**Transforming Education in the New Era**
**References**

Bassett, P. F. (2005). Reengineering schools for the 21st century: There is already general agreement among various sectors of our society regarding the skills that today's students will need as they move on to higher education and careers. *Phi Delta Kappan, 87*(1), 76.

There is a growing consensus among members of the corporate community, university professors, and informed educators regarding the skills needed for success in college and in the marketplace. According to the Business-Higher Education Forum, "today's high-performance job market requires graduates to be proficient in such cross-functional skills and attributes as leadership, teamwork, problem solving, and communication," as well as time management, self-management, adaptability, analytical thinking, and global consciousness. A study by 20 of America's most prestigious research universities identified these same proficiencies and skills as the ones students need not only to gain admission to college but to succeed there. While the study proposes standards for the various academic disciplines, its introduction indicates the "proficiencies" these standards are meant to develop. Likewise, at the precollege level, educators have articulated locally and nationally a core body of knowledge--what they know students should know. Regardless of the angle of vision, there are remarkable similarities in what experts see. In short, educators do not lack clarity about what to teach; rather, they are mired in antiquated thinking about how to teach. More specifically, they need to understand what exercises and experiences best produce proficiency in the skills and attributes that all sides agree are critical. Moreover, legislative mandates (e.g., high-stakes testing) and a slavish allegiance to traditional teaching practices and to specific disciplines of study are diversions that prevent educators from devoting serious attention to developing a more global mindset and helping children acquire the knowledge and skill sets they will need to succeed. (Contains 2 notes.)

Boshier, R., & Huang, Y. (2006). Building for the future by expatiating the past: High drama from the summit of china's learning mountain. *International Journal of Lifelong Education, 25*(4), 351-367.

As part of a large-scale learning initiative, the Chinese Communist Party has declared Lushan to be a "learning mountain". There have been people learning at Lushan Mountain for 2000 years. In 1959 there was a Central Committee meeting at Lushan, where Mao Zedong purged his widely respected comrade Peng Dehuai for daring to say people were starving because of the Great Leap Forward. Everyone knew Peng spoke the truth but few dared antagonize the Chairman. Today the 1959 purge of Peng is seen as the end of comrades and consensus and beginning of dictatorship. There were other tumultuous meetings there in 1961 and 1970. Hence, reconstructing Lushan as a learning mountain is an attempt to expatiate the past and build a more humane future.

In addition, putting learning at the top of the mountain brings tourists! The authors analyze the Chinese learning initiative and describe the political significance of Lushan. Theoretically, the learning mountain is shaped by Jiang Zemin's "three represents", first-generation (Faure report) lifelong education and, most surprisingly, humanist/interpretivism. At Lushan, the 21st century might best be assured by learning from the first century. Zhu Xi was wise and, 2000 years ago, not enthused by learning in schools. Now as then, why go to school when you can learn on a mountain?

Brock, W., Marshall, R., & Tucker, M. (2009, May 30). 10 steps to world class schools. *The Washington Post*. Retrieved July 2, 2009 from http://www.washingtonpost.com/wp-dyn/content/article/2009/05/29/AR2009052903012_pf.html

The key to U.S. global stature after World War II was the world's best-educated workforce. But now the United States ranks No. 12, according to the Organization for Economic Cooperation and Development, and today's younger generation is the first to be less educated than the preceding one. No Child Left Behind (NCLB) is about getting our lowest-performing students to minimum standards. That is nowhere near enough. To get us where we need to go, we propose the National World Class Schools Act to replace NCLB. This article outlines what states need to do to get its fair share of federal education funds.

Carneiro, R., & Draxler, A. (2008). Education for the 21st century: Lessons and challenges. *European Journal of Education, 43*(2), 149-160.

On the basis of proposals contained in the 1996 report "Learning: the Treasure Within" by the International Commission on Education for the Twenty-first Century (established by UNESCO), the authors examine the influence and pertinence of its construct of education on the four pillars learning to know, learning to do, learning to be, and learning to live together 12 years later. Focusing on learning to live together, the article reviews the background against which the Delors Report was published, synthesizes the concepts and practices of learning to live together, and proposes some ways forward.

