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## Massachusetts Schooling Matters: Good News, Contributing Factors, Challenges, Persistent Problems

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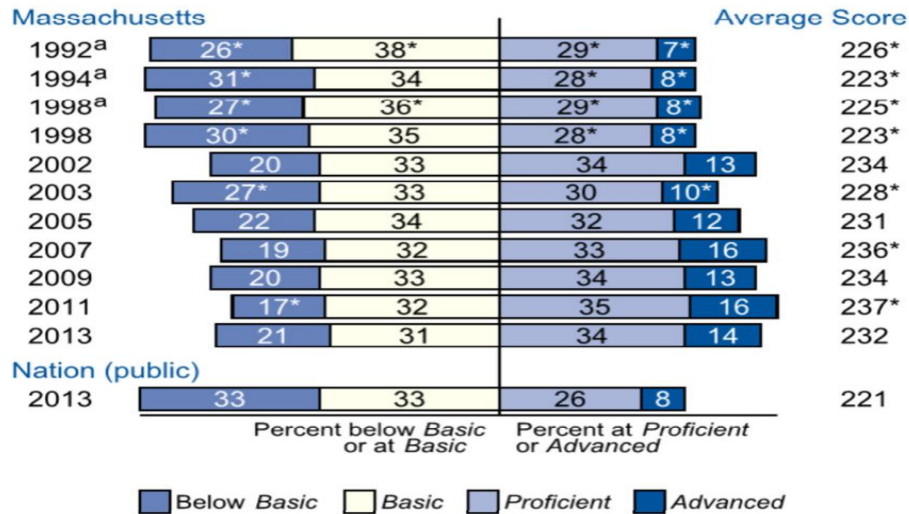
**New Voice Strategies**

*Massachusetts public schools have performed at the highest levels on national and international benchmarked reading, mathematics, and science assessments. The Commonwealth's population demographics related to educational attainment, employment, and family income coupled with factors within the control of the state, districts, or schools, such as highly qualified and unionized teachers, average school-district size, defined time on learning, universal health care coverage for all children, state funding for pre-K–12 schooling, curriculum articulation through statewide standards, and high participation in college admissions exams, have contributed to academic success. Massachusetts schools, however, still face challenges in narrowing existing achievement gaps, reducing the emphasis on large-scale standardized assessments as the sole determinant of school and district performance, and fully committing to a social justice agenda in which all students, especially those living in poverty, receive the comprehensive education promised by the Education Reform Act of 1993. This article concludes with five recommendations for policymakers focused on funding priorities, enhancing teacher workforce development, expanding learning time, and educating the whole child.*

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**M**assachusetts public school students consistently score at the top of national benchmarked assessments. The commonwealth's students have been acing the National Assessment of Educational Progress (NAEP), also referred to as "The Nation's Report Card," for over two decades. The national average in 2013 of 221 in fourth grade reading was below the Massachusetts average for 1994 of 223; in 2013 the Massachusetts average score was 232, with 48 percent of students scoring at proficient or advanced. See Figure 1.

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<sup>a</sup> Accommodations not permitted. For information about NAEP accommodations, see <http://nces.ed.gov/nationsreportcard/about/inclusion.aspx>.

\* Significantly different ( $p < .5$ ) from 2013. Significance tests were performed using unrounded numbers.

Figure 1. NAEP 2013: Massachusetts fourth-grade reading outcomes. (“Achievement-Level Percentages and Average Score Results,” unnumbered figure from “Reading: 2013 State Snapshot Report,” *The Nation’s Report Card*, <http://nces.ed.gov/nationsreportcard/subject/publications/stt2013/pdf/2014464MA4.pdf>.)

On international measures, the story is similar. On the Trends in International Mathematics and Science Study (TIMSS), for example, the commonwealth’s eighth graders were second in the world in science, just behind Singapore. See Figure 2.

