The teacher engages students in a brief review of content that highlights the critical information.

Teacher Evidence

- ❒ Teacher begins the lesson with a brief review of content
- ❒ Teacher uses specific strategies to review information
  - Summary
  - Problem that must be solved using previous information
  - Questions that require a review of content
  - Demonstration
  - Brief practice test or exercise

Student Evidence

- ❒ When asked, students can describe the previous content on which new lesson is based
- ❒ Student responses to class activities indicate that they recall previous content

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Reviewing content	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Engages students in a brief review of content that highlights the critical information, but the majority of students are not monitored for the desired effect of the strategy.	Engages students in a brief review of content that highlights the critical information and monitors for evidence of the extent to which the majority of students can recall and describe previous content.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Reviewing content	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you engage students in a brief review of content that highlights the critical information?	In addition to, engaging students in a brief review of content, how can you monitor the extent to which students can previous content?	How might you adapt and create new strategies for reviewing content that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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15. Organizing Students to Practice and Deepen Knowledge

The teacher uses grouping in ways that facilitate practicing and deepening knowledge.

Teacher Evidence

❒ Teacher organizes students into groups with the expressed idea of deepening their knowledge of informational content
❒ Teacher organizes students into groups with the expressed idea of practicing a skill, strategy, or process

Student Evidence

❒ When asked, students explain how the group work supports their learning
❒ While in groups students interact in explicit ways to deepen their knowledge of informational content or, practice a skill, strategy, or process

- Asking each other questions
- Obtaining feedback from their peers

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Organizing students to practice and deepen knowledge	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Organizes students into groups to practice and deepen their knowledge, but the majority of students are not monitored for the desired effect of the strategy.	Organizes students into groups to practice and deepen their knowledge and monitors for evidence of the extent to which the group work extends the majority of students' learning.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Organizing students to practice and deepen knowledge	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you organize students into groups to practice and deepen their knowledge?	In addition to organizing students into groups to practice and deepen their knowledge, how can you also monitor the extent to which the group work extends their learning?	How might you adapt and create new strategies for organizing students to practice and deepen knowledge that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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16. Using Homework

When appropriate (as opposed to routinely) the teacher designs homework to deepen students' knowledge of informational content or, practice a skill, strategy, or process.

Teacher Evidence

- ❒ Teacher communicates a clear purpose for homework
- ❒ Teacher extends an activity that was begun in class to provide students with more time
- ❒ Teacher assigns a well-crafted homework assignment that allows students to practice and deepen their knowledge independently

Student Evidence

- ❒ When asked, students can describe how the homework assignment will deepen their understanding of informational content or, help them practice a skill, strategy, or process
- ❒ Students ask clarifying questions of the homework that help them understand its purpose

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Using homework	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	When appropriate (as opposed to routinely) assigns homework that is designed to deepen knowledge of informational content or, practice a skill, strategy, or process, but the majority of students are not monitored for the desired effect of the strategy.	When appropriate (as opposed to routinely) assigns homework that is designed to deepen knowledge of informational content or, practice a skill, strategy, or process and monitors for evidence of the extent to which the majority of students understand the homework.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Using homework	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you assign homework that is designed to deepen knowledge of informational content or practice a skill, strategy, or process?	In addition to assigning homework that is designed to deepen knowledge of informational content or practice a skill, strategy, or process, how can you also monitor the extent to which the group work extends	How might you adapt and create new strategies for assigning homework that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

17. Examining Similarities and Differences

When the content is informational, the teacher helps students deepen their knowledge by examining similarities and differences.

Teacher Evidence

- ❒ Teacher engages students in activities that require students to examine similarities and differences between content
  - Comparison activities
  - Classifying activities
  - Analogy activities
  - Metaphor activities
- ❒ Teacher facilitates the use of these activities to help students deepen their understanding of content
  - Ask students to summarize what they have learned from the activity
  - Ask students to explain how the activity has added to their understanding

Student Evidence

- ❒ Student artifacts indicate that their knowledge has been extended as a result of the activity
- ❒ When asked about the activity, student responses indicate that they have deepened their understanding
- ❒ When asked, students can explain similarities and differences
- ❒ Student artifacts indicate that they can identify similarities and differences

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Examining similarities and differences	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	When content is informational, engages students in activities that require them to examine similarities and differences, but the majority of students are not monitored for the desired effect of the strategy.	When content is informational, engages students in activities that require them to examine similarities and differences, and monitors for evidence of the extent to which the majority of the students are deepening their knowledge.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Examining similarities and differences	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you engage students in activities that require them to examine similarities and differences?	In addition to engaging students in examining similarities and differences, how can you monitor the extent to which the students are knowledge?	How might you adapt and create new strategies for examining similarities and differences that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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18. Examining Errors in Reasoning

When content is informational, the teacher helps students deepen their knowledge by examining their own reasoning or the logic of the information as presented to them.

Teacher Evidence

- ❒ Teacher asks students to examine information for errors or informal fallacies
  - Faulty logic
  - Attacks
  - Weak reference
  - Misinformation
- ❒ Teacher asks students to examine the strength of support presented for a claim
  - Statement of a clear claim
  - Evidence for the claim presented
  - Qualifiers presented showing exceptions to the claim

Student Evidence

- ❒ When asked, students can describe errors or informal fallacies in information
- ❒ When asked, students can explain the overall structure of an argument presented to support a claim
- ❒ Student artifacts indicate that they can identify errors in reasoning.

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Examining errors in reasoning	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	When content is informational, engages students in activities that require them to examine their own reasoning or the logic of information as presented to them, but the majority of students are not monitored for the desired effect of the strategy.	When content is informational, engages students in activities that require them to examine their own reasoning or the logic of information as presented to them and monitors for evidence of the extent to which the majority of students are deepening their knowledge.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Examining errors in reasoning	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you engage students in activities that require them to examine their own reasoning or the logic of them?	In addition to engaging students in examining their own reasoning or the logic of information as presented to them, how can you monitor the extent to knowledge?	How might you adapt and create new strategies for examining their own reasoning or the logic of information that address unique student needs and	What are you learning about your students as you adapt and create new strategies?

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19. Practicing Skills, Strategies, and Processes

When the content involves a skill, strategy, or process, the teacher engages students in practice activities that help them develop fluency.

Teacher Evidence

❒ Teacher engages students in massed and distributed practice activities that are appropriate to their current ability to execute a skill, strategy, or process

- Guided practice if students cannot perform the skill, strategy, or process independently
- Independent practice if students can perform the skill, strategy, or process independently

Student Evidence

❒ Students perform the skill, strategy, or process with increased confidence

❒ Students perform the skill, strategy, or process with increased competence

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Practicing skills, strategies, and processes	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	When content involves a skill, strategy, or process, engages students in practice activities, but the majority of students are not monitored for the desired effect of the strategy.	When content involves a skill, strategy, or process, engages students in practice activities and monitors for evidence of the extent to which the practice is increasing the majority of students' fluency.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Practicing skills, strategies, and processes	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you engage students in practice activities when content involves a skill, strategy, or process?	In addition to engaging students in practice activities, how can you monitor the extent to which the practice is increasing student fluency?	How might you adapt and create practice activities that increase fluency and address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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20. Revising Knowledge

The teacher engages students in revision of previous knowledge about content addressed in previous lessons.

Teacher Evidence

- ❒ Teacher asks students to examine previous entries in their academic notebooks or notes
- ❒ The teacher engages the whole class in an examination of how the current lesson changed perceptions and understandings of previous content
- ❒ Teacher has students explain how their understanding has changed

Student Evidence

- ❒ Students make corrections to information previously recorded about content
- ❒ When asked, students can explain previous errors or misconceptions they had about content

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Revising knowledge	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Engages students in revision of previous content, but the majority of students are not monitored for the desired effect of the strategy.	Engages students in revision of previous content and monitors for evidence of the extent to which these revisions deepen the majority of students' understanding.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Revising knowledge	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you engage students in the revision of previous content?	In addition to engaging students in revision of previous content, how can you monitor the extent to which these revisions deepen students' understanding?	How might you adapt and create new strategies for revising content that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Student Interviews

Student Questions:

- How did this lesson add to your understanding of the content?
- What changes did you make in your understanding of the content as a result of the lesson?
- What do you still need to understand better?

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Design Question #4: What will I do to help students generate and test hypotheses about new knowledge?

21. Organizing Students for Cognitively Complex Tasks

The teacher organizes the class in such a way as to facilitate students working on complex tasks that require them to generate and test hypotheses.

Teacher Evidence

- ❒ Teacher establishes the need to generate and test hypotheses
- ❒ Teacher organizes students into groups to generate and test hypotheses

Student Evidence

- ❒ When asked, students describe the importance of generating and testing hypotheses about content
- ❒ When asked, students explain how groups support their learning
- ❒ Students use group activities to help them generate and test hypotheses

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Organizing students for cognitively complex tasks	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Organizes students into groups to facilitate working on cognitively complex tasks, but the majority of students are not monitored for the desired effect of the strategy.	Organizes students into groups to facilitate working on cognitively complex tasks and monitors for evidence of the extent to which group processes facilitate generating and testing hypotheses for the majority of students.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Organizing students for cognitively complex tasks	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you organize students in groups to facilitate working on cognitively complex tasks?	In addition to organizing students in groups for cognitively complex tasks, how can you monitor the extent to which group processes facilitate testing hypotheses?	How might you adapt and create new strategies for organizing students to complete cognitively complex tasks?	What are you learning about your students as you adapt and create new strategies?

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22. Engaging Students in Cognitively Complex Tasks Involving Hypothesis Generation and Testing

The teacher engages students in complex tasks (e.g. decision making, problem solving, experimental inquiry, investigation) that require them to generate and test hypotheses.

Teacher Evidence

❒ Teacher engages students with an explicit decision making, problem solving, experimental inquiry, or investigation task that requires them to generate and test hypotheses

❒ Teacher facilitates students generating their own individual or group task that requires them to generate and test hypotheses

Student Evidence

❒ Students are clearly working on tasks that require them to generate and test hypotheses

❒ When asked, students can explain the hypothesis they are testing

❒ When asked, students can explain whether their hypothesis was confirmed or disconfirmed

❒ Student artifacts indicate that they can engage in decision making, problem solving, experimental inquiry, or investigation

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Engaging students in cognitively complex tasks involving hypothesis generation and testing	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Engages students in cognitively complex tasks (e.g. decision making, problem solving, experimental inquiry, investigation), but the majority of students are not monitored for the desired effect of the strategy.	Engages students in cognitively complex tasks (e.g. decision making, problem solving, experimental inquiry, investigation) and monitors for evidence of the extent to which the majority of students are generating and testing hypotheses.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Engaging students in cognitively complex tasks involving hypothesis generation and testing	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you engage students in cognitively complex tasks involving hypothesis generation and testing?	In addition to engaging students in groups for cognitively complex tasks, involving hypothesis generation and testing, how can you monitor the extent to which students are generating and testing	How might you adapt and create new strategies for organizing students to complete cognitively complex tasks?	What are you learning about your students as you adapt and create new strategies?

23. Providing Resources and Guidance

The teacher acts as resource provider and guide as students engage in cognitively complex tasks

Teacher Evidence

- ❒ Teacher makes himself/herself available to students who need guidance or resources
  - Circulates around the room
  - Provides easy access to himself/herself
- ❒ Teacher interacts with students during the class to determine their needs for hypothesis generation and testing tasks
- ❒ Teacher volunteers resources and guidance as needed by the entire class, groups of students, or individual students

Student Evidence

- ❒ Students seek out the teacher for advice and guidance regarding hypothesis generation and testing tasks
- ❒ When asked, students can explain how the teacher provides assistance and guidance in hypothesis generation and testing tasks

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Providing resources and guidance	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Acts as a guide and resource provider as students engage in cognitively complex tasks, but the majority of students are not monitored for the desired effect of the strategy.	Acts as a guide and resource provider as students engage in cognitively complex tasks and monitors for evidence of the extent to which the majority of students request and use guidance and resources.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Providing resources and guidance	How can you begin to incorporate some aspect of this strategy in your instruction?	How can you act as a guide and resource provider as students engage in cognitively complex tasks?	In addition to acting as a guide and resource provider, how can you monitor the extent to which students request and use guidance and resources?	How might you adapt and create new strategies for providing resources and guidance?	What are you learning about your students as you adapt and create new strategies?

Student Interviews

- How did this lesson help you apply or use what you have learned?
- What change has this lesson made about your understanding of the content?

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Marzano Protocol: Lesson Segments Enacted on the Spot

Design Question #5: What will I do to engage students?

24. Noticing when Students are Not Engaged

The teacher scans the room making note of when students are not engaged and takes overt action.

Teacher Evidence

- ❒ Teacher notices when specific students or groups of students are not engaged
- ❒ Teacher notices when the energy level in the room is low
- ❒ Teacher takes action to re-engage students

Student Evidence

- ❒ Students appear aware of the fact that the teacher is taking note of their level of engagement
- ❒ Students try to increase their level of engagement when prompted
- ❒ When asked, students explain that the teacher expects high levels of engagement

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Noticing when students are not engaged	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Scans the room making note of when students are not engaged and takes action, but the majority of students are not monitored for the desired effect of the strategy.	Scans the room making note of when students are not engaged and takes action and monitors for evidence of the extent to which the majority of students re-engage.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Noticing when students are not engaged	How can you begin to incorporate some aspects of this strategy into your instruction?	How can you scan the room making note of when students are not engaged and take action to engage students?	In addition to scanning the room, making note of when students are not engaged and taking action, how can you monitor the extent to which students re-engage?	How might you adapt and create new strategies for noticing when students are not engaged that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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25. Using Academic Games

The teacher uses academic games and inconsequential competition to maintain student engagement.

Teacher Evidence

- ❒ Teacher uses structured games such as Jeopardy, family feud, and the like
- ❒ Teacher develops impromptu games such as making a game out of which answer might be correct for a given question
- ❒ Teacher uses friendly competition along with classroom games

Student Evidence

- ❒ Students engage in the games with some enthusiasm
- ❒ When asked, students can explain how the games keep their interest and help them learn or remember content

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Using academic games	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Uses academic games and inconsequential competition to maintain student engagement, but the majority of students are not monitored for the desired effect of the strategy.	Uses academic games and inconsequential competition to maintain student engagement and monitors for evidence of the extent to which the majority of students focus on the academic content of the game.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Using academic games	How can you begin to incorporate this strategy into your instruction?	How can you use academic games and inconsequential competition to maintain student engagement?	In addition to using academic games and inconsequential competition to maintain student engagement, how can you monitor the extent to which students focus on the academic content of the game?	How might you adapt and create new strategies for using academic games and inconsequential competition to maintain student engagement that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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26. Managing Response Rates

The teacher uses response rate techniques to maintain student engagement in questions.