Christen, A. (2009). Transforming the classroom for collaborative learning in the 21st century. *Techniques: Connecting Education and Careers, 84*(1), 28-31.

Today's hyper-connected students live in a world of instant interpersonal communications and virtually infinite access to information and educational resources. But this networked world, and the powerful learning tools it offers, has yet to penetrate the typical classroom. In many ways educational institutions are spinning their curricular wheels, falling behind the evolving needs of students, communities and future employers. In general, schools are not taking full advantage of 21st century learning technologies, and they are failing to reach out to the public- and private-sector organizations that can provide them with support and fresh approaches. In this article,

the author advocates for an educational transformation that aligns the "how" and "what" of learning with the learners themselves and the world of work that awaits them after they eave school. That means: (1) Instruction must be synchronized more closely with the ways students live and interact outside the classroom; (2) Curricula must address the soft skills required in today's global, information-driven workforce; (3) Technology and pedagogy must be better integrated; and (4) Educational institutions must look for partners that can add to their pedagogical strengths and help shore up their weaknesses. Networking in all its forms is key to bringing about such a transformation. The author describes the Cisco Networking Academy, an educational program that has partnered with a broad range of organizations worldwide to create an e-learning environment aimed specifically at 21st century students and their instructional needs.

Daniel, J., Kanwar, A., & Uvalic-Trumbic, S. (2006). A tectonic shift in global higher education. *Change: The Magazine of Higher Learning, 38*(4), 16-23.

Europeans lament that their universities are lagging behind those in the United States, while Americans worry that their academic leadership is threatened by complacency. Both groups, however, are missing the tectonic shift that will transform the map of higher education worldwide--the growth of universities in the developing world. Spreading connectivity, allied with the massive creation of educational resources based on open-source technology, may soon allow the radical reduction in costs necessary for higher education to serve the four billion people at the bottom of the world's economic pyramid. Enrollment growth is accelerating as more governments see the rapid expansion of higher education as a key element in their transition from developing to developed countries. This article discusses how this trend may effectively define the global profile of higher education in the 21st century. The authors predict that, seeing a massive market opening, for-profit institutions in the developed world will expand their cross-border provision of educational services, especially distance and e-learning. Establishing quality assurance mechanisms for such rapid expansion will be a major challenge for governments.

Deem, R. (2008). Producing and Re/Producing the global university in the 21st century: Researcher perspectives and policy consequences. *Higher Education Policy, 21*(4), 439-456.

This paper examines some aspects of current debates about what constitutes the global university in the 21st century, focusing particularly on concepts and perspectives about how the idea of a university is being produced and reproduced. As well as exploring the theoretical and empirical content of eight different analyses ranging from the relationship between the university and the welfare state to the effects of the financialization of academic publishing, this paper considers the relevance of the arguments presented to universities themselves and the extent to which the contributions analyzed might also appeal to policy makers and university leaders. The eight analyses selected are among those presented at two recent international seminar

series on universities, ideas, and globalization processes for which the author was a co-organizer.

Fletcher, G. H. (2006). Using technology to maintain competitiveness: How to get our groove back. *T.H.E.Journal, 33*(12), 18-21.

As China and India threaten the supremacy of the U.S. economy, the nation's best hope for keeping pace is putting educational technology funding to use to galvanize education. A report from the Partnership for 21st Century Skills, "Results that Matter," provides a compelling list of statistics from a variety of sources displaying U.S. students' lack of readiness for college and work. Starkly put, high school graduates are not prepared to be successful in the workforce; both the graduates and their employers tell us that. The American Diploma Project found that nearly 40 percent of high school graduates feel underprepared for college or work, while in a 2005 survey from the National Association of Manufacturers 84 percent of employers said that K-12 schools are doing a poor job of readying students for the workplace. Clearly, educators need to make school more engaging for students, in order to keep them enrolled and to turn out more professional scientists, engineers, mathematicians, and technologists. Virtually all the recommended solutions have advocated constructing a national approach to education that secures the United States from losing its competitive advantage. It may be that an effort of this size requires federal support; however, states, which ultimately have the responsibility for educating all students, are searching for ways to motivate students and help them remain and thrive in school. This article discusses the use of technology to maintain U.S. competitiveness in education and to equip students for the challenges of the global economy. For this millennial generation that uses multiple technologies, often concurrently, in their personal lives, using technology as an integral component of teaching and learning is the surest way to success. This may be merely a small step toward keeping the U.S. economy competitive over the next few decades, but multiplied by hundreds of similar steps taken across the country, the results become a major and hopefully enduring leap.

