
Presenting a Practitioner's Response to the 21st Century Skills Debate

Encouraging and Promoting
THINKING beyond TASK



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By Michael F. Fitzpatrick

The viewpoint put forth in this position paper is intended, among other challenges, to effectively capture divergent views on the present debate regarding 21st century skills. The opinion which follows is anchored in recent research findings by respected policy analysts and incorporates views both from the private sector and from a wide variety of educational professionals from across the Commonwealth of Massachusetts. It also has the benefit of direct feedback from individuals aligned closely with both sides of the national debate, including the president of the Partnership for 21st Century Skills and the executive directors of Massachusetts-based Pioneer Institute for Public Policy Research and the Massachusetts Business Alliance for Education, among others. Given the Commonwealth's proven success with the Massachusetts Comprehensive Assessment System (MCAS) and assessment driven growth, this reference point serves as a viable lens for colleagues to revisit, refine, and invigorate a new educational direction.

From my perspective, the present political debate is unnecessarily polarized. One viewpoint has been characterized as suggesting the dire need to move from theoretical academic concepts into concrete workplace/life skills. The other side argues that the identified 21st century skills are immeasurable and would result in a departure from empirically-driven basic framework competencies. Regardless of the view to which one subscribes, the obvious question remains: Why must we give up one thing to secure or protect the other? The argument should not be controlled by reactors or contributors who focus on teaching either academic concepts or life skills. As school superintendents are charged with ensuring that students are prepared for success in an ever more challenging global society, the position of school executive officers in Massachusetts and across the nation must be that it is possible, and in fact vital to the success of education reform efforts, to effectively blend the two.

In the mid 1990s, the official response to the Massachusetts Education Reform Act of 1993 first dictated that MCAS -- which set out to measure student achievement on purely academic subjects -- should be applied equally to students in the Commonwealth's vocational technical and its non-vocational public school systems. The initial reaction from many vocational technical practitioners was that it would be unfair to measure career-oriented students by the same academic standards as students who spend their entire school day focused on academic pursuits. Yet the reality that, in order to succeed, career and technical students must have the same foundation of learning as their non-vocational counterparts could not be denied and the argument that any measurement system must include all students prevailed. Faced with the prospect of a poor showing on a statewide academic assessment, the state's career and technical delivery system responded to the call for greater academic rigor and made sweeping changes within its curricula to promote increased student achievement in academic subject areas. Without losing their focus on imparting technical skills for a specific trade or

career goal, vocational technical systems found ways to link academic learning to practical lessons and discovered that the resulting applied learning models created more motivated learners. The results have surpassed most expectations and garnered an enhanced image and unprecedented demand for enrollment in career and technical schools across Massachusetts.

Today, all schools are faced with a growing awareness that success in the 21st century requires more than just core academic knowledge. As economic, technological, informational, and demographic changes transform the way people live and work, and as these changes continue to accelerate, it is increasingly apparent that future success will depend upon one's ability to adapt to inevitable changes and to constantly learn and relearn. In much the same way that career and technical systems found new ways to incorporate academic learning within their workforce preparation curricula, all Massachusetts schools now must develop new approaches which protect MCAS and other assessment-driven growth, while diversifying instructional methodology and pedagogy to include promoting workplace/life talents.

In order to develop new strategies, one must first identify, compare, and contrast several 21st century skill delineations. When thinking about the skills needed to succeed in today's society, the traits most frequently identified are clarity and simplicity of communication (both verbal and written), reasoning and problem-solving, financial and business literacy, and global awareness. Confidence, innovation, tactical and strategic vision, and the ability to shape a clear mission are other attributes that employers value, along with enthusiasm, persuasiveness, an ability to accept criticism and make refinements, and a willingness to move outside of one's comfort zone.

Many of the think tanks and policy analysts who have developed positions on the need to promote 21st century skills have created their own delineation of those skills. For example, the Partnership for 21st Century Skills, in its 2002 publication *Learning for the 21st Century*, identified three broad categories of learning skills: information and communication skills, thinking and problem-solving skills, and interpersonal and self-directional skills. Those categories are further delineated in the chart identified as Appendix A.