Teacher Evidence

- ❒ Teacher uses wait time
- ❒ Teacher uses response cards
- ❒ Teacher has students use hand signals to respond to questions
- ❒ Teacher uses choral response
- ❒ Teacher uses technology to keep track of students' responses
- ❒ Teacher uses response chaining

Student Evidence

- ❒ Multiple students or the entire class responds to questions posed by the teacher
- ❒ When asked, students can describe their thinking about specific questions posed by the teacher

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Managing response rates	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Uses response rate techniques to maintain student engagement in questions, but the majority of students are not monitored for the desired effect of the strategy.	Uses response rate techniques to maintain student engagement in questions and monitors for evidence of the extent to which the techniques keep the majority of students engaged.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Managing response rates	How can you begin to incorporate this strategy into your instruction?	How can you use response rate techniques to maintain student engagement in questions?	In addition to using response rate techniques to maintain student engagement in questions, how can you monitor the extent to which the techniques keep students engaged?	How might you adapt and create new response rate techniques to maintain student engagement in questions that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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27. Using Physical Movement

The teacher uses physical movement to maintain student engagement.

Teacher Evidence

- ❒ Teacher has students stand up and stretch or related activities when their energy is low
- ❒ Teacher uses activities that require students to physically move to respond to questions
  - Vote with your feet
  - Go to the part of the room that represents the answer you agree with
- ❒ Teacher has students physically act out or model content to increase energy and engagement
- ❒ Teacher use give-one-get-one activities that require students to move about the room

Student Evidence

- ❒ Students engage in the physical activities designed by the teacher
- ❒ When asked, students can explain how the physical movement keeps their interest and helps them learn

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Using physical movement	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Uses physical movement to maintain student engagement, but the majority of students are not monitored for the desired effect of the strategy.	Uses physical movement to maintain student engagement and monitors for evidence of the extent to which these activities enhance the majority of students' engagement.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Using physical movement	How can you begin to incorporate this strategy into your instruction?	How can you use physical movement to maintain student engagement?	In addition to using physical movement to maintain student engagement, how can you monitor the extent to which these activities enhance student engagement?	How might you adapt and create new physical movement techniques to maintain student engagement that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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28. Maintaining a Lively Pace

The teacher uses pacing techniques to maintain students' engagement.

Teacher Evidence

- ❒ Teacher employs crisp transitions from one activity to another
- ❒ Teacher alters pace appropriately (i.e. speeds up and slows down)

Student Evidence

- ❒ Students quickly adapt to transitions and re-engage when a new activity is begun
- ❒ When asked about the pace of the class, students describe it as not too fast or not too slow

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Maintaining a lively pace	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Uses pacing techniques to maintain students' engagement, but the majority of students are not monitored for the desired effect of the strategy.	Uses pacing techniques to maintain students' engagement and monitors for evidence of the extent to which these techniques keep the majority of students engaged.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Maintaining a lively pace	How can you begin to incorporate this strategy into your instruction?	How can you use pacing techniques to maintain students' engagement?	In addition to pacing techniques to maintain students' engagement, how can you monitor the extent to which students keep engaged?	How might you adapt and create new pacing techniques that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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29. Demonstrating Intensity and Enthusiasm

The teacher demonstrates intensity and enthusiasm for the content in a variety of ways.

Teacher Evidence

- ❒ Teacher describes personal experiences that relate to the content
- ❒ Teacher signals excitement for content by:
  - Physical gestures
  - Voice tone
  - Dramatization of information
- ❒ Teacher overtly adjusts energy level

Student Evidence

- ❒ When asked, students say that the teacher "likes the content" and "likes teaching"
- ❒ Students' attention levels increase when the teacher demonstrates enthusiasm and intensity for the content

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Demonstrating intensity and enthusiasm	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Demonstrates intensity and enthusiasm for the content in a variety of ways, but the majority of students are not monitored for the desired effect of the strategy.	Demonstrates intensity and enthusiasm for the content in a variety of ways and monitors for evidence of the extent to which the majority of students' engagement increases.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Demonstrating intensity and enthusiasm	How can you begin to incorporate this strategy into your instruction?	How can you demonstrate intensity and enthusiasm for the content in a variety of ways?	In addition to demonstrating intensity and enthusiasm for the content in a variety of ways, how can you monitor the extent to which students keep engaged?	How might you adapt and create new techniques for demonstrating intensity and enthusiasm for the content that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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30. Using Friendly Controversy

The teacher uses friendly controversy techniques to maintain student engagement.

Teacher Evidence

- ❒ Teacher structures mini-debates about the content
- ❒ Teacher has students examine multiple perspectives and opinions about the content
- ❒ Teacher elicits different opinions on content from members of the class

Student Evidence

- ❒ Students engage in friendly controversy activities with enhanced engagement
- ❒ When asked, students describe friendly controversy activities as "stimulating," "fun," and so on.
- ❒ When asked, students explain how a friendly controversy activity helped them better understand the content

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Using friendly controversy	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Uses friendly controversy techniques to maintain student engagement, but the majority of students are not monitored for the desired effect of the strategy.	Uses friendly controversy techniques to maintain student engagement and monitors for evidence of the effect on the majority of students' engagement.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Using friendly controversy	How can you begin to incorporate this strategy into your instruction?	How can you use friendly controversy techniques to maintain student engagement?	In addition to using friendly controversy techniques to maintain student engagement, how can you monitor the extent to which students keep engaged?	How might you adapt and create new techniques for using friendly controversy to maintain student engagement that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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31. Providing Opportunities for Students to Talk about Themselves

The teacher provides students with opportunities to relate what is being addressed in class to their personal interests.

Teacher Evidence

- ❒ Teacher is aware of student interests and makes connections between these interests and class content
- ❒ Teacher structures activities that ask students to make connections between the content and their personal interests
- ❒ When students are explaining how content relates to their personal interests, the teacher appears encouraging and interested

Student Evidence

- ❒ Students engage in activities that require them to make connections between their personal interests and the content
- ❒ When asked, students explain how making connections between content and their personal interests engages them and helps them better understand the content

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Providing opportunities for students to talk about themselves	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Provides students with opportunities to relate what is being addressed in class to their personal interests, but the majority of students are not monitored for the desired effect of the strategy.	Provides students with opportunities to relate what is being addressed in class to their personal interests and monitors for evidence of the extent to which these activities enhance the majority of students' engagement.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Providing opportunities for students to talk about themselves	How can you begin to incorporate this strategy into your instruction?	How can you provide students with opportunities to relate what is being addressed in class to their personal interests?	In addition to providing students with opportunities to relate what is being addressed in class to their personal interests, how can you monitor the extent to which these activities enhance student engagement?	How might you adapt and create new techniques for providing students with opportunities to relate what is being addressed in class to their personal interests that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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32. Presenting Unusual or Intriguing Information

The teacher uses unusual or intriguing information about the content in a manner that enhances student engagement.

Teacher Evidence

- ❒ Teacher systematically provides interesting facts and details about the content
- ❒ Teacher encourages students to identify interesting information about the content
- ❒ Teacher engages students in activities like "Believe it or not" about the content
- ❒ Teacher uses guest speakers to provide unusual information about the content

Student Evidence

- ❒ Students' attention increases when unusual information is presented about the content
- ❒ When asked, students explain how the unusual information makes them more interested in the content

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Presenting unusual or intriguing information	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Uses unusual or intriguing information about the content, but the majority of students are not monitored for the desired effect of the strategy.	Uses unusual or intriguing information about the content and monitors for evidence of the extent to which this information enhances the majority of students' interest in the content.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Presenting unusual or intriguing information	How can you begin to incorporate this strategy into your instruction?	How can you use unusual or intriguing information about the content?	In addition to using unusual or intriguing information about the content, how can you monitor the extent to which this information enhances students' interest in the content?	How might you adapt and create new techniques for using unusual or intriguing information about the content that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Student Interviews

Student Questions:

- What are some things that keep your attention?
- What are some things that made you bored?

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Design Question #7: What will I do to recognize and acknowledge adherence or lack of adherence to rules and procedures?

33. Demonstrating "Withitness"

The teacher uses behaviors associated with "withitness" to maintain adherence to rules and procedures.

Teacher Evidence

- ❒ Teacher physically occupies all quadrants of the room
- ❒ Teacher scans the entire room making eye contact with all students
- ❒ Teacher recognizes potential sources of disruption and deals with them immediately
- ❒ Teacher proactively addresses inflammatory situations

Student Evidence

- ❒ Students recognize that the teacher is aware of their behavior
- ❒ When asked, students describe the teacher as "aware of what is going on" or "has eyes on the back of his/her head"

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Demonstrating "withitness"	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Uses behaviors associated with "withitness", but the majority of students are not monitored for the desired effect of the strategy.	Uses behaviors associated with "withitness" and monitors for evidence of the effect on the majority of students' behavior.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Demonstrating "withitness"	How can you begin to incorporate this strategy into your instruction?	How can you use behaviors associated with "withitness"?	In addition to, using behaviors associated with "withitness," how can you monitor the effect on students' behavior?	How might you adapt and create new techniques for using behaviors associated with "withitness" that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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34. Applying Consequences for Lack of Adherence to Rules and Procedures

The teacher applies consequences for not following rules and procedures consistently and fairly.

Teacher Evidence

- ❒ Teacher provides nonverbal signals when students' behavior is not appropriate
  - Eye contact
  - Proximity
  - Tap on the desk
  - Shaking head, no
- ❒ Teacher provides verbal signals when students' behavior is not appropriate
  - Tells students to stop
  - Tells students that their behavior is in violation of a rule or procedure
- ❒ Teacher uses group contingency consequences when appropriate (i.e. whole group must demonstrate a specific behavior)
- ❒ Teacher involves the home when appropriate (i.e. makes a call home to parents to help extinguish inappropriate behavior)
- ❒ Teacher uses direct cost consequences when appropriate (e.g. student must fix something he or she has broken)

Student Evidence

- ❒ Students cease inappropriate behavior when signaled by the teacher
- ❒ Students accept consequences as part of the way class is conducted
- ❒ When asked, students describe the teacher as fair in application of rules

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Applying consequences for lack of adherence to rules and procedures	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Applies consequences for not following rules and procedures consistently and fairly, but the majority of students are not monitored for the desired effect of the strategy.	Applies consequences for not following rules and procedures consistently and fairly, and monitors for evidence of the extent to which rules and procedures are followed by the majority of students.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Applying consequences for lack of adherence to rules and procedures	How can you begin to incorporate this strategy into your instruction?	How can you apply consequences for not following rules and procedures consistently and fairly?	In addition to, applying consequences for not following rules and procedures consistently and fairly, how can you monitor the [illegible] procedures are followed?	How might you adapt and create new strategies and techniques for applying consequences for not following rules and procedures [illegible] unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

35. Acknowledging Adherence to Rules and Procedures

The teacher consistently and fairly acknowledges adherence to rules and procedures.

Teacher Evidence

- ❒ Teacher provides nonverbal signals that a rule or procedure has been followed:
  - Smile
  - Nod of head
  - High Five
- ❒ Teacher gives verbal cues that a rule or procedure has been followed:
  - Thanks students for following a rule or procedure
  - Describes student behaviors that adhere to rule or procedure
- ❒ Teacher notifies the home when a rule or procedure has been followed
- ❒ Teacher uses tangible recognition when a rule or procedure has been followed:
  - Certificate of merit
  - Token economies

Student Evidence

- ❒ Students appear appreciative of the teacher acknowledging their positive behavior
- ❒ When asked, students describe teacher as appreciative of their good behavior
- ❒ The number of students adhering to rules and procedures increases

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Acknowledging adherence to rules and procedures	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Acknowledges adherence to rules and procedures consistently and fairly, but the majority of students are not monitored for the desired effect of the strategy.	Acknowledges adherence to rules and procedures consistently and fairly, and monitors for evidence of the extent to which new actions affect the majority of students' behavior.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Acknowledging adherence to rules and procedures	How can you begin to incorporate this strategy into your instruction?	How can you acknowledge adherence to rules and procedures consistently and fairly?	In addition to, acknowledging adherence to rules and procedures consistently and fairly, how can you monitor the extent to which new actions affect students' behavior?	How might you adapt and create new strategies and techniques for acknowledging adherence to rules and procedures consistently and fairly that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Student Interviews

Student Questions:

- How well did you do at following classroom rules and procedures during this lesson?
- What are some things that helped you follow the rules and procedures?
- What are some things that didn't help you follow the rules and procedures?

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Design Question #8: What will I do to establish and maintain effective relationships with students?

36. Understanding Students' Interests and Background

The teacher uses students' interests and background to produce a climate of acceptance and community.

Teacher Evidence

- ❒ Teacher has side discussions with students about events in their lives
- ❒ Teacher has discussions with students about topics in which they are interested
- ❒ Teacher builds student interests into lessons

Student Evidence

- ❒ When asked, students describe the teacher as someone who knows them and/or is interested in them
- ❒ Students respond when teacher demonstrates understanding of their interests and background
- ❒ When asked students say they feel accepted

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Understanding students' interests and background	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Uses students' interests and background during interactions with students, but the majority of students are not monitored for the desired effect of the strategy.	Uses students' interests and background during interactions with students and monitors for evidence of the sense of community in the classroom among the majority of students.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Understanding students' interests and background	How can you begin to incorporate this strategy into your instruction?	How can you use students' interests and background during interactions with students?	In addition to using students' interests and background during interactions with students, how can you monitor the extent to which a sense of community is formed in the	How might you adapt and create new strategies and techniques for using students' interests and backgrounds during interactions with students that address unique student needs and	What are you learning about your students as you adapt and create new strategies?

37. Using Verbal and Nonverbal Behaviors that Indicate Affection for Students

When appropriate, the teacher uses verbal and nonverbal behavior that indicates caring for students.

Teacher Evidence

- ❒ Teacher compliments students regarding academic and personal accomplishments
- ❒ Teacher engages in informal conversations with students that are not related to academics
- ❒ Teacher uses humor with students when appropriate
- ❒ Teacher smiles, nods,etc… at students when appropriate
- ❒ Teacher puts hand on students' shoulders when appropriate

Student Evidence

- ❒ When asked, students describe teacher as someone who cares for them
- ❒ Students respond to teachers verbal interactions
- ❒ Students respond to teachers nonverbal interactions

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Using verbal and nonverbal behaviors that indicate caring for students	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Uses verbal and nonverbal behaviors that indicate caring for students, but the majority of students are not monitored for the desired effect of the strategy.	Uses verbal and nonverbal behaviors that indicate caring for students and monitors for evidence of the quality of relationships in the classroom among the majority of students.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Using verbal and nonverbal behaviors that indicate caring for students	How can you begin to incorporate this strategy into your instruction?	How can you use verbal and nonverbal behaviors that indicate caring for students?	In addition to using verbal and nonverbal behaviors that indicate caring for students how can you monitor the quality of relationships in the classroom?	How might you adapt and create new strategies and techniques for using verbal and nonverbal behaviors that indicate caring for students that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

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38. Displaying Objectivity and Control

The teacher behaves in an objective and controlled manner.