Friedman, T. (2008). Tom Friedman on education in the "flat world". *School Administrator, 65*(2), 12-19.

In his best-selling book, "The World Is Flat," Thomas Friedman describes that the real world is becoming "flat." He describes how 10 forces are "flattening" the 21st century--making it easier for people in India, China and around the world to compete with Americans and others who had triumphed the century before. This article presents an interview with Friedman by author Daniel Pink. During the interview, the two authors discussed topics such as the additions in Friedman's book, "mashed-up" method of teaching, and the implications on educational reforms of having a new president in November.

Furlong, J. (2008). Making teaching a 21st century profession: Tony Blair's big prize. *Oxford Review of Education, 34*(6), 727-739.

> From his very earliest days in office, Tony Blair believed that if he was to achieve his broader educational reforms then the teaching profession itself needed modernizing--it had to become a "21st century profession." This paper charts the background to this aspiration and the complex range of interrelated policies used to achieve that reform. They included: a changed role for initial teacher education; a differentiated workforce; strategies to "focus" professionalism (appraisal, standards and CPD); and a redefinition of professional knowledge. Through these policies, the Government hoped to harness teacher professionalism to their broader reform agenda. The paper concludes with a discussion of Tony Blair's legacy in this field both in England and internationally.

Gamage, D. T., & Mininberg, E. (2003). The Australian and American higher education: Key issues of the first decade of the 21st century. *Higher Education, 45*(2), 183-202.

> Addresses some of the key issues likely to dominate U.S. and Australian higher education during the first decade of the 21st century, such as costs to students, technology and instructional delivery, and faculty roles and rewards.

Garrett, J. L. (2008). STEM: The 21st century sputnik. *Kappa Delta Pi Record, 44*(4), 152-153.

> The author of this article argues that, just as Americans were shocked into action, when the Soviet Union launched Sputnik in 1957, by strengthening STEM (science, technology, engineering, and mathematics) in the educational curriculum, Americans must be shocked again. The nation must address the failure of its leaders to provide adequate funding to support legislated mandates such as NCLB and necessary programs in STEM. Only when teachers are well prepared and technology is accessible to all will the United States be able to reclaim its position as a premier educational system.

Hardy, L. (2005). The future of education: Not all we hoped, or had hyped. *Education Digest: Essential Readings Condensed for Quick Review, 70*(7), 4-9.

> Thirty years ago, at the close of the tumultuous 1960s, futurist Alvin Toffler wrote a bestseller, "Future Shock," which warned of the effects of accelerating change, or what Toffler described as "the dizzying disorientation brought on by the premature arrival of the future." In the section of the book which was on education, Toffler was remarkably perceptive. He talked about the obsolete "industrial era school," its antiquated schedules and seat groupings, its ever-present bells. He called for revising the curriculum--while not neglecting math and reading--in order to be able to make it relevant for the future. This article discusses a report released in early December by the Program for International Student Assessment (PISA) ranking 15-year-olds in the United States 24th among peers from 29 other nations in the area of math literacy. The U.S.

score of 483 was 17 points below the average score for the participating countries. Furthermore, it was lower than the score of several European nations of modest wealth, including Poland, Hungary, and Spain. More relevant to the issue of U.S. competitiveness were the scores which were generated by two Asian nations on the test: South Korea and Japan, which were ranked second and fourth, respectively. (The top five nations, as determined by the results of this study, and their scores, were: Finland, 544; South Korea, 542; the Netherlands, 538; Japan, 534; and Canada, 532.) The United States has moved up a little, but there is still a huge gap between what American students can do and what students do in the high-performing Asian countries. Even though all of this is not the outcome Toffler might have expected 35 years ago, it is where Americans find themselves today as they seek to compete in the 21st century.

Hoog, J., Bredeson, P. V., & Johansson, O. (2006). Conformity to new global imperatives and demands: The case of swedish school principals. *European Educational Research Journal, 5*(3-4), 263-275.