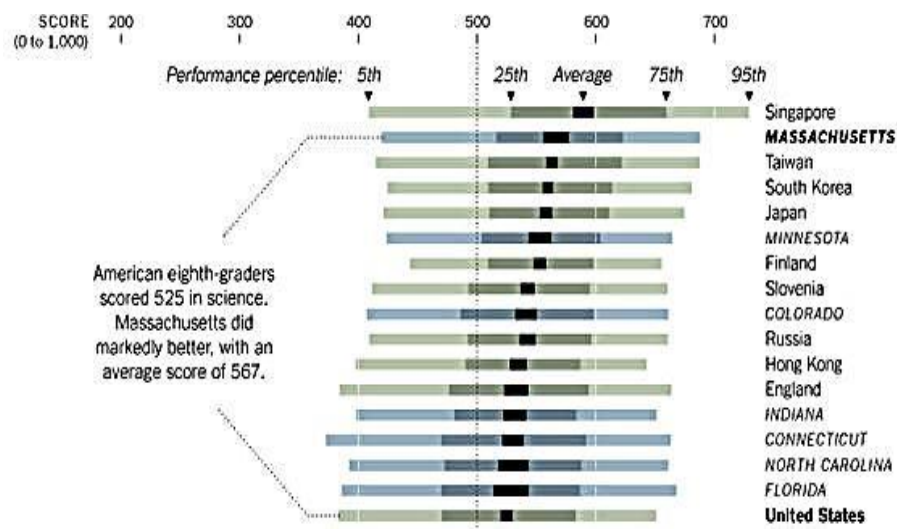


Figure 2. TIMSS 2011: Massachusetts eighth-grade science outcomes. (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, *Highlights from TIMSS 2011: Mathematics and Science Achievement of U.S. Fourth- and Eighth-Grade Students in an International Context*, 2012, [http://nces.ed.gov/pubs2013/2013009\\_1.pdf](http://nces.ed.gov/pubs2013/2013009_1.pdf).)

The *Huffington Post* reported after the 2013 release of the Programme for International Student Assessment (PISA) results: “Massachusetts is the good news story. If it were its own country, it would rank sixth in reading of 65 countries and economies included, behind only Singapore, Japan, Korea, and the Chinese regions of Shanghai and Hong Kong. Its students rank just above Finland and Canada, some of the world’s best readers. Though its math scores are slightly lower, Massachusetts keeps company with Belgium and Germany and is only slightly behind Finland and Canada, ranking 16 of 65. In science, Massachusetts ranks 11th, ahead of Canada and Germany.”<sup>1</sup> See Figure 3.

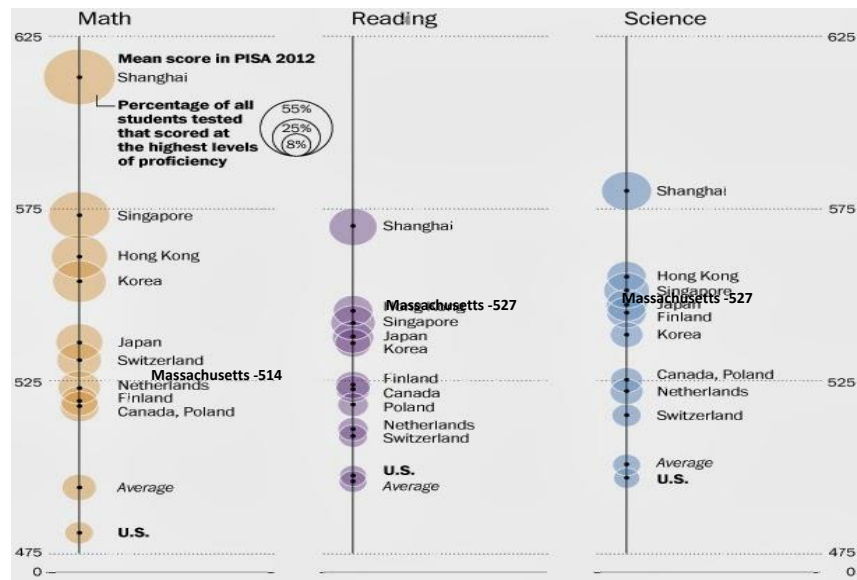


Figure 3. PISA 2012: Massachusetts math, reading, and science outcomes. (Jim Horn, “PISA Day: Two Charts, No Comment,” *School Matters* [blog], December 3, 2013, <http://www.schoolsmatter.info/2013/12/pisa-day-two-charts-no-comment.html>.)

In the discussion that follows, we present some of our thoughts about why Massachusetts is number one in the United States on NAEP and is outscoring many nations on TIMSS and PISA. We believe that demographics is one major factor: according to the U.S. Census, the citizens of Massachusetts are better educated (see Figure 4) and have better and higher paying jobs (see Figure 5) and greater family income (see Figure 6) than the citizens in the rest of the nation.

