



Research Agenda

Internal version
October 2018

DESE's Goal and Strategies

DESE'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
- Enhance resource allocation and data use

DESE's research agenda is driven by our strategic plan. The following questions guide all of our research across our goal and five strategies:

- 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?

After a decade of developing research partnerships, we have established solid relationships with universities, researchers, and other vendors on nearly all of our major research questions. We will bid any opportunities where the state is seeking a vendor for research work and/or for a new grant-writing partnership through the state's procurement system, [CommBuys](#). Outside of those opportunities and those highlighted below as "support needed," we do not anticipate entering into partnerships with any new universities or researchers in 2018–19.

Please contact Carrie Conaway at cconaway@doe.mass.edu with questions.

1: Success after high school

High priority topics for primary research

Q	Topic	How
1a	High quality college and career pathways and time to post-secondary degree	
1a.1	To what extent are schools and districts implementing high quality college and career pathways for students, and what is the quality of those opportunities? What processes are Massachusetts New Skills For Youth grantees and other districts seeking the HQCCP certification using to develop and implement new high quality college and career pathways? What is the impact of participation in a HQCCP, and to what extent does the impact vary by the quality and depth of implementation of the six components of HQCCPs? Is Early College programming correlated with stronger outcomes than traditional dual enrollment programming?	<ul style="list-style-type: none"> • ICF through 2019 • Support needed – academic partner to follow the schools forward after ICF funding ends in 2019
1a.2	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; Chapter 74 and Perkins programs)	<ul style="list-style-type: none"> • ESE-DHE partnership • Support needed – to focus on more refined questions around K-12 course/program participation
1b	Career outcomes for K–12 students	
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 Unemployment Insurance claims or other poor labor market outcomes? What is the long-term return on investment for education in Massachusetts?	<ul style="list-style-type: none"> • Data Analysis and Reporting, Shaun Dougherty
1c	Vocational-technical schools	
1c.1	How many students express interest in and apply to vocational-technical schools and to the programs within those schools? How many do not meet the admissions criteria, and how many are waitlisted?	<ul style="list-style-type: none"> • Shaun Dougherty

Other primary research topics

Q	Topic	How
1d	High school graduation and supports	
1d.1	How many districts and schools are implementing individual learning plans? Flexible learning environments? Competency-based credit accumulation?	<ul style="list-style-type: none"> • VISTA survey
1d.2	Do students who enroll in alternative schools do better on graduation outcomes than similar students not served in alternative school settings? (including HiSET/GED grads, not just regular high school)	<ul style="list-style-type: none"> • Support needed
1d.3	Is the implementation of MyCAP (college and career advising) correlated with better student plans and/or stronger student outcomes?	<ul style="list-style-type: none"> • Support needed
1d.4	How well do students with disabilities transition out of high school? To what degree does the type of disability or level of service correlate with later outcomes?	<ul style="list-style-type: none"> • Support needed
1e	Advanced coursework	
1e.1	What is the impact of the state's Advancing STEM AP program on participating students (particularly economically disadvantaged students), teachers, and schools?	<ul style="list-style-type: none"> • UMass Donahue Institute
1e.2	What is the impact of performing at the Advanced level on the MCAS on later course-taking and college enrollment?	<ul style="list-style-type: none"> • Josh Goodman and Chris Avery
1e.3	Does sending a letter to parents of students who have the potential to succeed in higher level math coursework in high schools cause greater enrollment in those courses?	<ul style="list-style-type: none"> • Josh Goodman and Lindsay Page
1e.4	How many and which types of students have access to advanced coursework? What differentiates the students, schools, and districts where advanced coursework is available?	<ul style="list-style-type: none"> • Support needed – may be doing this internally
1f	Vocational-technical schools	
1f.1	Does participation in CTE improve short- or long-term labor market outcomes? Why, for whom, and in which fields? Is industry experience or teacher training more valuable for CTE instructors? Does student demand for CTE courses respond to changing labor market conditions? How effective are CTE skill assessments at measuring labor market preparedness? What effect does earning an industry-recognized credential have on employment and earnings?	<ul style="list-style-type: none"> • Shaun Dougherty, CTE Policy Lab