Over the past three decades, the forces of globalization--economic, political and cultural--have significantly affected institutions and people across the world: altering in some ways the very terrain of public and private life. Public education has in no small way been challenged by new realities and new demands in an increasingly interdependent yet competitive world environment. School principals are uniquely positioned as formal leaders of diverse and complex educational systems to mediate the often times opposing forces of globalization and localism with their communities. This article examines school leaders' understanding of their work and their work role priorities, especially with regard to teaching and learning, within a policy environment characterized by increasingly convergent policy and leadership discourse. Two major questions are addressed, theoretically and empirically: in what ways do school principals in Sweden, which has strong democratic traditions, address the tension between localism and national interests and the press for conformity to new global imperatives and demands; and to what degree, if any, has globalization created a new hegemony in school leadership? It is concluded that school principals in Sweden respond to questions about their schools without any reference to new global imperatives and demands. Their attention was generally related to national demands. Also, we see no clear evidence that globalization has created a new hegemony in school leadership in Sweden.

Joyce, P. (2008). Learning the real-world skills of the 21st century. *Techniques: Connecting Education and Careers, 83*(4), 25-27.

This article describes a summer internship program at South Houston High School which utilizes an innovative curriculum to teach students 21st century skills alongside core academics. Using the Transitions career education curriculum--a comprehensive curriculum created by ASCL Educational Services to fulfill Chicago Public Schools' need

for soft skills development--students learned the necessary soft skills to be successful in a career, and reinforced them in a simulated workplace which provided authentic and relevant learning. The program encompassed about 96 hours of job-skill training and construction activity. Students were selected through a hiring process, which included a basic application, group interview, attendance and discipline records, as well as letters of recommendation. Construction experience was not a prerequisite for acceptance; in fact, among the 14 girls and 11 boys in the program only one, the shop assistant, had any prior experience. A $600 stipend was provided to all students who completed the four-week program. Students worked six hours a day, four days a week. This authentic applied learning experience allowed students to incorporate academics in a real-world workplace scenario.

Landorf, H., Rocco, T. S., & Nevin, A. (2007). Creating permeable boundaries: Teaching and learning for social justice in a global society. *Teacher Education Quarterly, 34*(1), 41-56.

In their call for proposals for this themed issue, the editors maintain that higher education institutions should graduate future P-12 teachers who think globally, have international experience, demonstrate foreign language competence, and are able to incorporate a global dimension into their teaching. In contrast, the authors argue that future educators should be inclusive educators who use teaching strategies that are inclusive of all students, think globally, and include global dimensions in their teaching. Inclusive educators honor the diverse cultural, linguistic, physical, mental, and cognitive complexities of their students. They argue that a focus on teaching for social justice is where global education, special education, and disability studies converge. They assert that this begins with teaching respect for those who are different within one's own environment--tolerance from the inside out, and they believe that it is only when convergence among global education, special education, and disability studies is forged that true respect may emerge. Students must experience tolerance in their own lives in order to teach respect. To do this, teachers must both model tolerance and respect and give students real opportunities to be in what Schon (1990) calls the "murky swamp" of decision making in which they examine their own beliefs and choose respect as the best action. In this paper, they examine the questions: who are the teachers and students? What are their images of diversity? Then they describe the convergence of global education, inclusive education, and disability studies. Next they explore what it means to teach for social justice. From this stance, they describe several teaching strategies that teacher educators can use for creating permeable boundaries.

Lewis, T. (2007). Social inequality in education: A constraint on an American high-skills future. *Curriculum Inquiry, 37*(4), 329-349.

Countries everywhere are turning to *education* in the quest for competitive edge in the global economy. How to attain the high *skills* needed in new reformed workplaces is a preoccupation that can be observed across developed countries. In this widening discourse of high *skills* and competitiveness, the U.S. *skills* production model is being

seen as undesirable because it is perceived to be premised upon educational inequality and *skills* polarization. This article agrees with such characterization of the U.S educational condition. It examines *skill* tendencies in new reformed workplaces and conceptions of how schools must respond, then interrogates assumptions underpinning college-bound-non-college-bound formulations that would have low socioeconomic status (SES) children pursuing watered-down academic fare, or vocational *education*, while high SES children are set on college pathways. The author contends that curricula approaches that are premised on alternative post-school destinations leave the children of poverty in the same unfavorable position as their parents, such curricula serving only to reproduce inequality. The article rejects curriculum tracking, and the notion of the non-college bound, and instead argues for the democratization of high status knowledge as the best response to the challenge of a high-*skills* future.

