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GROSSMONT-CUYAMACA
COMMUNITY COLLEGE DISTRICT

Education Master Plan
Information Submission Form

The Grossmont-Cuyamaca Community College District is starting a year-long process to develop an Educational Master Plan that will serve as the blueprint for our future. The Educational Master Plan is a long-range, comprehensive document intended to guide institutional and program development at both the college and district levels. The priorities established in the Educational Master Plan will serve to guide College and District decisions about growth, development and resources allocation.

As the first step in this planning process, everyone in the GCCCD community (faculty, staff, students and community members) are invited to identify and submit information sources to be reviewed for the trend analysis in one of six areas – society, technology, economy, environment, politics, and education. We are not asking you to do research, only to identify information you already have or that you encounter during the search period (March 21- April 25) and bring it to our attention for review.

Please answer the following questions for each document you submit:

(Feel free to submit as many of these forms as you would like)

1) What is the name of the document? Developing Highly Qualified Teachers

2) Author: California Department of Education

3) Source:

4) Which of the following areas does this document best address? (Please select only one)

- ○ Society
- ○ Technology
- ○ Economy
- ○ Environment
- ○ Politics and Legal Issues
- ◉ Education
- ○ Other

5) Relevance:

6) Page/Section:

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Questions email: lynne.davidson@gcccd.edu Research, Planning and Institutional Effectiveness

Developing Highly Qualified Teachers

and Administrators: A White Paper on Developing Highly Qualified Teachers and Administrators for California Schools, California Department of Education, February 2006.

Back to State of Education Address, February 7, 2006

To maintain California's position as a world-class leader both economically and technologically, the state must continue to develop and support a world-class educational system. This includes ensuring that there is an adequate supply of highly qualified and effective teachers and administrators who are prepared to meet the challenges of teaching California's growing and diverse student population. The state must also ensure the equitable distribution of the most well-prepared teachers and administrators throughout the state, particularly in low-performing schools that serve a disproportionate number of poor and minority students, English learners, and special education students. The single most important influence on student learning outside the home is the teacher. From preschool through grade twelve education, good teachers form the foundation of good schools.[1]

Research confirms the importance of strong leadership for district and school improvement, particularly in turning around low-performing districts and schools.[2] Leadership is second only to classroom instruction among all school-related factors that contribute to what students learn at school.[3] Good schools are led by good principals, and good principals are supported by strong leadership at the district level. The increasing demands of the state's accountability system and the requirements of the federal No Child Left Behind Act (NCLB) of 2001 hold everyone responsible for high, common standards for academic performance for all students. Pressure is being placed on actors at all levels, from students to teachers, principals, and district leaders, to produce documented evidence of successful performance.[4] Recruiting and developing highly qualified teachers and administrators is the most important investment of resources that local, state, business, and community leaders can make in education.

Background

Over the past decade California's public education system has undergone unprecedented change. The state's standards-based reform movement has transformed the focus and goals of public education, challenged schools to set higher expectations for all students, and holds everyone from superintendent to students responsible for academic performance.[5] Policymakers have focused on improving California's educational system by lowering class sizes in the primary grades, establishing standards across the curriculum, and initiating a standards-based assessment and accountability system. The state's accountability system has been expanded to include new standards tests and the *California High School Exit Examination (CAHSEE).* Most recently, the state has been developing standards for preschool education. With the implementation of requirements of the federal No Child Left Behind Act of 2001, including the highly qualified teacher requirements, the state has one of the most rigorous standards and accountability systems in the country.

As a result of these efforts, California students have continued to improve in academic performance, as indicated by the results of the 2005 Standardized Testing and Reporting (STAR) Program.[6] Test scores in reading and mathematics are up in every grade, and more students are passing the high school graduation exam. In significant part this effort has been aided by a comprehensive state strategy that includes:

- High academic expectations in the core subject areas of English–language arts, mathematics, science, and history–social science.
- State Board of Education-approved standards-based instructional materials that give teachers the tools necessary to deliver more rigorous content.
- The statewide STAR Program that provides for the disaggregating of numerically significant subgroups by ethnicity, English-language fluency, disabilities, and economic status. This information allows for local

examination of student progress and determination of need for intervention programs and strategies.

However, challenges still remain. The graduation rate in California and test scores on state and national examinations point to continued problems with educational quality and equity, particularly among historically underserved poor and minority student populations[7]:

- Results from the 2005 National Assessment of Educational Progress indicated that only 22 percent of California fourth graders and 21 percent of eighth graders scored at or above the proficient level in reading.
- The state's 2002 high school graduation rate stands at 71 percent. Graduation rates for minority students trail behind: 57 percent for African Americans and 60percent for Latinos.
- Only 19 percent of African American students and 16 percent of Latino students in the graduating class of 2003 were eligible for admission to campuses of the California State University, compared with 34 percent of white students and 48percent of Asian American students.
- Only 10 percent of English learner (EL) students scored proficient or above in English–language arts on the 2004 *California Standards Test (CST).* Only 39percent of EL students were able to pass the English-language arts portion of the *CAHSEE* in 2004 compared with 81 percent of English speakers, and only 49percent of EL students could pass the mathematics portion compared with 78percent of their English-proficient peers.[8]

This white paper focuses on the challenges of developing highly qualified teachers and administrators for California schools. California has a long-standing commitment to providing quality education at all levels. It is time for policymakers from local and state educational agencies, institutions of higher education, and business and community members to band together to initiate and support programs and policies focused on the recruitment, support, and professional development of California's teacher and administrator workforce.

Back to top

The Initiative

The initiative Developing Highly Qualified Teachers and Administrators for California Schools proposes state and local policy actions to guide the entire education community toward the goal of ensuring an adequate supply of highly qualified teachers and administrators for California schools. The initiative is focused on two critical components for developing and supporting the state's teacher and administrator workforce. State lawmakers, the Governor, the California State Board of Education, and the State Superintendent of Public Instruction must collaborate in seeking legislation, enacting policy and regulatory changes, and aligning all efforts toward the goal of improving California's teacher and administrator workforce.

- Developing Highly Qualified Teachers for California Schools.
  - Recruiting highly qualified teachers.
  - Enhancing preservice education for teachers.
  - Expanding induction for beginning teachers
  - Providing high-quality professional development for experienced teachers.
- Developing Highly Qualified Administrators for California Schools.
  - Recruiting highly qualified administrators.
  - Enhancing preservice education for administrators.
  - Implementing induction programs for beginning administrators.
  - Providing high-quality professional development for experienced administrators.

Developing Highly Qualified Teachers for California Schools

California's teacher workforce is the largest in the country with more than 300,000 teachers serving a student population of over six million. During the past decade substantial progress has been made in reducing California's teacher shortages. The growing number of teachers without full credentials, created by class size reduction in the mid-1990s has been reduced by half, from 42,000 in 2000-01 to around 20,000 in 2004-05, approximately 7 percent of the total teacher workforce. Projections are that the demand for teachers will continue to grow through 2014-15.[9] Thirty-two percent, or 97,000, of California's 300,000 teachers are projected to retire within the next ten years, approximately one-third of the teacher workforce. Further adding to the teacher shortage problem is the declining enrollment of students in university and college teacher preparation programs. Over a four-year period, enrollment of credential-program students declined by 4 percent (from approximately 76,000 to 73,000) from 2001-02 to 2002-03, and by 8percent (from approximately 73,000 to 67,500) from 2002-03 to 2003-04. Absent any substantive policy interventions focused on the

development of the teacher workforce, severe teacher shortages are predicted to return over the next decade because of the large number of teachers projected to retire from the workforce and the decreasing number of newly credentialed teachers by state and university teacher preparation programs.

Recruiting Highly Qualified Teachers

California continues to experience severe shortages of qualified teachers for specific teaching assignments. Mathematics and science, long identified as shortage areas, continue to be problematic with between 10percent and 13 percent underprepared teachers (teachers who do not hold a full credential). Another critical shortage area is special education. Approximately 10 percent of California students are designated as needing special education services. In 2004-05 14 percent of all special education teachers were underprepared (teachers who do not hold a full credential). Among first-year special education teachers, nearly half (49 percent) were underprepared.[10]

In addition, there is a critical need for California to increase the number of teachers prepared to teach English learners. There are nearly 1.6 million English learners in California, a number that has increased by 26 percent between 1995 and 2005. The 2004 data indicate that 41percent of students enrolled in California schools were reported as having a home language other than English. English learner students make up approximately 25percent of California's total school population. Approximately one out of every four children in California public schools is in the process of acquiring English-language proficiency.[11] In California, teachers with one or more English learners in their classroom must have the proper authorization and training to teach EL students. In a 2003 survey 87percent of teachers reported having English learners in their classroom. At the same time only 47 percent of those teachers reported being certified to teach EL students, and only 40 percent reported having adequate training related to second-language acquisition.[12] In 2004-05 fewer than half (48 percent) of all fully credentialed veteran teachers (with more than five years of teaching experience) had an EL authorization.[13]

California must also address the unequal distribution of the most well-prepared and experienced teachers in schools throughout the state. Data gathered by the California Basic Educational Data System (CBEDS) indicate that students measured as the lowest achieving are five times more likely to have underprepared teachers as they proceed through their school careers. More novice and underprepared teachers are assigned to the state's lowest performing schools that serve a disproportionate number of poor, minority, and EL students. Beginning credentialed teachers are only minimally prepared for the classroom. The preliminary credential is the first step in California's "Learning to Teach" continuum, which is followed by the completion of an induction program in the first two years of teaching. Research suggests that new teachers are less effective, especially in their first year of teaching, than are more experienced teachers.[14] Beginning teachers are often given the most difficult assignments, including multiple preparations, large numbers of EL students, large numbers of students with behavioral problems or academic challenges, large class sizes, or all introductory or remedial classes.

In the previous decade more resources were in place to recruit, prepare, and develop large numbers of teachers. However, state funding and support for teacher recruitment initiatives, such as the Governor's Teaching Fellowships, Teaching as a Priority, that were established in the late 1990s through 2001 to respond to the severe shortages of qualified teachers have been sporadically funded and, in some cases, entirely eliminated due to the state's budget crisis.

The *next steps* for recruiting highly qualified teachers are to:

1. Develop initiatives for recruitment and retention of highly qualified teachers that include:

   Statewide teacher recruitment centers that provide online information regarding teaching opportunities and submission of applications.
   Teacher recruitment incentives, including signing bonuses, salary enhancements, improved working conditions, and housing subsidies as well as bonuses and differential pay in the teacher shortage areas of science and mathematics, English learners, and special education.
   Recruitment of individuals from high tech industry, state and federal government, and the military to become teachers (e.g., Troops to Teachers Program).
   Credential reciprocation with other states to facilitate recruitment of teachers from out of state.

2. Provide incentives for the equal distribution of the most well-prepared and highly qualified teachers at schools throughout the state, including:

   Bonuses for the assignment or transfer of highly qualified teachers to hard-to-staff and low-performing schools that serve poor, minority, EL, and special education students.

Bonuses for National Board-certified teachers working in low-performing schools.
Increased funding for the Assumption Program of Loans for Education (APLE), a program of loan forgiveness for teachers who work at low-performing schools.

3. Expand funding for state and federal programs that increase the number of individuals with diverse cultural and linguistic backgrounds to become teachers:

   Paraprofessional Teacher Training Program, Bilingual Teacher Recruitment Program, Teaching Fellows Program, and Career Ladder in Special Education.[15]
   High school teacher partnership academies to recruit high school students.
   College California Mini Corps and California Teacher Corps programs to recruit college students.

Back to top

Enhancing Preservice Education for Teachers

All preservice teacher education programs must provide candidates with a comprehensive understanding of the subject they teach, a thorough foundation in student development and ways in which students learn, and strategies to facilitate student learning. Programs must be closely linked to the California kindergarten-through-grade-twelve (K–12) academic content standards, curriculum frameworks, SBE-adopted instructional materials, and assessments. All teachers must be provided with a thorough foundation in research-based methodology for the teaching of reading and strategies that facilitate the academic success of diverse student populations, including EL students and students with special needs. Preservice programs must provide a balance between educational theory and classroom practice that includes extensive time in classrooms with master teachers to develop and refine instructional strategies.

Currently, a majority of California's teachers obtain their credential through a traditional teacher preparation program that includes earning a four-year bachelor's degree and a fifth year of teacher preparation that includes student teaching with a master teacher. Teachers who successfully complete this program receive a five-year preliminary credential. A professional clear credential is obtained after the teacher completes an induction program that includes course work and reflections designed to refine teaching practices during the first two years of teaching.

In 1998 California restructured its teacher credentialing process under Senate Bill (SB) 2042 (Alpert/Mazzoni, Chapter 548, Statutes of 1998). This legislation provided increased flexibility for becoming a teacher in California through a variety of alternative teacher credential programs that include the following: district and university pre-intern, intern, and partnership programs that allow participants to be employed as teachers while completing a credential program; college and university blended programs that allow teacher candidates to complete their teaching preparation in conjunction with their undergraduate course work, such as the California Teach: One Thousand Teachers—One Million Minds; and such programs as the Troops to Teachers program that allows individuals from the military who are seeking second careers to be employed as a teacher while obtaining a credential.

All alternative teacher credential programs are aligned to the state's teacher preparation standards and to state-adopted kindergarten-through-grade-twelve academic content standards. Alternative credential programs meet the same standards as traditional credential programs and are accredited by the California Commission on Teacher Credentialing (CCTC). As with traditional credential programs, all alternative program candidates complete a two-year induction program of support and formative assessment during the first two years of their teaching career to obtain a professional clear credential.[16]

The *next steps* for enhancing preservice education for teachers are to:

1. Develop exemplary teacher preparation programs capable of preparing highly qualified and effective teachers with the skills necessary to meet the challenge of teaching California's diverse student population:

   Provide teacher education instruction closely linked to California's K–12 academic standards, curriculum frameworks, and SBE-adopted instructional materials for kindergarten through grade eight, standards-aligned materials for grades nine through twelve, assessments, and instruction in the analysis and use of student data.
   Provide all teachers with an in-depth knowledge of the subjects they teach and an understanding of research-based methodology for the teaching of reading and strategies that facilitate the academic success of diverse student populations, including EL students and students with special needs.

2. Expand and adequately fund alternative teacher credential programs, including:

Blended university programs that allow teachers to obtain a four-year degree while obtaining a credential.
District-university partnerships that provide alternative teacher credentialing programs.
District and university pre-intern, intern, and paraprofessional teacher training programs.
Programs for individuals from state and federal government seeking second careers.

Back to top

Expanding Induction for Beginning Teachers

The knowledge necessary for successful teaching lies in three domains: (1) deep knowledge of the subject matter (e.g., math, science, history–social science) and skills (e.g., reading and writing) that are to be taught; (2) expertise in instructional practices that cut across specific subject areas, or *general pedagogical knowledge;* and (3) expertise in instructional practices that address the problems of teaching and learning associated with specific subjects and bodies of knowledge, referred to as *pedagogical content knowledge.*[17]

Beginning teachers need to strengthen their knowledge of content and deepen their skills in pedagogy and the use of instructional strategies with guidance from experienced teachers.[18] In California beginning teachers are required to successfully complete an induction program to refine their teaching practices during their first two years of teaching as a requirement for earning a professional clear credential. In 1992 the Beginning Teacher Support and Assessment (BTSA) program was established to provide new teachers with high-quality professional development based on the California Standards for the Teaching Profession and support from experienced teachers. In 1998 California substantially revised the California Commission on Teacher Credentialing standards for the teaching profession under SB 2042, which allowed local educational agencies, county offices of education, and institutions of higher education to develop induction programs to best meet the individual needs of the student populations they serve.

