



# **A New Era of Education Reform: Preparing All Students for Success in College, Career and Life**

## **EXECUTIVE SUMMARY**

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### About The Nellie Mae Education Foundation

The Nellie Mae Education Foundation is the largest charitable organization in New England that focuses exclusively on education. The Foundation supports the promotion and integration of student-centered approaches to learning at the middle and high school levels across New England. To elevate student-centered approaches, the Foundation utilizes a three-part strategy that focuses on: developing and enhancing models of practice; reshaping education policies; and increasing public understanding and demand for high quality educational experiences. The Foundation's new initiative areas are: District Level Systems Change; State Level Systems Change; Research and Development; and Public Understanding. Since 1998, the Foundation has distributed over \$110 million in grants. For more information about the Nellie Mae Education Foundation, visit [www.nmefdn.org](http://www.nmefdn.org).

### About Rennie Center for Education Research & Policy

The Rennie Center's mission is to develop a public agenda that informs and promotes significant improvement of public education in Massachusetts. Our work is motivated by a vision of an education system that creates the opportunity to educate every child to be successful in life, citizenship, employment and life-long learning. Applying nonpartisan, independent research, journalism and civic engagement, the Rennie Center is creating a civil space to foster thoughtful public discourse to inform and shape effective policy. For more information, please visit [www.renniecenter.org](http://www.renniecenter.org).

For more information about this executive summary or the full report, please contact primary author Dr. Lisa Famularo, Research Director, at [lfamularo@renniecenter.org](mailto:lfamularo@renniecenter.org).

The full report, *A New Era in Education Reform: Preparing All Students for Success in College, Career and Life*, can be found and downloaded at: [http://renniecenter.issuelab.org/research/listing/new\\_era\\_of\\_education\\_reform\\_preparing\\_all\\_students\\_for\\_success\\_in\\_college\\_career\\_and\\_life](http://renniecenter.issuelab.org/research/listing/new_era_of_education_reform_preparing_all_students_for_success_in_college_career_and_life).

## Introduction

As society changes, the knowledge and skills required for citizens to navigate the complexities of life and work must also change. As a result, some argue that schools must provide students with a broader set of skills that will enable them to thrive in our increasingly diverse, rapidly evolving and globally-connected world. While others maintain that as long as a portion of the student population is not mastering basic reading, writing and mathematics skills, schools must continue to focus exclusively on the traditional core academic disciplines. In an effort to inform this debate, the Rennie Center for Education Research & Policy conducted a study of Massachusetts' school and district priorities for student learning with generous support from the Nellie Mae Education Foundation.

## Background and Context

In the 17 years since the Massachusetts Education Reform Act of 1993 (MERA) was signed into law, rapid advances in technology have transformed nearly every aspect of daily life, including how we work, play, communicate and learn. We now live in an increasingly diverse, globalized, media- and technology-saturated society. Across the nation and especially in Massachusetts, we now have employers that demand a better educated and more highly skilled workforce. These trends, combined with the Commonwealth's persistent achievement gaps and graduates who are ill-prepared for post-secondary education and the workplace, have convinced some educators and policymakers that the current education standards are not sufficient. These education reformers are in favor of expanding the definition of what students need to know and be able to do. The intent is not to replace the traditional academic disciplines but to infuse them with knowledge and skills that will better prepare students for success in the 21<sup>st</sup> century—often referred to as “21<sup>st</sup> century skills.” Knowledge and skills related to technology, information, media and global awareness as well as critical thinking, problem solving, adaptability, communication and collaboration skills are among those often considered 21<sup>st</sup> century skills.

Over the last few years, the Commonwealth has taken steps toward developing a statewide strategy for integrating 21<sup>st</sup> century skills into public education. In June 2007, Massachusetts joined the Partnership for 21<sup>st</sup> Century Skills (P21), a national organization that promotes the integration of 21<sup>st</sup> century skills in K-12 education by building collaborative partnerships among education, business, community and government leaders. The following spring, the Massachusetts Board of Elementary and Secondary Education formed a Task Force on 21<sup>st</sup> Century Skills to assist the Board in considering how to infuse 21<sup>st</sup> century skills into the work of the state's public schools. In November 2008, the Task Force issued its recommendations and shortly thereafter, the Board asked the Commissioner of the Department of Elementary and Secondary Education to work with his staff to develop a plan for implementing the Task Force's recommendations.