Maclean, R., & Ordonez, V. (2007). Work, skills development for employability and education for sustainable development. *Educational Research for Policy and Practice, 6*(2), 123-140.

This article focuses on the radical changes taking place in *skills* development for work and life, and their implications for the content of *education* and schooling. It examines *skills* development for employability and workforce *education*, with particular reference to technical and vocational *education* and training (TVET). In turn, it is argued that the impact of these issues upon the world of work will be reflected in those *education* reform initiatives that will become necessary to keep pace with such institutionalized change.

Manzo, K. K., & Cavanagh, S. (2008). America scouts overseas to boost education skills. *Education Week, 27*(34), 1,14-16.

The miles that separate Ohio from Singapore and other countries rapidly developing into economic and *education* success stories have all but evaporated over the past decade for policymakers and educators trying to solve the complicated school improvement puzzle. Hard-hit by global economic pressures that have closed companies and sent thousands of jobs overseas, once-parochial states are beginning to look abroad for answers to their challenges in business, industry, and *education*. As leaders in Ohio and other states start to reassess the knowledge and *skills* needed to succeed in a competitive economy, they are weighing plans to gauge how their schools measure up against those of Singapore, South Korea, and Japan, as well as Finland and other European nations--all perennial leaders on international assessments. Ohio is ahead of most states in efforts to benchmark its performance against that of high-performing countries, although it has met hurdles in doing so. Yet a growing number of *education* and policy groups suggest that such cross-nation comparisons are essential. Their concern: academic gains made by competitors halfway around the globe will jeopardize the United States' future economic prospects. Such warnings echo the alarms set off a quarter-century ago this week, when a federal commission issued "A Nation at Risk", the controversial landmark report that declared a "rising tide of mediocrity" in U.S.

*education* posed a threat to America's prosperity and status in the world. According to Gene Wilhoit, the executive director of the Council of Chief State School Officers, disparities in student achievement between the United States and other countries have shifted the focus from state-by-state comparisons to "concern about those countries that are growing at a fast pace and with relatively high achievement."

Moon, D., & Moolenaar-Wirsiy, P. (2008). The million dollar difference and 21st century teaching skills project. *Community College Journal of Research and Practice, 32*(11), 888-889.

With a limited budget, but a critical need to develop 21st century marketplace skills, Georgia Perimeter College (GPC) developed the Million Dollar Difference Campaign. Focusing on how quality instruction affects retention and student outcomes, GPC re-energized a 1000-faculty workforce in one year through a series of innovative teaching strategies. Data were collected that proved the campaign worked.

Murnane, R. J., & Steele, J. L. (2007). What is the problem? the challenge of providing effective teachers for all children. *Future of Children, 17*(1), 15-43.

Richard Murnane and Jennifer Steele argue that if the United States is to equip its young people with the skills essential in the new economy, high-quality teachers are more important than ever. In recent years, the demand for effective teachers has increased as enrollments have risen, class sizes have fallen, and a large share of the teacher workforce has begun to retire. Women and minorities have more career options than ever before, making it increasingly difficult to attract and retain the many effective teachers who are needed. Moreover, schools are limited in their ability to identify and reward the most effective teachers. Perhaps the most urgent problem facing American education, say Murnane and Steele, is the unequal distribution of high-quality teachers. Poor children and minorities are disproportionately assigned to teachers with the least preparation and the weakest academic backgrounds. Teacher turnover is high in schools that serve large shares of poor or nonwhite students because the work is difficult, and the teachers who undertake it are often the least equipped to succeed. Murnane and Steele point out that in response to these challenges, policymakers have proposed a variety of policy instruments to increase the supply of effective teachers and distribute those teachers more equitably across schools. Such proposals include across-the-board pay increases, more flexible pay structures such as pay-for-performance, and reduced restrictions on who is allowed to teach. Several of these proposals are already being implemented, but their effectiveness remains largely unknown. To measure how well these policies attract effective teachers to the profession and to the schools that need them most, rigorous evaluations are essential. Murnane and Steele also note that policymakers may benefit from looking beyond U.S. borders to understand how teacher labor markets work in other countries. Although policies rooted in one nation's culture cannot be easily and quickly transplanted into another, it is important to understand

what challenges other countries face, what policies they are using, and how well those policies are working to enhance teacher quality and improve student achievement.