All induction programs are responsible for meeting the requirements of the Standards of Quality and Effectiveness for Professional Teacher Induction Programs.[19] All induction programs include training on strategies to support the learning of special populations of students. BTSA/Induction programs are being implemented in 95.8 percent of the schools in California. A recent study found that of the teachers who participated in a BTSA program, 84 percent continue teaching after five years.[20] Full funding for the participation of teachers in the second year BTSA/Induction program would enhance the retention of new highly qualified teachers. Extending the BTSA/Induction program to provide additional professional learning opportunities for teachers in their third, fourth, and fifth years of teaching would further enhance the development of highly qualified teachers.

The *next steps* for induction for beginning teachers are to:

1. Provide full funding for the participation of new teachers in the second year BTSA/Induction program to meet the challenges of developing and retaining highly qualified teachers.
2. Expand the BTSA/Induction program to teachers in their third, fourth, and fifth years of teaching to provide additional professional learning.

Providing High-Quality Professional Development for Experienced Teachers

Professional development is at the center of the practice of improvement. It is the process by which we organize the development and use of new knowledge in the service of improvement.[21]

Experienced teachers need high-quality, research-based, sustained professional growth to remain effective teachers. Experienced teachers in California are required to complete 150 hours of professional development every five years to renew their teaching credentials. Teachers develop predetermined professional development plans that are designed to extend their knowledge, skills, and practice. Teacher professional development plans are focused on one or more specific areas of concentration, such as increasing content knowledge in reading or mathematics. Effective professional development plans include goals that are aligned with the individual school goals and the students served and include the evaluation of progress toward the goals.

Four important instruments are available to assist teachers in identifying areas for their 150 hours of professional growth and learning: (1) the California state content standards; (2) the California curriculum frameworks; (3) the California Standards for the Teaching Profession (CSTP); and (4)the National Board for Professional Teaching Standards (NBPTS).

- The California state content standards, adopted in each core subject area, are the most academically rigorous in the nation. The content standards provide the foundation for alignment of curriculum, instruction, assessment, teacher preparation, and professional development.
- The California curriculum frameworks for each subject area provide a framework for teacher development of rigorous and coherent curriculum and instruction to ensure that all students meet or exceed the state academic content standards.
- The California Standards for the Teaching Profession are designed to be used by teachers throughout their professional careers and to assist them in formulating professional goals to refine their teaching practice. The section "Developing as a Professional Educator, Standard Six" of the CSTP encourages teachers to reflect upon their teaching practice; plan their professional development; establish professional goals; pursue opportunities to grow professionally; work with communities, families, and colleagues to improve professional practices; and balance professional responsibilities and maintain motivation.[22]
- The NBPTS provides a rigorous measure for experienced teachers through a set of teaching standards that describe the *accomplished* level of teaching for different content areas and grade levels. Completing the requirements for National Board certification provides acknowledgment of and respect for experienced teachers as experts in their fields. This powerful professional development experience can be combined with teacher professional development plans.[23]

One of the state's most comprehensive professional development programs provided for California teachers is the Mathematics and Reading Professional Development program, authorized by the state Legislature in 2001 under Assembly Bill (AB) 466. Teachers who participate in the Mathematics and Reading Professional Development program receive training in two phases. The first phase consists of a 40-hour institute focused on the SBE-adopted instructional materials, curriculum frameworks, and content standards and on current research. The second phase is focused on an 80-hour follow-up training. AB 466 is due to "sunset" in June2006. There is a critical need for the reauthorization of the Mathematics and Reading Professional Development program so that teachers will be assured of continued access to this important professional development opportunity.

Another professional development program for K–12 teachers is the California Subject Matter Projects (CSMPs). The CSMPs have played an important role in developing the subject matter expertise and leadership capacity of California's teachers for almost 30 years. Nine subject matter projects, linked to California University and State University faculty and campuses, provide sustained professional development for teachers in reading and literature, writing, mathematics, science, history–social science, foreign language, international studies, physical education and health, and the arts.

Current research has identified two promising approaches for providing sustained professional growth for new and experienced teachers—coaching and professional learning communities. Coaching involves using experienced and trained teachers to provide content-focused professional development and support for new and less experienced teachers. Schools and teachers benefit when coaching is included as a part of the school's professional development plan. When employed and supported effectively, instructional coaching enhances district professional development systems by providing school and central office personnel with sustained, targeted supports to build knowledge, improve practice, and promote student achievement.[24]

Professional learning communities involve all professionals in the school in coming together to share their knowledge and expertise. Professional learning communities are being used by many schools to support their professional development efforts.[25] This method builds on collaborative relationships among all professionals in the school community, including teachers, school administrators, and other key stakeholders who meet on a regular basis to share content knowledge, review student data, determine instructional strategies, and monitor student progress. School leaders play a key role in fostering the success of professional learning communities: "Schools that operate under this concept engage the entire group of professionals in coming together for learning within a supportive, self-created community. Multiple sources of knowledge and expertise are shared and new concepts are part of the learning experience. Teacher learning is more complex, deeper, and more fruitful."[26]

Research indicates that there are two pathways for teachers who would like to extend their professional career. One pathway involves becoming a teacher leader. The second pathway involves becoming a school administrator. Both pathways involve leadership roles necessary for increased student academic achievement and overall school improvement. It is important to find ways that teachers' leadership abilities can be used without teachers leaving the classrooms to become administrators.

Effective schools distribute leadership responsibilities among many individuals. Teacher leaders benefit as they serve the school, its faculty, and its students.[27] Jonathan Supovitz describes three specific forms of distributed leadership: the preparation of teacher specialists within schools who act as advocates for new forms of teaching and serve as coaches

to their peers; the devolution of authority to teams of teachers who are responsible for making instructionally related decisions and whose leaders serve on school councils; and the employment of full-time coaches and literacy or mathematics coordinators within comprehensive school reform designs.[28]

Teacher leaders model effective instructional practices, assist teachers with building expertise, serve in leadership roles on committees, and set the tone for the learning environment within a school. Teacher leaders create enduring change that improves student learning and has a profound impact on the professional lives of newer, less experienced teachers. Teacher leaders must be prepared and knowledgeable about all facets of professional learning, including adult learning theories, effective instructional practices, lesson study, and coaching strategies. Currently, there is no state-sponsored professional development to support teachers who are interested in becoming teacher leaders. The state needs to expand programs that address teacher leadership development.

The *next steps* for professional development for experienced teachers are to:

1. Reauthorize the Mathematics and Reading Professional Development Program that provides teachers with sustained professional development.
2. Provide funding for a Science and History/Social Science Professional Development Program.
3. Support new legislation for teacher leadership training for experienced teachers to serve as coaches and in leadership roles that support teaching and learning.

Back to top

Developing Highly Qualified Administrators

Political momentum for strong educational accountability policies has been building for the past two decades. Professional organizations, foundations, and policymakers have contributed extensive recommendations and proposals on how to improve local administrative practices. A review of the literature on leading school improvement for the Southern Regional Education Board describes some of the intense activity. In 1987 the National Commission on Excellence in Educational Administration (NCEEA) published *Leaders for America's Schools,* widely acknowledged as a pivotal document that called for reform in preparing educational leaders. The report blasted recruitment practices, inattention to instructional leadership, shoddy professional development, low licensure standards, and inattention to real-world problems and experience. The NCEEA report sparked the creation of the National Policy Board for Education Administration (NPBEA), which published two reports of its own: *Improving the Preparation of School Administration; An Agenda for Reform* (1989) and *Alternative Certification for School Leaders* (1990). These, too, recommended revising core curricula to emphasize instructional practice and ethics, raising standards for licensure and certification, and relying more heavily on clinical experience and other forms of field-based preparation. Building further on these efforts, NPBEA—in collaboration with the Council of Chief State School Officers and with support from the Pew Charitable Trusts and the Danforth Foundation—established the Interstate School Leaders Licensure Consortium.[29]

At the Interstate Consortium on School Leadership meeting to address problems of administrator supply, participants agreed with recent research reports indicating that the overall supply of licensed applicants is not the real issue since the current number of licensed professionals is adequate to fill vacancies. They concluded that the main problems in relation to recruitment and retention are:

1. *Applicant quality,* meaning that although there are adequate numbers of people with required administrative certification in some areas, most applicants are not well prepared to meet professional standards or the requirements of NCLB,
2. *Applicant distribution,* meaning that the numbers of certified and qualified applicants are not adequate to fill vacancies in specific geographic areas or in specific positions, such as secondary principals, principals in rural areas and high-needs schools, and superintendents in rural and urban districts,
3. *Adequate data for planning,* meaning that data need to be more specific about quality, location, reasons for turnover, and the impact of state efforts to recruit and retain qualified administrators.[30]

Recruiting Highly Qualified Administrators

In addition to the teacher shortages projected to occur over the next decade, California will also be facing a growing shortage of school administrators because of the wave of baby boomers projected to retire from the profession and the problem of not enough well-prepared, highly skilled administrators choosing to work as principals and superintendents.

More than 23,000 administrators now serve in schools, central offices, and county offices, and another 11,000 educators possess the necessary credentials to serve in administrative posts. In a 1999 Association of California School Administrators (ACSA) survey of 376 superintendents around the state, 90percent reported a shortage in the pool of candidates for the last advertised high school principal opening, 84 percent reported a shortage of middle school candidates, and 73percent reported a shortage of elementary school principal candidates.[31]

Educational leaders face increasing responsibilities for across-the-board improvements in student academic achievement in a highly public, high-stakes accountability environment. In particular, the scope and urgency of principals' and superintendents' work have increased dramatically. Many individuals who do hold administrative credentials are not choosing to work as a principal or superintendent, and many teachers who traditionally make up the pool of potential administrators are not choosing to pursue a career in administration.

The National Association of Elementary School Principals, the National Association of Secondary Principals, and the Educational Research Service conducted a survey of those who hire principals to learn what factors appear to discourage potential applicants for these job. The most frequently cited reasons were the stress of the job, the time demands, and insufficient compensation for the job responsibilities. The ACSA 1999 California survey mirrors the national findings, noting that money, stress, and long hours have taken their toll on districts' abilities to attract qualified candidates for principal positions.

These new challenges present school districts with a two-pronged dilemma. They must find enough individuals willing to take these more difficult jobs. Then, among this group, they must identify enough well-prepared and highly skilled individuals capable of meeting the challenges of implementing California's high stakes, high-accountability system.[32] Few districts have "aspiring administrator" programs to identify and begin developing prospective leaders; more and more districts find themselves without an adequate pool of prospective administrators.

The *next steps* for recruiting highly qualified administrators are to:

1. Develop new approaches to recruit administrators, including modifying the credentialing requirements to attract potential administrators from beyond the traditional pipeline of experienced teachers who self-select into the profession through university-based course work.
2. Provide funds for incentives for district recruitment of highly qualified administrators who have the knowledge, skills, and experience to support teaching and learning.
3. Develop programs to recruit and support aspiring administrators.

Enhancing Preservice Education for Administrators

Research confirms that leadership is second only to classroom instruction among all school-related factors that contribute to what students learn at school.[33] Preservice education programs for administrators must provide candidates with a strong foundation in the state's K–12 academic content standards and frameworks, SBE-adopted instructional materials, and assessments and the leadership skills needed to meet the needs of California's diverse student population. Candidates must be provided with a balance between administrative theory and educational practice, including intensive support involving mentoring and coaching in school settings by experienced successful administrators.

Research on administrator preparation and development programs indicates that effective programs are research-based, have curricular coherence, provide experience in authentic contexts, use cohort groupings and mentors, and are structured to enable collaborative activity between the program and area schools.[34] Many individuals responsible for hiring superintendents and principals say that many candidates applying for openings are often not adequately prepared to manage the complex responsibilities before them. In the meantime administrators themselves report feeling underprepared or improperly trained to deal with some aspects of their changing roles and challenging local circumstances. Among superintendents who responded to the ACSA 1999 survey, 28 percent reported that the preparation of recent candidates for principal positions was indeed inadequate. Only 7percent said the preparation was excellent.[35]

California needs high-quality, effective administrator training programs, including a wide variety of alternative credential programs that include district and university partnerships that provide intensive training in school leadership and the skills to support teaching and learning through hands-on, in-school experiences.

The *next steps* for enhancing preservice education for administrators are to:

1. Develop high-quality, preservice education programs for administrators that provide candidates with the strong

foundation in the state's K–12 academic content standards and frameworks, SBE-adopted instructional materials, and assessments and the leadership skills needed to meet the needs of California's diverse student population (similar to the Principal Training Program).

2. Develop a wide variety of alternative administrator credential programs, including district and university partnerships that provide intensive training in school leadership and the skills to support teaching and learning through hands-on, in-school experiences.

Back to top

Implementing Induction Program for Beginning Administrators

Most California school administrators receive their preservice education through traditional programs offered by institutions of higher education. After the preliminary training, candidates have five years to obtain their first administrative position and complete their second-tier program for a professional clear credential. These second-tier programs are generally provided by colleges and universities during evening and weekend classes with a variety of different arrangements made for mentoring. Although some of these programs are outstanding, dissatisfaction with the model prompted the California Legislature to allow for the development of alternative approaches. Beginning administrators work in diverse contexts and are learning on the job in a very high-stakes, high accountability environment. The support of a one-to-one coach who is available for personalized coaching offers a level of individualization and relevance not possible in a classroom setting.[36]

The New Teacher Center at the University of California, Santa Cruz, and ACSA have implemented an innovative program of administrator induction leading to professional certification. This program involves the one-on-one coaching for three hours a month provided by a certified School Leadership Coach. All participants have preliminary certification, which means that they have the basics of school leadership. The coach's job is to help participants climb the steep learning curve that links theory, aspiration, and vision to the daily realities of school leadership.[37] The New Teacher Center's research on the effects of coaching-based principal induction demonstrates that principals receiving this type of support are more proactive and focused on systemic instructional issues than are principals who do not receive such support.[38] California now provides extensive support to its first- and second-year teachers through the BTSA program. However, there is no state-funded program that provides induction and support for beginning administrators. In the high-stakes accountability environment, administrators are being asked to become instructional leaders steeped in curriculum, instruction, and assessment who can coach, teach, develop, and distribute leadership to those in their charge.[39] The state needs to develop high-quality induction programs for beginning administrators that include a wide variety of alternative programs offered through district and university partnerships.

The *next steps* for induction programs for beginning administrators are to:

1. Provide funding for the development of high-quality induction programs for beginning administrators that include mentoring and coaching by experienced administrators.
2. Provide funding for the development of a wide variety of alternative induction programs for beginning administrators, including district and university partnerships.

Implementing High-Quality Professional Development for Administrators

Research confirms the importance of strong leadership for district and school improvement, particularly in turning around low-performing districts and schools.[40] High-quality, research-based, sustained professional development for administrators must focus on leadership skills for improving teaching and learning. In particular, principals play a critical role in supporting the professional learning of both beginning and experienced teachers. Developing the knowledge, skills, and leadership ability of principals and other key administrators who support teaching and learning is essential to improving the academic performance of California's students.