Significantly, the Partnership for 21st Century Skills credited its delineation of 21st century learning skills as having been adapted not only from employer needs, but also from the work of the American Library Association, the Association of College and Research Libraries, The Big 6 model for solving informational problems, the Center for Media Literacy, Educational Testing Service, the National Skills Standards Board, North Central Regional Educational Laboratory's enGauge, and the Secretary's Commission on Achieving Necessary Skills (SCANS).¹

In similar fashion, the Massachusetts Business Alliance for Education, in its October 2006 report *Preparing for the Future: Employer Perspectives on Work Readiness Skills*, and again in its October 2008 publication *Educating a 21st Century Workforce: A Call for Action on High School Reform*,

¹ Partnership for 21st Century Skills. 2002. *Learning for the 21st Century*, p.9. Retrieved from http://www.21stcenturyskills.org/images/stories/otherdocs/p21up_Report.pdf

examined the need for students to master a set of college and career readiness skills that spans disciplinary boundaries. In the latter report, the MBAE Commission on Educating a 21st Century Workforce drew upon focus group studies and anecdotal discussions with employers to identify four categories of skills, including: 21st century themes such as global awareness and financial literacy; broader skills of learning and innovation; information, media, and technology skills; and life and career skills. More specific skills identified within these categories include economic, business, and entrepreneurial literacy; civic and health literacy; creativity and innovation; critical thinking and problem-solving; communication and collaboration; flexibility and adaptability; productivity and accountability; and leadership and responsibility.² See Appendix B.

The Pioneer Institute, long a champion of greater academic rigor in Massachusetts' schools and more recently a key player in opposing the Massachusetts movement to add measurements of workplace and life skills to the state's academic assessment system, nonetheless identified so-called 21st century skills in its policy brief *Strengthening Standards-Based Education: Recommendations to Policy Makers on 21st Century Skills*. It listed oral communication, information processing, critical thinking, problem-solving, teamwork and collaboration, self-directed learning and leadership, and other less easily defined or measurable attributes such as creativity and innovation, media literacy, global awareness, and cultural competency.³

A subsequent publication by the Pioneer Institute Center for School Reform, *A Step Backwards: An Analysis of the 21st Century Skills Task Force Report*, took issue with many aspects of a task force recommendation to the Massachusetts Board of Elementary and Secondary Education, yet acknowledged that students need a variety of social, technical, and communication skills to compete successfully in a global economy, including critical thinking, problem-solving, and financial, economic, and business literacy. Pioneer Institute Executive Director Jim Stergios has pointed out that many aspects of these specific skills are already embedded in the state's academic curriculum frameworks, but that they will continue to need further emphasis.⁴

Schematics or inventories of skill sets such as these create a reference point for teachers or curriculum developers to brainstorm how to foster and measure those characteristics within subsequent lessons without loss of integrity of the lesson. While the 2008 Pioneer Institute policy brief called for pilot testing the teaching of 21st century skills to prospective teachers in four or five schools of education over the next five years to determine how teachable and measurable they are, one need not wait for the results of such a pilot to begin integrating diversified instructional methodology into the curriculum.

² Massachusetts Business Alliance for Education, October 2008. "Educating a 21st Century Workforce," p.14. Retrieved from <http://www.mbae.org/uploads/06102008230519EducatingA21stCenturyWorkforce.pdf>

³ Jim Stergios and Jamie Gass, Pioneer Institute Policy Brief *Strengthening Standards-Based Education*, November 2008, p. 1-2. Retrieved from http://www.pioneerinstitute.org/pdf/081111_pb_21st_century.pdf

⁴ Jim Stergios, Pioneer Institute Policy Brief *A Step Backwards: An Analysis of the 21st Century Skills Task Force Report*, February 2009, p.1. Retrieved from http://www.pioneerinstitute.org/pdf/090217_pb_a_step_backwards.pdf

For example, a social studies lesson might be delivered via student simulation, role playing, team assignments, and student presentations. Classroom activities of this nature would necessitate many of the decision making, prioritization, and communication skills expected in a successful worker or college student, yet not be taught at the expense of the framework. A math lesson might be taken off-campus to integrate math skills and concepts into hands-on, inquiry-based projects, as Monson's Granite Valley Middle School math teacher, Jeffrey Sitnik, did when he took students to a local farm to learn about farming from seed to market.⁵ That and other joint school and business activities funded by DESE's "Collaborative Partnerships for Student Success" grants show students real-life applications for math and other academic subjects and provide opportunities to reinforce workplace/life skills. The benefits of inquiry-style lessons versus the passive lecture format have been clearly documented. By encouraging inquiry-based learning and lesson plans at new levels of frequency, we are promoting the development of the workplace and life skills that will allow students to succeed in the global skills race.

Given the wide variety of disparate careers from which today's students choose, any proposal for incorporating skill development within academic learning cannot stifle individuality. The inclinations of the on-line entrepreneur need to be given as much opportunity to thrive as the caring, attentive attributes of a nurse. For that reason, 21st century lesson planning must strive to introduce a whole range of critical thinking, media literacy, and teamwork aspects to classroom activities. It will not be sufficient for classroom teachers to focus on only one or two of the many life skills in the wide spectrum of 21st century skills and hope that other essential skills will be promoted in other subject areas or in subsequent grades. *Each* teacher must accept responsibility for student outcomes that demonstrate proficiency in critical thinking and problem-solving, communication and collaboration. At the local level, instructors should adopt assessment practices that at once measure proficiency in core subjects and reward students for initiative and self-direction, productivity, accountability, and responsibility. At the same time, strategies must be devised to encourage adaptability and ingenuity within the context of some students' inherent individual personality traits such as shyness or resistance to change.

