



MASSACHUSETTS DEPARTMENT OF
ELEMENTARY AND SECONDARY
EDUCATION

Research Agenda

External version
January 2017

ESE's Goal and Strategies

ESE's [goal](#) is to prepare all students for success after high school. We are implementing five strategies aimed at reaching that goal:

- Strengthen standards, curriculum, instruction, and assessment
- Promote educator development
- Support social-emotional learning, health, and safety
- Turn around the lowest performing schools and districts
- Use technology and data to support teaching and learning

ESE has defined a research agenda related to the agency's goals and strategies so that we can improve their implementation and measure their outcomes. This document describes the specific research projects currently underway for each strategy, whether conducted by internal staff or external partners, and identifies questions for which we need additional support. We also identify which questions are currently our highest priorities and which additional projects are also helping to support our work.

In general, we are interested in analyses of the following questions on all of our policy and program initiatives:

- Are our initiatives correlated with stronger outcomes for participating students and/or educators? Where possible to determine, did participation in the initiative cause the observed outcomes?
- How does implementation of our initiatives vary across schools, districts, educator preparation programs, etc.? What does this tell us about strategies for effective implementation?
- What is the field's perception of our initiatives?

We welcome proposals from independent, non-partisan researchers interested in conducting work in the areas identified in the research agenda, particularly those where we have an interest but no resource yet identified. We are also willing to explore opportunities to partner on demonstration projects for interventions and supports related to our priorities, even if not necessarily statewide in scale. Please contact Carrie Conaway at cconaway@doe.mass.edu with questions.

1: Success after high school

Priority projects

Q	Topic	Support needed?
1a	Career pathways – priority	
1a.1	To what extent are schools and districts implementing career pathways for students, and what is the quality of those opportunities? What processes are Massachusetts New Skills For Youth grantees using to develop and implement new high quality career pathways? What do our experiences with NSFY tell us about potential best practices in career pathway implementation? What is the impact of career pathways on student outcomes?	✓
1b	Career outcomes for K–12 students – priority	
1b.1	How do Massachusetts public school students perform in the labor market, in terms of salaries and industries/occupations of employment? What programs or experiences best prepare them for the labor market, and which predict a higher likelihood of an Unemployment Insurance claim or other poor labor market outcomes? What is the long-term return on investment for education in Massachusetts?	
1c	Time to postsecondary degree – priority	
1c.1	How long does it take MA public college students to complete postsecondary programs? How does this vary for students coming from the MA public K–12 system vs. other students? What factors from the K–12 and higher education systems influence time to degree? (e.g., participation in dual enrollment, early college high schools, or other programs; K–12 course participation and success)	✓
1d	Out-of-school youth – priority	
1d.1	Which types of students are most likely to eventually become out-of-school youth, as defined by the Workforce Opportunity Investment Act ? How do out-of-school youth differ from dropouts? What strategies are most effective in reengaging these students back in school? How many of the students who drop out are eventually caught by the adult education system?	✓

Other projects

Q	Topic	Support needed?
1e	Rigorous high school program of study (MassCore)	
1e.1	How many students have completed MassCore? How many are on track to completing MassCore? How do the data reported in SIMS compare to those reported in SCS?	
1e.2	What are the current graduation requirements in the state's high schools, and how similar are they to the requirements of MassCore?	
1f	High school graduation and supports	
1f.1	What is the impact of the programs supported through the state's Academic Support grant program? How does it vary by instructional focus and by age/gradespan of the students served? What are the estimated short- and long-term economic costs and benefits of the program to the Commonwealth?	
1f.2	Does identification as high risk in EWIS change students' outcome trajectories?	
1f.3	What is the impact of the Success Boston initiative on student higher education outcomes?	
1g	Advanced coursework	
1g.1	What is the impact of the state's Advancing STEM AP program on participating students (particularly economically disadvantaged students), teachers, and schools?	
1g.2	What is the impact of performing at the Advanced level on the MCAS on later course-taking and college enrollment?	
1h	Adult Basic Education	
1h.1	How can ESE structure its contracts with Adult Basic Education providers to generate the greatest gains for adult learners? How are other states structuring their programs in light of the new Workforce Opportunity and Investment Act legislation?	✓
1i	Charter schools and school choice	
1i.1	What is the impact of the state's charter schools on student outcomes? How does the impact vary for students with disabilities and English language learners?	
1i.2	How do the impacts of Massachusetts charter schools on student outcomes compare to those in other states?	
1i.3	Is there an association between student discipline practices and later attrition or dropout from charter schools?	