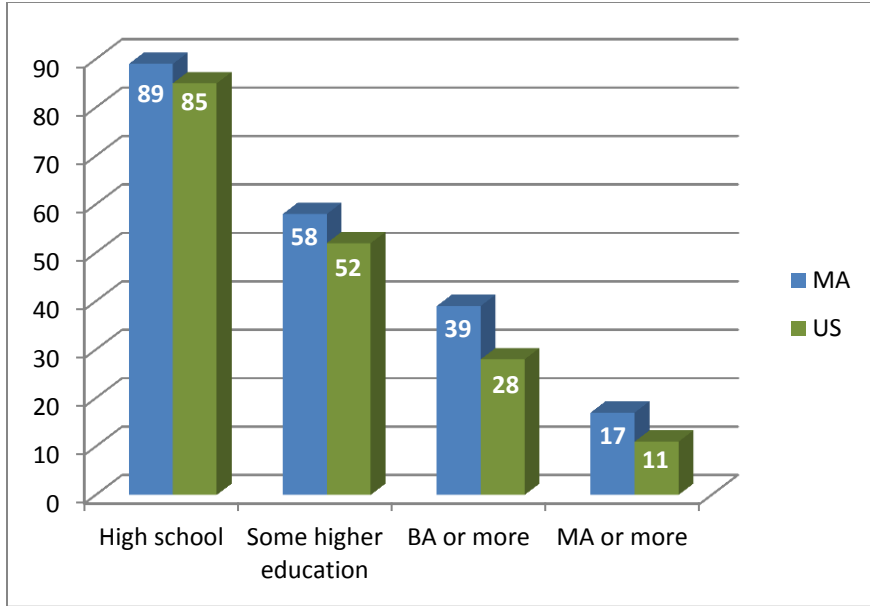


Figure 4. 2010 U.S. Census: Education attainment of Massachusetts population

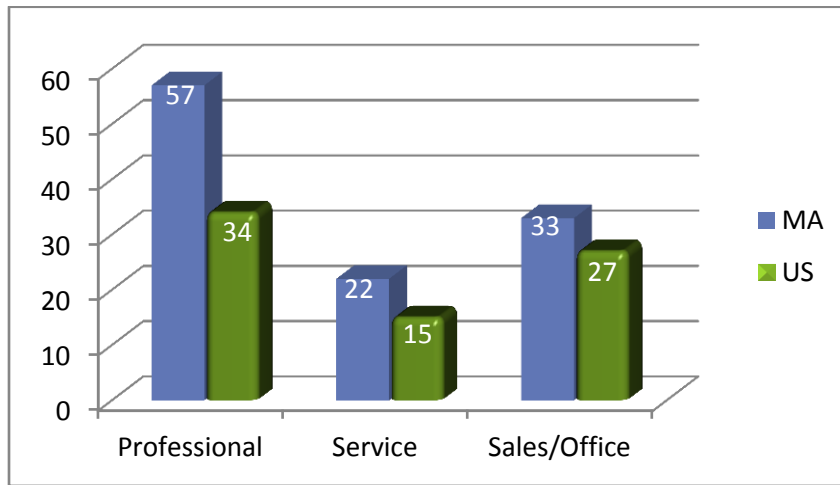


Figure 5. 2010 U.S. Census: Employment status of Massachusetts population

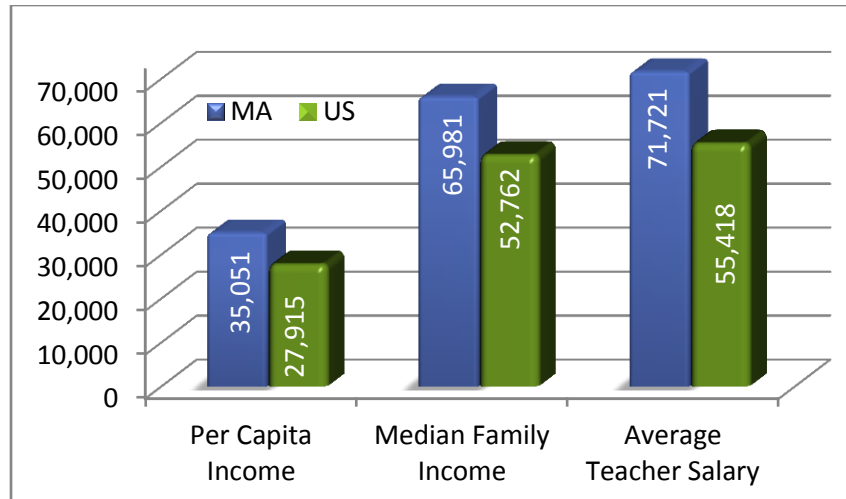


Figure 6. 2010 U.S. Census: Income status of Massachusetts population

### Factors within the Control of the State, District, or Schools

Other factors, within the control of the state, district, or schools, that have contributed to our academic success include highly qualified teachers, union representation, professional development, school district size, time on learning, universal health care, funding, curriculum articulation, high standardized-test participation, and mandatory testing.