Teacher Evidence

- ❒ Teacher does not exhibit extremes in positive or negative emotions
- ❒ Teacher addresses inflammatory issues and events in a calm and controlled manner
- ❒ Teacher interacts with all students in the same calm and controlled fashion
- ❒ Teacher does not demonstrate personal offense at student misbehavior

Student Evidence

- ❒ Students are settled by the teacher's calm demeanor
- ❒ When asked, the students describe the teacher as in control of himself/herself and in control of the class
- ❒ When asked, students say that the teacher does not hold grudges or take things personally

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Displaying emotional objectivity and control	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Behaves in an objective and controlled manner, but the majority of students are not monitored for the desired effect of the strategy.	Behaves in an objective and controlled manner and monitors for evidence of the effect on the classroom climate for the majority of students.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Displaying emotional objectivity and control	How can you begin to incorporate this strategy into your instruction?	How can you behave in an objective and controlled manner?	In addition to behaving in an objective and controlled manner, how can you monitor the effect on the classroom climate?	How might you adapt and create new strategies and techniques for behaving in an objective and controlled manner that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Student Interviews

Student Questions:

- What are some things that made you feel accepted and welcomed?
- What are some things that did not make you feel accepted and welcomed?

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Design Question #9: What will I do to communicate high expectations for all students?

39. Demonstrating Value and Respect for Low Expectancy Students

The teacher exhibits behaviors that demonstrate value and respect for low expectancy students.

Teacher Evidence

- ❒ When asked, the teacher can identify the students for whom there have been low expectations and the various ways in which these students have been treated differently from high expectancy students
- ❒ The teacher provides low expectancy with nonverbal indications that they are valued and respected:
  - Makes eye contact
  - Smiles
  - Makes appropriate physical contact
- ❒ The teacher proves low expectancy students with verbal indications that they are valued and respected:
  - Playful dialogue
  - Addressing students in a manner they view as respectful
- ❒ Teacher does not allow negative comments about low expectancy students

Student Evidence

- ❒ When asked, students say that the teacher cares for all students
- ❒ Students treat each other with respect

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Communicating value and respect for low expectancy students	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Exhibits behaviors that demonstrate value and respect for low expectancy students, but the majority of students are not monitored for the desired effect of the strategy.	Exhibits behaviors that demonstrate value and respect for low expectancy students and monitors for evidence of the impact on the majority of students.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Beginning	Not Using	Developing	Applying	Innovating
Communicating value and respect for low expectancy students	How can you exhibit behaviors that demonstrate value and respect for low expectancy students?	How can you begin to incorporate this strategy into your instruction?	In addition to exhibiting behaviors that demonstrate value and respect for low expectancy students, how can you monitor the impact on low	How might you adapt and create new strategies and techniques for behaviors that demonstrate value and respect for low expectancy students that address unique situations?	What are you learning about your students as you adapt and create new strategies?

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40. Asking Questions of Low Expectancy Students

The teacher asks questions of low expectancy students with the same frequency and depth as with high expectancy students.

Teacher Evidence

- ❒ Teacher makes sure low expectancy students are asked questions at the same rate as high expectancy students
- ❒ Teacher makes sure low expectancy students are asked complex questions at the same rate as high expectancy students

Student Evidence

- ❒ When asked, students say the teacher expects everyone to participate
- ❒ When asked, students say the teacher asks difficult questions of every student

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Asking questions of low expectancy students	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Asks questions of low expectancy students with the same frequency and depth as with high expectancy students, but the majority of students are not monitored for the desired effect of the strategy.	Asks questions of low expectancy students with the same frequency and depth with high expectancy students and monitors for evidence of the quality of participation of the majority of students.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Asking questions of low expectancy students	How can you begin to incorporate this strategy into your instruction?	How can you ask questions of low expectancy students with the same frequency and depth as with high expectancy students?	In addition to asking questions of low expectancy students with the same frequency and depth as with high expectancy students, how can you monitor the quality of participation of low expectancy students?	How might you adapt and create new strategies and techniques for asking questions of low expectancy students that address unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

41. Probing Incorrect Answers with Low Expectancy Students

The teacher probes incorrect answers of low expectancy students in the same manner as he/she does with high expectancy students.

Teacher Evidence

- ❒ Teacher asks low expectancy students to further explain their answers when they are incorrect
- ❒ Teacher rephrases questions for low expectancy students when they provide an incorrect answer
- ❒ Teacher breaks a question into smaller and simpler parts when a low expectancy student answers a question incorrectly
- ❒ When low expectancy students demonstrate frustration, the teacher allows them to collect their thoughts but goes back to them at a later point in time

Student Evidence

- ❒ When asked, students say that the teacher won't "let you off the hook"
- ❒ When asked, students say that the teacher "won't give up on you"
- ❒ When asked, students say the teacher helps them answer questions successfully

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Probing incorrect answers by low expectancy students	Strategy was called for but not exhibited.	Uses strategy incorrectly or with parts missing.	Probes incorrect answers of low expectancy students in the same manner as with high expectancy students, but the majority of students are not monitored for the desired effect of the strategy.	Probes incorrect answers of low expectancy students in the same manner as with high expectancy students and monitors for evidence of the level and quality of responses of the majority of students.	Adapts and creates new strategies for unique student needs and situations in order for the desired effect to be evident in all students.

Reflection Questions

	Not Using	Beginning	Developing	Applying	Innovating
Probing incorrect answers by low expectancy students	How can you begin to incorporate this strategy into your instruction?	How can you probe incorrect answers of low expectancy students in the same manner as with high expectancy students?	In addition to probing incorrect answers of low expectancy students in the same manner as with high expectancy students, how can you monitor the level and quality responses of low expectancy students?	How might you adapt and create new strategies for probing incorrect answers of low expectancy students in the same manner as with high expectancy students that address their unique student needs and situations?	What are you learning about your students as you adapt and create new strategies?

Student Interviews

- How does your teacher demonstrate that they care and respect you?
- How does your teacher communicate that everyone is expected to participate and answer difficult questions?
- What are some ways that your teacher helps you answer questions successfully?

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Domain 2: Planning and Preparing

The teacher plans for clear goals and identifies them in the plan; he or she describes methods for tracking student progress and measuring success.

Planning and Preparing for Lessons and Units

42. Effective Scaffolding of Information within Lessons
Within lessons, the teacher prepares and plans the organization of content in such a way that each new piece of information builds on the previous piece.
Planning Evidence ❒ Content is organized to build upon previous information ❒ Presentation of content is logical and progresses from simple to complex ❒ Where appropriate, presentation of content is integrated with other content areas, other lessons and/or units ❒ The plan anticipates potential confusions that students may experience
Teacher Evidence ❒ When asked, the teacher can describe the rationale for how the content is organized ❒ When asked, the teacher can describe the rationale for the sequence of instruction ❒ When asked, the teacher can describe how content is related to previous lessons, units or other content ❒ When asked, the teacher can describe possible confusions that may impact the lesson or unit

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Effective Scaffolding of Information within Lessons	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these	The teacher scaffolds the information but the relationship between the content is not clear	Within lessons the teacher organizes content in such a way that each new piece of information clearly builds	The teacher is recognized leader in helping others with this activity

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43. Lessons within Units
The teacher organizes lessons within units to progress toward a deep understanding of content.
Planning Evidence ❒ Plans illustrate how learning will move from an understanding of foundational content to application of information in authentic ways ❒ Plans incorporate student choice and initiative ❒ Plans provide for extension of learning
Teacher Evidence ❒ When asked, the teacher can describe how lessons within the unit progress toward deep understanding and transfer of content ❒ When asked, the teacher can describe how students will make choices and take initiative ❒ When asked, the teacher can describe how learning will be extended

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Lessons within Units	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher organizes lessons within a unit so that students move from surface level to deeper understanding of content but does not require students to apply the content in authentic ways	The teacher organizes lessons within a unit so that students move from an understanding to applying the content through authentic tasks	The teacher is a recognized leader in helping others with this activity

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44. Attention to Established Content Standards
The teacher ensures that lesson and unit plans are aligned with established content standards identified by the district and the manner in which that content should be sequenced.
Planning Evidence ❒ Lesson and unit plans include important content identified by the district (scope) ❒ Lesson and unit plans include the appropriate manner in which materials should be taught (sequence) as identified by the district
Teacher Evidence ❒ When asked, the teacher can identify or reference the important content (scope) identified by the district ❒ When asked, the teacher can describe the sequence of the content to be taught as identified by the district

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Attention to Established Content Standards	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher ensures that lessons and units include the important content identified by the district but does not address the appropriate sequencing of content	The teacher ensures that lessons and units include the important content identified by the district and the manner in which that content should be sequenced	The teacher is a recognized leader in helping others with this activity

45. Use of Available Traditional Resources
The teacher identifies the available traditional resources (materials and human) for upcoming units and lessons.
Planning Evidence ❒ The plan outlines resources within the classroom that will be used to enhance students' understanding of the content ❒ The plan outlines resources within the school that will be used enhance students' understanding of the content ❒ The plan outlines resources within the community that will be used to enhance students' understanding of the content
Teacher Evidence ❒ When asked, the teacher can describe the resources within the classroom that will be used to enhance students' understanding of the content ❒ When asked, the teacher can describe resources within the school that will be used to enhance students' understanding of the content ❒ When asked, the teacher can describe resources within the community that will be used to enhance students' understanding of the content

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Use of Available Traditional Resources	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher identifies the available traditional resources that can enhance student understanding but does not identify the manner in which they will be used	The teacher identifies the available traditional resources that can enhance student understanding and the manner in which they will be used	The teacher is a recognized leader in helping others with this activity

46. Use of Available Technology

The teacher identifies the use of available technology that can enhance students' understanding of content in a lesson or unit.

Planning Evidence

❒ The plan identifies available technology that will be used:

- Interactive whiteboards
- Response systems
- Voting technologies
- One-to-one computers
- Social networking sites
- Blogs
- Wikis
- Discussion Boards

❒ The plan identifies how the technology will be used to enhance student learning

Teacher Evidence

❒ When asked, the teacher can describe the technology that will be used

❒ When asked, the teacher can articulate how the technology will be used to enhance student learning

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Use of Available Technology	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher identifies the available technologies that can enhance student understanding but does not identify the manner in which they will be used	The teacher identifies the available technologies that can enhance student understanding and the manner in which they will be used	The teacher is a recognized leader in helping others with this activity

Planning and Preparing for the Needs of English Language Learners

47. Needs of English Language Learners
The teacher provides for the needs of English Language Learners (ELL) by identifying the adaptations that must be made within a lesson or unit.
Planning Evidence ❒ The plan identifies the accommodations that must be made for individual ELL students or groups within a lesson ❒ The plan identifies the adaptations that must be made for individual ELL students or groups within a unit of instruction
Teacher Evidence ❒ When asked, the teacher can describe the accommodations that must be made for individual ELL students or groups of students within a lesson ❒ When asked, the teacher can describe the adaptations that must be made for individual ELL students or groups of students within a unit of instruction

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Needs of English Language Learners	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher identifies the needs of English Language Learners but does not articulate the adaptations that will be made to meet these needs	The teacher identifies the needs of English Language Learners and the adaptations that will be made to meet these needs	The teacher is a recognized leader in helping others with this activity

Planning and Preparing for Needs of Students Receiving Special Education

48. Needs of Students Receiving Special Education
The teacher identifies the needs of students receiving special education by providing accommodations and modifications that must be made for specific students receiving special education.
Planning Evidence ❒ The plan describes accommodations and modifications that must be made for individual students receiving special education or groups of students according to the Individualized Education Program (IEP)for a lesson ❒ The plan describes the accommodations and modifications that must be made for individual students receiving special education or groups of students according to the IEP for a unit of instruction
Teacher Evidence ❒ When asked, the teacher can describe the specific accommodations that must be made for individual students receiving special education or groups of students according to their IEP for a lesson ❒ When asked, the teacher can describe the specific accommodations and modifications that must be made for individual students receiving special education or groups of students according to their IEP for a unit of instruction

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Needs of Students Receiving Special Education	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher identifies the needs of students receiving special education but does not articulate the accommodations or modifications that will be these needs	The teacher identifies the needs of students receiving special education and the accommodations and modifications that will be made to meet	The teacher is a recognized leader in helping others with this activity

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Planning and Preparing for Needs of Students Who Lack Support for Schooling

49. Needs of Students Who Lack Support for Schooling
The teacher identifies the needs of students who come from home environments that offer little support for schooling.
Planning Evidence ❒ The plan provides for the needs of students who come from home environments that offer little support for schooling ❒ When assigning homework, the teacher takes into consideration the students' family resources ❒ When communicating with the home, the teacher takes into consideration family and language resources
Teacher Evidence ❒ When asked, the teacher can articulate how the needs of students who come from home environments that offer little support for schooling will be addressed ❒ When asked, the teacher can articulate the ways in which the students' family resources will be addressed when assigning homework ❒ When asked, the teacher can articulate the ways in which communication with the home will take into consideration family and language resources

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Needs of Students Who Lack Support for Schooling	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher identifies the needs of students who lack support for schooling but does not articulate the adaptations that will be made to meet these needs	The teacher identifies the needs of students who lack support for schooling and the adaptations that will be made to meet these needs	The teacher is a recognized leader in helping others with this activity

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

Domain 3: Reflecting on Teaching

Evaluating Personal Performance

50. Identifying Areas of Pedagogical Strength and Weakness

The teacher identifies specific strategies and behaviors on which to improve from Domain 1 (routine lesson segments, content lesson segments and segments that are enacted on the spot).

Teacher Evidence

❒ The teacher identifies specific areas of strengths and weaknesses within Domain 1

❒ The teacher keeps track of specifically identified focus areas for improvement within Domain 1

❒ The teacher identifies and keeps track of specific areas identified based on teacher interest within Domain 1

❒ When asked, the teacher can describe how specific areas for improvement are identified within Domain 1

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Identifying Areas of Pedagogical Strength and Weakness	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher identifies specific strategies and behaviors on which to improve but does not select the strategies and behaviors that are most useful for his or her development	The teacher identifies specific strategies and behaviors on which to improve from routine lesson segments, content lesson segments and segments that are enacted on the spot	The teacher is a recognized leader in helping others with this activity

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

51. Evaluating the Effectiveness of Individual Lessons and Units

The teacher determines how effective a lesson or unit of instruction was in terms of enhancing student achievement and identifies causes of success or difficulty.

Teacher Evidence

❒ The teacher gathers and keeps records of his or her evaluations of individual lessons and units
❒ When asked, the teacher can explain the strengths and weaknesses of specific lessons and units
❒ When asked, the teacher can explain the alignment of the assessment tasks and the learning goals
❒ When asked, the teacher can explain how the assessment tasks help track student progress toward the learning goals

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Evaluating the Effectiveness of Individual Lessons and Units	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher determines how effective a lesson or unit was in terms of enhancing student achievement but does not accurately identify causes of success or difficulty	The teacher determines how effective a lesson or unit was in terms of enhancing student achievement and identifies specific causes of success or difficulty and uses this analysis when making instructional decisions	The teacher is a recognized leader in helping others with this activity

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

52. Evaluating the Effectiveness of Specific Pedagogical Strategies and Behaviors

The teacher determines the effectiveness of specific instructional techniques regarding the achievement of subgroups of students and identifies specific reasons for discrepancies.