Currently, the only state-funded professional development that supports administrators is the Principal Training Program that provides 80 hours of intensive training and 80 hours of follow-up that include the following components: Leadership and Support of Student Instructional Programs, Leadership and Management for Instructional Improvement, and Instructional Technology to Improve Pupil Performance. Training is closely aligned with the Mathematics and Reading Professional Development program that includes training on the state content standards, frameworks, and SBE-adopted instructional materials. Training under the Principal Training Program is available only for practicing administrators. The state needs to develop and expand programs to address leadership development that includes training and support through mentoring and coaching by experienced, successful administrators, such as the Boston

Principal Fellowship Program and others.[41]

The *next steps* for high-quality professional development for administrators are to:

1. Implement high-quality research-based professional development for new and experienced administrators that includes intensive supports, such as mentoring and coaching by experienced administrators.
2. Increase funding for the Principal Training Program to expand professional development opportunities for all administrators.

Back to top

Footnotes:

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[2] *State Policy Framework to Develop Highly Qualified Educational Administrators.* Prepared by The Council of Chief State School Officers, 2005, p. 31.

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[7] C. E. Esch and others, *The Status of the Teaching Profession, 2005.* Center for the Future of Teaching and Learning, 2005, p. 1.

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[15] *Annual Report on California Teacher Preparation Programs Academic Year: 1999-2000.* Sacramento: California Commission on Teacher Credentialing, 2000.

[16] California Beginning Teacher Support and Assessment. BTSA Basics. California Department of Education. ~~http://www.btsa.ca.gov/btsa_basics.html~~ (Note: The preceding link is no longer active.).

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Back to top

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[23] M. Usdan, B. McCloud, and M. Podmostko, *Leadership for Student Learning: Redefining the Teacher as Leader.* A Report of the Task Force on Teacher Leadership. Washington, D.C.: Institute for Educational Leadership, 2001.

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[25] Dennis Sparks, *Designing Powerful Professional Development for Teachers and Principals.* Oxford, Ohio: National Staff Development Council, 2002.

[26] Cathy Berlinger-Gustafson, "Building Professional Learning Communities." Presentation in support of the Florida Professional Development System Evaluation Protocol. Florida, May 2004, p. 1.

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[28] Jonathan Supovitz, "Manage Less, Lead More," *Principal Leadership: High School Edition,* Vol. 1, No. 3 (November 2000), 14–19.

[29] *State Policy Framework to Develop Highly Qualified Educational Administrators for California Schools.* Prepared by The Council of Chief State School Officers, 2005, pp. 32-33.

[30] Ibid., p. 38.

[31] *The Recruitment and Retention of California School Administrators.* A Report by the Association of California School Administrators Task Force on the California School Administrator Shortage. Sacramento: Association of California School Administrators, 2001.

[32] Jackie Teague, Barbara Miller, and Mary Perry, "Help Wanted: Top Administrators to Lead California's Schools," *EdSource* (March 2001), p. 2.

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Back to top

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Last Reviewed: Friday, February 11, 2011

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GROSSMONT-CUYAMACA
COMMUNITY COLLEGE DISTRICT

Education Master Plan
Information Submission Form

The Grossmont-Cuyamaca Community College District is starting a year-long process to develop an Educational Master Plan that will serve as the blueprint for our future. The Educational Master Plan is a long-range, comprehensive document intended to guide institutional and program development at both the college and district levels. The priorities established in the Educational Master Plan will serve to guide College and District decisions about growth, development and resources allocation.

As the first step in this planning process, everyone in the GCCCD community (faculty, staff, students and community members) are invited to identify and submit information sources to be reviewed for the trend analysis in one of six areas – society, technology, economy, environment, politics, and education. We are not asking you to do research, only to identify information you already have or that you encounter during the search period (March 21- April 25) and bring it to our attention for review.

Please answer the following questions for each document you submit:

(Feel free to submit as many of these forms as you would like)

1) What is the name of the document? Teacher Shortage

2) Author: California Department of Education

3) Source:

4) Which of the following areas does this document best address? (Please select only one)

- ○ Society
- ○ Technology
- ○ Economy
- ○ Environment
- ○ Politics and Legal Issues
- ◉ Education
- ○ Other

5) Relevance:

6) Page/Section:

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Teacher Shortage

Articles outlining the current shortage of teachers.

The current shortage of K-12 teachers is having a profound impact on the education of California's children. As the state agency whose mission is to "provide leadership, assistance, oversight, and resources so that every Californian has access to an education that meets world-class standards," the California Department of Education has dedicated resources to encourage individuals to become teachers and provided support to school districts taking steps to recruit and retain qualified teachers.

Three documents provide additional insight into this issue:

Developing Highly Qualified Teachers and Administrators for California Schools
California's teacher workforce is the largest in the country with more than 300,000 teachers serving a student population of over 6,000,000. While progress has been made in reducing California's teacher shortages, projections are that the demand for teachers will continue to grow as 32 percent, or 97,000, of California's 300,000 teachers are expected to retire within the next 10 years and enrollment in university and college teacher preparation programs declines. The initiative, "Developing Highly Qualified Teachers and Administrators for California Schools" puts forward recommendations to state lawmakers, the Governor, the California State Board of Education, and the State Superintendent of Public Instruction to address concerns regarding the need for highly qualified teachers and administrators.

The Status of the Teaching Profession 2009 (Outside source)
This report finds that California's teacher development system is not adequately aligned with high school reforms that seek to increase rigor, make instruction more relevant and foster more personal and supportive learning environments for students. The research further indicates that high school teacher knowledge and skills differ substantially by school poverty level. The report also includes the latest available data on demand, supply, qualifications and distribution of the state's K-12 teacher workforce.

Critical Path Analysis of California's Science and Mathematics Teacher Preparation System (Outside source; PDF)
Science and technology are important features of California's economy, and providing positive experiences with mathematics and science for K-12 students can provide the impetus for future careers in science, technology and mathematics. Despite the key role that teachers play in educating California's young people, California continues to face a shortage of qualified mathematics and science teachers. In order to better understand this phenomena and provide recommendations to legislators and policymakers, the California Council on Science and Technology (Outside Source) collaborated with the Center for the Future of Teaching and Learning (Outside Source) to produce a study that describes the supply and demand for mathematics and science teachers, the teacher preparation process, teacher recruitment and retention, teacher induction, and professional development.

Questions: Jim Greco | jgreco@cde.ca.gov | 916-323-6189

Last Reviewed: Tuesday, February 08, 2011

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Please answer the following questions for each document you submit:

(Feel free to submit as many of these forms as you would like)

1) What is the name of the document? Tell Us About It: Diverse Student Voices in Creative Practice

2) Author: Terry Finnigan

3) Source: Art, Design, and Communication in Higher Education

4) Which of the following areas does this document best address? (Please select only one)

- (●) Society
- ( ) Technology
- ( ) Economy
- ( ) Environment
- ( ) Politics and Legal Issues
- ( ) Education
- ( ) Other

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Ms Terry Finnigan

Head of Widening Participation
London College of Fashion
T Finnigan

National Teaching Fellow 2010

Terry is motivated by her sense of social justice and entitlement for students from diverse backgrounds, at different stages of their educational journey, to achieve at the highest level.

"Without question Terry is a most inspiring teacher and trainer… she is highly creative and original in generating ideas ….Her teaching is inclusive, sensitive and places student learning needs right at the heart of her work." (Tutor, UAL)

Terry has contributed extensively to the student experience at the university since her appointment in 2002. She has done so through work in study support, with the Centre for Learning in Practice CETL, through her own research and in her current role as Head of Widening Participation at London College of Fashion. She has championed student voices, and ensured that they are heard and inform UAL's work, and she has furthered the institutions commitment to working with students in strategy development and decision-making. She has been generous in her support of colleagues; enthusiastically helping others develop their teaching practice and undertake pedagogic research.

Evidencing her excellence and contribution are two key projects that Terry has worked diligently to see to fruition. Visual Directions is an exciting and innovative website for two key practices, reflective writing and sketchbooks. This online resource includes student and staff perspectives on their practice captured on video presented in a dynamic and stimulating fashion that engages students in thinking about learning in Art and Design. This website is accessed by many students at the university and by Individuals from over 68 countries.

'Tell Us About It' is a project Terry led involving academically successful students from diverse backgrounds evaluating their learning experience. Many did this in a visual way and produced paintings, sketchbooks, musical scores, DVDs, artefacts. These are exhibited across the university and also used in staff and student workshops around diversity and student learning. She has given presentations about this work to colleagues at regional, national and international events and there is much interest and excitement in the power of the visual to convey meaning and impact and bring about changes.

Terry is all about engagement.

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Please answer the following questions for each document you submit:

(Feel free to submit as many of these forms as you would like)

1) What is the name of the document? More Pupils Are Learning Online,Fueling Debate on Quality

2) Author: Trip Gabriel

3) Source: The New York Times

4) Which of the following areas does this document best address? (Please select only one)

- ○ Society
- ○ Technology
- ○ Economy
- ○ Environment
- ○ Politics and Legal Issues
- ◉ Education
- ○ Other

5) Relevance: A way for our future education to prosper for both student and industry

6) Page/Section:

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Please feel free to submit as many of these forms as you would like. Please answer the following questions for each submission:

1) What is the document we should review? : Carol S. Jeffers

2) Author: Between School and the Community: Situation Service-Learning in University Art Galleries

3) Source: The Michigan Journal of Community Service Learning (Vol 7) January, 2000.

4) Which of the following taxonomy areas does it fit into? (Please select only one):

- ☒ Society
- ☐ Technology
- ☒ Economy
- ☐ Environment
- ☐ Politics and Legal Issues
- ☒ Education
- ☒ Other: Arts & Culture

5) Relevance: Workforce Preparation for Arts Graduates

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Michigan Journal of Community Service Learning *Fall 2000, pp. 109-116*

Between School and Community: Situating Service-Learning in University Art Galleries

Carol S. Jeffers
California State University, Los Angeles

This paper explores the possibility of implementing a new campus-based model of service-learning in the unique environments of university art galleries. Guided by critical theory and a Deweyan pragmatist philosophy, this model promoted the use of constructivist learning strategies by 63 preservice teachers. Serving as facilitators, these preservice teachers worked with a total of 210 visiting schoolchildren in small groups to: a) address authentic intellectual, aesthetic, and social problems; b) actively negotiate and construct new identities; c) share multiple perspectives on and meanings about art; and d) learn to think critically and creatively about complex issues of teaching, learning, and boundary-crossing. Data from a variety of sources, including pre- and post-course attitude surveys and preservice journals, were analyzed and interpreted to reveal that preservice teachers greatly benefited from their service-learning experiences and changed their views of art, teachers, and learning in art gallery-museums.

In a postmodern society, various conceptual and programmatic boundaries between schools, universities, and communities can be considered unnecessary, even "unnatural" (Anzaldua, 1987); they serve only to create a metaphorical place known as the "borderland" (Anzaldua, 1987; Garber, 1995; Hayes & Cuban, 1997). In service-learning programs, students are expected to cross borders that needlessly separate educational experiences situated in schools from those situated in communities. Service-learners must enter the borderland and explore its unfamiliar terrain, which can exist not only 'out' in the community, but also, on their own campuses. This paper explores the possibility of developing and situating a new type of service-learning in university art galleries, where knowledge is constructed and contextualized at the edge of the campus in a borderland that lies between school and community. A hybrid, as it were, this campus-based model promotes significant collaboration between preservice teachers (members of elementary art methods classes) and students from area schools in the largely unfamiliar territory of a gallery borderland. In so doing, this model identifies a type of service-learning experience that makes a difference to prospective teachers and schoolchildren alike.

Framework for the Campus-Based Model

Based on Deweyan pragmatist and constructivist views of epistemology, cognition, and learning, this model was designed to combine experiential learning, critical reflection, constructivist practices, and service in the context of the "unique educational environments" of the two galleries located on the California State University at Los Angeles campus (Zeller, 1987). In this model, then, service-learning and pragmatism are clearly connected and contextualized, as are critical reflection, thought, and action. Moreover, the notion that knowledge is both contextual and constructed is integral in the philosophy and design of the model (Liu, 1995). That is, knowledge of art, self, and others is actively constructed by students and preservice teachers in small groups or learning communities and situated in a particular place beyond the classroom.

This approach, which constituted a major component in two class sections of an elementary art methods course, invokes a kind of "border pedagogy" (Giroux, 1992). Such a pedagogy empowers students to cross borders, to work closely in order to understand themselves in relation to others—that is, to understand "otherness," and to reflect critically on issues of race, ethnicity, class, and cultural heritage. It strives to create a metaphorical borderland in which diverse cultural resources allow for the development of new identities and relationships (Giroux, 1992). Fleshing out the theoretical and pedagogical framework of this model, then, the art methods students (who are themselves ethnically- and culturally-diverse, typically first- or second-generation Americans of working class backgrounds), began by questioning their own perceptions that art museums represent opulent cultural spheres reserved only for upper class patrons. In so doing, they began to collapse real or imagined class barriers and develop new identities and relationships within the gallery borderland.

Preparing to Enter the Borderland

As a part of their professional preparation program, these diverse preservice teachers are required

next

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Please answer the following questions for each document you submit:

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1) What is the name of the document? Visiting the cinema, concerts, museums or art

2) Author: Konlaan, Boinkum B.

3) Source: Scandinavian Journal of Public Health

4) Which of the following areas does this document best address? (Please select only one)

- ○ Society
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- ○ Economy
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- ○ Politics and Legal Issues
- ◉ Education
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Title: Attending cultural events and cancer mortality: a Swedish cohort study. In: Arts & Health 1(1): 64-73.

Author(s): **Lars Olov Bygren**, **Sven-Erik Johansson**, **Boinkum Benson Konlaan**, **Andrej M. Grjibovski**, **Anna V. Wilkison**, **Michael Sjoestroem**

Organisation(s): **Department of Biosciences and Nutrition, Karolinska Institute, Sweden**, **Centre for Family and Community Medicine, Karolinska Institute, Sweden**, **Norwegian Institute of Public Health, Oslo, Norway**, **Department of Epidemiology, The University of Texas M.D. Anderson Cancer Center, Houston, Texas, USA**

Categories: **Arts, culture and health**

Objectives: To examine the relationship between attending cultural events and cancer-related mortality.

Key Findings: Rare and moderate attendees were respectively 3.23 and 2.92 times more likely to die of cancer during the follow-up period than frequent attendees. However, this effect was observed only among residents of urban areas. The results, if replicated, suggest that promoting attendance at cultural events could lead to improved urban population health.

Methods: A randomly selected cohort of 9011 participants aged 25–74 years, was followed from 1990–91 up to the end of 2003. All participants self-reported to be cancer-free at the start of the research. The outcome measure of the study was cancer-related mortality. The main independent variable was an index of attendance at cultural events (cinemas, theater, art galleries, live music shows and museums). A proportional hazards analysis adjusted for age, sex, chronic conditions, disposable income, educational attainment, smoking status, leisure time physical activity, and urban/non-urban residency was conducted. Statistical analysis was applied to the findings.

Link: **http://dx.doi.org/10.1080/17533010802528058**

Published: 2009

Place of Publication: Online

Publisher: Taylor & Francis

ISBN/ISSN: 1753-3015 / 1753-3023

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Please feel free to submit as many of these forms as you would like. Please answer the following questions for each submission:

1) What is the document we should review? : "Art Smarts: Lessons Learned About Investing in a Well-Rounded Education"

2) Author: Scott LaFee

3) Source: Education Digest (September 2008) vol 74 no 1 pp. 42-46

4) Which of the following taxonomy areas does it fit into? (Please select only one):

- ☒ Society
- ☐ Technology
- ☐ Economy
- ☐ Environment
- ☐ Politics and Legal Issues
- ☒ Education
- ☒ Other: Arts & Culture

5) Relevance: Arts for Academic Success

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2008 archives
2007 archives
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Art smarts: Lessons learned about investing in a well-rounded education

BY: **SCOTT LAFEE**

People have a high regard for the arts, whatever the medium. From sculpture and painting to the written word to performance and beyond, the arts help define us, both as individuals and as a society.