The Massachusetts Business Alliance for Education listed including 21st century skills across the curriculum as one of its key tactics for aligning the high school curriculum with the demands of college and career. It suggested that essential life and learning skills should be incorporated across the curriculum in such a way that students learn and apply these skills in the course of core subject learning, thus reinforcing the connection between what students learn in the classroom and the real-world skills they will need once they graduate.⁶

⁵ Nancy H. Gonter, "Students learn math on the job," *Springfield Republican*, May 31, 2009. Retrieved from <http://www.masslive.com/chicopeeholyoke/republican/index.ssf?/base/news-20/1243668588103590.xml&coll=1>

⁶ Massachusetts Business Alliance for Education, p. 14.

The Partnership for 21st Century Skills has advocated for federal funding to assist states in revising standards to reflect 21st century skills, developing and implementing approaches to assess those skills, creating professional development programs to enhance teacher understanding of the skills, and conducting research and evaluation to identify best practices for teaching, attaining, and measuring the skills. Massachusetts is one of thirteen leadership states that have joined the Partnership and committed to infusing 21st century skills into their education and workforce development systems. As executive officers of the state's educational agencies, Massachusetts school superintendents are a vital component of that commitment and should enthusiastically endorse the opportunity to redefine rigor as mastery of both academic subjects and 21st century skills.

As MBAE Executive Director Linda Noonan and Jill Norton, Executive Director of the Rennie Center for Education Research & Policy, asserted in a guest column published late last year in several Massachusetts newspapers, “Both educators and employers agree that the skills necessary to be successful in college and careers include a combination of content mastery, as well as technological skills and the ability to innovate, communicate, and think creatively.”⁷

Ken Kay is president of Partnership for 21st Century Skills and CEO and founder of e-Luminate Group, an education consulting firm specializing in marketing communications and 21st century skills services. When invited to comment on this white paper, he acknowledged the success of career and technical education in imparting life and career skills and suggested that effective school reform will build upon CTE expertise in those skills to ensure that all teachers become equally adept at imparting important workplace and life skills to their students as they are in teaching academic content. He noted that “critical thinking” and “problem-solving” actually present a higher threshold than mere content mastery and cited his preference to use the term “21st century rigor” to talk about the higher threshold of melding content and skills together. Kay noted that CTE and academic teachers have a great deal to learn from each other and, if they could meet in the middle, would be able to design a curriculum that brings content and skills to every child.

Hans Meeder, former Deputy Assistant Secretary of the U.S. Department of Education Office of Vocational and Adult Education, and now a consultant on promising educational practices, concurs that innovative practices which break down the traditional barriers between rigorous academic content and relevant career-related content and skills are clearly worthy of significant investment and study. In a report prepared for the Association for Career and Technical Education, he noted that “as state and local policymakers are requiring students to take more and higher levels of academic courses to improve their prospects for college and work readiness, a balance must be struck between increasing academic rigor and providing students with relevant and ‘real-world’ instruction.”⁸

⁷ Linda M. Noonan and Jill Norton, “Moving beyond the basics,” *Milford Daily News*, December 21, 2008. Retrieved from <http://www.milforddailynews.com/opinion/x268040592/Noonan-Norton-Moving-beyond-the-basics>

⁸ ACTE, February 2009, *Joining Forces for Student Success*, p.1. Retrieved from http://www.acteonline.org/uploadedFiles/Publications_and_Online_Media/files/academic_integration_paper_WEB.pdf

In my opinion, to effectively blend 21st century skill development into the school curriculum, school systems will need to make it a priority and promote shared leadership expectations. Teachers must be given targeted professional development opportunities which will encourage them to move outside of their individual and collective comfort zones and modify instructional methodology. At the same time, the administrators who supervise them must embrace the challenge and themselves receive the necessary professional development resources to hone evaluation and observation skills which foster improved integrated instruction. Although the realities of day-to-day school operations all too often cause school administrators to be caught up in crisis management, any successful recipe will require better time management and a major commitment by school leaders to provide meaningful classroom observation feedback.

Much of the disagreement about 21st century skill development is centered on how to measure and otherwise assess student attainment of the talents and traits needed for success. While we may be challenged to develop the right balance of external and internal assessments to effectively measure the impact of new instructional approaches that impart real life skills, the current inability to precisely quantify student attainment of those skills should not become an excuse to not even try to teach them. We must recognize the importance of this new educational direction and its relevance to our ability to remain competitive, and seize every opportunity to explicitly and purposefully integrate the development of career and college readiness skills into each school curriculum.