The vast majority of Massachusetts teachers have both bachelor's and master's degrees in the content area they teach: 96 percent of all teachers are licensed in the content area they teach; 96 percent of core academic teachers are "highly qualified," a federal designation meaning that the teacher has a degree and license in the content area taught, compared with 75 percent nationwide. Student-to-teacher ratios are smaller in Massachusetts at 14 to 1 than they are nationwide at 16 to 1.

Virtually all teachers in Massachusetts public schools have union representation. A strong research base indicates that students in unionized schools and states perform better than those in non-union environments. A review of seventeen studies investigating the link between teacher unionism and student achievement reports "favorable patterns on unionism include higher math and verbal standardized test scores, and very possibly, an increased likelihood of high school graduation."<sup>2</sup>

When the Massachusetts Education Reform Act of 1993 was passed, earmarking \$125 per student for professional development, actual professional learning occurred in most districts. However, since this mandatory expenditure was repealed by the legislature, district commitment to educator learning has decreased. This change may be informing the teacher survey responses identifying insufficient professional development related to new state curriculum frameworks that fully incorporate the Common Core State Standards (CCSS) and Partnership for Assessment of Readiness for College and Careers (PARCC) assessment.

The average Massachusetts school district has three elementary, one middle, and one high school. Fifty percent of our districts have two thousand or fewer students. Many of the students in the average district come from middle-class families. Schools in these districts have higher Massachusetts Comprehensive Assessment System (MCAS) scores, lower dropout rates, and higher graduation, attendance, and college enrollment rates than those in larger, urban districts that work with a more diverse and challenged student population. In the average school district,

educators and families are more likely to know each other, and teachers are better able to work collegially on curriculum articulation and instructional practice.<sup>3</sup>

Our state law requires a commitment to 180 full days of school with a minimum mandate of 900 hours of direct student contact in elementary school and 990 hours in high school. Massachusetts was the first state to launch a large-scale expanded learning time (ELT) initiative, which added 300 additional hours of instruction and requires more academics and enrichment and recreational programs for students and more time for teacher collaboration and professional learning. Thirty-eight ELT schools are now receiving thirteen hundred dollars per student to cover the cost; at least as many schools have approved plans but lack the money to expand time.

Massachusetts provides all school-aged citizens access to health care: 99.8 percent of all students have health insurance. With this coverage, students are seen by physicians, dentists, and optometrists. Many are inoculated against contagious diseases through in-school programs and health clinics. Coverage under Children's Medical Security Plan extends from birth to age nineteen and includes the following:

- Outpatient services, including preventive and sick visits
- Outpatient mental-health and substance-abuse services
- Prescription drugs up to \$200 a year
- Eye exams and hearing tests
- Asthma-, diabetes-, and epilepsy-related durable medical equipment up to an additional \$500 a year
- Dental services up to \$750 a year, including exams, X-rays, cleanings, fluoride treatment, sealants, fillings, extractions, full or partial root canals, crowns, and space maintainers

The commonwealth's contribution to local district school funding has increased significantly since the passage of the landmark Massachusetts Education Reform Act of 1993, which was a direct result of the plaintiffs' winning the McDuffy school adequacy funding lawsuit. Most important, the commonwealth adjusts its progressive funding formula so that districts serving more diverse and disadvantaged students get more state aid. According to Education Trust analyses, the "spending gap" between high-wealth and low-wealth districts is much narrower in Massachusetts than in most other states.<sup>4</sup> In another report, published by the independent think tank MassINC, researchers found that the infusion of money helped raise "the achievement of students in previously low-spending districts." The report also acknowledges, however, that achievement gaps, while narrower, persist.<sup>5</sup> See Figure 7.