Q	Topic	Support needed?
1i.4	Does the relationship between measured teacher effectiveness and the likelihood of exiting a school differ for charter versus traditional district schools?	
1i.5	What is the impact of the METCO program on student outcomes?	
1i.6	How does participation in the state's Virtual Schools program correlate to student outcomes?	
1i.7	Are the students who participate in the state's inter-district school choice program different from those who don't? Which districts (and types of districts) gain and lose the most students through choice? What is the impact of the school choice program on student outcomes?	
1i.8	Are the students participating in the state's various education choice options systematically different from those that are not? If so, on what dimensions, and how large are the differences? (Choice options include charter schools, inter-district school choice, vocational and technical schools, Innovation Schools, virtual schools, and METCO.)	
1j	Time to postsecondary degree	
1j.1	How many public K–12 students participate in dual enrollment, and in which types of programs? What predicts participation and success in the program and in later postsecondary opportunities? How does participation in dual enrollment influence time to degree?	
1j.2	What factors predict a student's likelihood of enrolling in developmental education in college and their success in those courses if enrolled?	
1f.3	How does participation in a Chapter 74 vocational-technical program with articulated credits influence time to postsecondary degree? To what extent are students who take courses eligible for postsecondary credit articulation actually obtaining the credits?	
1k	Other	
1k.1	How do students' perceptions of their college and career readiness relate to their performance on statewide assessments?	
1k.2	How does student performance on the grade 12 NAEP correlate with academic preparedness for college?	
1k.3	What is the impact of the Massachusetts Comprehensive School Counseling Program on college readiness, access, and success?	
1k.4	How well do students' stated plans after high school correlate with what they actually do? How do students' plans change from grade 8 to grade 10?	
1k.5	How will student enrollment and demographic composition change over the next ten years, statewide and by region?	✓

2: Strengthen standards, curriculum, instruction, and assessment

Priority projects

Q	Topic	Support needed?
2a	Curriculum framework implementation – priority	
2a.1	How are districts progressing in implementing the 2011 curriculum frameworks in English language arts and mathematics and the 2016 science frameworks? (and the 2017 revisions to ELA and mathematics, once implemented) What are superintendents’ and principals’ perceptions of the state’s implementation supports?	
2b	Instructional practices – priority	
2b.1	Which instructional practices are correlated with stronger student outcomes on state and international assessments? What does this imply for state policy and programming?	
2c	Assessment – priority	
2c.1	What are appropriate and inappropriate uses of 2015, 2016, and 2017 assessment data? How should we link these data? How does performance on PARCC and next-generation MCAS correlate with other measures of college and career readiness? (e.g., SAT/AP, high school graduation, college enrollment)	

Other projects

Q	Topic	Support needed?
2d	Curriculum framework implementation	
2d.1	What is the impact of adoption and implementation of college- and career-ready standards and aligned assessments on student outcomes?	
2d.2	How should we measure the alignment of teaching practices to college- and career-ready standards?	
2e	State curriculum programming	
2e.1	What is the impact of the state’s early literacy grant program? How well is it being implemented by partners?	
2e.2	What is the impact of the Massachusetts Math and Science Partnerships program? How well is it being implemented by partners?	

Q	Topic	Support needed?
2f	Special populations	
2f.1	Are there sub-categories (latent classes) within the group of students whose first language is not English? If so, how do they differ in terms of demographic characteristics and student outcomes, particularly the likelihood of high school graduation?	
2f.2	Has the Low Income Education Access Project changed participating districts' practices in identification and placement of low income students for special education services?	✓
2f.3	What is the impact of being educated in classrooms with students with disabilities on their typically developing peers?	
2f.4	Does implementation of the Pyramid Model, a tiered intervention framework for preschool students with IEPs, support improved outcomes for young children with disabilities?	
2f.5	Are children of immigrant parents less likely than other children to receive IDEA services? Do patterns vary by disability eligibility category? Are these students less likely to receive services in an integrated/inclusive setting?	
2g	Assessment	
2g.1	How large is the difference in performance for students who test online vs. on paper? Does it vary by grade, subject, or student characteristics? How should we account for the mode effect when using assessment data for reporting? For research?	
2g.2	Where should the state set the standards for the performance levels in the next-generation MCAS? Where should we set the performance level required to reach the competency determination for high school graduation?	
2g.3	How have Massachusetts students performed on international assessments such as PISA and TIMSS compared to students in other states and countries? What insights can we gain for improving student outcomes from the additional data gathered during these assessments (e.g., the student and educator surveys)?	✓
2g.4	Do state assessment science items work effectively for measuring English language learners' science knowledge and skills?	
2g.5	What are the statistical properties of student growth percentiles (SGPs) at the student and aggregate levels? How well do they correlate with achievement? Are there floor or ceiling effects, and if so, under what conditions? How large is the statistical error in their estimation? How do results from SGP analyses compare to traditional value-added models? How are SGPs most appropriately used?	