That being said, we cannot retreat from the consistent and high standards in academic content that the Massachusetts Curriculum Frameworks and MCAS have established. The state's impressive NAEP and TIMSS rankings and Massachusetts students' constantly improving MCAS scores provide solid evidence that a rigorous system of standards and accountability can indeed improve student achievement. We simply cannot rely on academic proficiency alone to ensure that our students and the future workforce will remain competitive in a constantly evolving global economy. The wide open 21st century marketplace offers tremendous opportunity for those who are equipped with finely tuned interpersonal and communication skills, an understanding of cultural differences, and ever higher levels of creativity and innovation. Educators must accept responsibility for preparing students for success in an increasingly competitive environment. To do that, they must teach students not only what they need to know, but how to think and problem-solve beyond the specific task at hand so they become life-long learners.

In conclusion, it would be presumptuous to suggest there is a single solution to the complex issues of school reform, economic competitiveness, and 21st century skill development. Yet, by remaining open to new instructional approaches which recognize diverse learning styles of multiple learners, school leaders can, and should, promote challenging and meaningful instruction via a lens and a process which examines and refines individual teaching and learning.

Educational practitioners have a particularly relevant perspective to bring to the debate and should be eager to contribute to the meaningful discussion on how best to equip students for future success.

Appendix A – Partnership for 21st Century Skills - Learning Skills

INFORMATION AND COMMUNICATION SKILLS	<p>INFORMATION AND MEDIA LITERACY SKILLS Analyzing, accessing, managing, integrating, evaluating, and creating information in a variety of forms and media. Understanding the role of media in society.</p> <p>COMMUNICATION SKILLS Understanding, managing, and creating effective oral, written, and multimedia communication in a variety of forms and contexts.</p>
THINKING AND PROBLEM-SOLVING SKILLS	<p>CRITICAL THINKING AND SYSTEMS THINKING Exercising sound reasoning in understanding and making complex choices, understanding the interconnections among systems.</p> <p>PROBLEM IDENTIFICATION, FORMULATION, AND SOLUTION Ability to frame, analyze, and solve problems.</p> <p>CREATIVITY AND INTELLECTUAL CURIOSITY Developing, implementing, and communicating new ideas to others; staying open and responsive to new and diverse perspectives.</p>
INTERPERSONAL AND SELF-DIRECTIONAL SKILLS	<p>INTERPERSONAL AND COLLABORATIVE SKILLS Demonstrating teamwork and leadership; adapting to varied roles and responsibilities; working productively with others; exercising empathy; respecting diverse perspectives.</p> <p>SELF-DIRECTION Monitoring one's own understanding and learning needs, locating appropriate resources, transferring learning from one domain to another.</p> <p>ACCOUNTABILITY AND ADAPTABILITY Exercising personal responsibility and flexibility in personal, workplace, and community contexts; setting and meeting high standards and goals for one's self and others; tolerating ambiguity.</p> <p>SOCIAL RESPONSIBILITY Acting responsibly with the interests of the larger community in mind; demonstrating ethical behavior in personal, workplace, and community contexts.</p>

Appendix B – MBAE Description of Skills⁹

- **Core Subjects and 21st Century Themes.** Mastery of core subjects and 21st century themes is essential for students in the 21st century. Core subjects include: English, reading or language arts; world languages; arts; mathematics; economics; science; geography; history; and government and civics. In addition to these subjects, schools must move beyond a focus on basic competency in core subjects to promoting understanding of academic content at much higher levels by weaving 21st century interdisciplinary themes into core subjects. These include: global awareness; financial, economic, business and entrepreneurial literacy; civic literacy; and health and wellness awareness.
- **Learning and Innovation Skills.** Learning and innovation skills increasingly are being recognized as the skills that separate students who are prepared for increasingly complex life and work environments in the 21st century, and those who are not. A focus on creativity, critical thinking, communication and collaboration is essential to prepare students for the future.
- **Information, Media, and Technology Skills.** People in the 21st century live in a technology and media-suffused environment, marked by access to an abundance of information, rapid changes in technology tools, and the ability to collaborate and make individual contributions on an unprecedented scale. To be effective in the 21st century, citizens and workers must be able to exhibit a range of functional and critical thinking skills related to information, media and technology.
- **Life Skills.** The ability to navigate the complex life and work environments in the globally competitive information age requires students to pay rigorous attention to developing adequate life and career skills. These skills include: flexibility and adaptability; initiative and self-direction; social and cross-cultural skills; productivity and accountability; leadership and responsibility.

⁹ Massachusetts Business Alliance for Education, p. 25.