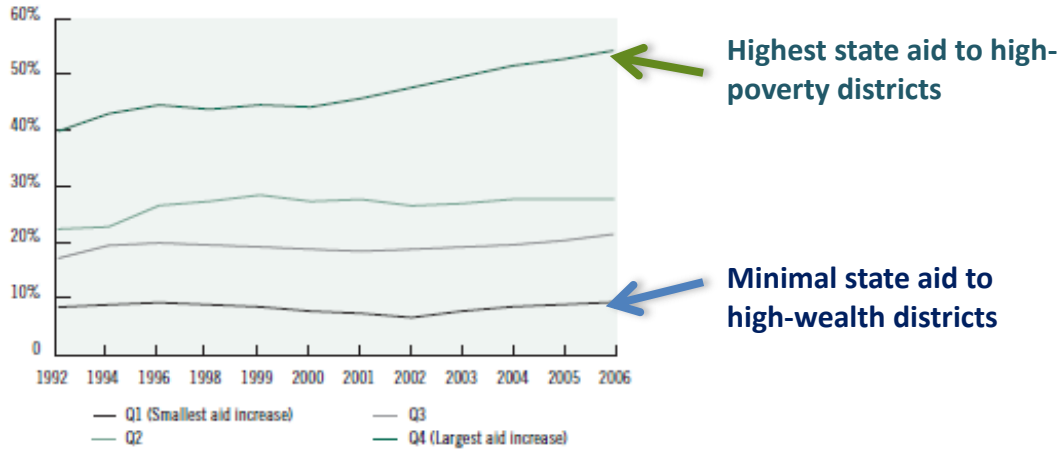


Figure 7. Targeted state aid to low-wealth districts. (Thomas Downes, Jeffrey Zabel, and Dana Ansel, *Incomplete Grade: Massachusetts Education Reform at 15* (Boston: MassINC, 2009), fig. 2.)

As required by the Massachusetts Education Reform Act of 1993, the Board of Elementary and Secondary Education (BESE), beginning in 1996, established clear learning standards in English language arts (ELA) and math that most districts have aligned with local curricula scope and sequence and instructional materials. In addition, BESE approved curriculum frameworks for five more subject areas, providing guidance for teaching and learning in the arts, health, foreign languages, science and technology, and history and social studies. Though some of these frameworks have been criticized for being “a mile wide and an inch deep,” in general, the standards and consistency they establish have been positive. Then in 2011, the Massachusetts Board of Elementary and Secondary Education incorporated the CCSS as the new pre-K–12 standards in math and ELA and literacy, replacing the previous versions. The new standards were based on the 2001 Massachusetts ELA frameworks and the 2000 math frameworks. Both were considered the best in the country.

Teachers in Massachusetts are well-informed and support the new standards, but they do have concerns. According to a Massachusetts Teachers Association (MTA) survey of its members in November 2013, 85 percent of teachers know a great deal or a fair amount about the new frameworks based on the CCSS. Seventy-five percent have participated in professional development related to the new frameworks, with most having at least five hours and a third having more than fifteen hours. Almost half report that they had meaningful input into implementing the frameworks at the local level.

The same MTA survey shows that 80 percent of teachers support the new frameworks aligned with the CCSS or support them with reservations. The primary reasons for this support are that the new frameworks ensure the same standards for all students regardless of district; they offer preparation for college and career readiness; and they are more rigorous than the previous Massachusetts frameworks. The most significant concern for almost three-quarters of respondents is that the new frameworks may lead to more testing. More than 60 percent of the respondents are also concerned about having insufficient preparation time for teaching to the new standards and insufficient time for students to be successful in mastering the more rigorous knowledge and skills. Over 50 percent are concerned about too much focus on college and not



enough on career readiness, insufficient teacher involvement in standards development, and the developmental appropriateness in the lower grades, especially in math.

The MTA also partnered with TeachPlus and identified areas where teachers say they need additional resources to implement the CCSS (see Figure 8).

	No further resources are needed	Further resources would be helpful, but not necessary.	Further resources are needed
Student-centered technology and resources to help students best learn to these new standards.	7%	27%	67%
Professional development focused on the requirements of the standards.	9%	28%	64%
New curricula and learning tools aligned to the new standards.	10%	35%	56%
New formative assessments that measure how well students are learning the standards.	9%	28%	63%
New summative assessments that measure how well students are learning the standards.	10%	26%	64%
Professional development on how to teach parts of the standards that are new to me.	12%	30%	59%

Figure 8. Replies to teacher survey about resources needed to implement the CCSS. (Teach Plus, *Core in the Classroom: Teachers Speak Out on the Common Core*, accessed June 15, 2014, [http://www.teachplus.org/uploads/Documents/1382553884\\_Teach%20Plus%20Common%20Core%20Brief.pdf](http://www.teachplus.org/uploads/Documents/1382553884_Teach%20Plus%20Common%20Core%20Brief.pdf))

High participation, including preparation for standardized tests beyond the MCAS, particularly the PSAT, SAT, and AP, has helped boost scores on NAEP, PISA, and TIMSS. The rate of participation in the Educational Testing Service exams increased in 2013 compared with earlier years.