Teacher Evidence

❒ The teacher gathers and keeps evidence of the effects of specific classroom strategies and behaviors on specific categories of students (i.e., different socio-economic groups, different ethnic groups)
❒ The teacher provides a written analysis of specific causes of success or difficulty
❒ When asked, the teacher can explain the differential effects of specific classroom strategies and behaviors on specific categories of students

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Evaluating the Effectiveness of Specific Pedagogical Strategies and Behaviors	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher determines the effectiveness of specific strategies and behaviors regarding the achievement of subgroups of students but does not accurately identify the reasons for discrepancies	The teacher determines the effectiveness of specific strategies and behaviors regarding the achievement of subgroups of students and identifies the reasons for discrepancies	The teacher is a recognized leader in helping others with this activity

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

53. Developing a Written Growth and Development Plan

The teacher develops a written professional growth and development plan with specific and measureable goals, action steps, manageable timelines and appropriate resources.

Teacher Evidence

❒ The teacher constructs a growth plan that outlines measurable goals, action steps, manageable timelines and appropriate resources

❒ When asked, the teacher can describe the professional growth plan using specific and measurable goals, action steps, manageable timelines and appropriate resources

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Developing a Written Growth and Development Plan	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher develops a written professional growth and development plan but does not articulate clear and measurable goals, action steps, timelines and appropriate resources	The teacher develops a written professional growth and development plan with clear and measurable goals, actions steps, timelines and resources	The teacher is a recognized leader in helping others with this activity

54. Monitoring Progress Relative to the Professional Growth and Development Plan

The teacher charts his or her progress toward goals using established action plans, milestones and timelines.

Teacher Evidence

❒ The teacher constructs a plan that outlines a method for charting progress toward established goals supported by evidence (e.g., student achievement data, student work, student interviews, peer, self and observer feedback)

❒ When asked, the teacher can describe progress toward meeting the goals outlined in the plan supported by evidence (e.g., student achievement data, student work, student interviews, peer, self and observer feedback)

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Monitoring Progress Relative to the Professional Growth and Development Plan	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher charts his or her progress on the professional growth and development plan using established milestones and timelines but does not make modifications or adaptations as needed	The teacher charts his or her progress on the professional growth and development plan using established milestones and timelines and makes modifications or adaptations as needed	The teacher is a recognized leader in helping others with this activity

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

Domain 4: Collegiality and Professionalism

Promoting a Positive Environment

55. Promoting Positive Interactions with Colleagues

The teacher interacts with other teachers in a positive manner to promote and support student learning.

Teacher Evidence

❒ The teacher works cooperatively with appropriate school personnel to address issues that impact student learning

❒ The teacher establishes working relationships that demonstrate integrity, confidentiality, respect, flexibility, fairness and trust

❒ The teacher accesses available expertise and resources to support students' learning needs

❒ When asked, the teacher can describe situations in which he or she interacts positively with colleagues to promote and support student learning

❒ When asked, the teacher can describe situations in which he or she helped extinguish negative conversations about other teachers

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Promoting Positive Interactions with Colleagues	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher interacts with other colleagues in a positive manner to promote and support student learning but does not help extinguish negative conversations about other teachers	The teacher interacts with other colleagues in a positive manner to promote and support student learning and helps to extinguish negative conversations about other teachers	The teacher is a recognized leader in helping others with this activity

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

56. Promoting Positive Interactions about Students and Parents

The teacher interacts with students and parents in a positive manner to foster learning and promote positive home/school relationships.

Teacher Evidence

❒ The teacher fosters collaborative partnerships with parents to enhance student success in a manner that demonstrates integrity, confidentiality, respect, flexibility, fairness and trust
❒ The teacher ensures consistent and timely communication with parents regarding student expectations, progress and/or concerns
❒ The teacher encourages parent involvement in classroom and school activities
❒ The teacher demonstrates awareness and sensitivity to social, cultural and language backgrounds of families
❒ The teacher uses multiple means and modalities to communicate with families
❒ The teacher responds to requests for support, assistance and/or clarification promptly
❒ The teacher respects and maintains confidentiality of student/family information
❒ When asked, the teacher can describe instances when he or she interacted positively with students and parents
❒ When asked, students and parents can describe how the teacher interacted positively with them
❒ When asked, the teacher can describe situations in which he or she helped extinguish negative conversations about students and parents

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Promoting Positive Interactions about Students and Parents	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher interacts with students and parents in a positive manner to foster learning and promote positive home/school relationships but does not help extinguish negative conversations about students	The teacher interacts with students and parents in a positive manner to foster learning and promote positive home/school relationships and helps extinguish negative conversations about students	The teacher is a recognized leader in helping others with this activity

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

LearningSciencesInternational LEARNING AND PERFORMANCE MANAGEMENT

Promoting Exchange of Ideas and Strategies

57. Seeking Mentorship for Areas of Need or Interest

The teacher seeks help and input from colleagues regarding specific classroom strategies and behaviors.

Teacher Evidence

❒ The teacher keeps track of specific situations during which he or she has sought mentorship from others
❒ The teacher actively seeks help and input in Professional Learning Community meetings
❒ The teacher actively seeks help and input from appropriate school personnel to address issues that impact instruction
❒ When asked, the teacher can describe how he or she seeks input from colleagues regarding issues that impact instruction

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Seeking Mentorship for Areas of Need or Interest	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher seeks help and mentorship from colleagues but not at a specific enough level to enhance his or her pedagogical skill	The teacher seeks help and mentorship from colleagues regarding specific classroom strategies and behaviors	The teacher is a recognized leader in helping others with this activity

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

58. Mentoring Other Teachers and Sharing Ideas and Strategies
The teacher provides other teachers with help and input regarding specific classroom strategies and behaviors.
Teacher Evidence ❒ The teacher keeps tracks of specific situations during which he or she mentored other teachers ❒ The teacher contributes and shares expertise and new ideas with colleagues to enhance student learning in formal and informal ways ❒ The teacher serves as an appropriate role model (mentor, coach, presenter, researcher) regarding specific classroom strategies and behaviors ❒ When asked, the teacher can describe specific situations in which he or she has mentored colleagues

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Mentoring Other Teachers and Sharing Ideas and Strategies	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher provides other teachers with help and input regarding classroom strategies and behaviors but not at a specific enough level to enhance their pedagogical skill	The teacher provides other teachers with help and input regarding classroom strategies and behaviors	The teacher is a recognized leader in helping others with this activity

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

Promoting District and School Development

59. Adhering to District and School Rules and Procedures

The teacher is aware of the district's and school's rules and procedures and adheres to them.

Teacher Evidence

- ❒ The teacher performs assigned duties
- ❒ The teacher follows policies, regulations and procedures
- ❒ The teacher maintains accurate records (student progress, completion of assignments, non-instructional records)
- ❒ The teacher fulfills responsibilities in a timely manner
- ❒ The teacher understands legal issues related to students and families
- ❒ The teacher demonstrates personal integrity
- ❒ The teacher keeps track of specific situations in which he or she adheres to rules and procedures

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Adhering to District and School Rules and Procedures	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher is aware of district and school rules and procedures but does not adhere to all of these rules and procedures	The teacher is aware of district and school rules and procedures and adheres to them	The teacher is a recognized leader in helping others with this activity

Learning Sciences MARZANO CENTER TEACHER & LEADER EVALUATION

Learning Sciences International LEARNING AND PERFORMANCE MANAGEMENT

60. Participating in District and School Initiatives

The teacher is aware of the district's and school's initiatives and participates in them in accordance with his or her talents and availability.

Teacher Evidence

❒ The teacher participates in school activities and events as appropriate to support students and families
❒ The teacher serves on school and district committees
❒ The teacher participates in staff development opportunities
❒ The teacher works to achieve school and district improvement goals
❒ The teacher keeps tracks of specific situations in which he or she has participated in school or district initiatives
❒ When asked, the teacher can describe or show evidence of his/her participation in district and school initiatives

Scale

	Not Using	Beginning	Developing	Applying	Innovating
Participating in District and School Initiatives	The teacher makes no attempt to perform this activity	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher is aware of the district's and school's initiatives but does not participate in them in accordance with his or her talents and availability	The teacher is aware of the district's and school's initiatives and participates in them in accordance with his or her talents and availability	The teacher is a recognized leader in helping others with this activity

PARAMOUNT COLLEGIATE ACADEMY

2015-2016

Academic Year Calendar

(PROPOSED)

July 15

Su	M	Tu	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

August 15

Su	M	Tu	W	Th	F	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

September 15

Su	M	Tu	W	Th	F	Sa
						5
6						12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

October 15

Su	M	Tu	W	Th	F	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November 15

Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10		12	13	14
15	16	17	18	19	20	21
22	23	24	25			28
29	30					

December 15

Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20						26
27						

January 16

Su	M	Tu	W	Th	F	Sa
						2
3						9
10	11	12	13	14	15	16
17		19	20	21	22	23
24	25	26	27	28	29	30
31						

February 16

Su	M	Tu	W	Th	F	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14		16	17	18	19	20
21	22	23	24	25	26	27
28	29					

March 16

Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20						26
27	28	29	30	31		

April 16

Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

May 16

Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29		31				

June 16

Su	M	Tu	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16		18
19	20	21	22	23	24	25
26	27	28	29	30		

July 16

Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

August 16

Su	M	Tu	W	Th	F	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

NOTES AND HOLIDAYS

Labor Day	September 7, 2015
Veterans' Day	November 11, 2015
Thanksgiving Day	November 26, 2015
Christmas Day	December 25, 2015
Martin Luther King Day	January 18, 2016
Presidents' Day	February 15, 2016
Easter Sunday	March 27, 2016
Memorial Day	May 30, 2016

- School Closed/Holiday
- Orientation
- First/Last Day of School
- Intersession
- Staff Professional Development

PCA

21st Century Readiness for All Students

SAMPLE TEACHER SCHEDULE-HUMANITIES

	Monday	Tuesday	Thursday	Friday
8:00-8:10	Morning Launch	Morning Launch	Morning Launch	Morning Launch
8:10-8:15	Passing Period	Passing Period	Passing Period	Passing Period
8:15-8:30	Advisory	Advisory	Advisory	Advisory
8:30-8:35	Passing Period	Passing Period	Passing Period	Passing Period
8:35-10:25 BLOCK 1	Humanities	Humanities	Humanities	Humanities
10:25-10:40	Break	Break	Break	Break
10:40-10:45	Passing Period			
10:45-12:35 BLOCK 2	Humanities	Humanities	Humanities	Humanities
12:35-1:15	Lunch	Lunch	Lunch	Lunch
1:15-1:20	Passing Period	Passing Period	Passing Period	Passing Period
1:20-3:10 BLOCK 3	Collaboration: Interdisciplinary Team or Individual Prep	Collaboration: Interdisciplinary Team or Individual Prep	Collaboration: Interdisciplinary Team or Individual Prep	Collaboration: Interdisciplinary Team or Individual Prep
3:10-5:00 BUILDING BLOCK	Tutorials	Tutorials	Office Hours	Faculty Meeting/ Whole Team Staff Development

	Wednesday
8:00-9:30 ADVISORY BLOCK	Advisory
9:30-9:35	Passing Period
9:35-11:05 BLOCK 1	Humanities
11:05-11:45	Lunch
11:45-11:50	Passing Period
11:50-1:20 BLOCK 2	Humanities
1:20-1:35	Break
1:35-1:40	Passing Period
1:40-3:10 BLOCK 3	Collaboration Interdisciplinary Team or Individual Prep
3:10-5:00 BUILDING BLOCK	Tutorials

Notes:

1) This is based upon the Charter School's rotating block schedule. Each week, the scheduled time for specific classes may be different.

2) This is a sample teacher schedule for a Humanities Teacher. The order may be different for another staff teacher.

3) Each block period is 110 minutes, except on Wednesdays, when all periods, except building block period are 90 minutes in length.

PARAMOUNT COLLEGIATE ACADEMY

APPEAL PACKET

Section 5

Proposition 39 Facility Request

PCA
21stCentury Readiness for All Students
Paramount Collegiate Academy

Enclosed herein Section 5 are the following facility request documents, constituting additions to the Paramount Collegiate Academy Charter Appendices:

A. Stamped cover letter, as proof of the October 31, 2014 submission and acceptance of PCA's Proposition 39 Facility Request by the SJUSD Superintendent's Office.

B. Copy of Proposition 39 Facility Request submitted to Superintendent Kern on October 31, 2014.

C. Copy of 2015/16 Operational School Calendar, which accompanied the aforementioned Proposition 39 Facility Request.

D. Copies of all Charter Petition Signature Pages, which accompanied the aforementioned Proposition 39 Facility Request.

E. Copies of Intent to Re/Enroll Forms, which accompanied the aforementioned Proposition 39 Facility Request.

*Note: Petitioner(s) have continued to receive and collect Intent to Re/Enroll Forms since the submission of the PCA Proposition 39 Facility Request on October 31, 2014.

21stCentury Readiness for All Students

PCA

STEAM Science Technology Arts Engineering Math

Paramount Collegiate Academy

Received
OCT 31 2014
Superintendent's Office
San Juan USD

Hand Delivery

October 31, 2014

Superintendent Kern
San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

RE: Request for Proposition 39 Facilities for the 2015-16 School Year

Dear Superintendent Kern:

I am writing on behalf of the Paramount Collegiate Academy Charter School ("Charter School") to request reasonably equivalent school facilities from the San Juan Unified School District ("District") pursuant to Education Code Section 47614 (i.e., Proposition 39) and Title 5 of the California Code of Regulations ("CCR") Section 11969.1 through 11969.11, as amended ("Implementing Regulations").

Proposition 39, passed by the voters of California on November 7, 2000, requires school districts to make available, to each charter school operating within the school district, school facilities sufficient for each charter school to accommodate all of the charter school's in-district students in conditions reasonably equivalent to those in which the students would be accommodated if they were attending other public schools of the school district. Facilities provided shall be contiguous, furnished, and equipped, and shall remain the property of the school district. In addition, the school district must make reasonable efforts to provide the charter school with facilities near to where the charter school desires to be located. (See Education Code Section 47614(b)).

The Proposition 39 Implementing Regulations, adopted by the State Board of Education ("SBE") in 2002, and amended in 2008, require the Charter School to make an annual written request for facilities. Title 5 CCR Section 11969.9(c)(1) specifies the information that must be included in the annual facilities request. This request, along with the information submitted herewith, meets and exceeds the requirements of Education Code Section 47614 and the Implementing Regulations.

Projected Average Daily Attendance (ADA)

In accordance with Education Code Section 47614(b)(2), the District is required to allocate school facilities to the Charter School for the following school year based upon a projection of average daily classroom attendance provided by the Charter School.

The Charter School's Governing Board has determined that a reasonable projection of the Charter School's In-District average daily classroom attendance for the **2015-16 school year is 90.7.** The following is a breakdown of the Charter School's projected average daily attendance ("ADA") as required by 5 CCR Section 11969.9(c)(1). The Charter School's ADA figures are based on the methodology outlined in the following section.
Please note:

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PCA

Paramount Collegiate Academy

Hand Delivery

October 31, 2014

Superintendent Kern
San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

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Please note:

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PCA

Paramount Collegiate Academy

- "Prior year" means the fiscal year prior to the year in which a facilities request is made. For this request, the prior year is 2014-15.
- "Current year" means the fiscal year in which a facilities request is made. For this request, the current year is 2014-15.
- "Request year" means the fiscal year for which facilities are being requested. For this request, the request year is 2015-16.