3: Promote educator development

Priority projects

Q	Topic	Support needed?
3a	Educator preparation – priority	
3a.1	How do student outcomes and teacher turnover vary depending on the preparation program and/or licensure pathway of the teacher? Are there meaningful differences in the measured quality of educator preparation programs/institutions?	
3a.2	How are districts implementing the Candidate Assessment of Performance? What are stakeholders’ perceptions of the tool? Which implementation strategies yield the strongest results for teacher candidates and, by extension, students?	
3a.3	What is the relationship between the Candidate Assessment of Performance and candidates’ likelihood of entering the public teaching workforce and their effectiveness in practice? What is the relationship between pre-service survey-based measures of teacher outcomes and in-service measures? How sensitive are estimates of individual teacher education program effects based on these new measures to the teaching context of particular candidates?	
3a.4	How can statewide outcome measures provide sponsoring organizations with an actionable indication of performance? How should these measures be included in the formal review process?	
3b	High quality feedback – priority	
3b.1	Does the state’s online calibration tool strengthen educator practice around providing high quality feedback? Does it increase rating calibration in districts that use it?	
3c	Equitable access to effective educators – priority	
3c.1	What strategies implemented by districts and/or the state increase students’ access to effective educators?	✓

Other projects

Q	Topic	Support needed?
3d	Impact of educator effectiveness initiatives	
3d.1	As a result of implementation of the educator evaluation framework, are lower rated educators improving? Are exemplary educators staying? Is student achievement or growth increasing?	
3d.2	What is the inter-rater reliability of the Performance Assessment for Leaders ? How does it correlate with other measures of practice? What would be the impact of changing the PAL cut score?	
3d.3	Does the educator preparation program review process improve candidate performance in the workforce?	✓
3d.4	How has the Educator Effectiveness Guidebook for Inclusive Practice been implemented in districts? Has it strengthened inclusive practice and promoted educator growth and development?	✓
3d.5	Does providing feedback to teachers on the alignment of their instruction to state standards improve alignment?	
3e	Perceptions of educator effectiveness initiatives	
3e.1	What is the field's perception of the implementation of the educator evaluation framework and its component parts? Of ESE's supports for implementation?	
3e.2	What is the field's perception of the Candidate Assessment of Performance?	
3e.3	What is the field's perception of the implementation of the formal review process for educator preparation programs?	
3f	Measures of educator practice and effectiveness	
3f.1	Is there evidence to suggest that we should modify ESE's model rubrics to better measure educator effectiveness?	✓
3f.2	How should the state define cultural proficiency? How does cultural proficiency vary across educators, schools, and districts? What impact does cultural proficiency have on effective practice for all students?	✓
3f.3	How should educator evaluation, SGP, employment, and MTEL data be used in the educator preparation formal review process?	
3g	Other educator issues	
3g.1	How do working conditions affect teachers' job choice decisions?	
3g.2	How does principal preparation relate to special education teacher attrition patterns and students' growth and inclusion?	

4: Support social-emotional learning, health, and safety

Priority projects

Q	Topic	Support needed?
4a	School climate – priority	
4a.1	What are students’ perceptions of various dimensions of school climate? How does climate vary across schools and districts? How strongly is school climate correlated with other student outcomes?	
4b	Social and emotional learning (SEL) – priority	
4b.1	What measures of social-emotional learning are districts and schools using? Which specific dimensions of SEL do they measure? Do the resulting data vary by student subgroup, grade span, or other factors? How are districts and schools using these data? How do measures of social-emotional learning correlate with other state data (e.g., MCAS results, attendance, retention in grade, graduation rates)?	