Nagel, P. (2008). Geography: The "essential" skill for the 21st century. *Social Education, 72*(7), 354-358.

As people head further into the 21st Century, they are living in a constantly changing and interdependent world. As such, students need a global awareness that includes familiarity with different cultures, beliefs, and lifestyles in order to understand and address global issues. Geography can help students understand these issues. In this article, the author identifies the three essential learning and innovative skills that can help students confront the challenges of tomorrow. He also discusses how thinking geographically can help students, teachers, and leaders for the next century and beyond.

National Center on Education and the Economy. (2007). *Tough Choices or Tough Times: The report of the new commission on the skills of the American workforce.* Washington, DC: National Center on Education and the Economy.

This comprehensive report makes it very clear that the system of education in this country is broken. Even the most dedicated educators face huge obstacles. Following are some of the commission's recommendations for transforming education:

- Invest in early-childhood education.
- Recruit better students to be teachers.
- Support life-long learning.
- End high school sooner for most students.
- Put high schools under performance contracts.

New essential skills.(2005). *Technology & Learning, 26*(4), 11.

Today, students typically begin their information experiences in front of a global electronic library of billions of pages of information (the Internet), where materials can be published by just about anyone, on just about anything, and for just about any reason. If students have been taught only to read and understand this information, they could be in serious trouble, possibly even in danger. Accessing information in an increasingly digital and networked world requires a range of skills of which decoding text is only a small part. This article offers essential skills crucial for students in the Digital Age.

Partnership For 21st Century Skills. (2007). *21st Century Curriculum and Instruction.* Tucson, AZ: Partnership For 21st Century Skills. Retrieved from

http://www.21stcenturyskills.org/documents/21st_century_skills_curriculum_and_instruction.pdf.

The relationship between curriculum and instruction is obviously a very close one. Curriculum is essentially a design, or roadmap for learning, and as such focuses on knowledge and skills that are judged important to learn. Instruction is the means by which that learning will be achieved. To meet the needs of the 21st century learner and achieve the student outcomes described in its Framework, the Partnership calls on schools to adopt a 21st century curriculum that blends thinking and innovation skills; information, media, and ICT literacy; and life and career skills in context of core academic subjects and across interdisciplinary themes, and to employ methods of 21st century instruction that integrate innovative and research-proven teaching strategies, modern learning technologies, and real world resources and contexts.

Partnership For 21st Century Skills. (2008). *21st century skills, education and competitiveness: A resource and policy guide*. Tucson, AZ: Partnership For 21st Century Skills. Retrieved March 2006 from http://www.21stcenturyskills.org/documents/21st_century_skills_education_and_competitiveness_guide.pdf.

Americans are deeply concerned about their present and future prospects in a time of economic uncertainty. Policymakers have a make or break opening—and an obligation—to chart a new path for public education that will secure our economic competitiveness. This guide summarizes the challenges and opportunities that, if left unaddressed, will curtail our competitiveness and diminish our standing in the world. The warning signals are blinking red. We can thrive in this century only with informed leadership and concerted action that prepares Americans to compete.

Sawchuk, S. (2009). Backers of "21st-century skills" take flak. *Education Week, 28*(23), 1.

The phrase "21st-century skills" is everywhere in education policy discussions these days, from faculty lounges to the highest echelons of the U.S. education system. Broadly speaking, it refers to a push for schools to teach critical-thinking, analytical, and technology skills, in addition to the "soft skills" of creativity, collaboration, and communication that some experts argue will be in high demand as the world increasingly shifts to a global, entrepreneurial, and service-based workplace. This article reports that a group of researchers, historians, and policymakers from across the political spectrum are raising a red flag about the agenda as embodied by the Tucson, Arizona-based Partnership for 21st Century Skills, or P21, the leading advocacy group for 21st-century skills. According to them, unless states that sign on to the movement ensure that all students are also taught a

body of explicit, well-sequenced content, a focus on skills will not help students develop higher-order critical-thinking abilities.