Table 1: Total ADA

A	B	C	D
Grade Level	Actual Total Prior Year (P-2)	Projected Total Current Year	Projected Total Request Year
K			
1			
2			
3			
4			
5			
6			53.7
7			44.2
8			49.0
9			45.1
10			
11			
12			
Total	n/a	n/a	192

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Paramount Collegiate Academy

Table 2: Total In-District ADA

A	B	C	D
Grade Level	Actual Total Prior Year (P-2)	Projected Total Current Year	Projected Total Request Year
K			
1			
2			
3			
4			
5			
6			38.6
7			15.4
8			19.4
9			17.3
10			
11			
12			
Total	n/a	n/a	90.7

Table 3: Total Classroom ADA

A	B	C	D
Grade Level	Actual Total Prior Year (P-2)	Projected Total Current Year	Projected Total Request Year
K			
1			
2			
3			
4			
5			
6			53.7
7			44.2
8			49.0
9			45.1
10			
11			
12			
Total	n/a	n/a	192

21stCentury Readiness for All Students

PCA

Paramount Collegiate Academy

Table 4: Total In-District Classroom ADA

A	B	C	D
Grade Level	Actual Total Prior Year (P-2)	Projected Total Current Year	Projected Total Request Year
K			
1			
2			
3			
4			
5			
6			38.6
7			15.4
8			19.4
9			17.3
10			
11			
12			
Total	n/a	n/a	90.7

The following tables represent the projected **In-District ADA** (from Table 2 above) and **In-District classroom ADA** (from Table 4 above) broken down by grade level and the school in the District the pupils are otherwise eligible to attend. (5 CCR Section 11969.9(c)(2).)

Table 5: In-District ADA Broken Down by Grade Level and District Schools Where Pupils Would Otherwise Attend:

School Name/Grade	K	1	2	3	4	5	6	7	8	9	10	11	12
Arcade							7.7	1.9	1				
Arden							1						
Barrett							1		1				
Bella Vista										1			
Carnegie								1					
Churchill							6.7	2.9	4.8				
Citrus Heights							1						
Del Campo										1.9			
Del Paso Manor							3.8						
Dyer Kelly													
Edison							1.9	1.9					
El Camino										1			
Encina							9.6	4.8	5.8	4.8			
Le Gette							1						
Lichen							1						

21stCentury Readiness for All Students

PCA

STEAM: Science, Technology, Engineering, Arts, Math

Paramount Collegiate Academy

Mesa Verde										1.9			
Mira Loma										1.9			
Pasadena													
Pershing							1						
Rio Americano										1.9			
San Juan										2.9			
Sierra Oaks									1				
Starr King							1.9	1	2.9				
Sylvan								1.9	1.9				
Will Rogers							1		1				

Table 6: In-District Classroom ADA Broken Down by Grade Level and District Schools Where Pupils Would Otherwise Attend:

School Name/Grade	K	1	2	3	4	5	6	7	8	9	10	11	12
Arcade							7.7	1.9	1				
Arden							1						
Barrett							1		1				
Bella Vista										1			
Carnegie								1					
Churchill							6.7	2.9	4.8				
Citrus Heights							1						
Del Campo										1.9			
Del Paso Manor							3.8						
Dyer Kelly													
Edison							1.9	1.9					
El Camino										1			
Encina							9.6	4.8	5.8	4.8			
Le Gette							1						
Lichen							1						
Mesa Verde										1.9			
Mira Loma										1.9			
Pasadena													
Pershing							1						
Rio Americano										1.9			
San Juan										2.9			
Sierra Oaks									1				
Starr King							1.9	1	2.9				
Sylvan								1.9	1.9				
Will Rogers							1		1				

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Paramount Collegiate Academy

STEAM: Science, Technology, Engineering, Arts, Math

Methodology Used In Making ADA Projection:

Title 5 CCR Section 11969.9(c)(1)(B) requires the facilities request to include a description of the methodology for the ADA projections. The Charter School utilized the following methodology in calculating the ADA projections:

During the summer and fall of 2014, the PCA Founding Board and Development Team conducted extensive community outreach with parents and families in and around the Arden Arcade area. PCA held several parent information nights at the Church on Cypress, Arden-Dimick Community Library, and North Highlands Community Library, talking to parents about the educational program of the Charter School. PCA's Development Team also held information booths at local summertime events such as the Fulton 4th of July Festival and farmers' markets in the area in order to discuss PCA's educational program and to recruit students. PCA Board members attended neighborhood association meetings (such as the Cottage Park/Creekside Neighborhood Association) and community meetings (such as Carmichael Chamber of Commerce, Arden Arcade Rotary Club) in the Arden Arcade area, speaking about the charter school program. PCA also engaged the Country Club Alliance of Neighborhoods in these outreach efforts. Throughout these events, PCA obtained 244 signatures of parents who are meaningfully interested in having their children attend PCA beginning in the fall of 2015. Additionally PCA enlisted more parents during these meetings, collecting Intent to Enroll Forms from parents very interested in having their children attend PCA. PCA Development Team members have been in collaboration with other Arden Arcade charter schools, such as the California Montessori Project and Aspire-Alexander Twilight to discern need in the Arden Arcade and surrounding community areas. PCA has ascertained that other K-8 charter school parents want to enroll their children in PCA for grade 9, as it presents a way to matriculate to a charter high school. Additionally, through this collaboration, PCA has learned that Alexander Twilight currently has an extensive wait list of students who are not being served and parents are interested in enrolling their children in PCA, another alternative public charter school program for Arden Arcade.

Using the foundational data collected from these various parent outreach efforts such as the petition signatures and Intent to Enroll Forms as well as talking to parents, community leaders, and charter directors at the California Montessori Project and Alexander Twilight, PCA developed projected enrollment numbers included herein. These projected attendance figures include all children of parents who signed the charter petition and/or completed Intent to Enroll Forms, expressing meaningful interest in having their children attend the Charter School. These figures also include students who will be enrolled in grades 6-9 in 2015/16. Furthermore, enrollment figures include only parents residing in Sacramento and nearby Placer Counties with addresses located within a 35-minute driving radius of the proposed Creekside facility and/or Arden Arcade area, making these projection figures highly reasonable. Only students entering grades 6, 7, 8, or 9 in the fall of 2015, were included in the projection numbers, since PCA plans to open, serving students in grades 6-9 in Year One. **PCA used an attendance rate of 96% to calculate projected ADA** in this facility request. As demonstrated herein, we have analyzed our School's petition signatures of parents, Intent to Enroll Forms, wait list numbers from other charter schools in the Arden Arcade area, and spoken with charter leaders in and near the Arden Arcade area in order to arrive at our total projected **in-District classroom ADA figure of 90. 7** for the request year.

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STEAM Science Technology Arts Engineering Math

Paramount Collegiate Academy

Supporting Documentation

Title 5 CCR Section 11969.9(c)(1)(C) requires the facilities request to include supporting documentation. The Implementing Regulations state that when a charter school is not yet open (i.e., not yet providing instruction) or to the extent an operating charter school projects a substantial increase in in-District ADA, the annual request must include documentation of the number of in-District students meaningfully interested in attending the Charter School. Please be advised that because the Charter School is not yet open, we have attached and incorporated herein by reference the following supporting documentation that fully substantiates the reasonableness of our in-District ADA projections for the 2015-16 school year:

(1) Signed parental "Intent to Re/Enroll" Forms for students for the request year;
(2) Parents' signatures attached to charter petition.

As you review the Charter School's ADA projections and supporting documentation, please keep in mind that the Proposition 39 regulations do not specify or require a particular type of supporting documentation to be used. Schools may submit any type of supporting documentation which they used to arrive at their ADA projections. This documentation must be "sufficient for the district to determine the reasonableness of the projection, but ... need not be verifiable for precise arithmetical accuracy." (Section 11969.9(c)(1)(C); emphasis added.) The supporting documentation is intended only to demonstrate reasonableness of Charter School's request, not mathematical exactitude. However, should the District desire additional documentation or information regarding the Charter School's ADA projections, please contact me as soon as possible. We remain willing to cooperate with the District to immediately address any questions or concerns about this request and the supporting documentation.

Operational Calendar:

Title 5 CCR Section 11969.9(c)(1)(D) requires the facilities request to include the Charter School's operational calendar. **The Charter School's operational calendar is attached for your review.** The Charter School's proposed first day of instruction is on September 8, 2015. Therefore, we will need access to the facility on or before June 1, 2015, in order to prepare. Please note that Title 5 CCR Section 11969.9(j) requires the District to ensure that a furnished and equipped facility meeting the requirement of Proposition 39 be made available to the Charter School no less than ten (10) working days prior to the charter school's first day of instruction. In addition, in accordance with Section 11969.5, the space allocated must be made available for the Charter School's entire school year regardless of the School District's instructional year or class schedule.

Educational Program:

Title 5 CCR Section 11969.9(c)(1)(F) requires the facilities request to provide information regarding the charter school's educational program that is relevant to the assignment of facilities. The Charter School's educational program does have unique facility needs. As you are aware, key components of the educational program of the Charter School include a standards-based college-preparatory curriculum that integrated the teaching of STEAM-Science, Technology, Engineering, Arts, and Mathematics through differentiated methods including project-based and blended learning models. All students will have personal learning plans and intersession courses

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PCA

Paramount Collegiate Academy

will provide enrichment and intervention, additional instructional time beyond after school tutorials and accelerative programs. Building Block Period after school will include student intervention time as well as school and community physical education and sports programs for PCA students. Students will be engaged in community service learning projects and high school internships. In order to provide this aspect of our educational program, the facility allocated to the Charter School must provide the following: individual classrooms to accommodate first-year projected enrollment described herein, multi-use rooms, lunch/breakfast rooms, student bathrooms, faculty restrooms, office space, staff workrooms, outdoor recreational and sports areas, and parking for staff, parents and community visitors.

In addition, and in accordance with its charter and its budget, the Charter School will operate grade levels 6 through 9 on one contiguous school site in Year One, adding grades 10, 11, and 12 in subsequent operational years. Daily instruction will occur at the school site for approximately 500 minutes each day, five days per week. Additionally, PCA will operate various parent and community programs during evening hours such as continuing parent education workshops. Weekends, holidays, and student non-attendance days will involve staff professional development in-services, workshops, and trainings as well as fundraising events and enrichment programs. Consequently, the Charter School's educational program requires a single contiguous school site in which to operate.

Facility Location:

Title 5 CCR Section 11969.9(c)(1)(E) requires the Charter School to provide information regarding the District school site and/or general geographic area in which the Charter School wishes to locate. Based upon the needs of the Charter School and the residency of the projected student enrollment, the Charter School desires to locate its facility at the **Creekside School site located at 2641 Kent Avenue in Sacramento, California, 95821.**

Procedures and Timelines:

In accordance with the Implementing Regulations, the District is required to review the Charter School's attendance projections and to express any objections that it has about the Charter School's attendance projections in writing on or before December 1, 2014. The Charter School must respond to the District's written objections, if any, on or before January 2, 2015, and will either reaffirm or modify its projections as it deems necessary. (5 CCR Section 11969.9(d).)

Furthermore, we look forward to receiving a written preliminary facilities proposal from the District on or before February 1, 2015, as required under the Implementing Regulations. (5 CCR Section 11969.9(f).) The preliminary proposal must include, at a minimum, the following information: (1) a breakdown of the number of teaching stations (classrooms), specialized and non-classroom based space to be allocated to the Charter School, with an indication as to whether the space is exclusive or shared use; (2) the projections of in-District classroom ADA on which the proposal is based; (3) the specific location of the space; (4) all conditions pertaining to the space, including a draft of any proposed agreement pertaining to the Charter School's use of the space, (typically referred to as a facilities use agreement); (5) the projected pro rata share amount and a description of the methodology used to determine that amount; and (6) a list and description of the comparison group schools used in developing its preliminary proposal, and a description of

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the differences between the preliminary proposal and the Charter School's facilities request. In accordance with the Implementing Regulations (5 CCR Section 11969.2(d)), if the District's preliminary proposal (or final notification) does not accommodate Charter School at a single school site, the District's governing board must first make a finding that the Charter School could not be accommodated at a single site and adopt a written statement of reasons explaining the finding. The Charter School has until March 1, 2015, to respond to the preliminary proposal, expressing any concerns, addressing differences between the preliminary proposal and the facilities request, and/or making counter proposals.

The Implementing Regulations Section 11969.9(h) requires the District to provide a written final notification regarding the space to be allocated to the Charter School prior to April 1, 2015. The final notification specifically must include, at a minimum, the following:

(1) The teaching station, specialized classroom space, and non-teaching station space offered for the exclusive use of the charter school and the teaching station, specialized classroom space, and non-teaching station space which the charter is to be provided access on a shared basis with District operated programs, if any;
(2) For shared space, if any, the proposed arrangements for sharing;
(3) The in-District classroom ADA assumptions for the Charter School upon which the allocation is based and, if the assumptions are different than those submitted by the charter school, a written explanation of the reasons for the differences;
(4) The specific location of the space;
(5) All conditions pertaining to the Charter School's use of the space;
(6) The pro rata share amount and a description of the methodology used to determine that amount;
(7) The payment schedule for the pro rata share amount, which shall take into account the timing of revenues from the state and from local property taxes; and
(8) A response to the Charter School's concerns and/or counter-proposals, if any.

A California Court of Appeals decision has made clear that, in meeting their Proposition 39 obligation, school districts must give the same degree of consideration to the needs of charter school students as it does to the students in district-run schools. The court noted that "accommodating a charter school might involve moving district-operated programs or changing attendance areas" and that providing a contiguous school facility to a charter school might require disruption and dislocation among district students, staff and programs. *Ridgecrest Charter School v. Sierra Sands Unified School District*, 130 Cal.App.4th 986 (2005). In addition, the Court concluded that a school district responding to a request for facilities must issue a statement of reasons at the time it makes its final determination that is "thorough" and "factual" enough to permit "effective review by the courts"; the statement of reasons issued by the school district must demonstrate that the district has "adequately considered all relevant factors" and that the district can "demonstrate a rational connection between those factors, the choice made, and the purposes of [Proposition 39]." Furthermore, as the District may be aware, two recent court cases clarified the manner in which a school district must allocate facilities to a charter school. Specifically, *Bullis Charter School v. Los Altos School District* (200 Cal.App.4th 1022), among other things, requires the District to perform a calculation of the square footage of all of the specialized and non-teaching station spaces at the comparison schools. The District must base its allocation of space to the Charter School on this analysis. In addition, the California Supreme Court has

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agreed to review whether a school district may use its internal "norming ratios", or student-teacher ratios, in determining the number of classrooms to offer to charter schools instead of using the facilities inventory at comparison group schools required by the Implementing Regulations. (*California Charter Schools Assn. v. Los Angeles Unified School District* (154 Cal.Rptr.3d 889 2013).

Although Proposition 39 requires the District to allocate a school facility for Charter School use, the Charter School is amenable to discussing alternative facilities arrangements that meet both the needs of the District and the Charter School.