They touch our lives in some form every day, influencing us in ways we perhaps cannot always see or consciously sense. They give meaning to our lives and distract us from our problems.

And yet a strange dichotomy exists within our society, where the arts are paid rhetorical respect even when they are not always adequately funded. Nowhere is the divide more acute than in our schools, where impressionable young minds are open to aesthetic possibilities and yearning for an outlet for their burgeoning expression of individuality and identity—but where time and money for arts programs can be in perilously short supply.

"Arts education gets a lot of lip service," says Susan Stauter, artistic director of San Francisco Unified School District. "The problem comes when you look at actual budgets and schedules."

What Stauter is talking about is the widely held perception that, whatever its intrinsic value, arts education is stifled by the dry atmosphere of today's results-oriented drive for core educational achievement. The No Child Left Behind Act of 2002, for example, esteems the arts as a "core academic subject," putting them on a par with math or language; but the act doesn't actually require states or districts to evaluate their students' artistic abilities in the coin of the realm under NCLB—standardized tests.

"Many people consider testing to be the litmus of whether a subject is important," notes Dr. Kathy Kinley, president of the California School Boards Association. "The arts aren't generally tested. They're considered to be discretionary."

Indeed, arts education is typically one of the first subjects cut or eliminated in difficult times. "News stories portray arts education as easily traded off in an era of cash-strapped school districts and an increasing focus on standardized testing," declared a 2005 study by the Education Commission of the States. That's
the arts are not portrayed by the
inevitability of their disappearance

Of course, the media could be wr

In fact, arts education in public schools seems to be enjoying something of a revival in California, if not yet a full-blown renaissance. Throughout the state, numerous cities and school districts are reinvigorating or reinventing their arts education programs.

Some of these efforts are homegrown. The most dramatic of those may be in San Francisco, where a local ballot initiative approved by voters in 2004 kicked in this year. Proposition H provides more than $50 million over the next seven years to improve and expand arts education in city schools.

"It makes you proud to be a San Franciscan," Stauter crows.

But every school district in the state is benefiting from at least a small windfall in arts education funding. Recent legislation led to the disbursement this year of a half-billion dollars in one-time grants for arts, music and physical education equipment and supplies; another $105 million for program development, staffing and training, and supplies is now available annually through the Arts and Music Block Grant. In both cases, the grants come with no strings attached; they are based solely on student enrollment, allocating about $83 per pupil for the one-time grant money and $16 per pupil for the ongoing grants.

Almost 10,000 schools in the state have received money from the $500 million one-time grant. Funding from the $105 million annual grant program has ranged from $3,000 to individual schools to $8.4 million to the 710,000-student Los Angeles Unified School District, the largest in the state.

"It's historic legislation, a step forward," says Penelope Venola, president of the California Arts Education Association, a Bakersfield-based advocacy group consisting of arts educators in pre-kindergarten through college.

A step forward is one thing; Putting one's best foot forward is—or can be—something else. The California Arts Project, a state program intended to promote and enhance the teaching of the arts in public schools, has a resource to help local educational agencies do just that. Its Maximizing New Resources Block Grant Web site (http://csmp.ucop.edu/tcap//maximizingnewresources) allows users to share and compare information on how schools and districts are putting the new funds to use.

"For [some] districts," points out Kristine Alexander, TCAP's executive director, "this is a brand new thing to talk about."

It's also not a moment too soon.

Earlier this year, the independent and respected research institute SRI International published "An Unfinished Canvas," the first comprehensive evaluation of the status of K-12 arts education in California public schools. The study comprises a survey of 1,800 randomly selected schools; an analysis of statewide databases; a review of relevant public policy and literature; and case studies of 13 districts. The William and Flora Hewlett Foundation commissioned the study, with support from the Ford Foundation.

The findings are cause for concern: For example, 29 percent of California's schools lack a course of study in any of the four arts disciplines—music, visual arts, theater and dance—that is based on state standards (although they may offer courses not aligned with those standards), and 89 percent fall short of the state's goal to offer a standards-based course of study in all four disciplines. The study also reports that California lags behind the national average in hours of arts instruction.

"An Unfinished Canvas" echoes earlier reports. In 2004, for example, a survey of music education in California public schools reported that while the state's total student population had increased by 5.8 percent between 1999 and 2004, the percentage of students enrolled in music education

courses declined by almost 50 percent—the sharpest drop in any academic subject area. The number of music teachers employed by districts dropped by more than 26 percent.

Arts education supporters and advocates lament such statistics, especially in light of what they see as overwhelming evidence of the value of the arts in educating the whole child.

Art's effect on learning

"High-quality, sequential arts education does more than help develop a sustained interest in the arts," asserts Moy Eng, director of the performing arts division at the Hewlett Foundation. "It fosters the ability of our students to think in new and creative ways."

And there's documentation to prove it. In 2002, the Arts Education Partnership, a national coalition of arts, education, business, philanthropic and government organizations, released a report based on an analysis of 62 previous studies of various categories of art by almost 100 different researchers. It was the first study to combine all of the arts and make comparisons with academic achievement, performance on standardized tests, and improvements in social skills and student motivation.

The AEP report concluded that schoolchildren who are exposed to dance, music, theater and the visual arts appear to better master reading, writing and math than those who simply focus on the basic curriculum.

James Catterall, an education professor at UCLA who coordinated the AEP study, catalogs how each of the arts provide specific educational benefits:

- Music improves spatial-temporal reasoning.
- Drama hones one's understanding of narrative and human behavior.
- Dance teaches persistence and contributes to increased self-confidence and group social development.
- The visual arts help students see the world in new and different ways.

"The most expansive areas where the arts pay off are these," writes Catterall: "First, in basic reading skills, language development and writing skills. Increases in general academic skills also show up and would appear to reinforce these specific literacy-related developments. Here we refer to focus and concentration, skills in expression, persistence, imagination, creativity and inclinations to tackle problems with zeal.

"These are the sorts of skills and behaviors that, in their absence, parents and teachers have been seen to tear their hair out: positive social behavior, social compliance, collaboration with others, ability to express emotions, courtesy, tolerance, conflict resolution skills and attention to moral development."

To be sure, not everyone entirely buys into the "arts make you smarter" mantra. In 2000, Ellen Winner, a professor of psychology at Boston College and Lois Hetland, an associate professor of art education at the Massachusetts College of Art, published a controversial study that concluded that arts classes do not significantly, quantifiably improve students' overall academic performance. There may be correlation, they said, but that's not a cause. Playing the clarinet doesn't mean a kid is going to do better in math.

Their report provoked outrage among arts education supporters like Catterall, but Winner and Hetland insist they are, in fact, ardent supporters of arts education—for its own sake. In a new study, Winner finds that arts programs teach thinking skills rarely addressed elsewhere in the curriculum.

"Such skills include visual-spatial abilities, reflection, self-criticism and the willingness to experiment and learn from mistakes," according to Winner. "All are important to numerous careers, but are widely ignored by today's standardized tests."

On that point, Winner and Hetland join the chorus of other arts education advocates, all of whom believe arts education may finally be emerging from what San Francisco USD's Stauter calls "a time of great scarcity and the triumph of testing."

"With the new brain sciences showing the importance of engagement—something the arts do—being a key piece of the learning process, we have a new window of opportunity," Stauter says. "Arts can now be used as a point of engagement for academics, a way to move farther and deeper."

Farther and deeper doesn't mean fast or easy. Real success in anchoring the arts in the schools will take time. Some of the hard work has already been done, though. The California Education Code, for example, already mandates arts education in grades K-12. The state's Board of Education adopted a Visual and Performing Arts Framework for that Ed Code requirement in 2004, describing specific content standards and goals for each grade, encouraging professional development and promoting arts education as a key to educating the whole student.

2 county office models

Few districts will be able to emulate San Francisco's multimillion-dollar Arts Education Master Plan, but every district can draw on the resources of its county office of education. Two of the best can be found on the south coast, where the Los Angeles COE is in the fifth year of a 10-year strategic plan to revitalize the arts in the area's 80 school districts (which serve nearly 1.7 million students—more than a quarter of the state's total enrollment), and the Orange County office has rolled out an arts advocacy program called "Arts Advantage."

Currently, 27 districts are involved in Los Angeles County's "Arts for All" plan, which requires districts to:

- adopt specific board policies promoting arts education
- establish an implementation plan and timeline
- hire a district-level arts coordinator
- allocate 5 percent of the district budget to arts education
- meet a minimum 400-to-1 ratio of students to credentialed arts teachers

"When we started, we surveyed almost every superintendent in the county," notes Ayanna Higgins, director of arts education and community development for the Los Angeles Arts Commission, which oversees the Arts for All plan. "They all said they believed arts education was important, which told us that our first battle was already won. The bigger challenge has been infrastructure. Despite all of the professed support, [many] districts lack concrete policies and plans regarding the arts, they lack key leaders and staffing. If you can help them get those, the rest takes off."

Higgins says funding to provide support and professional coaching to participating districts comes from local public agencies, foundations and business—especially the region's expansive entertainment industry.

Something similar is happening in Orange County, where the Arts Advantage program has 15 of the county's 27 school districts participating. Jim Thomas, coordinator of visual and performing arts for the OCOE, says the program focuses on helping school districts develop strategic plans and leadership skills for improving and expanding their arts curricula. Arts Advantage includes training for principals and administrators; linking district arts coordinators in a collaborative network; and cultivating relationships between art venues, such as museums, theaters and galleries, and schools.

"Just giving people drawing paper and supplies doesn't change anything," Thomas says. "In Orange County, we want more. Our students deserve more."

'Creativity critical to everything'

"Education must aim for far more than mastery of the basics, far more than the possession of tools for economic competitiveness," historian Diane Ravitch told a gathering of more than 200 educators, business leaders and policy-makers pondering the nature of public education in the 21st century this year in Washington, D.C.

"Certainly, it should aim for enough [content] for an examined life, enough for civic virtue, and enough for those mental habits that incline one to think, to read, to listen, to discuss, to feel just a bit uncertain about one's opinions, and to love learning."

The arts engender all of those things, and more.

"Something is changing in the world," says SFUSD's Stauter. "There's a new understanding of how creativity is critical to everything, including our economic survival. It's the responsibility of educators, of us all, to make sure that every kid is exposed to the arts, that they get their shot at being creative because—who knows—the person who cures something like cancer will probably be somebody who thinks like an artist."

Scott LaFee is a contributing writer for California Schools.

Related links:

- Inspiration for arts education
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Education Master Plan
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The Grossmont-Cuyamaca Community College District is starting a year-long process to develop an Educational Master Plan that will serve as the blueprint for our future. The Educational Master Plan is a long-range, comprehensive document intended to guide institutional and program development at both the college and district levels. The priorities established in the Educational Master Plan will serve to guide College and District decisions about growth, development and resources allocation.

As the first step in this planning process, everyone in the GCCCD community (faculty, staff, students and community members) are invited to identify and submit information sources to be reviewed for the trend analysis in one of six areas – society, technology, economy, environment, politics, and education. We are not asking you to do research, only to identify information you already have or that you encounter during the search period (March 21- April 25) and bring it to our attention for review.

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Vita Longa, Ars Longa: Aging, Longevity Extension Technology and the Arts

Wilson, Stephen, 1944-

Leonardo, Volume 40, Number 1, February 2007, pp. 109-111 (Article)

PDF Version (41k)

Subject Headings:

- Longevity -- Social aspects.
- Art and science.

In lieu of an abstract, here is a preview of the article.

Historically, artists have patrolled the borders of culture, alerting us to emerging developments and their cultural implications. Leonardo?s 40-year history has been full of artists engaging technologies on the horizon that were only faintly grasped by the public. Here I focus on a development that promises to profoundly reshape our world and that cries out for more artistic attention: aging. While this is not a particular technology, it is an issue that emerges out of the interplay of many technologies and social structures. My awareness of the urgency of this trend was stimulated by participation in the World Technology Network [1]. Believing in the power of serendipitous encounters, James Clarke, the director of this organization, brings together innovators in diverse fields such as medicine, business, biology, materials science, government, art, venture capital and academia in a yearly conference. One of the most recent conference?s speakers, Ziv Navoth, director of the Ver ve futurist think tank [2], identified several themes as critical for business and government to consider in long-term planning, one of which was the changing demographics of aging [3]. It struck me that the arts have been...

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www.nacctep.org

"Community colleges must help to meet the challenge to recruit and educate the next generation of elementary and secondary school teachers. With our teaching expertise, diverse student bodies, and strategic locations in rural communities and inner cities where new teachers will be needed most, community colleges are in pivotal positions to play a key role in encouraging the most capable students to pursue careers in teaching."

George Boggs, President and CEO
American Association of Community Colleges

The crucial role of community colleges in teacher preparation and professional development

Community colleges play an essential and growing role in the preparation and professional development of teachers. Because of their geographic ubiquity, affordable tuition, and close relationships with local school systems, community colleges are key players in providing the foundation for teacher preparation, ongoing professional development, and alternative paths to teacher certification.

Community colleges, with their racially and ethnically diverse student population, produce the most diverse pool of future teacher candidates. It is critical that minority students find role models in the schools who share a common racial, ethnic, and linguistic background. It is also important for all students to find minority teachers in the schools who can expose them to different cultures and perspectives, and provide models of intellectual leadership from diverse points of view. The need for more minority teachers is a significant workforce issue. In schools with more demographically representative teacher workforce minority students are: more likely to be placed in gifted and talented programs; less likely to be placed in special education; less likely to be suspended or expelled; more likely to graduate from high school (The Institute for Higher Education Policy, 2000).

In addition to providing the first two years of college education for future teachers, community colleges play a key role in teacher preparation through:

- Providing transfer degrees to colleges and universities;
- Partnering with four-year colleges and universities to offer bachelors and/or masters degrees on community college campuses;
- Offering baccalaureate degrees in teacher shortage areas;
- Offering professional development to Pre K-12 teachers in the areas of math, science, ESL, and special education;
- About 40% of current math and science teachers have completed at least some of their math and science courses at community colleges (Bragg, 1998). This makes community colleges a prime choice in preparing and finding future teachers in these much needed academic areas (Allen, 2002).
- Providing affordable accessible education for all students;
- Recruiting from a diverse student body that mirrors the populations of Pre K-12 schools;
- Providing programs for returning students. The average age of a community colleges student is 27; these mature students are committed to their career goals and many of them have experience in Pre K-12 schools;
- Providing alternative routes to certification in many states;
- Providing post-baccalaureate certification in many states;
- Providing early childhood programs for birth through four years and licensure degrees for teaching in Pre K-8 schools.

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The Institute for Higher Education Policy. (2000). Educating the emerging majority: The role of minority-serving colleges & universities in confronting America's teacher crisis. A Report from The Alliance for Equity in Higher Education, Washington, D.C

The National Association of Community College Teacher Education Programs (NACCTEP) is an organization that promotes the community college role in the recruitment, preparation, retention, and renewal of diverse Pre K-12 teachers. NACCTEP supports institutions and individuals and serves as a voice for community colleges in national discussions about teacher education. It works to enhance current community college teacher education programs and serves as a resource for those looking to develop new programs. The organization was conceived in partnership between the Maricopa Community Colleges, the League for Innovation in the Community College, and the American Association of Community Colleges.