Shepard, L. A. (2000). *The role of classroom assessment in teaching and learning. CSE technical report* No. CSE-TR-517). Retrieved from http://www.cse.ucla.edu/products/Reports/TECH517.pdf

This paper develops a framework for understanding a reformed view of assessment, in which assessment plays an integral role in teaching and learning. The proposed model is consistent with current assessment reforms being advanced across many disciplines. Three background sections of the report describe: (1) curriculum and psychological theories that have shaped methods of instruction, conceptions of subject matter, and testing methods in the past; (2) a conceptual framework based on new theories and new relationships among curriculum, learning theory, and assessment; and (3) connections between classroom uses of assessment and external accountability systems. The fourth and fifth sections elaborate the model for classroom assessment based on social-constructivist principles, arguing for the substantive reform of assessment and its use in classrooms to support learning. The final section outlines the kinds of research studies that will be needed to help realize a reformed vision of classroom assessment. (Contains 6 figures and 186 references.)

Silva, E. (2008). *Measuring skills for the 21st century. education sector reports.* Washington, DC: Education Sector. Retrieved July 13 from http://www.educationsector.org/research/research_show.htm?doc_id=716323

Leaders in government, business, and higher education are calling for today's students to show a mastery of broader and more sophisticated skills like evaluating and analyzing information and thinking creatively about how to solve real-world problems. Standing in the way of incorporating such skills into teaching and learning are widespread concerns about measurement. In this report, Senior Policy Analyst Elena Silva examines new models of assessment that illustrate that the skills that really matter for the 21st century can be measured accurately and in a common and comparable way. New assessments such as the College Work and Readiness Assessment (CWRA), used at St. Andrew's School in Middletown, Delaware, illustrate that the ability to think creatively and to evaluate and analyze information can be measured accurately and in a common and comparable way. The CWRA and other emergent models demonstrate the potential to measure complex thinking skills at the same time as a student's mastery of core content or basic skills and knowledge. There is, advocates the author, no need for more tests to measure advanced skills. Rather, there is a need for better tests that measure more of the skills students' need to succeed today. (Contains 28 endnotes, 2 figures and 1 table.)

Stewart, V. (2005). A world transformed: How other countries are preparing students for the interconnected world of the 21st century. *Phi Delta Kappan, 87*(3), 229-232.

Whether by incorporating the study of other nations and cultures into the school curriculum, requiring students to learn foreign languages, or encouraging cross-cultural exchanges, countries around the world are preparing their students for life in the global era. Vivien Stewart describes efforts in Europe, Australia, and Asia and assesses how the U.S. is doing in comparison.

Tuttle, H. G. (2007). Digital-age assessment: E-portfolios are the wave of the future. *Technology & Learning, 27*(7), 22.

Effective 21st century assessment reaches beyond traditional testing to look at the broader accomplishments of learners. Assembling an e-portfolio, or electronic portfolio, is an excellent method for assessing students' progress toward school, state, or national academic standards, as well as 21st century skills. An electronic portfolio is a purposefully limited collection of student selected work over time that documents progress toward meeting the standards. Work may be collected over a semester, a year, or even several years, passing from one grade level and teacher to the next. E-portfolios reflect more in-depth, more comprehensive, and better thought out evidence of student learning than on-demand tests. In this article, the author offers ten tips on creating an e-portfolio and presents a clear e-portfolio template for students to easily organize their artifacts and reflections.

Yelland, N. (2006). Changing worlds and new curricula in the knowledge era. *Educational Media International, 43*(2), 121-131.

This paper will consider some of the new directions for curriculum that have been promoted to ensure that contemporary school experiences are relevant to the lives of the young people who attend them. It will then provide two examples and a discussion of activities that have been created in the context of such new conceptualizations to highlight the ways in which they provide opportunities for students to acquire the skills and knowledge needed to participate effectively in life in the 21st century.