The Charter School Governing Board has delegated to me the responsibility to negotiate the allocation of a facility under Proposition 39. All communications regarding this matter should be sent to my attention at the address below. My contact information is as follows:

Dawn Contreras Douglas
3510 Hazeltine Lane
Office: (916) 757-1479
Cell: (916) 799-9920
dcdouglas@pcaeducation.org

I appreciate your time and consideration of this request and I look forward to developing a mutually agreeable plan to meet the facilities needs of the Charter School's In-District students.

Sincerely,

Dawn Contreras Douglas

Dawn Contreras Douglas
Chief Executive Officer

cc: David Cox, Elaine Mays,
Debora Walker, Rob Gerig, Charter School Board Members
Laura Kerr, CCSA Regional Director
Norman Gonzalez, CCSA Manager School Development, Northeast & Central Valley

Attachments (the following attachments are incorporated by reference herein):

- 2015/16 PCA Operational School Calendar
- Charter Petition Parent Signature Pages
- Intent to Re/Enroll Forms

PARAMOUNT COLLEGIATE ACADEMY

2015-2016

Academic Year Calendar

(PROPOSED)

July 15

Su	M	Tu	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

August 15

Su	M	Tu	W	Th	F	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

September 15

Su	M	Tu	W	Th	F	Sa
						5
6					11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

October 15

Su	M	Tu	W	Th	F	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November 15

Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10		12	13	14
15	16	17	18	19	20	21
22	23	24	25			28
29	30					

December 15

Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20						26
27						

January 16

Su	M	Tu	W	Th	F	Sa
						2
3						9
10						16
17		19	20	21	22	23
24	25	26	27	28	29	30
31						

February 16

Su	M	Tu	W	Th	F	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14		16	17	18	19	20
21	22	23	24	25	26	27
28	29					

March 16

Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20						26
27	28	29	30	31		

April 16

Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

May 16

Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15						21
22						28
29		31				

June 16

Su	M	Tu	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16		18
19	20	21	22	23	24	25
26	27	28	29	30		

July 16

Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

August 16

Su	M	Tu	W	Th	F	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

NOTES AND HOLIDAYS

Labor Day	September 7, 2015
Veterans' Day	November 11, 2015
Thanksgiving Day	November 26, 2015
Christmas Day	December 25, 2015
Martin Luther King Day	January 18, 2016
Presidents' Day	February 15, 2016
Easter Sunday	March 27, 2016
Memorial Day	May 30, 2016

- School Closed/Holiday
- Orientation
- First/Last Day of School
- Intersession
- Staff Professional Development

PCA

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PARENTS

PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY

Peticion para establecer Paramount Collegiate Academy

The petitioners listed below certify that they are meaningfully interested in enrolling their student(s) at Paramount Collegiate Academy. As such, petitioners believe that the charter merits consideration and hereby petition the governing board of the San Juan Unified School District to grant approval of the charter pursuant to Education Code 47600 et seq. The petitioners authorize the Leadership Team to negotiate any amendments to the charter necessary to secure approval by the District Board. Signature page is attached to petition upon signature.

Las personas que aqui dan su firma certifican que son padres de familia con su interes autentico en inscribir a su(s) estudiante(s) en Paramount Collegiate Academy. Por lo tanto, los suscritos a esta peticion afirman que esta merece consideracion y piden que la Junta Directiva Escolar del San Juan distrito apruebe esta peticion charter, sequn lo prove a Ley Educative 47600 et seq . Los suscritos autorizan al Equipo Fundador de dicha escuela para negociar las enmiendas a esta peticion que sean necesarias para asegurar la aprobacion de la Junta Directiva Escolar. Esta pagina de firmas esta adjunta a la peticion cuando se firmo.

NAME *Nombre*	**SIGNATURE** *Firma*	**ADDRESS** *Direccion*	**PHONE NUMBER** *Numero del Telefono*	**STUDENT GRADE IN 2015-16 SCHOOL YEAR** *Grado del Estudiante*	**NAME OF NEIGHBORHOOD DISTRICT SCHOOL** *Nombre de la escuela distrito*	**DATE** *Fecha*
Michelle Parker	M Parker	[redacted]				
Michelle Parker	M Parker					
Julie Vincent						
Heidi Spess	HSpess					

PARENTS

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[redacted]						

PARENTS

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NAME *Nombre*	SIGNATURE *Firma*	ADDRESS *Direccion*	PHONE NUMBER *Numero del Telefono*	STUDENT GRADE IN 2015-16 SCHOOL YEAR *Grado del Estudiante*	NAME OF NEIGHBORHOOD DISTRICT SCHOOL *Nombre de la escuela distrito*	DATE *Fecha*
[redacted]		175 - [redacted]				5-22-14

PARENTS

PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY

Peticion para establecer Paramount Collegiate Academy

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NAME *Nombre*	**SIGNATURE** *Firma*	**ADDRESS** *Direccion*	**PHONE NUMBER** *Numero del Telefono*	**STUDENT GRADE IN 2015-16 SCHOOL YEAR** *Grado del Estudiante*	**NAME OF NEIGHBORHOOD DISTRICT SCHOOL** *Nombre de la escuela distrito*	**DATE** *Fecha*
Erika Vargas	Erika Vargas	[redacted]				
Rosita Rocha	Rosita Rocha					
Nicole Robles	Nicole Robles					
Griselda Serrano	Griselda Serrano					
Gloria Vazquez	Gloria Vazquez					
Katherine Rodriguez	Katherine Rodriguez					
Tammy Reyes	Tammy Reyes					
Maria Alvarado	Maria Alvarado					
[illegible]	[illegible]					
[illegible]	[illegible]					
Sarah Sutherland	Sarah Sutherland					

PARENTS
PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY
Peticion para establecer Paramount Collegiate Academy

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NAME *Nombre*	**SIGNATURE** *Firma*	**ADDRESS** *Direccion*	**PHONE NUMBER** *Numero del Telefono*	**STUDENT GRADE IN 2015-16 SCHOOL YEAR** *Grado del Estudiante*	**NAME OF NEIGHBORHOOD DISTRICT SCHOOL** *Nombre de la escuela distrito*	**DATE** *Fecha*
Klara Tsurkan		[redacted]				
Natalya Manliev						
Alex Pyankov						
[illegible]						
Irina Popkov						

PARENTS
PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY
Peticion para establecer Paramount Collegiate Academy

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Gina Cudia	Gina Cudia	[redacted]				
Paula Muller	Paula Muller					
Leah Wilson	Leah Wilson					
Nildamar Guardiano						
Andrea Dawkins						
Regina Smith						
Philip DeTore						
Sandra Chappell						
Patty Hawkins						
Maria Fernandez						

PARENTS
PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY
Peticion para establecer Paramount Collegiate Academy

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Janet Blackburn		[redacted]				
Erin Garton						

PARENTS
PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY
Peticion para establecer Paramount Collegiate Academy

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Lyndsay Ewerson	[redacted]					

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Yaroslav Fedun		[redacted]				
Kostyantyn Vitretsyuk						
Melissa Patricia Arcelis						
Yuliia Kuzmenko						
Svetlana Nazarenov						
Liana Kalinina						
Valentina Smirnova						
Larisa Vallvisto						
Luba Cravchuk						
..						

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Christine Moses	Christine Mo	[redacted]				

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Megan Tuttle		[redacted]				
Leistisha Archuleta						
Melissa Frost						
Amy Brooks						
Alondra Garcia						
Christina Cruz						
" "						
Stephanie Harris						
Julia Bear						
Christine Bear						
Phil Pumphrey						

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Felix Ocampo		[redacted]				
[illegible]						
Amy Bacuera						
Sommer Gonzales						
Bonniece Carr						
Jessica Monroe						
Shavon Miles						
Rupnikas						
Jasmine Perron						
Loreto Zamudio						

PAReNTS

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LaKerma Brooks		[redacted]				
Tawara Jones						
Cheryl Henley						
Howard Chan						
Theresa Braithwaite						
Vicney Lee						
Antionette Jones						
Jason Chan						
Carolyn Tevis						

PAkeNTS

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Constina Buch		[redacted]				
Gabi B						
Jose Ro						
Maria Mendez	Maria Mendez					
Fisseha Felek						
Jerry Alvarez						

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Christina Rico	Rico	[redacted]				
Waynisha Kent	Kent					
Dennitza						
Dena Cavanaugh						
Martina	Reyes					
Dejanira b						
Cappi Marie	Cameron					
Stella C						
Trew Smith						
Santesmit						

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Kelsissa Richard	C. Richard	[redacted]				
Bryan Aguilar	Pablo morales					
[illegible]						
Estela D	Estela D					
Nancy Garcia						
Armando Campos						
Patricia Lopez	Federico L					
Olivia [illegible]						
Shannon Hay						
CHEYARNE						

PAR.NTS

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David Lopez	[redacted]					
Ivan Tenorio						
Maria Chebay						
Matt Hagmann						
Mara Allen						
Marcia						

PARENTS
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Julie Howard	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Scott Brown	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Oksana Kovalyk	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Dmytro Kovalyk	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tiffany Sartee	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Amber Gillett	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Jenita Elmsen	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Jaeleen Helmick	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Tarlisa	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Juesa Sanchez	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

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[redacted]						
Lily Pritchett						
Genoveva Cropeza						
Ina Drake Ellis						
Zuhan Dayanni						
Karen Link						
Donna Moss						
Kristina						
Irma Mora						

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Hnzhela Simin	[redacted]	[redacted]				
Cita Searcy	Cita Searcy					
Alba Estrella	Alba Estrella					
Emmett Fletcher	Emmett Fletcher					
Christina Sparacino	[redacted]					
Juan Loza	Juan C Loza					
Nancy Schrist	[redacted]					
Cinda Lee	[redacted]					

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Las personas que aqui dan su firma certifican que son padres de familia con su interes autentico en inscribir a su(s) estudiante(s) en Paramount Collegiate Academy. Por lo tanto, los suscritos a esta peticion afirman que esta merece consideracion y piden que la Junta Directiva Escolar del San Juan distrito apruebe esta peticion charter, sequn lo prove a Ley Educative 47600 et seq . Los suscritos autorizan al Equipo Fundador de dicha escuela para negociar las enmiendas a esta peticion que sean necesarias para asegurar la aprobacion de la Junta Directiva Escolar. Esta pagina de firmas esta adjunta a la peticion cuando se firmo.

NAME *Nombre*	**SIGNATURE** *Firma*	**ADDRESS** *Direccion*	**PHONE NUMBER** *Numero del Telefono*	**STUDENT GRADE IN 2015-16 SCHOOL YEAR** *Grado del Estudiante*	**NAME OF NEIGHBORHOOD DISTRICT SCHOOL** *Nombre de la escuela distrito*	**DATE** *Fecha*
Jessica Stacy		[redacted]				
Lilian Lopez						
Claudia Rios						
Shelly Eidelson						
Francisco Ruiz						
Rey [illegible]						
Maria Lopez						
[illegible]						
Kim [illegible]						
Holly Spivey						

PARENTS

PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY

Peticion para establecer Paramount Collegiate Academy

The petitioners listed below certify that they are meaningfully interested in enrolling their student(s) at Paramount Collegiate Academy. As such, petitioners believe that the charter merits consideration and hereby petition the governing board of the San Juan Unified School District to grant approval of the charter pursuant to Education Code 47600 et seq. The petitioners authorize the Leadership Team to negotiate any amendments to the charter necessary to secure approval by the District Board. Signature page is attached to petition upon signature.

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[redacted]						

PAR...NTS

PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY

Peticion para establecer Paramount Collegiate Academy

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Ken Furl	K Furl	[redacted]				
Kim Sellards	K...					

PARENTS

PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY

Peticion para establecer Paramount Collegiate Academy

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Stephanie Davis		[redacted]				
James Dullas						
Cirene Huerta						
Maria Aguirre						
Fidelina Suarez Ac.						
Yolanda Ac.						
Violeta Ort.						
Jorda Zafari						
Jessika Mendez						
Fariba						
Manela						

PARENTS

PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY

Peticion para establecer Paramount Collegiate Academy

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VERONICA MUÑOZ		[redacted]				
Tracy Yang						
[illegible]						
Maria Marquez						
Marvin Marquez						
Monica Arellano						
MICHAEL CURRY						
[illegible]						
[illegible]						
Catalina Gomez						

PARENTS

PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY

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[redacted]						

PARENTS

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[redacted]						

PARENTS

PETITION FOR THE ESTABLISHMENT OF PARAMOUNT COLLEGIATE ACADEMY

Peticion para establecer Paramount Collegiate Academy

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[redacted]						

Paramount Collegiate Academy Charter School
Intent to Re/Enroll Form
for Purposes of Requesting Facilities
DUE Back to Paramount Collegiate Academy by October 17, 2014!

Dear Current and Potential Paramount Collegiate Academy Charter School Parents/Guardians:

Under California law (i.e., Proposition 39) the San Juan Unified School District must provide the Paramount Collegiate Academy Charter School reasonably equivalent school facilities in which to operate the charter school. This Form may be used to support the Charter School's request for facilities. **By submitting this Form, you are indicating that you are meaningfully interested in enrolling or re-enrolling (as applicable) your child/children in the Charter School's classroom-based program during the 2015-16 school year.** Thank you very much for your support and cooperation!

Student Information:

[redacted]

By signing below, I am indicating that I am meaningfully interested in [re-enrolling/enrolling] the above named child(ren) in Paramount Collegiate Academy Charter School for the 2015-16 school year. I understand that signing this Form does not guarantee enrollment in the Charter School. I further understand that this information will be disclosed to the San Juan Unified School District to support the Charter School's request for facilities under Proposition 39, and that the District may contact me directly to verify my response.

Signature of Parent/Legal Guardian: _____ **Date:** 10/08/14

IMPORTANT!! Return by October 17, 2014 in person or by mail:
3510 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
Intent to Re/Enroll Form
for Purposes of Requesting Facilities
DUE Back to Paramount Collegiate Academy by October 10, 2014!

Dear Current and Potential Paramount Collegiate Academy Charter School Parents/Guardians:

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Student Information:

[redacted]

By signing below, I am indicating that I am meaningfully interested in [re-enrolling/enrolling] the above named child(ren) in Paramount Collegiate Academy Charter School for the 2015-16 school year. I understand that signing this Form does not guarantee enrollment in the Charter School. I further understand that this information will be disclosed to the San Juan Unified School District to support the Charter School's request for facilities under Proposition 39, and that the District may contact me directly to verify my response.

Signature of Parent/Legal Guardian: Kristine Blas **Date:** 10-9-14

IMPORTANT!! Return by October 10, 2014 in person or by mail:
3610 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
Intent to Re/Enroll Form
for Purposes of Requesting Facilities
DUE Back to Paramount Collegiate Academy by October 10, 2014!

Dear Current and Potential Paramount Collegiate Academy Charter School Parents/Guardians:

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Student Information:

[redacted]

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Signature of Parent/Legal Guardian: _____ **Date:** 10-7-2014

IMPORTANT!! Return by October 10, 2014 in person or by mail:
3510 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
Intent to Re/Enroll Form
for Purposes of Requesting Facilities
DUE Back to Paramount Collegiate Academy by October 10, 2014!