Most recently, in an effort to more directly tie standards to college and career readiness, Massachusetts adopted the Common Core State Standards in July of 2010. The Common Core is a set of national standards in English language arts (ELA) and mathematics designed to be robust and relevant to the real world, reflecting the knowledge and skills that students need for success in college and careers. And, work is currently underway to create an assessment that is aligned with the Common Core. The assessment will be designed to measure both students' knowledge of content and their ability to apply that content. The assessment will include performance tasks and “innovative, computer-enhanced items that elicit complex demonstrations of learning and measure the full range of knowledge and skills necessary to succeed in college and 21<sup>st</sup> century careers.”<sup>1</sup>

The movement toward integrating 21<sup>st</sup> century skills into teaching and learning has not advanced without criticism. Some opponents argue that while skills like creativity, collaboration and problem solving may be important to employers, the state's urban districts, whose students have not yet mastered reading, writing and mathematics skills, should remain focused on the basics and that only suburban districts that have demonstrated mastery of the “three Rs” should implement 21<sup>st</sup> century skills as an “add on.” These opponents argue that students must acquire basic content knowledge

<sup>1</sup> Partnership for Assessment of Readiness for College and Careers. (2010). Race to the Top Comprehensive Assessment Systems Competition Application. Retrieved from: <http://www.fldoe.org/parcc/pdf/apprtasc.pdf>.

before they are able to acquire 21<sup>st</sup> century skills. They advocate for staying the course by focusing on a solid foundation of content and urge policymakers to consider changes only after schools and districts have achieved the goals that are currently in place. Many opponents also object to teaching 21<sup>st</sup> century skills because they view them as “soft skills” that cannot be assessed and therefore believe that a focus on these skills will undercut the more important focus on high academic standards.

In order to inform the debate about the rationale for and relevance of 21<sup>st</sup> century skills in Massachusetts’ public schools, the Rennie Center for Education Research & Policy conducted a survey of superintendents, charter school leaders and principals statewide to gauge the extent to which school and district leaders support the integration of 21<sup>st</sup> century skills into public education. The goal of the survey was to provide a better understanding of Massachusetts’ public school and district leaders’ priorities for improving student learning, including their views on 21<sup>st</sup> century skills. The survey was followed by interviews with a small sample of administrators and educators in districts and schools where the integration of 21<sup>st</sup> century skills is a priority, in order to better understand district, school and teacher approaches for infusing 21<sup>st</sup> century skills into teaching and learning.

## Definitions Used for this Study

Generally speaking, the phrase “21<sup>st</sup> century skills” refers to skills that many argue are necessary for success in the 21<sup>st</sup> century. Some observers point out that these skills have been around for centuries and what has changed is the extent to which success in today’s world depends on having these skills. A number of organizations have developed frameworks that identify the individual skills students need to succeed. Since Massachusetts is a member state of the Partnership for 21<sup>st</sup> Century Skills (P21), this study relies on P21’s definition of 21<sup>st</sup> century themes: global awareness, civic literacy, health literacy, and financial, economic, business, and entrepreneurial literacy; learning and innovation skills; life and career skills; and information, media and technology skills.

## Key Findings and Considerations

The findings are based on survey responses from 155 superintendents and charter school leaders (52% of those invited) and 375 principals (21% of those invited) from public schools and districts across Massachusetts, and interviews with 9 superintendents, 1 charter school leader, 12 principals and 47 educators in 12 Massachusetts public schools. Findings in 8 areas are presented below along with considerations for state policymakers and leaders of Massachusetts schools and districts.

### Defining 21<sup>st</sup> Century Skills

In the public debate, the term “21<sup>st</sup> century skills” has been used to mean different things. While Massachusetts is a member state in the Partnership for 21<sup>st</sup> Century Skills (P21), it is unclear whether or not state education leaders have fully embraced the P21 definition of 21<sup>st</sup> century skills. The Rennie Center’s statewide survey revealed that only 27% of school and district leaders feel that state policymakers have clearly defined 21<sup>st</sup> century skills.