- The SAT participation rate was 79 percent, with increased participation by Asian, African American, and Hispanic students.
- The PSAT participation rates increased for sophomores (by 3.4 percent) and juniors (by 4.3 percent). Students who take the PSAT do significantly better on the SAT.
- The AP participation rate rose by 9 percent and the number of students scoring 3, 4, or 5 increased by 8 percent. Participation by African American students rose 16 percent, and the number scoring in the top three categories rose 23 percent.

Accompanying the curriculum frameworks are mandatory state tests, the MCAS in ELA and math. State and federal school and district accountability ratings are based on both the aggregate and student subgroup performance. Beginning with the 2001 MCAS administration for the 2003 graduating class, the grade 10 MCAS became a high-stakes assessment for students, and achieving a passing score of 220 was made a mandatory graduation requirement.<sup>6</sup> Since the 2008 MCAS administration for the class of 2010, grade 10 students were required to achieve a score of 240 in ELA and math or complete a state-approved course sequence and achieve a score of 220 on one end-of-course science MCAS test. Between 1998 and 2013, the percentage of students scoring at the proficient level grew steadily in all three testing areas. See Figure 9.

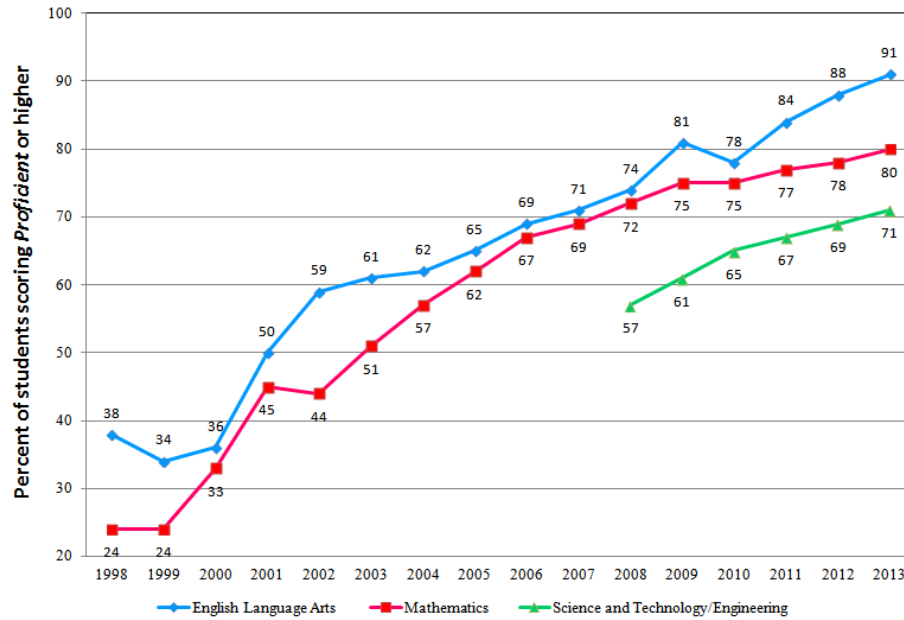


Figure 9. Percentage of students scoring proficient or higher on the MCAS tests, 1998–2013. (Massachusetts Department of Elementary and Secondary Education, *Spring 2013 MCAS Tests: Summary of State Results*, September 2013, <http://www.doe.mass.edu/mcas/2013/results/summary.pdf>.)

Though many educators do not support mandatory high-stakes testing, the requirement in Massachusetts has contributed to the high test scores our students are achieving. The landscape is changing, however, as the Board of Elementary and Secondary Education considers replacing the paper-and-pencil MCAS, which is aligned to the CCSS, with the online PARCC. Approximately twenty-five states are part of the other testing consortium, Smarter Balanced, which, like PARCC, is also aligned to the CCSS. Massachusetts is one of eleven states planning to use PARCC; approximately 60 percent of districts have indicated that they are using either the online or paper-and-pencil version in 2014–15.