Dear Current and Potential Paramount Collegiate Academy Charter School Parents/Guardians:

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Student Information:

[redacted]

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Signature of Parent/Legal Guardian: [redacted] **Date:** 10/04/2014

IMPORTANT!! Return by October 10, 2014 in person or by mail:
3510 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
Intent to Re/Enroll Form
for purposes of requesting facilities
DUE Back to Paramount Collegiate Academy by October 10, 2014!

Dear current and potential Paramount Collegiate Academy Charter School parents/guardians:

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Student Information:

[redacted]

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Signature of Parent/Legal Guardian: _____ **Date:** 10.9.14

IMPORTANT!! Return by October 10, 2014 in person or by mail:
3510 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
Intent to Re/Enroll Form
for purposes of requesting facilities
DUE Back to Paramount Collegiate Academy by October 10, 2014!

Dear current and potential Paramount Collegiate Academy Charter School parents/guardians:

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Student Information:

[redacted]

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Signature of Parent/Legal Guardian: _____ **Date:** _____

IMPORTANT!! Return by October 10, 2014 in person or by mail:
3510 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
Intent to Re/Enroll Form
for purposes of requesting facilities
DUE Back to Paramount Collegiate Academy by October 10, 2014!

Dear current and potential Paramount Collegiate Academy Charter School parents/guardians:

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Student Information:

[redacted]

By signing below, I am indicating that I am meaningfully interested in [re-enrolling/enrolling] the above named child(ren) in Paramount Collegiate Academy Charter School for the 2015-16 school year. I understand that signing this Form does not guarantee enrollment in the Charter School. I further understand that this information will be disclosed to the San Juan Unified School District to support the Charter School's request for facilities under Proposition 39, and that the District may contact me directly to verify my response.

Signature of Parent/Legal Guardian: Paula D Muller **Date:** 10/07/14

IMPORTANT!! Return by October 10, 2014 in person or by mail:
3510 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
Intent to Re/Enroll Form
for Purposes of Requesting Facilities
DUE Back to Paramount Collegiate Academy by October 10, 2014!

Dear Current and Potential Paramount Collegiate Academy Charter School Parents/Guardians:

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Student Information:

[redacted]

By signing below, I am indicating that I am meaningfully interested in (re-enrolling/enrolling) the above named child(ren) in Paramount Collegiate Academy Charter School for the 2015-16 school year. I understand that signing this Form does not guarantee enrollment in the Charter School. I further understand that this information will be disclosed to the San Juan Unified School District to support the Charter School's request for facilities under Proposition 39, and that the District may contact me directly to verify my response.

Signature of Parent/Legal Guardian: [redacted] **Date:** 10/2/14

IMPORTANT!! Return by October 10, 2014 in person or by mail:
3510 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
Intent to Re/Enroll Form
for Purposes of Requesting Facilities
DUE Back to Paramount Collegiate Academy Immediately

Dear Current and Potential Paramount Collegiate Academy Charter School Parents/Guardians:

Under California law (i.e., Proposition 39) the San Juan Unified School District must provide Paramount Collegiate Academy Charter School reasonably equivalent school facilities in which to operate the charter school. This Form may be used to support the Charter School's request for facilities. **By submitting this Form, you are indicating that you are meaningfully interested in enrolling or re-enrolling (as applicable) your child/children in the Charter School's classroom-based program during the 2015-16 school year.** Thank you very much for your support and cooperation!

Student Information:

[redacted]

By signing [redacted] Academy Charter School for the 2015-16 school year. I understand that signing this Form does not guarantee enrollment in the Charter School. I further understand that this information will be disclosed to the San Juan Unified School District to support the Charter School's request for facilities under Proposition 39, and that the District may contact me directly to verify my response.

Signature of Parent/Legal Guardian: _____ **Date:** 10-26-14

IMPORTANT!! Return immediately in person or by email:
dcdouglas@pcaeducation.org

Paramount Collegiate Academy Charter School
Intent to Re/Enroll Form
for Purposes of Requesting Facilities
DUE Back to Paramount Collegiate Academy by October 17, 2014!

Dear Current and Potential Paramount Collegiate Academy Charter School Parents/Guardians:

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Student Information:

[redacted]

By signing below, I am indicating that I am meaningfully interested in [re-enrolling/enrolling] the above named child(ren) in Paramount Collegiate Academy Charter School for the 2015-16 school year. I understand that signing this Form does not guarantee enrollment in the Charter School. I further understand that this information will be disclosed to the San Juan Unified School District to support the Charter School's request for facilities under Proposition 39, and that the District may contact me directly to verify my response.

Signature of Parent/Legal Guardian: [redacted] **Date:** 10-8-14

IMPORTANT!! Return by October 17, 2014 in person or by mail:
3510 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
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Student Information:

[redacted]

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Signature of Parent/Legal Guardian: [redacted] **Date:** 10/8/14

IMPORTANT!! Return by October 17, 2014 in person or by mail:
3510 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
Предворительная регистрационная форма.
Для получения школьного помещения
Дата возвращения в *Paramount Collegiate Academy* к 10 Октябрю, 2014!

Дорогие родители *Paramount Collegiate Academy Charter School* :

Согласно Колифорнийскому закону *(i.e., Proposition 39) San Juan Unified School District* обязан предоставить Paramount Collegiate Academy Charter School соответствующее школьное помещение для нашей чартарной школы. Эта форма будет служить поддержкой чтобы получть помещение. Заполнив зту форму, вы демонстрируюте интерес зачислить своего ребенка в Charter School's classroom-based в 2015-16 учебном году. Спасибо большое за вашу поддержку и участие!

Информация Студента:

[redacted]

Подписывая эту форму, я заинтересован в регистрации своего ребенка/детей в *Paramount Collegiate Academy Charter* школу в 2015-16 учебном году. Я понимаю что информация будет предоставлена в San Juan Unified School District чтобы поддержать Charter School's просьбу для получения школьного помещенияfor под *Proposition 39*, и такюе Дистрицт может контактировать со мной на прямую чтобы подтвердить мой ответ.

Подпись Родителя: _____ **Дата:** 10-1-14

Очень важно вернуть зту форму к 10 Октябрю, 2014 лично или по почте:

3510 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
Предворительная регистрационная форма.
Для получения школьного помещения
Дата возвращения в *Paramount Collegiate Academy* к 10 Октябрю, 2014!

Дорогие родители *Paramount Collegiate Academy Charter School* :

Соглассно Колифорнийскому закону *(i.e., Proposition 39) San Juan Unified School District* обязан предоставить Paramount Collegiate Academy Charter School соответствующее школьное помещение для нашей чартарной школы. Эта форма будет служить поддержкой чтобы получть помещение. Заполнив эту форму, вы демонстрируюте интерес зачислить своего ребенка в Charter School's classroom-based в 2015-16 учебном году. Спасибо большое за вашу поддержку и участие!

Информация Студента:

[redacted]

Подписывая эту форму, я заинтересован в регистрации своего ребенка/детей в *Paramount Collegiate Academy Charter* школу в 2015-16 учебном году. Я понимаю что информация будет предоставлена в San Juan Unified School District чтобы поддержать Charter School's просьбу для получения школьного помещенияfor под *Proposition 39*, и также Дистрицт может контактировать со мной на прямую чтобы подтвердить мой ответ.

Подпись Родителя: _____ **Дата:** 10 – 01 – 2014

Очень важно вернуть эту форму к 10 Октябрю, 2014 лично или по почте:

3510 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
Intent to Re/Enroll Form
for Purposes of Requesting Facilities
DUE Back to Paramount Collegiate Academy by October 17, 2014!

Dear Current and Potential Paramount Collegiate Academy Charter School Parents/Guardians:

Under California law (i.e., Proposition 39) the San Juan Unified School District must provide the Paramount Collegiate Academy Charter School reasonably equivalent school facilities in which to operate the charter school. This Form may be used to support the Charter School's request for facilities. **By submitting this Form, you are indicating that you are meaningfully interested in enrolling or re-enrolling (as applicable) your child/children in the Charter School's classroom-based program during the 2015-16 school year.** Thank you very much for your support and cooperation!

Student Information:

[redacted]

By signing below, I am indicating that I am meaningfully interested in [re-enrolling/enrolling] the above named child(ren) in Paramount Collegiate Academy Charter School for the 2015-16 school year. I understand that signing this Form does not guarantee enrollment in the Charter School. I further understand that this information will be disclosed to the San Juan Unified School District to support the Charter School's request for facilities under Proposition 39, and that the District may contact me directly to verify my response.

Signature of Parent/Legal Guardian: _____ **Date:** 10/07/14

IMPORTANT!! Return by October 17, 2014 in person or by mail:
3510 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
Intent to Re/Enroll Form
for Purposes of Requesting Facilities Oct. 17, 2014
DUE Back to Paramount Collegiate Academy by ~~October 10, 2014~~!

Dear Current and Potential Paramount Collegiate Academy Charter School Parents/Guardians:

Under California law (i.e., Proposition 39) the San Juan Unified School District must provide Paramount Collegiate Academy Charter School reasonably equivalent school facilities in which to operate the charter school. This Form may be used to support the Charter School's request for facilities. **By submitting this Form, you are indicating that you are meaningfully interested in enrolling or re-enrolling (as applicable) your child/children in the Charter School's classroom-based program during the 2015-16 school year.** Thank you very much for your support and cooperation!

Student Information:

[redacted]

Home Phone: [redacted] **Email:** [redacted]

By signing below, I am indicating that I am meaningfully interested in [re-enrolling/enrolling] the above named child(ren) in Paramount Collegiate Academy Charter School for the 2015-16 school year. I understand that signing this Form does not guarantee enrollment in the Charter School. I further understand that this information will be disclosed to the San Juan Unified School District to support the Charter School's request for facilities under Proposition 39, and that the District may contact me directly to verify my response.

Signature of Parent/Legal Guardian: Sarah Medal **Date:** 10/14/14

IMPORTANT!! Return by ~~October 10, 2014~~ in person or by mail:
3510 Hazeltine Lane Roseville, CA 95747
Oct. 17, 2014

Paramount Collegiate Academy Charter School
Intent to Re/Enroll Form
for Purposes of Requesting Facilities
DUE Back to Paramount Collegiate Academy Immediately

Dear Current and Potential Paramount Collegiate Academy Charter School Parents/Guardians:

Under California law (i.e., Proposition 39) the San Juan Unified School District must provide Paramount Collegiate Academy Charter School reasonably equivalent school facilities in which to operate the charter school. This Form may be used to support the Charter School's request for facilities. **By submitting this Form, you are indicating that you are meaningfully interested in enrolling or re-enrolling (as applicable) your child/children in the Charter School's classroom-based program during the 2015-16 school year.** Thank you very much for your support and cooperation!

Student Information:

[redacted]

as above

By signing below, I am indicating that I am meaningfully interested in [re-enrolling/enrolling] the above named child(ren) in Paramount Collegiate Academy Charter School for the 2015-16 school year. I understand that signing this Form does not guarantee enrollment in the Charter School. I further understand that this information will be disclosed to the San Juan Unified School District to support the Charter School's request for facilities under Proposition 39, and that the District may contact me directly to verify my response.

Signature of Parent/Legal Guardian: Corrine Morse **Date:** 10/31/14

IMPORTANT!! Return Immediately in person or by email:
dcdouglas@pcaeducation.org

Paramount Collegiate Academy Charter School
Предворительная регистрационная форма.
Для получения школьного помещения
Дата возвращения в *Paramount Collegiate Academy* к 10 Октябрю, 2014!

Дорогие родители *Paramount Collegiate Academy Charter School* :

Согласно Колифорнийскому закону *(i.e., Proposition 39) San Juan Unified School District* обязан предоставить Paramount Collegiate Academy Charter School соответствующее школьное помещение для нашей чартарной школы. Эта форма будет служить поддержкой чтобы получть помещение. Заполнив эту форму, вы демонстрируюте интерес зачислить своего ребенка в Charter School's classroom-based в 2015-16 учебном году. Спасибо большое за вашу поддержку и участие!

Информация Студента:

[redacted]

Подписывая эту форму, я заинтересован в регистрации своего ребенка/детей в *Paramount Collegiate Academy Charter* школу в 2015-16 учебном году. Я понимаю что информация будет предоставлена в San Juan Unified School District чтобы поддержать Charter School's просьбу для получения школьного помещенияfor под *Proposition 39*, и такюе Дистрицт может контактировать со мной на прямую чтобы подтвердить мой ответ.

Подпись Родителя: _____ **Дата:** 10-3-2014

Очень важно вернуть эту форму к 10 Октябрю, 2014 лично или по почте:

3510 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
Intent to Re/Enroll Form
for Purposes of Requesting Facilities
DUE Back to Paramount Collegiate Academy Immediately

Dear Current and Potential Paramount Collegiate Academy Charter School Parents/Guardians:

Under California law (i.e., Proposition 39) the San Juan Unified School District must provide Paramount Collegiate Academy Charter School reasonably equivalent school facilities in which to operate the charter school. This Form may be used to support the Charter School's request for facilities. **By submitting this Form, you are indicating that you are meaningfully interested in enrolling or re-enrolling (as applicable) your child/children in the Charter School's classroom-based program during the 2015-16 school year.** Thank you very much for your support and cooperation!

Student Information:

Student #1:

[redacted]

By signing below, I am indicating that I am meaningfully interested in [re-enrolling/enrolling] the above named child(ren) in Paramount Collegiate Academy Charter School for the 2015-16 school year. I understand that signing this Form does not guarantee enrollment in the Charter School. I further understand that this information will be disclosed to the San Juan Unified School District to support the Charter School's request for facilities under Proposition 39, and that the District may contact me directly to verify my response.

Signature of Parent/Legal Guardian: Sandra Chappell **Date:** 10/31/14

IMPORTANT!! Return Immediately on person or by email:
dcdouglas@pcaeducation.org

Paramount Collegiate Academy Charter School
Предворительная регистрационная форма.
Для получения школьного помещения
Дата возвращения в *Paramount Collegiate Academy* к 10 Октябрю, 2014!

Дорогие родители *Paramount Collegiate Academy Charter School* :

Соглассно Колифорнийскому закону *(i.e., Proposition 39) San Juan Unified School District* обязан предоставить Paramount Collegiate Academy Charter School соответствующее школьное помещение для нашей чартарной школы. Эта форма будет служить поддержкой чтобы получть помещение. Заполнив эту форму, вы демонстрируюте интерес зачислить своего ребенка в Charter School's classroom-based в 2015-16 учебном году. Спасибо большое за вашу поддержку и участие!

Информация Студента:

[redacted]

Подписывая эту форму, я заинтересован в регистрации своего ребенка/детей в *Paramount Collegiate Academy Charter* школу в 2015-16 учебном году. Я понимаю что информация будет предоставлена в San Juan Unified School District чтобы поддержать Charter School's просьбу для получения школьного помещенияfor под *Proposition* 39, и также Дистрицт может контактировать со мной на прямую чтобы подтвердить мой ответ.

Подпись Родителя: _____ **Дата:** 10 - 5 - 2014

Очень важно вернуть эту форму к 10 Октябрю, 2014 лично или по почте:

3510 Hazeltine Lane Roseville, CA 95747

Paramount Collegiate Academy Charter School
Предворительная регистрационная форма.
Для получения школьного помещения
Дата возвращения в *Paramount Collegiate Academy* к 10 Октябрю, 2014!