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Free Executive Summary

Beyond Productivity: Information, Technology, Innovation, and Creativity

William J. Mitchell, Alan S. Inouye, and Marjory S. Blumenthal, Editors, Committee on Information Technology and Creativity, National Research Council

ISBN: 978-0-309-08868-8, 268 pages, 7 x 10, paperback (2003)

Computer science has drawn from and contributed to many disciplines and practices since it emerged as a field in the middle of the 20th century. Those interactions, in turn, have contributed to the evolution of information technology – new forms of computing and communications, and new applications – that continue to develop from the creative interactions between computer science and other fields.

Beyond Productivity argues that, at the beginning of the 21st century, information technology (IT) is forming a powerful alliance with creative practices in the arts and design to establish the exciting new, domain of information technology and creative practices—ITCP. There are major benefits to be gained from encouraging, supporting, and strategically investing in this domain.

Summary and Recommendations

Creativity plays a crucial role in culture; creative activities provide personal, social, and educational benefit; and creative inventions ("better recipes, not just more cooking") are increasingly recognized as key drivers of economic development. But creativity takes different forms at different times and in different places. This report argues that, at the beginning of the 21st century, information technology (IT) is forming a powerful alliance with creative practices in the arts and design to establish the exciting new domain of information technology and creative practices—ITCP. There are major benefits to be gained from encouraging, supporting, and strategically investing in this domain.

INFORMATION TECHNOLOGY AND CREATIVE PRACTICES

Alliances of technology and creative practices have often emerged in the past. In the 19th century, for example, optical, chemical, and thin-film manufacturing technologies converged with the practices of the pictorial arts to establish the new domain of photography. Then, photographic technology became further allied with the practices of the performing arts, giving rise to the domain of film. The cultural and economic consequences of these developments have been profound. The emerging alliance of information technology with the arts and design has, this committee believes, even greater potential.

ITCP has already yielded results of astonishing variety and significant cultural and economic value. These results have taken such forms as innovative architectural and product designs, computer animated films, computer music, computer games, Web-based texts, and

interactive art installations, to name just a few. They have developed from individual, group, and institutional activities; the processes by which they have been produced have spanned both the commercial and not-for-profit worlds and the formal and informal economic sectors. The products of ITCP have begun to appear in many different countries, in ways that reflect cultural, economic, and political differences.

IT has now reached a stage of maturity, cost-effectiveness, and diffusion that enables its effective engagement with many areas of the arts and design—not just to enhance productivity or to allow more efficient distribution, but to open up new creative possibilities. There is a highly competitive race for leadership in this domain. The potential payoffs from success in the near- and long-term futures are enormous: billion-dollar industries, valuable exports, thriving communities that attract the best and the brightest, enriched cultural experiences for individuals and communities, and opportunities for global cultural visibility and influence.

By definition, there is no formula for creativity. But there are effective ways to invest in establishing conditions necessary for ITCP, in overcoming impediments, and in providing incentives. Furthermore, there are ways to recognize and reward creative contributions and to derive social benefit from them. In appropriate combination, these measures can add up to powerful strategies for encouraging, supporting, and reaping the rewards of ITCP. Development along with implementation of such strategies is the challenge addressed by this report.

MULTILEVEL STRATEGIES FOR ITCP

ITCP can be engaged at multiple levels—by individual artists and designers who deal with IT tools, media, and themes; in the structuring and management of cross-disciplinary research and production groups working in the ITCP domain; in directing educational and cultural institutions with interests in ITCP; at the level of regional development strategy aimed at fostering ITCP clusters; as an aspect of national economic and cultural policy; and in multinational collaborative efforts. All of these levels are important, and there are cross-connections among them. There is, therefore, considerable advantage in coordinated, multilevel strategies for encouraging, supporting, and benefiting from ITCP.

PROVIDING NEW TOOLS AND MEDIA FOR ARTISTS AND DESIGNERS

Individual artists and designers have experimented with IT since its earliest incarnations. Artistic exploration of the possibilities of computer graphics, for example, now extends back more than 30 years, and 40 years for computer music. As IT has matured and been assimilated into the mass market, the IT tools and media available to artists and designers have become both more diversified and more affordable. There are popular, standardized tools for performing such tasks as creating, editing, and distributing images, audio, and text; there are variants on standard tools customized to the needs of particular artists or designers; and there are highly specialized, purpose-built tools used by nobody but their creators.

To a software developer or an information services manager, it might seem that the keys to ITCP are simply equipment and software—developing and providing access to standard, commercial IT tools for artists and designers. This perspective is useful as far as it goes, and it can provide a good way to get started with ITCP, but in the long run it is an insufficiently rich or flexible one. We make our tools; then our tools make us.[1] Furthermore, software tools encode numerous assumptions about the making of art and design—precisely the sorts of presuppositions that truly creative practitioners will want to challenge. And the more software tools emphasize ease of use or familiar metaphors, the more they must depend on restrictive assumptions in order to do so. Such tools not only must be available, but they also must be objects of critical reflection; they must be open to adjustment and tweaking, they must support unintended and subversive uses—not just anticipated ones—and they must not be too resistant to being torn apart and reconceived. If creative practice can develop the powerful spaces and tools that it needs, like the electronic easel or electronic studio, these spaces and tools could help transform or enlarge the metaphors, spaces, and tools (office, desktop, files) that the rest of us have to work with.

The relationship between IT professionals and artists and designers will be of limited value if it is conceived simply as one of software (or hardware) producer and consumer. It should, instead, be one of flexible and thoughtful collaboration in which the roles of software designer and user are not rigidly distinguished. The advances made by IT researchers may suggest new forms of art and design practice,

[1]Inspired by Marshall McLuhan, 1954, "Notes on the Media as Art Forms," *Explorations* 2 (April): 6-13.

while the questions raised by artists and designers may provide new ways of thinking about IT—ITCP work challenges the boundaries of traditional disciplines. Modular, reusable and recombinable code elements may support critical reconceptualization more readily than closed, proprietary software products. Open source development may provide better opportunities for cross-disciplinary collaboration, customization, and reconceptualization than tools developed and marketed as protected intellectual property—no matter how powerful and attractive those tools may be.

PROVIDING OPPORTUNITIES TO DEVELOP ITCP SKILLS

In general, ITCP depends on opportunities for learning across multiple disciplines—some mix of the arts and design plus IT concepts and tools. The growing numbers of artists and designers becoming skilled programmers or hardware developers, like the smaller number of computer scientists and technologists engaging seriously with the arts and design, demonstrates that this is feasible. But it is not easy: Colleges and universities focus mostly on established disciplines, and the cross-disciplinary programs that do exist vary widely in their institutional support, effectiveness, and quality.

Like other professionals, artists and designers can do more with IT if they become deeply conversant with its capabilities and limitations. Achieving that result requires far more than training on standard tools, and it also demands an ability to understand tools and media critically—in cultural and historical context. Such critical thinking about tools is much less typical of education and training in IT, a difference that contributes to the asymmetric participation of artists and computer scientists in ITCP. To date, it seems that artists and designers have made greater efforts to engage IT seriously than computer scientists and technologists have made to acquire deep understanding of creative practices in the arts and design. It is easier to find designers who can program than programmers who can design, or composers comfortable with signal processing than specialists in signal processing who can compose or perform at high levels of proficiency. This imbalance could change, with outreach to the computer science community and interest in ITCP among those who provide funding and other incentives and rewards.

Although motivated individuals can and do acquire complementary IT and arts or design skills, significant ITCP work can also be produced by cross-disciplinary partnerships between computer scientists and artists or designers. This approach has the advantage of requiring that fewer skills be mastered by individual team members, and it is often essential for large projects, but there are some inherent difficulties. Progress in collaborative ITCP requires effective dialogue

between artists and designers and IT professionals. Differences in professional culture, styles, and values, as well as communication problems, can confound effective collaboration. Yet there are strong traditions of successful cross-disciplinary collaboration in architecture (particularly as computer-aided design/computer-aided manufacturing (CAD/CAM) technology plays an increasing role), in film production, and in the creation of video games, and there have been some successful pairings of artists and technologists to produce visual works, performances, and installations.

CREATING ENVIRONMENTS THAT SUPPORT ITCP

ITCP work can be done in many different places. And the diversity of venues matters, since each type of venue represents different tradeoffs and provides different combinations of opportunities, constraints, and comparative advantage. So an effective ITCP development strategy is likely to be a multivenue one.

ITCP venues may occupy physical or virtual spaces, be large or small, range from loosely organized collectives to formal programs, and be either free-standing or connected to established institutions. Specialized exhibitions, performance festivals, presentation and lecture series, conferences, Internet forums, and display and performance sites have all played important roles in the growth of ITCP communities. By contrast, mainstream arts and design organizations—museums, galleries, arts and design fairs, arts and design publishers, and so on—have played a lesser role, although they have begun to embrace ITCP more as the products of ITCP have played a larger cultural role and as these products have developed in quality and interest.

Much pioneering exploration of ITCP has taken place in studio-laboratories, which build on the tradition of earlier centers of cross-disciplinary research and education in the arts, design, and new technology of the time, such as Germany's Bauhaus in the pre-World War II years, the postwar New Bauhaus in Chicago, and the Center for Advanced Visual Studies established by Gyorgy Kepes at the Massachusetts Institute of Technology (MIT) in the 1960s. MIT's Media Laboratory has been among the largest and most visible, and it has generated affiliates in Europe and Asia. However, the Media Lab's combination of substantial laboratory and human resources with an atelier style of research and education, building on a consortium of industry funders, is difficult to replicate outside the context of a leading research university with strong industrial connections. Some universities, such as Carnegie Mellon University, have formed special cross-disciplinary centers that undertake ITCP, and several arts schools, such as the California Institute of the Arts and the Art Center College of Design in Pasadena, have transformed their curricula to incorporate

IT, yielding numerous focused ITCP activities. Some film schools have shifted their emphasis from traditional to digital production and distribution technologies, and most architecture and design schools have supplemented or supplanted drawing boards with CAD. Several universities have begun to develop cross-disciplinary study programs in aspects of ITCP. But a key challenge, particularly in times of tight finances, is to find effective ways to fund these programs—and to frame them in ways that are pedagogically sound and appropriately adaptive to the continuing evolution of ITCP.

In Canada and Europe, and emerging in Asia and Australia, major efforts are under way to develop standalone, government-backed ITCP centers. Such centers are typically conceived of as instruments of arts and cultural policy, rather than as equivalents of national research laboratories. This is an arena in which the United States lags. In principle, such centers can provide considerable flexibility and freedom of intellectual direction. On the down side, they are vulnerable to changes in government spending priorities, they can lose the very independence that makes them attractive if they shift to executing contracts from industry, and they are usually less able to draw effectively on the laboratories and human resources of large universities.

The technology required for ITCP can be expensive, and ambitious ITCP productions can require major funding. Given the breadth of ITCP, some funding is available through commercial channels. It normally requires close engagement with popular culture and mass audiences, with all the constraints and opportunities that this implies. This path is illustrated by the film and entertainment industries—these ITCP pioneers overcame difficulty and expense and now can produce major commercial successes. A focused example is the flourishing video game industry, a direct outcome of the rise of ITCP. It obviously would not be possible at all without the necessary IT, and its products define a new art form that also resonates with the general public. It has found some highly innovative ways to combine centralized research, development, and marketing with large-scale open-source strategies, and it has evolved unique distribution strategies.

Operating on a small scale and often producing innovative work through commissions from enlightened patrons is another group of players that straddle the boundary between commerce and the arts: Independent architectural design, product design, graphic design, and music and video production houses now make extensive use of IT tools and media, and they frequently have IT specialists on staff. In some cases, this amounts to little more than straightforward use of standard, commercial tools. But more adventurous and innovative houses have seized the opportunity, through IT, to open up some exciting new domains. This is particularly evident in the move of architects into CAD/CAM design and construction—with the resulting emergence of new architectural idioms—and the move of graphic designers into work that is more interactive.

Much important ITCP work occurs outside the marketplace. In addition to academic efforts, individual, independent artists and designers, operating mostly on a small scale, are responsible for a crucial

segment of ITCP. By virtue of their independence, they are well positioned to provide perspectives that challenge mainstream thinking and to engage industry as catalytic outsiders who can instigate new ways of thinking about products and processes. Many forms of traditional art production, such as painting and writing, are labor-intensive and modest in their requirements for investments in technology, but ITCP is often much more capital-intensive. This increased need for capital presents a chronic problem for independents; they often operate on a shoestring, struggle to get access to technology and expertise, and must make whatever technology investments they can manage from project-by-project funding. They usually depend on some mix of the gallery and patronage structures of the art world, arts foundation grants, and relationships with sympathetic educational institutions and corporations.

ITCP activity in all of these venues tends to cluster geographically. Fostering such clusters—with a vital mix of commercial, non-profit, academic, design and production house, and independent practitioner activity—can play an important role in regional economic development. There can be major direct benefits to local economies, and indirect (but potentially even more important) benefits in the form of better design and higher levels of innovation distributed over many sectors of the economy.

In addition, by its very nature, ITCP lends itself to efficient electronic connection of scattered islands of activity. Writers and photographers can submit their work electronically to distant publishers, architects can form geographically distributed design and construction teams, film studios in Hollywood can link electronically to postproduction houses in London or animation shops in Korea, and so on. That capability for connectivity is leading, increasingly, to multinational ITCP alliances and organizations. Such a capability can be particularly important in contexts—such as in developing nations—where the local culture supports some unique ITCP cluster and electronic connectivity adds value to that cluster by providing wider access to resources and markets. It is also important in contexts—such as those of Australia, New Zealand, and Singapore—where small but highly educated populations, combined with the effects of distance, make concentration on high-value, immaterial, information goods and services particularly attractive.

FOSTERING THE CULTURE OF INFORMATION TECHNOLOGY AND CREATIVE PRACTICES

Providing new tools and media for artists and designers, providing opportunities to develop ITCP skills, and creating environments that support ITCP are all necessary to form thriving ITCP clusters, but

they are not in themselves sufficient. It is also essential to foster the culture of ITCP—the flow and exchange of ideas among those engaged, the development of a sense of intellectual community, the representation of ideals and values, and the recognition and validation of outstanding work.

The academic environment, in particular, is central to the future of ITCP. That is where talent is cultivated, and that is where research and practice of various kinds can take place largely without market strictures. At present, a gulf exists between computer science and the arts and design. Although some computer scientists bridge that gulf—and contribute considerably to ITCP—that activity often happens outside their department. Although some arts departments have been skeptical of "new-media" programs, in general the arts and design on campus have welcomed ITCP more than have computer science departments. The lack of welcome from computer science departments reflects a lack of appreciation of ITCP's potential to contribute to the advance of computer science as a field, as well as concern about already tight curricula. At the same time, arts and design departments on campuses and arts schools have sought to internalize ITCP facilities and to develop their own research and teaching programs in ITCP. The situation echoes earlier efforts to formalize computer science as a field, establish a theoretical foundation for it, and provide it with some level of autonomy from its predecessor and sister fields. But it is important to explore the potential for constructive interaction between the arts and design and computer science before universities—and practitioners—conclude that "parallel play" is the way to go.