Again, MTA surveyed its K–12 members about the next generation of assessments. The four convincing reasons that teachers cited for moving from MCAS to PARCC are more immediate feedback about student progress (56 percent), more accurate comparison of how Massachusetts students perform (50 percent), alignment with CCSS (47 percent), and emphasis on critical and creative thinking (29 percent). The four biggest concerns teachers have about switching from MCAS to PARCC are that students may not be ready for online testing (69 percent), their school may not have the appropriate technology to administer an online test (67 percent), and the test may be more time-consuming (65 percent) and more rigorous (52 percent) than the MCAS tests.<sup>7</sup>

## Unfinished Agenda

Despite the many positive results of significant policy and funding shifts, the Massachusetts education story still has an unfinished agenda. Achievement gaps persist, and teachers are speaking up about the need for more preparation time, more mentoring, more feedback from administrators, more time to implement the CCSS—and less time and resources spent on testing and test preparation and fewer mandated initiatives by DESE.

Students with disabilities (SPED), English language learners (ELL), and students from low-income households are most in danger of dropping out of school and most likely to have the highest mobility rates, meaning they move more often between districts either within or between school years. (See Table 1.) These three student subgroups make up the “high needs” category that was created by the Massachusetts Department of Elementary and Secondary Education as part of its waiver from the punitive mandates of the No Child Left Behind Act. Of all groups, Hispanic students, ELLs, and SPEDs are least likely to complete high school in four years.

**Table 1. Massachusetts Department of Elementary and Secondary Education: 2013 Student Data Measures**

	All students	White	African American	Hispanic	Asian	ELL	SPED	Low income	High needs
Percentage of all students	100.0 955,739	64.9 620,287	8.7 83,151	17.0 162,249	6.1 53,301	7.9 75,505	17.0 162,249	38.3 366,055	48.8 466,410
Four-year graduation rate	85.0	90.1	73.8	66.8	90.6	63.5	67.8	73.6	74.7
Dropout rate	6.5	4.0 24,856	10.2 8,484	16.3 26,490	3.7 2,157	15.7 11,857	12.1 19,664	11.8 43,205	10.7 49,418
Mobility rate	9.0	6.0 37,226	15.3 12,725	16.7 27,140	10.0	21.8 16,464	12.6 19,502	14.1 51,626	13.5 62,981

Note: Double counting of students is eliminated; for example, a student who is ELL and low-income is counted only once. Source: Massachusetts Department of Elementary and Secondary Education.

Massachusetts has persistent performance gaps on the MCAS tests. On the 2013 assessments, African American students had an average score that was 31 points lower than the average for white students. This performance gap was worse than that in 1998, when the difference was 26 points. In 2013, Hispanic students had an average score that was 32 points lower than that for white students. This performance gap was not significantly different from the 34-point gap in 1992. Also in 2013, female students in Massachusetts had an average score that was 6 points higher than that for male students, and low-income students had an average score that was 31 points lower than that for all other students. This performance gap was not significantly different from the 28-point difference in 1998.

Teachers tell us that the keys to improvement include more time for collaboration and professional development (see Figure 10). Too often, teachers are still working in “egg crates,” separated from each other with little or no time to sit down and talk with each other about how students are doing, whether the curriculum taught matches their learning needs, and whether assessments are informing instructional decision making.

	Strongly favor	Total favor
Give teachers more time for collaboration and professional development in school	83	97
Establish teacher-led mentoring programs for new teachers	80	97
Create an online community where teachers can collaborate and learn from each other	53	89
Regularly use student data to improve instruction	46	88
Provide frequent feedback from administrators	45	87
Expand peer assistance and peer review programs, where fellow teachers are part of the evaluation process	41	77
Raise standards for entering the teaching profession	25	61

Figure 10. Key elements teachers identify as important in improving schools. (Massachusetts Teachers Association, unpublished member poll, 2013.)

Teachers strongly support teacher-led mentoring programs, online collaborative communities, and peer assistance and review programs because they want to learn from and with each other. Teachers also want administrators to watch their practice and help them improve by providing insight and feedback. The evaluation system that was implemented in 2011 is meant to offer this insight and feedback.

Finally, teachers want their newest colleagues to reflect the rich diversity of our society, to demonstrate a love of learning and a natural curiosity, and to have a strong academic preparation and the dispositions needed to spend hours in the company of children.