If the state plans to infuse 21<sup>st</sup> century skills into the statewide standards, assessment and accountability system, then a common definition will be required. This common definition, however, should not be too prescriptive. A key finding among the small sample of school and district leaders interviewed for this study, is that rather than adopt a pre-packaged set of 21<sup>st</sup> century skills, these leaders have incorporated the 21<sup>st</sup> century skills that they and their stakeholders believe best address the needs of their students. Therefore, any definitions provided at the state level should allow the flexibility necessary for schools and districts to adopt the skills and competencies they and their stakeholders believe match their students’ needs.

## State Leadership and Support

According to our survey results, incorporating 21<sup>st</sup> century skills into teaching and learning is viewed as important and is a priority for a vast majority of district leaders statewide. While opponents of 21<sup>st</sup> century skills argue that districts where students have not yet mastered reading, writing and mathematics skills, should focus exclusively on core academic content, the study revealed that most school and district leaders (78%) believe all public schools in Massachusetts should be required to integrate 21<sup>st</sup> century skills into learning. Very few (just 10%) believe that in schools where students are lacking adequate basic skills, it is unrealistic to expect educators to integrate 21<sup>st</sup> century skills into teaching and learning. The findings also make clear that school and district leaders do not think state policymakers are supporting the integration of 21<sup>st</sup> century skills into teaching and learning.

As a result, state policymakers on the Board of Elementary and Secondary Education should begin working to develop policies that support integration of 21<sup>st</sup> century skills and to align policies regarding standards, curriculum, assessments and accountability to promote deeper integration of 21<sup>st</sup> century skills. State policymakers should consider engaging school and district leaders who are already integrating 21<sup>st</sup> century skills in the development of these policies. Based on these policies, the Department of Elementary and Secondary Education should move forward with developing a statewide strategy for integrating 21<sup>st</sup> century skills into public schools and districts. Such an effort should establish a statewide framework of expectations for the comprehensive integration of 21<sup>st</sup> century skills. The state legislature should consider providing funding to support programs and policies that focus on the comprehensive integration of 21<sup>st</sup> century skills.

### Key survey findings:

- Only 22% of school and district leaders believe state policymakers have consistently set policy that supports student mastery of 21<sup>st</sup> century skills.
- Only 25% of school and district leaders believe policymakers have ensured that standards, assessments, professional development and curricula are aligned, and include 21<sup>st</sup> century skills.
- Only 25% of school and district leaders believe state policymakers create tangible incentives for educators to lead, teach and assess 21<sup>st</sup> century skills.
- Only 26% of school and district leaders believe policymakers have ensured appropriate funding to support and monitor progress on the comprehensive integration of 21<sup>st</sup> century skills across the educational system.

## Accountability

A key finding of the study is that the integration of 21<sup>st</sup> century skills into teaching and learning is a process that takes time. Even in schools and districts that prioritize 21<sup>st</sup> century skills integration, few are at the stage where these skills are fully integrated. Among the schools that have included particular 21<sup>st</sup> century skills in their mission/vision for student learning, survey findings show that most have not yet developed goals for measuring students' mastery of these skills. Interviews with our small sample of administrators and educators revealed that 21<sup>st</sup> century skills are assessed at the classroom level but school- and district-wide assessments are viewed as a future step in the process of fully integrating 21<sup>st</sup> century skills. To date, the Commonwealth's schools and districts are not ready to be held accountable for 21<sup>st</sup> century skills. With plans underway for a new state assessment system in the 2014-15 school year that assesses students' core content knowledge and 21<sup>st</sup> century skills, state policymakers should consider using these assessments for accountability purposes only after schools and districts across the state have had an adequate amount of time and support to integrate these skills into teaching and learning.