Building academic clusters is a nontrivial challenge. Not only are there cultural differences among the constituent disciplines, but there are also significant differences in expectations for funding, use of time, use of graduate students, definitions of what is acceptable work, and so on. Special centers, seminars, and other venues are being tried on campuses, a kind of institutional experimentation that is vital to developing ITCP. They help to frame and sustain ITCP projects. The time is ripe for academic experimentation with ITCP, from course content and curricula to institutional options and incentives.

Education, collaboration, funding, and professional advancement all depend on how ITCP is received. Because ITCP spans so many activities, there is feedback from the commercial space and popular culture—a powerful reinforcement on the design end—and there is more ambiguous feedback through academic institutions (faculty and administrators); publications, exhibitions, performances, and prizes, as well as those who select for them; and funders of research and the arts.

Because the field of ITCP is young and dynamic, ITCP production is hard to evaluate. Traditional review panels—representing funders; owners and managers of conventional display, performance, or publication outlets; and those making personnel decisions at academic institutions—may be hampered by their members' ties to single disciplines and the absence of a time-tested consensus about what consti-

tutes good work in ITCP and why. This problem is typical of new fields drawing from multiple disciplines, albeit aggravated by the contrast between computer science and the arts and design. It is offset somewhat by a flourishing array of conferences and other forums, in both virtual and real space, that provide a sense of community and an outlet as well as feedback. Effective evaluation, validation, and recognition of ITCP work are essential for this domain to progress. Building on traditions in the arts and design, prizes can be powerful for stimulating and recognizing excellence in ITCP.

A NEW FORM OF RESEARCH

ITCP can constitute an important domain of research. It is inherently exploratory and inherently transdisciplinary.[2] Concerned at its core with how people perceive, experience, and use information technology, ITCP has enormous potential for sparking reconceptualization and innovation in IT. In execution, it pushes on the boundaries of both IT and the arts and design. Computer science has always been stimulated by exposure to new points of view and new problems, which are ever-present in the arts and design. Because of the breadth of use to which artists and designers put different forms of IT, and because they typically are not steeped in conventional IT approaches, artists' and designers' perspectives on tools and applications may provide valuable insights into the needs of other kinds of IT users. The needs and wants of artists and designers can suggest new ways of designing and implementing IT. Engaging their perspectives is a logical extension of recent trends in cross-disciplinary computer science research.

Recently, for example, artists and designers have brought new concerns to the design and implementation of sensor systems, distributed control systems and actuators, generative processes and virtual reality, and the Internet and other networks. Their interests in performance and in engaging the public present challenges for system interactivity; their interests in improvisation present new opportunities for exploring human-machine interaction. Although artists and computer scientists have long interacted in such spheres as computer graphics and music, almost any form of IT may be adopted or adapted for uses in the arts and design. This flexibility of purpose parallels the plasticity of the computer itself—and that helps to explain why artists' concerns may motivate new combinations as well as new forms of IT.

It is important to recognize, however, that serious ITCP research goes beyond appropriation of established IT concepts and techniques for artistic or design purposes, or use of straightforward examples

[2]In transdisciplinary ITCP work, artists and designers interact as peers with computer scientists, a model that is described in detail in Chapter 4.

drawn from the arts and design to demonstrate the potential applications of new IT. It requires drawing on deep understanding of *both* IT and the arts and design to formulate scientifically interesting new questions in ITCP, and to see the subtle cultural implications of relevant new science. Issues arising from the arts and design have motivated challenging and important domains of computer science and technology research, such as three-dimensional geometric modeling and scene rendering directed at the practices and needs of designers and animators. Sometimes arts-oriented researchers raise cultural, social, ethical, and methodological questions for computer scientists that would not be obvious in a more narrowly focused technological context. Conversely, outcomes of computer science research may challenge artists and designers to rethink their established assumptions and practices (rethinking that includes an evolution from artifact creator to process mediator), as when architects engage the possibilities of curved-surface modeling and associated CAD/CAM fabrication techniques, or when photographers ponder the differences in the roles of digital and silver-based images as cultural products and as visual evidence. And there are areas, such as augmented reality, tangible computing, lifelike computer animation of characters, and user-centered evaluation of computer systems, that are probably best regarded as the joint outcomes of questions posed and investigations conducted by computer scientists and by artists and designers. These developments suggest that the value of ITCP lies not just in the capacity of each field to answer questions posed by the other, but also in the opportunity for each field to gain fresh, sometimes uncomfortable, perspectives on itself.

MAKING ITCP HAPPEN

The broad scope of ITCP implies that it derives funding from both commercial activity—notably in design and entertainment contexts—and non-profit activity. The latter is where support is particularly uncertain yet essential, since it is in non-profit contexts that much experimentation takes place and some of the broadest public, participant access becomes possible. The hybrid nature of ITCP tends to confound its funding. In the United States, exploratory and productive work in the arts and at the non-commercial frontiers of design is likely to be funded by private philanthropy, while in computer science the leading funders of basic research are government agencies, often in support of specific agency missions. Computer science research grants are larger (by an order of magnitude) than grants (or prizes) typically available to artists—and they tend to be tied to the advances in scientific knowledge or the specific kinds of applications of concern to their funders.

Advancing ITCP requires new approaches to funding. A first step is recognition by both the arts and computer science patrons that topics in ITCP are legitimate; next must come support for exploration of the intersections between IT and the arts and design, and with that support for new kinds of technical and social and intellectual infrastructure for undertaking and providing access to ITCP. Those new approaches, in turn, may require new skills and participants in funders' decision-making processes. Grant program definitions should specifically embrace ITCP, but without that, progress in ITCP will depend on grant seekers' ingenuity in influencing program definitions and relating their ideas to existing programs.

In addition to monetary support, ITCP depends on resolving concerns about intellectual property rights. Not only does ITCP feature a broad range of content and a broad range of expression, but its production can also involve creative reuse or adaptation of previously generated content or expression. It also requires attention to the archiving and preservation of IT-based works, both those of a fixed nature and those designed to change through interactivity or other factors.

The rise of ITCP and the process of contemplating its future point to the need for better data on arts-related activities and trends. Although imperfect, the data available on scientific and technical research is better than that for arts activities. The lack of good data hinders effective planning and policy making.

RECOMMENDATIONS

Realizing the potential of ITCP requires actions on many fronts—by individuals, organizations, and funders of different kinds. The benefits will accrue broadly—in multiple sectors of the economy, geographic regions, and disciplines. Other efforts already address the roles of established arts institutions—museums, galleries, theaters, and so on—in relation to IT-based art works and performances. This report concentrates its recommendations on those most responsible for nurturing the talent and the explorations that are the essence of ITCP. The recommendations below build on discussions in the body of the report, which explores the ecology of creative practices and the components of the strategies through which ITCP can thrive.

For Educators and Academic Administrators

1. Support the achievement of fluency in information technology (IT), and the development of critical and theoretical perspectives on IT, by arts and design students through the provision of suitable

facilities, opportunities for hands-on experience with IT tools and media, and curricula that engage critical and theoretical issues relating to IT and to information technology and creative practices (ITCP).

2. Support educational experiences for computer science students that provide direct experience in the arts and design, critical discussion, and formation of broader cultural perspectives—not merely as semi-recreational enrichment, but at a sufficiently challenging level to raise hard questions about the social and cultural roles both of science and technology and of the arts and design.

3. Foster exploration of ITCP through incentives and experimentation with a range of informal (e.g., workshops and seminars) and formal vehicles (e.g., centers, awards)—in particular, by building firmly and boldly on demonstrated local (and often small-scale) strengths and productive relationships already in place.

4. Support curricula, especially at the undergraduate level, that provide the necessary disciplinary foundation for later specialization in ITCP.

For Foundations, Government Agencies, and Other Funders

5. Allocate funding not only to support work by specialists in established and recognized areas of IT and of the arts and design, but also to foster collaborations that open up new areas of ITCP.

6. Structure proposal review processes to encourage not only continued development of established and recognized areas of IT and of the arts and design, but also higher-risk, longer-horizon efforts to develop ITCP.

7. Provide program managers with more time and leeway to learn about new fields and new kinds of grantees; encourage mobility among grant makers, artists, designers, and computer scientists.

8. Develop a new grant-making category for tool (instrument) building, emphasizing designs that are extensible and tools that provide support for improvisation, and for providing broad access to the resulting tools. Expand research program support for work in aspects of distributed control, sensors and actuators, video and audio processing, human-computer interaction, information retrieval, artificial intelligence, networking, embedded systems, generative processes, and other technological areas that are critical to advancing ITCP, with a particular focus on arts-and-design-inspired applications of these technologies that extend beyond conventional uses.

9. Factor infrastructure and archiving and preservation needs into grant levels because this support is essential to enable future work in ITCP.

10. Support the establishment of new prizes for excellence in ITCP and the development of curated Web sites for its display or performance.

11. To support policy decision making, underwrite a better knowledge base—ranging from the history of ITCP to the details of who is doing what, where, when, and how—that parallels the knowledge base in scientific and engineering fields.

12. Underwrite research on the formation of creative clusters and the role that ITCP can play in promoting regional development.

13. Provide support for the creation and maintenance of networks of organizations (composed of participants from academia, industry, and cultural institutions) involved with ITCP.

For Industry

14. Seek opportunities to develop new products and services relating to the growing field of ITCP and to participate in the formation of ITCP clusters.

15. Pursue relationships with centers of ITCP activity, and seek opportunities to engage artists and designers who can contribute to the development of ITCP products and services.

For the National Academies

16. Organize a symposium series on Frontiers of Creative Practice (paralleling the Frontiers of Science and Frontiers of Engineering series) to bring together a cross section of young artists, designers, scientists, and technologists working within ITCP.

Beyond Productivity

Information Technology, Innovation, and Creativity

Committee on Information Technology and Creativity

Computer Science and Telecommunications Board
Division on Engineering and Physical Sciences

NATIONAL RESEARCH COUNCIL
OF THE NATIONAL ACADEMIES

William J. Mitchell, Alan S. Inouye, and Marjory S. Blumenthal, *Editors*

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Preface

Computer science has drawn from and contributed to many disciplines and practices since it emerged as a field in the middle of the 20th century. Those interactions, in turn, have contributed to the evolution of information technology: New forms of computing and communications, and new applications, continue to develop from the creative interaction of computer science and other fields. Focused initially on interactions between computer science and other forms of science and engineering, the Computer Science and Telecommunications Board (CSTB) began in the mid-1990s to examine opportunities at the intersection of computing and the humanities and the arts. In 1997, it organized a workshop that illuminated the potential, as well as the practical challenges, of mining those opportunities[1] and that led, eventually, to the project described in this report. Ensuing discussions between CSTB staff and people interested in the intersection of computing and the humanities or the arts, notably Joan Shigekawa of the Rockefeller Foundation, a participant in the 1997 workshop, culminated in a grant from the Rockefeller Foundation to study information technology and creativity (see Box P.1 for the statement of task).

This report should be read with two conditions in mind: First, it is, by design, a record of the project, filled with descriptions, observations, conclusions, and recommendations intended to motivate and sustain interest and activity in the rich intersection of information technology (IT) and the arts and design. Second, in this book form it cannot possibly convey the exciting possibilities at that intersection. Instead, it presents examples and pointers to sites on the World Wide Web and in the physical world where that intersection can be observed and experienced. We urge the reader to treat this report as a

[1]See *Computing and the Humanities: Summary of a Roundtable Meeting,* published in 1998 by the American Council of Learned Societies, one of three collaborators with CSTB in organizing the workshop.

BOX P.1
Statement of Task

A series of discussions among a cross section of the arts community and experts in computing and communications will be organized. These discussions will crystallize new ways of conceptualizing joint opportunities and new approaches to the arts (and/or IT [information technology]). They will explore what would make the most conducive environment for IT-arts exchange on an ongoing basis, considering physical and virtual options. They will address possible mechanisms to sustain the discussion, such as funding and institutional support. Finally, they will culminate in both a coherent description of potential futures and an agenda for action, action that bridges the different communities as well as action most appropriate for one or another.

primer and guidebook and to seek out instances of IT and creative practices—ITCP—directly.

COMMITTEE COMPOSITION AND PROCESS

The study committee convened by CSTB featured an unusually eclectic group of individuals (see Appendix A for biographies of committee members). Characterizing most (or all) of them as experts on particular subjects would only begin to suggest the talents of this group. Collectively, the committee had expertise and experience in the intersections of information technology and music, the visual arts, film, and literature and in art history, architecture, cultural studies, and many of the technologies pertinent to ITCP. The committee did its work through its own deliberations and by soliciting input from a number of other experts (see Appendix B for a list of those who briefed the committee). It met first in August 2000 and five times subsequently in plenary session. Additional information was derived from reviewing the published literature, monitoring selected listservs and Web sites, and obtaining informal input at various conferences and other convenings. During the editorial phase of the study, facts were checked for accuracy with either authoritative published sources or subject experts.

The diversity of this committee made it a microcosm of some of the communities it hopes to influence with this report. That diversity posed challenges in the conduct of this project that will be echoed in attempts to learn from it: Conversations among people with different training and professional experience can be confounded by jargon and

prejudices as well as by differing knowledge bases—even when those people share interests. The completion of this report attests to the potential for technologists and artists to find common ground, not only in undertaking creative work, but also in contemplating options for making such work easier to undertake and more widespread. But finding this common ground sometimes proved to be a formidable challenge.

The productive interaction among committee members was captured in some of their career developments during the course of this project. Chris Csikszentmihalyi, for example, left Rensselaer Polytechnic Institute to join John Maeda at MIT's Media Lab. Michael Century left McGill University for Rensselaer Polytechnic Institute. Natalie Jeremijenko was hosted by Jim Crutchfield for a month's professional visit at the Santa Fe Institute. And John Maeda was inspired by the project to build "a new online Bauhaus." These and other developments attest to the dynamism and creative energy of the people who have been exploring the intersection of IT and creativity.

Although the report refers to several companies, products, and services by name, such reference does not constitute an endorsement by the committee or the National Academies. The committee did not evaluate any product or service in sufficient detail to allow such an endorsement.

ACKNOWLEDGMENTS

The committee is particularly grateful to Joan Shigekawa of the Rockefeller Foundation for initiating this study. She approached CSTB with a conviction that the time was right for a conversation among people of different backgrounds about how to enhance and sustain the intersection of information technology and creative practices. We appreciate her guidance and support through the study process, including her participation in two committee meetings, occasional relay of useful information, and continuing demonstration of interest in the process and the eventual results.

In addition, we would like to thank those individuals who provided valuable inputs into the committee's deliberations. Those who briefed the committee at one of our plenary meetings are listed in Appendix B. Others who provided us with important inputs include Bill Alschuler (California Institute of the Arts), Howard Besser (New York University), Shari Garmise (Consultant, Washington, D.C.), Samuel Hope (National Office for Arts Accreditation), Sharon Kangas (Center for Arts and Culture), Anna Karlin (University of Washington), Ruth Kovacs (The Foundation Center), Joan Lippincott (Coalition for Networked Information), and Laurens R. Schwartz (Consultant, New York City). We would also like to acknowledge those organizations that hosted committee meetings: the American Institute of

Graphic Arts, New York University, Stanford University, Pixar Animation Studios, and the Massachusetts Institute of Technology.

The committee appreciates the thoughtful comments received from the reviewers of this report and the efforts of the National Research Council's report review coordinator. The review draft stimulated a comparatively large volume of comments, many of which provided additional reference material, relevant anecdotes, and observations to bolster or counter the committee's earlier thinking. The comments were instrumental in helping the committee to sharpen and improve this report. In particular, Simon Penny of the University of California at Irvine provided an unusually extensive and thoughtful set of comments that served to improve the quality of this final report.