### Areas in Which State Policymakers Can Help

Knowing that all schools can improve on their current performance, regardless of how well their students are doing, we have identified five key areas in which state policymakers can provide assistance. We call on policymakers to take the following steps:

- **Improve funding, particularly in high-poverty schools.** In the four newly identified Level 5, or chronically underperforming, schools, 85 percent or more of the students were eligible for free and reduced-price lunch. Addressing that lack of social capital invested in poor students is critical to providing them with an adequate education. Appropriate funding not only buys pre-K programs, materials and supplies for all classrooms and smaller class sizes but also time for longer school days and years, enrichment programs to address gaps that more advantaged students’ families fulfill, and remedial assistance.
- **Focus on the whole child and provide all students with a rich instructional program.** To date, the state’s practice has been to label certain schools as underperforming based solely on MCAS results, which often results in districts’ narrowing teaching and learning to the tested subjects of reading, mathematics, and sciences. As a result, students in high-poverty, low-performing schools are often denied or provided limited access to instruction in the arts, health and physical education, and social studies until after testing

time has passed. The state should identify the key strategies used in low-poverty and high-performing schools that provide a rich instructional program to all students and create mechanisms for others to learn from and with them.

- **Enhance teacher work force development.** A greater focus on enhancing teacher quality can be promoted through teacher preparation programs that work in collaboration with school districts to provide more clinical practice experience to preservice educators. Establish new-teacher induction and on-going mentoring and support for all novice practitioners in all districts guided by veteran educators. Create more opportunities within the school day and week for collaboration time for all teachers to work with one another and participate in high-quality, school-based professional development.
- **Provide better or more learning and professional time.** A better use of existing time within the school day to address both the learning needs of students and the collaboration and planning time of teachers is critical. In addition, expanded learning time programs that add hours to the instructional day must include more enriching learning opportunities such as the arts, physical education, social studies, and activities based on student interests. More time focused on tested subjects or after-school test prep programs may boost scores in the short term but rarely instill a love of learning. Expanding time for all students and staff requires additional funding. But using time better or adding more time to the student day and year does not necessarily mean expanding the workday and work year. Creative scheduling and staffing have yet to be used in any meaningful way to provide students what they need without pushing well-qualified, experienced educators out of the very schools in which they are needed the most.
- **Encourage increased parental engagement.** School-parent and school-community connections are essential, since most children spend many more waking hours outside school than in, and, to succeed, outside school they require support, guidance, social services, safe neighborhoods, and parental involvement. We know that a key difference between high-poverty, low-performing schools and high-poverty, high-performing schools is that the latter have high rates of parental and family engagement and significant two-way communication between home and school focused on student achievement.

## Notes

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<sup>1</sup> Elaine Weiss and Thomas W. Payzant, “Deconstructing PISA: Implications for Education Reform and Fighting Poverty,” *HuffPost Education: The Blog*, December 17, 2013, retrieved on June 15, 2014 at [http://www.huffingtonpost.com/elaine-weiss/pisa-implications\\_b\\_4441077.html](http://www.huffingtonpost.com/elaine-weiss/pisa-implications_b_4441077.html).

<sup>2</sup> Robert M. Carini, “Teacher Unions and Student Achievement,” executive summary of chap. 10, in *School Reform Proposals: The Research Evidence*, ed. Alex Molnar (Greenwich, CT: Information Age, 2002), [http://nepc.colorado.edu/files/Chapter\\_10-Carini-Final.pdf](http://nepc.colorado.edu/files/Chapter_10-Carini-Final.pdf).

<sup>3</sup> Nicholas D. Young, *What You Are Not Hearing about Small School District Consolidation in Massachusetts*, accessed June 15, 2014, [www.math.umass.edu/~hajir/les/What-you-are-not-hearing.pdf](http://www.math.umass.edu/~hajir/les/What-you-are-not-hearing.pdf).

<sup>4</sup> Education Trust, *Funding Gaps 2006* (Washington, DC: Author, 2006), <http://www.edtrust.org/print/517> <http://www.edtrust.org/sites/edtrust.org/files/publications/files/FundingGap2006.pdf>.

<sup>5</sup> Thomas Downes, Jeffrey Zabel, and Dana Ansel, *Incomplete Grade: Massachusetts Education Reform at 15* (Boston: MassINC, 2009), <http://www.massinc.org/Research/Incomplete-Grade.aspx>.

<sup>6</sup> “Massachusetts Comprehensive Assessment System: High School Graduation Requirements, Scholarships, and Academic Support Opportunities,” Massachusetts Department of Elementary and Secondary Education, accessed June 14, 2014, <http://www.doe.mass.edu/mcas/graduation.html>.

<sup>7</sup> Massachusetts Teachers Association, unpublished member poll, 2013.