### Key survey findings:

- 74% of superintendents indicated that ensuring that a majority of student work is evaluated at the classroom level for mastery of 21<sup>st</sup> century skills is a priority.
- Only about half (51%) of school and districts leaders agree that the state should become a national leader in assessment by integrating the measurement of 21<sup>st</sup> century skills throughout the MCAS.
- Only 48% of school and district leaders agree that the state should hold teachers and administrators accountable for incorporating 21<sup>st</sup> century skills into the curriculum and hold students accountable for learning them.
- Only 20% of school and district leaders believe state policymakers invest in assessments that cover student mastery of 21<sup>st</sup> century skills.

## Teacher Training and Professional Development

Survey findings revealed that most school and district leaders believe teachers should have competence in the use of technology and most place a high priority on providing teachers with professional development to improve their ability to integrate 21<sup>st</sup> century skills into the teaching of core academic content. School and district leaders also believe it is important to overhaul the state's teacher training and professional development programs to include 21<sup>st</sup> century skills. Yet, most of the school and district leaders surveyed do not feel that state policymakers have invested in educator professional development that covers student mastery of 21<sup>st</sup> century skills. As a result, state policymakers should consider investing in and developing policies to support teachers' professional development and to ensure teacher preparation programs train teachers on how to teach core content in ways that enhance students' mastery of 21<sup>st</sup> century skills.

Our interviews with school and district leaders for whom 21<sup>st</sup> century skills integration is a priority revealed that they rely heavily on their own staff to train and support teachers in the integration of 21<sup>st</sup> century skills. Thus, the amount of funding needed to support professional development can be minimized by tapping into the "home-grown" expertise of classroom teachers who are leaders in effectively integrating 21<sup>st</sup> century skills with content. Such efforts, moreover, have the potential to support and foster collaborative learning communities within schools that can better target practices to the specific needs of the students they serve and ensure that content and skill development is fully aligned within their curricula.

### Key survey findings:

- 90% of school and district leaders agree that all teachers should have technological competence and the ability to help students use technology effectively.
- 86% of superintendents indicated that providing professional development that focuses on improving educator capacity to teach core content in ways that enhance 21<sup>st</sup> century skills mastery is a priority for their district.
- 69% of school and district leaders agree that the state should overhaul the state's teacher training and professional development programs to recruit and retain high achieving educators who have a background in and up to date knowledge of 21<sup>st</sup> century skills.
- Only 28% of school and district leaders agree that state policymakers have invested in educator professional development that covers student mastery of 21<sup>st</sup> century skills.

## Technology

District leaders who responded to our survey indicated that ensuring students acquire technology literacy is among the 21<sup>st</sup> century skills that is of highest importance. Technology literacy means the ability to use technology as a tool to research, organize, evaluate and communicate information; use digital technologies, communication/networking tools and social networks appropriately to access, manage, integrate, evaluate and create information; and apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies.<sup>2</sup>

Our interviews with school and district leaders and teachers in districts that have placed a high priority on the integration of 21<sup>st</sup> century skills revealed that schools and districts that do not have as much technological capacity as they would like have set goals for acquiring that technology and teaching students and educators how to use that technology. In the schools and districts that have technology equipment and infrastructure in place, staff members have shifted from teaching students how to use technology, to using the technology as a tool to improve the teaching and learning of core content. Teachers whose students use technology to create videos, photo stories, audio stories and other types of multimedia projects believe that providing students with these additional options for working with content and presenting what they have learned engages students in their learning and deepens and reinforces their understanding of concepts.

A final reason for making technology literacy a priority is that providing students with access to and ensuring their proficiency with technology can help low-income students to be as prepared as their more affluent peers for the technological requirements of postsecondary education and the modern workplace. Building all students' technology literacy will become increasingly important as the state moves toward computer-based assessments, like those being developed by the Partnership for Assessment of Readiness for College and Careers (of which Massachusetts is a member state), that require students to locate and evaluate information obtained online, use video and audio clips, and respond to innovative item types such as those involving "drag-and-drop" input to populate lists and highlight text in passages.<sup>3</sup> To this end, policymakers should consider supporting competitive grant programs, especially for the districts that serve the poorest students to purchase technology equipment and support the integration of technology into teaching and learning, including professional development for educators.