Finally, the committee would like to acknowledge the staff of the NRC for their work. Alan Inouye served as the study director with overall staff responsibility for the conduct of the study and the development of this final report; his effort to bring the report to completion was exceptional and demanded far more of his time than anticipated. Marjory Blumenthal, director of the CSTB, provided essential guidance and input throughout the study process, drafted and edited a number of sections of the final report, and was both helpful and patient in bringing the committee process to a successful conclusion. Margaret Marsh Huynh had primary responsibility for the administrative aspects of the project such as organizing meeting logistics; her efforts made a particularly complicated and demanding process run smoothly. Consultants Laura Ost and David Walczyk generated initial drafts of several sections of the report; Ms. Ost also edited several chapters. Susan Maurizi edited the manuscript for publication. David Padgham and Jennifer Bishop provided research assistance; Ms. Bishop also created several of the original figures that appear in this report (including the cover design). The committee also thanks Janet Briscoe, Janice Sabuda, and Brandye Williams of the CSTB, and Claudette K. Baylor-Fleming and Carmela J. Chamberlain of the Space Studies Board for their support of the committee's work.

William J. Mitchell, *Chair*
Committee on Information Technology and Creativity

Acknowledgment of Reviewers

This report has been reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the National Research Council's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published report as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process. We wish to thank the following individuals for their review of this report:

Anna Bentkowska, Conway Library, Courtauld Institute of Art,
Howard Besser, New York University,
Sandra Braman, University of Alabama,
Donna Cox, University of Illinois at Urbana-Champaign,
Robert Denison, First Security Company,
Steve Dietz, Walker Art Center,
Kristian Halvorsen, Hewlett Packard Laboratories,
Paul Kaiser, Independent Artist, New York City,
Alan Kay, Hewlett Packard Company,
Clifford Lynch, Coalition for Networked Information,
Simon Penny, University of California at Irvine,
Bill Seaman, Rhode Island School of Design, and
Mark Tribe, Rhizome.org.

Although the reviewers listed above have provided many constructive comments and suggestions, they were not asked to endorse the conclusions or recommendations, nor did they see the final draft of the report before its release. The review of this report was overseen by Edward Lazowska, University of Washington. Appointed by the

National Research Council, he was responsible for making certain that an independent examination of this report was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this report rests entirely with the authoring committee and the institution.

Contents

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GROSSMONT-CUYAMACA
COMMUNITY COLLEGE DISTRICT

Education Master Plan
Information Submission Form

The GCCCD is starting a year-long process to develop an Educational Master Plan that will serve as the blueprint for our future. The Educational Master Plan is a long-range, comprehensive document intended to guide institutional and program development at both the college and district levels. The priorities established in the Educational Master Plan will serve to guide College and District decisions about growth, development and resource allocation.

As the first step in this planning process, everyone in the GCCCD community (faculty, staff, students and community members) are invited to identify and submit information sources to be reviewed for the trend analysis in one of six taxonomy areas - society, technology, economy, environment, politics, and education. We are not asking you to do new research - only to identify information you already have or that you encounter during the search period (March 21 - April 25) and bring it to the attention of the Scan Teams for review.

Please feel free to submit as many of these forms as you would like. Please answer the following questions for each submission:

1) What is the document we should review? : "The MFA is the new MBA"

2) Author: Daniel H. Pink

3) Source: Harvard Business Review Special: Breakthrough Ideas for 2004 (February 2004)

4) Which of the following taxonomy areas does it fit into? (Please select only one):

- ☒ Society
- ☐ Technology
- ☒ Economy
- ☐ Environment
- ☐ Politics and Legal Issues
- ☒ Education
- ☒ Other: Arts & Culture

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The Conversation

The MFA Is the New MBA

4:03 PM Monday April 14, 2008

by Katherine Bell | Comments (23)

The Master of Fine Arts is the new MBA. So argued author Daniel Pink in a recent New York Times story about the new creative economy, in which even old-school corporations like GM increasingly value imaginative "right-brain" thinkers. Harvard Business blogger Tom Davenport vehemently disagrees. While I agree with Tom's sensible point that all jobs require input from both sides of the brain, I'm glad more companies have begun to recognize the benefits of artistic training.

A few years ago I quit my job managing a web company and went to grad school to study fiction writing. It was supposed to be a complete break from my real-life career. But when I returned to my day job, I realized my MFA had been a pretty good management-training course. I didn't learn a thing about finance, but for two years, I'd practiced disciplined imagination -- a requirement for innovation. And I'd learned a few things about managing people (and myself).

Here are 4 lessons an MBA might learn from an MFA:

1. **How to take criticism.** In a writing workshop, each writer must remain silent while others discuss his work. This rule allows him to hear what people say, rather than distracting himself by preparing his defense. Train yourself to listen openly to all criticism. Then wait until you've had a chance to reflect before deciding which suggestions to follow and which to ignore.

2. **What motivates people.** Everyone's mix of motives is unique and complex. The more you can intuit the secret desires that drive a person (whether a fictional character or a

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colleague or your boss), the better you can predict what she's going to do next. If you figure out what motivates the people who report to you, you'll be able to tailor incentives for each individual.

3. **How to engage your audience.** Good fiction writers know how to involve readers in acts of collaborative imagination. Readers like to be challenged -- part of the pleasure is guessing the murderer's identity before being told -- but if they can't follow the plot, they get frustrated. Companies competing in the experience economy need to get this balance right. Customers, like readers, do not like to be bored or confused. They like to feel smart and creative and listened to. That's one reason companies that involve their customers in idea generation, like Dell, Staples, and BMW, rate highly in customer loyalty.

Knowing how to keep your team engaged is an important skill for all managers, but it's critical if you want to succeed at innovation. Again, involving team members in the creative process is the key.

4. **When to let go of good ideas.** Or, as writers like to say, kill your darlings. An idea may be great on its own, but if it doesn't serve your larger venture, you have to be ruthless and cut it. Brilliant but misplaced ideas can derail a project or keep you from seeing bigger, better solutions. It can be almost impossible to recognize your own darlings. Writers have editors to point them out. In the business world, look for honest feedback from colleagues you trust.

Katherine Bell is a senior editor at HarvardBusiness.org

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Pete Wagner 2 years ago

"MFA is the new MBA." I've heard the slogan before--my advisor at the Univ. of Minnesota emailed me an article with the same sort of title around the time I completed my MFA four years ago. Guess what? I've yet to find any "forward looking" corporation advertising for my services. My experiences working with left-

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brainers, which I had more than 30 years of at newspapers, all showed me that businesses, even "alternative" newspapers like the major weekly I worked for here in Minneapolis for ten years, are invariably structured so as to squelch creativity, not encourage it. Even in a university setting, where I was enlisted as a research assistant for a digital technology project for my expertise in aesthetics, creativity is viewed as amusing but there is no serious effort to make use of it. The left-brainers do what they would have done anyway without your input.

One telltale sign of the futility of attempting to inject true creativity into corporate culture is the oxymoron commonly used, and used above: "artistic training." What a ridiculous contradiction in terms! TRAINING is NEVER artistic. It may be possible to cultivate artistry, but not TRAIN it. (Shudder.)

1 person liked this. Like Reply

Jack Slagle 2 years ago

I totally agree. As a military officer I argued that creativity was a key trait of all the great military leaders. In previous times great generals were also great thinkers, spoke multiple languages, collected art, etc. As a holder of an BFA, MEd, and a MBA and a senior manager now in industry I can tell you that my "right side" adds great dimension to my ability to look at a problem. I would content that for one to "think outside the box" one must first know the box's boundaries, and art and music and creative writing are great ways to come to understand where those boundaries exist.

1 person liked this. Like Reply

MG 7 months ago

Sorry, but all Bell has proven to me is that she's as capable of producing Utopian fluff as the next person. Her pit-pat approach of likening the MFA to an MBA fails to take into account that the notions of writing and group work are diametrically opposed. Also, as someone mentions in a post, writers typically suffocate under the constraints of a standard eight-hour day confined to a cubicle. I've had my MFA for a decade, and aside from qualifying me to teach creative writing and composition at the university level, never once has my degree been celebrated during an interview. To liken the MFA to an MBA from the corporate world's perspective is irresponsible. God forbid a potential graduate student read this article and believe it has any merit. I wouldn't want a person who fancies writing but aspires to be a cog in the machinery with a 401k and six-weeks vacation to believe that the MFA and the MBA are interchangeable. They are not. Ironically, Bell's article is proof of the slippery slope we've initiated in relying on the Internet to provide short feel-good articles intended to dispel some sort of useful information and masked as informative. The MFA is a complex and valuable degree that should not be reduced to a snippy cheerleading session for how to make one's MFA conform to the business world. Sigh. Shoot me if today's writers plateau at Bell's level of discourse.

Like Reply

AS 3 months ago in reply to MG

Bell's point is that developing one's right brain, creative functions can enrich work that society traditionally considers logical and calculated. This is as true as saying that learning to think in new ways benefits an individual in whatever her endeavors may be.

Don't get me wrong. I dislike corporations too in many ways. But I'm not jaded to the point that I would destroy the merit of an individual's comment (and this is a comment after all) just because I disagree with the particular individual's career choice.

As for your concerns about the title, "The MFA is the New MBA," This is a reference to a comment in the New York Times story discussed in the first paragraph. I think it is pretty obvious that a business woman with an MBA doesn't believe that an MFA can get a graduate student the same jobs in business. These require knowledge of business. Bell believes the sorts of things taught in an MFA program can supplement work in management. If a poor undergraduate wanders onto this page and takes anything else away, it is because he didn't read carefully.

Your comment certainly doesn't make you look like a very good creative writing professor. You should

be nourishing endeavors to gain knowledge and create new ideas about the world. Thinking about situations in new ways, as Bell does here, can benefit a corporate job or a work of creative writing.

Like Reply

Ahmad 4 months ago in reply to MG

Thank you for this response. It is truthful and practical. We need business people for certain things, and for those artists who need the structure and contacts of a good program, the MFA is definitely valuable as a terminal academic degree.

Like Reply

DennisS 1 year ago

Bill - great wordsmithing. To Wright a story? Now that's getting it off the ground and into the wind. That's getting the higher perspective. Let's all Kitty Hawk some ideas.

Sometimes it's hard to understand that it is the air flowing OVER the wing that creates lift. Yet there is still the drag of those who want to point out anything that isn't perfect.

Yet, Bill, it does seem necessary to have someone trustworthy to look over the financial statements - indeed to understand and create the statements. Certainly we also need those who can paint the picture, who can help us understand in a way that speaks to the soul. And those who can create a moving storyline that lifts us up - well, that's the wright story - the wright stuff.

Like Reply

DennisS 1 year ago

MMA - Master of Moving Ahead. Not just management of status quo (and trying to fine tune it to make as much as possible), and not just being creative and focusing on what might be possible, but combining both as much as possible. Maybe it's really an MBA and an MFA.

Given the current climate, perhaps there is also a call for those who understand community organizing, social impact, and creative communication.

I don't see the need for MBA's being completely replaced. We do need people who can see the practical side and help make decisions which keep an organization grounded in the realities which keep a business in existence.

Perhaps the focus should be balanced between creativity and economics, as economics is generally more about the study of behavior, with finance being an indicator of behavior and values.

Like Reply

Sarah 1 year ago

Yes, Bill. And who wants to be able to "write" a memo when you could "wright" one.

Like Reply

Bill Johnson 1 year ago

What an awesome article, its a lot easier to get and MFA than an MBA. Who wants to get bogged down in all the details. Who needs to be able to read a financial statement, when you can paint a picture or wright a story.

Like Reply

Manoj Oza, gandhinagar,India 2 years ago

I'm rather not qualified to say anything on the topic.I was just browsing the net for understanding the nuances of business design concept and its acceptance areas in MBA offering institutes across the globe as my daught has got an offer from Welingker Institute -MUMBAI for a business design diploma and she is quite undecided.

My cursory aquaintance tells that all domains of knoweldge will have to have an integrated approach to be able to have a positive impact.The more we learn, the more we realise the interface points with various desciplines, and about convergence of subjects.Studies in future are going to be an assorted fruit basket that will give pleasure to the owner and temptation to the bystander.

Like Reply

Beth Jarvis 2 years ago

Couldn't agree with Pete Wagner more. It's hip to hire "rightys", but no one knows what to do with them once they're present. Being someone with an arts background, I enjoy coming up with creative solutions to problems - which is apparently why I was hired. However, being expected to stay in a cubicle for 8+ hours a day drains me of the very qualities they wanted in the first place.

Like Reply

Vimilan Naiker 2 years ago

I am currently in the second year of my MBA in Durban, South Africa. When we study, for example, Micheal Porter, and ask: What is Strategy? - some of us know that we need to first understand the basic concepts and then using all of our intellectual capacity to answer the questions that business and life asks of us. When answering, we must use every single resource available, including our creative right brain.

I do this by "training my right brain" to be more "switched on". I brush my teeth with my left hand, wear my watch on my right hand, and so on.

I agree with some of the earlier comments, we need the MBA and we also need the MFA. Perhaps we should have the Master of Fine Business Arts and Adminstation as well.

Like Reply

Neil Licht 2 years ago

Well, its not the MBA, its the way its offered. Also BA.

Formal education seems to forget that people get things done. Why does it not teach students about human interaction?

MFA - not quite. The disciplines emphasized, definately.

Why is it that school emphasizes facts, not thinking? Not applying theory to reality? Not being analytical? Learning is an incredible journey but learning facts isn't worth anything. For instance, I'm not smarter than a fifth grader if smarter means doing fractions. Thats not smart, thats the abilty to master or memorize a clearly defined concept. Smarts are the ability to apply what is learned and then use it in real life.

Life is an MBA if you are open to it.

Like Reply

Nathan 2 years ago

This is exactly why we've created the first Design MBA in the USA. The fine print should point-out that not every MBA is out nor every MFA going to help you in business. However, those that focus on different forms of communication, customer-centric solution-building, and deep understandings of people, are in much better shape to help people learn how to innovate effectively. This can't be taught well in a course here or there--as an elective. It must be integrated throughout the curriculum.

MBA programs are, largely, focused on developing managers, not leaders. Too many graduates are oriented toward measures of success that have nothing to do with innovation. Many lack the courage to take chances and the ability to face a blank sheet of paper and create something entirely new, meaningful, and appropriate. These, too, are skills one learns in design school.

Like Reply

Justin 2 years ago

I guess an MFA in fiction writing might also be very useful for business management thanks to the storytelling it teaches.

I may refer you to Tom Peters who often emphasizes the power of storytelling. He cites Howard Gardner "A key—perhaps the key—to leadership is the effective communication of a story." And Rolf Jensen: "Imagination, myth, ritual—the language of emotion—will affect everything from our purchasing decisions to how we work with others. Companies will thrive on the basis of their stories and myths. Companies will need to understand that their products are less important than their stories."

Y

h

Type your comment here.

Like Reply

Daniel Pink 2 years ago

Great discussion. As you might know, the original article "The MFA is the new MBA" ran in the Feb 2004 Harvard Business Review. In other words, the meme has a pretty good pedigree!

Cheers,

Dan Pink

Like Reply

Shaji 2 years ago

If we think of various subjects appealing to different muscles of our being, then this article makes perfect sense.