Other projects

Q	Topic	Support needed?
4c	Student discipline	
4c.1	How has the incidence of the use of suspension changed as a result of Chapter 222, and how does this vary by school context and student subgroup? How are districts responding to the new requirements? What are the challenges in implementation?	
4d	Interventions and supports	
4d.1	Does strengthening family and community engagement increase student attendance, achievement, or other outcomes? How could the state better promote family and community engagement?	✓
4d.2	How are districts receiving Safe and Supportive Schools grants using the Behavioral Health and Public Schools framework and self-assessment tool? Did they use the assessment to create action plans, and did they actually implement those plans? Has use of the tool changed districts’ practices?	✓
4d.3	What were the existing conditions in schools participating in The Partnership Project before introduction of the program? How were the TPP professional development courses planned and implemented? What is the impact of TPP PD on educator practice? Under what conditions is the program sustainable?	

Q	Topic	Support needed?
	4d.4 What is the impact of physical activity interventions in underperforming schools on student outcomes?	
	4d.5 What is the impact of full-day kindergarten on cognitive and non-cognitive outcomes among students with and without disabilities?	

5: Turn around the lowest performing schools and districts

Priority projects

Q	Topic	Support needed?
5a	High school turnaround – priority	
5a.1	What strategies are likely to be successful in turning around low performing high schools? Which strategies implemented in Massachusetts result in positive outcomes?	
5b	State accountability and support system – priority	
5b.1	What strategies are the Holyoke, Lawrence, and Southbridge Public Schools implementing as part of their receiverships? How well implemented are they, and what impact have they had on student, educator, and other outcomes? In general, what assistance, supports, and strategies help districts turn around?	
5c	Strategies for turnaround in districts without autonomies – priority	
5c.1	What impact does extending turnaround-like autonomies to low performing Level 3 schools via a grant program have on district practices and student outcomes?	✓

Other projects

Q	Topic	Support needed?
5d	State accountability and support system	
5d.1	What factors contribute to variation in implementation and impact of the School Redesign Grants across districts and schools and over time? How are specific strategies intended to support turnaround employed at schools?	
5d.2	Which schools and districts sustain results after exiting Level 4, and which do not? What are the district conditions that enable successful school turnaround? Why do patterns vary, and what does this imply for state policy and practice?	✓
5e	Strategies for turnaround in districts without autonomies	
5e.1	What strategies are Springfield’s middle schools implementing as part of the Springfield Empowerment Zone? How well implemented are they, and what impact have they had?	✓
5e.2	How are districts implementing Wraparound Zone 2.0, and what impact is it having on participating students and schools?	✓

Q	Topic	Support needed?
5f	Other turnaround strategies	
	5f.1 What impact have the new compensation models in the Level 5 districts had on educator retention/turnover, identification for increased responsibilities, and total costs?	

6: Use technology and data to support teaching and learning

Priority projects

Q	Topic	Support needed?
6a	Accountability – priority	
6a.1	How should the state design its new accountability system under the Every Student Succeeds Act? What additional measures of school quality and student success should the state include? How should we use the assessment data from the 2015, 2016, and 2017 test administrations for future accountability decisions?	
6b	Resource use – priority	
6b.1	How do key Massachusetts district resource use decisions (e.g., class size, access to effective educators, in- vs. out-of-district special education placements) relate to national trends? What do Massachusetts data suggest about the costs and benefits of these choices?	
6b.2	How should return on investment be measured in an education context? Can it be measured using state data, and if so, how?	✓
6c	Digital and individual learning – priority	
6c.1	What is the impact of a public-private consortium on the adoption of blended and personalized learning models in K–12 schools in the Commonwealth?	✓

Other projects

Q	Topic	Support needed?
6d	Digital and individual learning	
6d.1	How many districts and schools are implementing individual learning plans? Flexible learning environments? Competency-based credit accumulation?	
6d.2	How many districts and schools are incorporating digital content and instructional tools? How often are they use, and for what purposes?	
6e	ESE data tools and supports	
6e.1	How many people are using the embedded supports in Profiles and Edwin Analytics from Data in Action? How are they using them? What do they like about them, and how could they be improved?	✓

Q	Topic	Support needed?
	6e.2 How are pilot districts using the Resource Allocation and District Action Report tools and resources? How can they be improved to be more helpful for districts?	
6f	District technology capacity	
	6f.1 What are districts' and schools' current technology capacities? How does it compare to the requirements for administering online assessments and for moving to greater integration of technology in the classroom? Has the state IT bond for education increased district capacity?	

Other external research projects

- University of Michigan: What is the impact of the Boston Public Schools' pre-kindergarten program?
- UMass Donahue Institute: What is the impact of the state's financial literacy pilot program?
- National Opinion Research Center: Are there data-masking techniques that can meet confidentiality requirements while still maintaining individual-level, longitudinal data?