### Key survey findings:

- Superintendents rated technology literacy among the most important skills for educators to teach and for students to learn. The mean rating was 4.7 on a 5 point scale where a 5 means "extremely important."
- 90% of school and district leaders agree that all teachers should have technological competence and the ability to help students use technology effectively.
- 86% of superintendents indicated that providing appropriate technology infrastructure and tools that support student acquisition of 21<sup>st</sup> century skills is a priority.
- 49% of schools include technology literacy as part of their school mission.
- 65% of schools that include technology literacy as part of their mission have developed measurable goals for student mastery of the skill.

2 Given that Massachusetts is a member of The Partnership for 21st Century Skills, the definition of technology literacy is based on the definition included in P21's Framework for 21st Century Learning.

3 Partnership for Assessment of Readiness for College and Careers. (2010). Race to the Top Comprehensive Assessment Systems Competition Application. Retrieved from: <http://www.fldoe.org/parcc/pdf/apprtcasc.pdf>.

## Strategic planning

School and district leaders who have not yet started to integrate 21<sup>st</sup> century skills into teaching and learning should begin by engaging key stakeholders in strategic planning. Interviews with both superintendents and principals suggest that creating a learning environment that fosters student mastery of 21<sup>st</sup> century skills is a process that takes time and involves setting intentional short- and long-term goals, action steps and a timeline for accomplishing them. The districts interviewed for this study began with a strategic planning process that engaged a range of stakeholders, including teachers, administrators, students, families, community members and business leaders. These discussions were integral to rethinking district-wide priorities for student learning and building consensus across all stakeholders. Study findings suggest that strong school leadership, including teacher leaders, and professional development are critical to creating a shared vision for the successful integration of 21<sup>st</sup> century skills.

## Teacher leadership

Interviews with school and district leaders for whom integration of 21<sup>st</sup> century skills is a priority revealed that they create a culture that fosters that integration by setting expectations for their staff, modeling behavior and empowering teachers to lead the way. In most schools and districts studied, teacher leaders and teacher-led groups have been essential in building support, sustaining the effort and ensuring that newly established school and district priorities are central to school-level discussions about curriculum, instruction and professional development. Empowering teachers to develop and lead training, and creating the necessary opportunities for ongoing collaboration are common strategies among schools that have been integrating 21<sup>st</sup> century skills into teaching and learning.

## Sharing among colleagues

This report profiles only a small sample of the schools and districts across the state that have made progress in creating learning environments that foster student mastery of 21<sup>st</sup> century skills. There is much to be learned from these and other schools and districts that are at various stages in the process of integrating 21<sup>st</sup> century skills. District and school leaders can benefit from talking with colleagues who have addressed many of the challenges involved in such an effort. School and district leaders should consider arranging time for their teachers to visit schools that are teaching 21<sup>st</sup> century skills alongside core content so they can observe, ask questions and gather ideas that can be brought back and shared with educators in their schools. Once work is underway in a school or district, leaders can encourage sharing of best practices within their own buildings and across schools within their districts.

## Conclusion

Changes in the social, political and economic climate, combined with new technologies, have substantially altered the way we live and work. School and district leaders in various communities across Massachusetts have responded to these changes by transforming their schools into learning environments where students simultaneously build knowledge of core academic content and 21<sup>st</sup> century skills, and have ample opportunity to apply their knowledge and skills in relevant, real world situations. Guided by strong administrative and teacher leadership, these schools are becoming fundamentally different places to learn: students are active and self-directed learners; instruction is interdisciplinary and project-based; technology is an integral teaching and learning tool; and educators use their expertise to provide training and support to their peers. These changes have not been driven by state or federal policy, but instead have developed from the ground up in response to what school communities believe students should know and be able to do. While the public debate about the merits of 21<sup>st</sup> century skills continues, some schools and districts across the Commonwealth have already decided the direction they will take. These schools and districts will continue to strengthen their own standards to ensure that their students are ready for college, careers and life. State policymakers would do well to provide leadership and support on the integration of 21<sup>st</sup> century skills into teaching and learning to all of the Commonwealth's schools and districts, to ensure that all students have an opportunity to be successful in the next phase of education reform.