Many a successful families, cultures, and groups have these distinctive practices of giving their younge ones a foundation in mathematics, music, sports, and martial arts. Dan Pink just confirmed their validity once again.

Like Reply

Gregory J Amani Smith 2 years ago

I just completed my MBA at St. Edward's University in Austin Texas. Before I entered school, I was a professional musician. I am totally onboard with this line of thought. When I played in a band, wrote a song, produce an album or toured I experienced her four lessons. I believe my MBA will make me a better musician and I know my musician days made me smarter in my MBA courses.

Like Reply

Kathleen 3 years ago

Ditto!! This article is right on. Life experience has taught me that creative right-brainedness can definitely be applied in most aspects of business. With an art education from earlier years and most recently an MBA, I have found a permanent "home" living outside that rigid box where most of my left-brain colleagues reside. The ability to creatively visualize the intangible, is truly a gift. Multiple intelligences does have a place in the business world!!

Like Reply

Chase Wegmann 3 years ago

Any business can be defined by its people and any course of study that can allow someone to constructively think outside of their comfort sphere is worth loking into.

Like Reply

Ata 3 years ago

I really like the idea.I see this in my life before.working in different areas in industry, I always see that the basis of creativity exists everywhere in every field, mostly in Art.I suggest CEO's try to conduct workshops in their Orgs reg creativity and ask art school professors to come and teach.

Finally we have to link art in our day-to-day business.

Leonardo Davin chi was a creative artist,inventor and leader .if we want to build leaders in orgs, we have to make an artist out of them.

@a

Like Reply

Calle & Company 3 years ago

Why do we always have to pigeon hole something into something that already exists? The largest complaint at Procter & Gamble about marketing research is that it too already only confirms the things people already know. How about starting a new program that does not exist at major universities such as the MFI - Masters in Fine Innovation. Having revolutionized or commercialized several major packaged goods categories, I'd love to run THAT course. You might find a sidebar link on my blog MADISON AVENUE.

Thanks!

Like Reply

Joe Pine 3 years ago

Couldn't agree more! Business has so much to learn from theatre, in particular. Now when I work with companies on the Experience Economy, I almost always show them the standard Freytag Diagram for dramatic structure, saying that's how they should design their experiences to become more compelling and engaging. The hardest part for folks to understand for some reason is that without crisis there can be no great climax. It's like the flip side to your point about plot -- if the plot's too simple they'll get bored.

Like Reply

Real-time updating is **paused**. (Resume)

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Education Master Plan
Information Submission Form

The Grossmont-Cuyamaca Community College District is starting a year-long process to develop an Educational Master Plan that will serve as the blueprint for our future. The Educational Master Plan is a long-range, comprehensive document intended to guide institutional and program development at both the college and district levels. The priorities established in the Educational Master Plan will serve to guide College and District decisions about growth, development and resources allocation.

As the first step in this planning process, everyone in the GCCCD community (faculty, staff, students and community members) are invited to identify and submit information sources to be reviewed for the trend analysis in one of six areas – society, technology, economy, environment, politics, and education. We are not asking you to do research, only to identify information you already have or that you encounter during the search period (March 21- April 25) and bring it to our attention for review.

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OCTOBER
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policy matters

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KEEPING CALIFORNIA COMPETITIVE: THE IMPACT OF MATH AND SCIENCE TEACHERS

Could California's shortage of math and science teachers impact its ability to compete with other states—and even nations—in the coming years? In California, growth in jobs requiring science, math, and technical training will greatly outpace overall job growth, yet forecasts also indicate that the state will have a shortage of educated and skilled workers to fill these jobs. Will such gaps leave California with a workforce unable to meet the needs of the new economy? And how can California address the need for a better-trained workforce?

Teachers: An Important Part of the Solution

One strategy for keeping California economically competitive starts with its teachers. California lags behind much of the nation in math and science student test results and degrees produced in these subject areas. Research shows that the most important controllable variable in student achievement is the quality of the teacher in the classroom. Yet many students in California are taught by underprepared and beginning math and science teachers.

In low-performing schools and schools with high percentages of poor or minority students, underprepared teachers are much more likely to teach math and science than in other schools. And in some areas, such as the state's

Wanted: More Math and Science Teachers
California will need 33,000 math and science teachers in the next decade, according to the Center for the Future of Teaching and Learning and the California Council on Science and Technology.

inland counties, K–12 student-enrollment growth will contribute to the shortage of teachers. Moreover, many parts of the state that will experience student-enrollment growth also have some of the highest percentages of underprepared teachers.

The Magnitude of the Teacher Shortage

California will need 33,000 math and science teachers in the next decade, according to the Center for the Future of Teaching and Learning and the California Council on Science and Technology. Many factors contribute to this demand, including the retirement wave of baby-boomer teachers, attrition, and compliance with federal requirements for "highly qualified" teachers. In addition, if the California State Board of Education's 2008 action requiring eighth-grade students to receive algebra instruction and testing is upheld by the courts and implemented, the demand for math teachers will increase dramatically.

To put the shortage in perspective, if every student who graduates this year with a math or science degree decided to teach school instead of pursuing other professions, California still would not meet the demand for math and science teachers in the next decade. While the number of underprepared math and science teachers has been declining in recent years, there is a higher proportion of first- and second-year math and science teachers who are underprepared compared to all first- and second-year teachers.

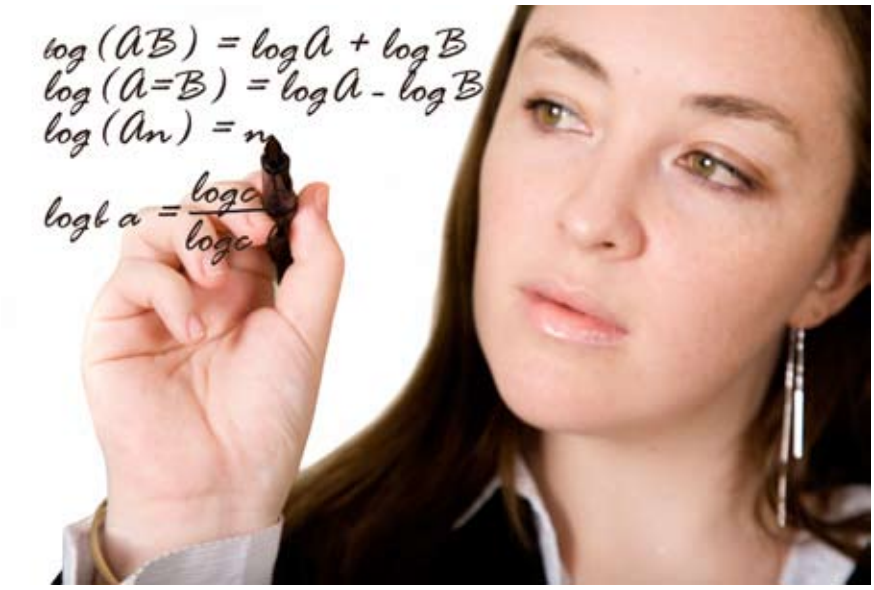
Existing teacher preparation programs are not producing enough new math and science teachers to keep up with the demand. In addition to program capacity constraints, enrollment in these programs is declining.

This downward enrollment trend may not improve soon in today's uneven teacher labor market. Production of math credentials trails teacher demand by 16 percent; in science, credentials fall short by 30 percent. Currently, one-third of all middle-school algebra teachers are underprepared. If California were to offer algebra to all eighth-grade students, the state would need approximately 1,900 additional middle-school algebra teachers. Yet in 2007–08, 1,743 teachers earned a math credential for *all* grades. California also is producing fewer overall teachers, dropping from 27,150 to 20,308 in just four years.

Student Achievement and Teacher Qualification in Math and Science

California's proficiency test—Standardized Testing and Reporting (STAR)—results show that less than half of the state's tested students score as proficient or above in math and science. In fact, proficiency in math declines after elementary school. The lowest-performing secondary schools are three to four times as likely to have underprepared math or science teachers compared with the highest-performing schools.

In Algebra I classes, 72 percent of California's students score below proficiency. Students in schools that do least well on the state's algebra tests are more likely to be taught by underprepared and novice teachers than higher scoring schools. Statewide, about one-third of middle-school algebra teachers are teaching out-of-field or do not have a math credential.



Putting the Teacher Shortage in Perspective
Teacher preparation programs in California are not producing enough new math and science teachers to keep up with demand. In fact, if every student who graduates this year with a math or science degree decided to teach school instead of pursuing other professions, California still would not meet the demand for math and science teachers in the next 10 years.

On California's high school exit exam, one-quarter of the tenth graders failed the math section in 2006–07; schools with the lowest passing rates were nearly twice as likely to be taught by underprepared or novice teachers.

California's Math and Science Teacher Pipeline

California's math and science teachers come from traditional university teacher preparation programs, university or district-based internship programs, or out of state.

California's "fifth-year" college and university teacher credential programs produce the largest number of math and science teachers. Alternative credentialing routes (such as university and district internships, which allow individuals to complete teacher preparation coursework concurrent with their first year or two in a paid teaching position) produce the second-largest number of credentials; these alternative credentialing programs are chosen half of the time by math and science teachers and are favored by career-changers. Out-of-state teachers comprise 18 percent of California's new math and science credentials.

The University of California (UC) and California State University (CSU) have implemented programs to increase the number and quality of math and science teachers they produce. CSU has committed to doubling its math and science teacher production by 2010; UC wants to quadruple its production of these teachers by 2010.

Some of the universities' program strategies include increased recruitment, improved community college transfer programs, more financial incentives, greater Internet-supported instruction, and new credential pathways. As a result of the implementation of some of these strategies, the number of credentials produced by CSU and UC already has increased substantially.

Strategies to Attract and Retain Math and Science Teachers

California's challenging fiscal environment limits the types of programs and budgetary solutions that can be applied to the math and science teacher shortage. In recent years, state budget reductions and program flexibility have reduced funding earmarked for the math and science teacher pipeline, induction, and

professional development programs. However, 2009 federal Recovery Act funding has augmented financial aid programs for math and science teachers, encouraged innovative teacher compensation systems, and provided grant funding for teacher quality and math and science partnerships.

In the immediate future, California's distressed economy may help ease the math and science teacher shortage since some teachers are delaying their retirement and more unemployed private industry personnel are pursuing new careers as teachers.

When the state's fiscal climate improves, some long-term strategies to attract and retain math and science teachers could include the following:

- **Provide structured support** for teachers, including induction and mentoring programs.
- **Address the gap** between salaries paid to math and science teachers, and salaries paid by industries that employ math and science college graduates.
- **Provide ongoing professional development** to teachers that is high-quality and includes more subject matter content and pedagogical skills.
- **Increase the math skills** of multiple-subject teachers so they are able to help students become more proficient in math and better prepare them to take algebra classes.
- **Improve the quality** of teacher preparation programs by providing more rigorous course content and pedagogy.
- **Streamline pathways** between higher education and teacher preparation programs.
- **Keep teachers updated** on current teaching methodologies by providing advanced training at local industries.
- **Help retain teachers** by enhancing the working environment in schools, including improving teacher support systems and providing more administrative support.
- **Use data systems** to monitor the supply and demand of math and science teachers. (See the Senate Office of Research report, "Could a New Way of Collecting Data Transform Education in California?" at www.sen.ca.gov/sor.)
- **Encourage individuals** retiring from private-industry careers to start a teaching career, and establish partnerships between schools, industry, and business to encourage second careers in teaching.
- **Fund financial aid programs** to help attract and retain teachers, such as tuition and fee assistance programs, or offer loan forgiveness terms to postbaccalaureate students seeking a teaching credential if they commit to teaching math and science in low-performing schools for a specified period of time.

Addressing California's shortage of math and science teachers is an important component that will help produce a workforce that enables California to be competitive economically in the nation and the world.

Written by Gail Evans. The California Senate Office of Research is a nonpartisan office charged with serving the research needs of the California State Senate and assisting Senate members and committees with the development of public policy. It was established by the Senate Rules Committee in 1969. For more information and copies of this report, please visit **www.sen.ca.gov/sor** or call **(916) 651-1500.**

Sources: "California's Teaching Force: Key Issues and Trends 2008," The Center for the Future of Teaching and Learning, 2008; "Centerview: California's Approach to Math Instruction Still Doesn't Add Up," The Center for the Future of Teaching and Learning, July 2008; "Creating a Well-Prepared Science, Technology, Engineering, and Mathematics (STEM) Workforce: How Do We Get From Here to There?" Symposium Summary, California Teacher Advisory Council, February 2, 2009; "Critical Path Analysis of California's Science and Mathematics Teacher Preparation System," California Council on Science and Technology and the Center for the Future of Teaching and Learning, March 2007.

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Information Submission Form

The Grossmont-Cuyamaca Community College District is starting a year-long process to develop an Educational Master Plan that will serve as the blueprint for our future. The Educational Master Plan is a long-range, comprehensive document intended to guide institutional and program development at both the college and district levels. The priorities established in the Educational Master Plan will serve to guide College and District decisions about growth, development and resources allocation.

As the first step in this planning process, everyone in the GCCCD community (faculty, staff, students and community members) are invited to identify and submit information sources to be reviewed for the trend analysis in one of six areas – society, technology, economy, environment, politics, and education. We are not asking you to do research, only to identify information you already have or that you encounter during the search period (March 21- April 25) and bring it to our attention for review.

Please answer the following questions for each document you submit:

(Feel free to submit as many of these forms as you would like)

1) What is the name of the document? Applying Art and Action

2) Author: Nick Viglione

3) Source: Reclaiming Children and Youth Spring 2009 vol 18

4) Which of the following areas does this document best address? (Please select only one)

- ○ Society
- ○ Technology
- ○ Economy
- ○ Environment
- ○ Politics and Legal Issues
- ◉ Education
- ○ Other

5) Relevance:

6) Page/Section:

7) **Attach Document/Place URL Here:**

Download the free Adobe Reader X: http://www.adobe.com/accessibility/products/reader/

To attach a document: **Reader 9: Use "Tools"-"Comments and Markups"-"Attach a File as a Comment"**
Reader X: Use "Comment" (upper right), then select the paper clip icon under "Annotations"

Questions email: lynne.davidson@gcccd.edu Research, Planning and Institutional Effectiveness

Nick M. Viglione

Applying Art and Action

The education system in the United States is going through change. Consequently, curriculum and instructional delivery are focusing on math, reading, and science. This focus is causing an effect that reduces the amount of arts becoming infused into the school design. An alternative education program in a charter school has created a non-traditional approach to curriculum through infusing the arts into the model while maintaining theoretical structure from a sound mission.

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Journal Sections

- From the Editor
- Treatment and Family
- Culture and Development
- The Resilient Brain
- Voices of Pioneers
- Educational Innovations
- Juvenile Justice
- Voices of Youth

Journal Authors

- Nick M. Viglione

Best matches for **nick viglione Applying Art**

Applying Art and Action. The education system in the United States is going through change. Jump to text »

About Reclaiming

Whether you are a seasoned educator, youth professional, mentor, parent, or university student, this journal is for you! From the very beginning, this quarterly publication was described as "practical," "powerful," and "positive." The journal continues to provide readers with concise, informative articles from leading educators and youth workers.

Reclaiming Children and Youth offers a vast array of strategies and solutions to many of the pressing problems of youth work today. Using tried and tested models, it presents techniques to reclaim even the most challenging children and youth.

Youth Today has called Reclaiming Children and Youth "one of the best publications in the field." With a world-class editorial board, this journal puts readers on the leading edge of positive youth development.