Дорогие родители *Paramount Collegiate Academy Charter School* :

Согласно Колифорнийскому закону *(i.e., Proposition 39) San Juan Unified School District* обязан предоставить Paramount Collegiate Academy Charter School соответствующее школьное помещение для нашей чартарной школы. Эта форма будет служить поддержкой чтобы получть помещение. Заполнив эту форму, вы демонстрируете интерес зачислить своего ребенка в Charter School's classroom-based в 2015-16 учебном году. Спасибо большое за вашу поддержку и участие!

Информация Студента:

[redacted]

Подписыва[redacted]6 учебном году. Я понимаю что информация будет предоставлена в San Juan Unified School District чтобы поддержать School's просьбу для получения школьного помещенияfor под *Proposition 39*, и также Дистрицт может контактировать со мной на прямую чтобы подтвердить мой ответ.

Подпись Родителя: Yelena Kumanskiy **Дата:** 9/30/14

Очень важно вернуть эту форму к 10 Октябрю, 2014 лично или по почте:
3510 Hazeltine Lane Roseville, CA 95747

PARAMOUNT COLLEGIATE ACADEMY

APPEAL PACKET

Section 6

Special Education SELPA

PCA
21stCentury Readiness for All Students
Paramount Collegiate Academy

Enclosed herein Section 6 is additional information and documents pertaining to the Special Education SELPA per change in authorizing entity:

1. Paramount Collegiate Academy has amended its Petition language for Special Education, changing from a "school of the district" for purposes of providing special education services to an "LEA".

2. The SJUSD Governing Board's denial of the Paramount Collegiate Academy Petition prompted the Petitioner(s) to begin researching and reaching out to various local and charter SELPA's for potential membership.

3. The Petitioner(s) intend to join the El Dorado County Office of Education (EDCOE) Charter SELPA. Language in the Petition reflects this intention.

4. The Petitioner(s) are registered for the upcoming New EDCOE SELPA Member Informational Meeting of December 17, 2014.

5. The Petitioner(s) submitted a formal letter of application to EDCOE SELPA on December 8, 2014.

    - Copy of EDCOE SELPA Application Letter dated December 8, 2014, is enclosed in Section 6 herein.

PCA
21stCentury Readiness for All Students
Paramount Collegiate Academy

December 8, 2014

Ginese Quann
SELPA Director
El Dorado County Charter SELPA
3932 Ponderosa Road, Suite 200
Shingle Springs, CA 95682

Dear Ms. Quann,

On behalf of Paramount Collegiate Academy, please consider this to be a formal application for LEA status in the El Dorado County Charter SELPA effective July 1, 2015.

We would greatly appreciate any guidance regarding the next steps for continuing with this application process, including the make-up meeting for new members during December, 2014.

We anticipate and welcome discussion and questions regarding our intentions and stand ready to prepare more information as needed.

Dawn Contreras Douglas

Dawn Contreras Douglas
Founder/CEO
Paramount Education Inc.
Paramount Collegiate Academy
916-757-1479
dcdouglas@pcaeducation.org

PARAMOUNT COLLEGIATE ACADEMY

APPEAL PACKET

Section 7

Federal Public Charter School Grant

PCA
21stCentury Readiness for All Students
Paramount Collegiate Academy

Enclosed herein Section 7 are information and documents related to Paramount Collegiate Academy's 2014-15 Application for the Federal Public Charter School Grant, necessitating a change in the terms of the original Charter Petition per California Department of Education (CDE) stipulation:

A. Paramount Collegiate Academy submitted its 2014-15 Application for the Federal Public Charter School Grant (PCSGP) on September 16, 2014.

B. The Petitioner(s) and San Juan Unified School District were notified in a letter from CDE dated October 14, 2014 that Federal PCSGP applicants must have an approved charter petition with a term start date of no later than June 30, 2015 to remain eligible to receive 2014-15 PCSGP funds.

1. Copy of CDE letter dated October 14, 2014, stating the need for PCA's Petition term date to be no later than June 30, 2015, is included herein Section 7.

C. The Petitioner(s) received notice from CDE on October 22, 2014 that Paramount Collegiate Academy's PCSGP Application passed peer review and is eligible for $575,000 in PCSGP funding upon charter petition approval.

1. Copy of CDE letter dated October 22, 2014, stating that PCA's PCSGP Application passed review.

CALIFORNIA
DEPARTMENT OF
EDUCATION

TOM TORLAKSON
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION

October 14, 2014

Dawn Contreras-Douglas, Chief Executive Officer/Founder
Paramount Collegiate Academy
3510 Hazeltine Lane
Roseville, CA 95747

Dear Chief Executive Officer/Founder Contreras-Douglas:

The purpose of this letter is to provide supplemental information on the Public Charter Schools Grant Program (PCSGP) application that was submitted by the September 16, 2014, filing deadline. All PCSGP applications were screened by California Department of Education (CDE) staff to verify that applications were complete and contained all required signatures and assurances. CDE staff noted that the application submitted by Paramount Collegiate Academy did not provide a State Board of Education Charter School Number nor a Charter School Approval Date, which indicates the Charter Petition has not been approved by the local district or county office of education.

As stated in the 2014–15 PCSGP Request for Applications, the CDE is in the final year of the Federal Charter Schools Program funding cycle. As such, no sub-grant awards can go beyond California's grant period end date of July 31, 2015.

Although a developer was allowed to simultaneously submit a charter petition to an authorized public chartering authority as well as submit a PCSGP application by September 16, 2014, the approval of the charter petition must be received by CDE no later than May 7, 2015. In addition, the term of the approved charter school petition must have a term start date of no later than June 30, 2015, to remain eligible to receive 2014–15 PCSGP funds. Any approved charter petitions with a starting term of July 1, 2015, will not be eligible to receive 2014–15 PCSGP funds.

If the starting term of the approved charter petition has already been submitted to the CDE with a term that begins on July 1, 2015, or later, the Charter School may choose to work with its authorizer to revise the term date. A copy of the approved board meeting minutes will need to be submitted to CDE by May 7, 2015, in order to continue to be eligible for 2014–15 PCSGP funds. Please submit electronically the board meeting minutes clearly indicating the term of the charter petition to PCSGPgeneral@cde.ca.gov. Indicate in the e-mail subject line "school name revised board meeting minutes".

If you have any question regarding this issue, please contact the Public Charter School Grant Program Office at (916) 322-6029.

Sincerely,

/s/

Julie Russell, Director
Charter Schools Division
California Department of Education

JR:sr

cc: San Juan Unified School District

CALIFORNIA
DEPARTMENT OF
EDUCATION

TOM TORLAKSON
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION

October 22, 2014

Dawn Contreras-Douglas, Chief Executive Officer/Founder
Paramount Collegiate Academy
3510 Hazeltine Lane
Roseville, CA 95747

Dear Chief Executive Officer/Founder Contreras-Douglas:

The purpose of this letter is to provide feedback on the Public Charter Schools Grant Program (PCSGP) application submitted by the September 16, 2014, filing deadline. The PCSGP application was reviewed and scored through a peer review process. Each element of the application's narrative responses was scored using a 4-point rubric. To receive PCSGP grant funds, an applicant must receive a score of 4, 3, or 2 in the seven required narrative response elements as stipulated in the Request for Applications (RFA), 2014–15 (Revised June 30, 2014).

The overall narrative element score for the Paramount Collegiate Academy application met the Request for Applications (RFA) criteria and will continue in the review process to be considered for funding. The application received a total score of **51** by the peer reviewers. The next step in the process is the budget review.

The California Department of Education (CDE) will be conducting a mandatory "Next Steps" Webinar scheduled for **October 30, 2014, at 11:00 a.m.** Please refer to Attachment 1 for further details regarding accessing the Webinar. The topics for the Webinar are: Charter Term Requirement; Higher Grant Award Eligibility; Budget Process; Fiscal Reporting Requirements; Performance Reporting Requirements; and Grant Monitoring.

If you have any questions regarding this subject, please contact CDE staff, by phone at 916-322-6029 or by e-mail at PCSGP-APPS@cde.ca.gov with the words "PCSGP Scoring" and the Charter School name in the subject line.

Sincerely,

/s/

Julie Russell, Director
Charter Schools Division

JR:sr

Instructions for Access Next Steps Webinar

ATTENDEE INFORMATION

Topic: PCSGP Next Steps Webinar
Date and Time: Thursday, October 30, 2014 11:00 am, Pacific Daylight Time (San Francisco, GMT-07:00)

Event number: 660 930 255
Event password: 98754
Event registration/address for attendees:
https://cdeevents.webex.com/cdeevents/onstage/g.php?t=a&d=660930255

Audio conference information

Call-in toll number (US/Canada): 1-650-479-3207
Access code: 660 930 255

First Time Users: To save time before the meeting, check your system to make sure it is ready to use WebEx.

Step 1: Visit the test site at http://www.webex.com/test-meeting.html
Step 2: If you experience issues joining the meeting, contact WebEx support at 1-866-229-3239

IMPORTANT NOTICE: This WebEx service includes a feature that allows audio and any documents and other materials exchanged or viewed during the session to be recorded. You should inform all meeting attendees prior to recording if you intend to record the meeting. Please note that any such recordings may be subject to discovery in the event of litigation.

PARAMOUNT COLLEGIATE ACADEMY

APPEAL PACKET

Section 8

Additional Letters of Community Support

PCA

21stCentury Readiness for All Students

Paramount Collegiate Academy

Enclosed herein Section 8 are the following Letters of Support from Arden Arcade and the surrounding community in addition to the 23 Letters of Support included in the Paramount Collegiate Academy Charter Appendices:

A. Original Letter of Support-Rotary Club of Arden Arcade is enclosed herein Section 8

B. Original Letter of Support-Cottage Park/Creekside Neighborhood Association is enclosed herein Section 8

*Note: The Petitioner(s) continue to garner letters of support for Paramount Collegiate Academy from community members, associations, businesses, and agencies in Sacramento.

ROTARY CLUB OF ARDEN ARCADE

San Juan Unified School District
3738 Walnut Avenue
Carmichael, CA 95608

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Members of the San Juan Unified School District:

The Rotary Club of Arden Arcade is proud to support Paramount Collegiate Academy (PCA) in its petition to San Juan Unified School District for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for children focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. Paramount will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children from across the Sacramento region and they look forward to doing so in partnership with the San Juan Unified School District. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. We need it for our children and our community.

Sincerely,

Joel Archer
President, Rotary Club of Arden Arcade

Cottage Park/Creekside Neighborhood Association
3308 El Camino Avenue, Ste 300-175
Sacramento, CA 95821
cpnameeting@gmail.com

December 05, 2014

Sacramento County Office of Education
10474 Mather Boulevard
Mather, CA 95655
Post Office Box 269003
Sacramento, CA 95826-9003

Re: Support for the Paramount Collegiate Academy Charter Petition

Dear Board Trustees of the Sacramento County Office of Education:

Cottage Park/Cottage Creek Neighborhood Association(CPCNA) is writing this letter to support Paramount Collegiate Academy (PCA) in its petition appeal to the Sacramento County Office of Education for recognition as a 6-12th grade public charter school. PCA is committed to providing an innovative and creative college preparatory opportunity for Arden Arcade focused on a project based interdisciplinary model and foundational skills developed by the *Partnership for 21st Century Skills*. PCA will utilize best research based practices that integrate Science, Technology, Engineering, Art, and Mathematics (STEAM), building upon the successes of proven models such as High Tech High, and the Drew Charter Academy.

Paramount Collegiate Academy is dedicated to serving children in Arden Arcade and they look forward to doing so in partnership with the Sacramento County Office of Education. PCA will have a strong community focus, both in and outside the classroom. We support Paramount Collegiate Academy as an excellent public education option that will equip children to lead fulfilling and productive lives in a global, dynamic, and technology-driven world.

Please approve the Paramount Collegiate Academy charter petition. Arden Arcade needs this education option for our children and our community.

Sincerely,

Raymond Ponce, Co-Chair
Cottage Park/Cottage Creek Neighborhood Association
916-919-5723

PCA
21stCentury Readiness for All Students

STEM
Science
Technology
Arts
Engineering
Math

CARMICHAEL
CHAMBER OF COMMERCE

Paramount Collegiate Academy

ROTARY INTERNATIONAL

OUR SUPPORTERS:

Rotary Club of Arden Arcade

DE UNE
SPORTSWEAR

SHERIFF'S COMMUNITY IMPACT PROGRAM
SCIP
SERVING THE ARDEN-ARCADE COMMUNITY

fast break tech

Advanced Tax & Accounting Firm

XLeration Services

WILLIAM JESSUP
UNIVERSITY

CCSA
California
Charter Schools
Association

River City Office Supply
www.rcos1.com

TRODFIRE INC.

Daniels & Company, Inc.
Certified Public Accountants

North Area Dental Laboratory

Touchstone
CHRISTIAN FELLOWSHIP

BANC Home Loans

CORNERSTONE
COMMUNITY CHURCH

Cottage Park/Creekside Neighborhood Association

Material
Damage
Appraisal

Russian Baptist Church

ARCHER FINANCIAL

Stanislaus County
Office of
Education

Ministering to children
fifty 5 five
throughout the world

PARAMOUNT COLLEGIATE ACADEMY

SBE APPEAL PACKET

Enclosure 4

Certification of Compliance With Applicable Law

CERTIFICATION OF COMPLIANCE WITH APPLICABLE LAW

***California Code of Regulations,* Title 5, Section 11967(b)(3)**

A charter petition that has been previously denied by a school district governing board and county board of education may be submitted to the State Board of Education. (Education Code Section 47605(j)(1).) As per Education Code Section 47605(j)(5), the State Board of Education has adopted regulations implementing the provisions of Section 47605(j)(1). See Title 5, California Code of Regulations Section 11967. (5 CCR Section 11967).)

5 CCR Section 11967 requires that a charter school petition that has been previously denied by a school district governing board and a county board of education must be received by the State Board of Education not later than 180 calendar days after the denial. (5 CCR Section 11967(a).) If within 60 days of a county board of education's receipt of a petition appealing the denial to establish a charter school, the county board of education does not grant or deny the petition for the establishment of a charter school, the charter school may submit the petition for the establishment of a charter school to the State Board of Education. (5 CCR Section 11967(d).) In addition, 5 CCR Section 11967(b)(3) requires the charter petitioner to provide a "signed certification stating that petitioner(s) will comply with all applicable law" when submitting the denied petition to the State Board of Education.

The following certification is submitted in compliance with 5 CCR Section 11967(b)(3).

Certification

By signing below, I certify as follows:

1. That I am the authorized representative, and that I am competent and qualified to certify to the facts herein;
2. That, as the authorized representative, I have personal knowledge of the facts forming the basis of this certification;
3. That I make this certification for purposes of 5 CCR Section 11967(b)(3) only; and
4. That the charter petitioner(s) and the charter petition are in compliance with applicable law.

Name: Dawn Contreras Douglas
Lead Petitioner
Paramount Collegiate Academy

Signature: Dawn Contreras Douglas

Date: February 27, 2015

School Name: Paramount Collegiate Academy