Q	Topic	How
1f.2	Are there differences in outcomes for students who participate in a particular program between those doing the program at a comprehensive high school versus those in the same program at a regional vocational-technical school? Are there differences for kids enrolled in CTE in a comprehensive high school, compared to similar kids not in CTE at the same school?	<ul style="list-style-type: none"> • Shaun Dougherty, CTE Policy Lab
1f.3	How do districts spend their Chapter 74 money? How does it vary between regional vocational schools and comprehensive high schools? How does it vary across programs within a school?	<ul style="list-style-type: none"> • Oren Cass, Manhattan Institute
1f.4	Does implementing career advisory programs in middle schools (now an allowable way to spend Perkins money) correlate with later student outcomes?	<ul style="list-style-type: none"> • Support needed – but not yet (too new)
1g	Adult Basic Education	
1g.1	What is the impact of GED attainment on later postsecondary enrollment, wages, and other outcomes? Does the impact vary for Adult Basic Education students versus other GED-takers?	<ul style="list-style-type: none"> • Blake Heller and Kirsten Slungaard Mumma
1g.2	Is the redesigned Adult Basic Education system generating stronger student outcomes in ABE programs than the previous system?	<ul style="list-style-type: none"> • Support needed – Blake and Kirsten may be interested
1h	Out-of-school youth	
1h.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? How many of the students who drop out eventually enroll in the adult education system?	<ul style="list-style-type: none"> • Support needed [potential PIER fellow project?]
1i	Charter schools	
1i.1	What is the impact of the state’s charter schools on higher education outcomes?	<ul style="list-style-type: none"> • MIT SEII/NBER
1i.2	How do the impacts of Massachusetts charter schools on student outcomes compare to those in other states?	<ul style="list-style-type: none"> • CREDO, Stanford University
1i.3	What is the impact of opening a charter school on traditional public schools?	<ul style="list-style-type: none"> • Kirsten Slungaard Mumma
1i.4	Does the relationship between measured teacher effectiveness and the likelihood of a teacher exiting a school differ for charter versus traditional district schools?	<ul style="list-style-type: none"> • Marcus Winters

Q	Topic	How
1i.5	Are teachers who exit the charter sector and enter the traditional sector equally effective in their new setting? Are those who stay in charters more/less effective than those who switch? How do career trajectories of teachers compare when they enter their careers at charter schools versus traditional schools, overall and for traditionally trained teachers?	<ul style="list-style-type: none"> • Ginny Lovison
1j	Other choice options	
1j.1	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?	<ul style="list-style-type: none"> • Jesse Bruhn
1j.2	What is the impact of the METCO program on participating student outcomes? On the receiving districts, schools, and their students? Which demographic groups have the strongest demand for METCO, and why? Are those who would benefit most from the programs more or less likely to apply and to accept offers?	<ul style="list-style-type: none"> • Ann Mantil, Harvard (outcomes only) • Elizabeth Setren, Tufts
1k	Gifted and talented students	
1k.1	How are gifted and talented students in Massachusetts identified and served? Is access to gifted and talented programming equitable? What are effective practices and policies for identifying and serving these students and increasing access to gifted and talented programming?	<ul style="list-style-type: none"> • RFR issued Sept. 2018

Reviews of literature and best practices

- 1) Effective academic support programs for students at risk of failing the grade 10 MCAS tests and/or students who have already failed
- 2) What are best practices for preventing dropout? Are any strategies particularly effective for English learners, students with disabilities, and/or overage students?

2: Strengthen standards, curriculum, instruction, and assessment

High priority topics for primary research

Q	Topic	How
2a	Curriculum framework implementation and curriculum programming	
2a.1	How are districts progressing in implementing the recent revisions to the ELA, math, and science frameworks? Are districts incorporating the standards for STEM practice? What are superintendents' and principals' perceptions of the state's implementation supports?	<ul style="list-style-type: none"> • VISTA survey
2a.2	Does CURATE appear to change uptake of curriculum choices? More generally, how do districts select and use curricula? Which curricula appear to be correlated with stronger student outcomes in Massachusetts?	<ul style="list-style-type: none"> • Internal
2b	Competency Determination	
2b.1	Which types of students do and do not earn the Competency Determination? Which students benefit from the retest and appeals process, and in what ways? How does performance on grade 10 MCAS relate to long-term student outcomes? What is the impact of the prior CD and EPP policies on long-term student outcomes? Can school-based programming mitigate potential negative impacts?	<ul style="list-style-type: none"> • Internal (Assessment) • John Papay and team at Brown on CD generally • Sophie Litschwartz on EPP

Other primary research topics

Q	Topic	How
2c	Other curriculum, instruction, and classroom-level questions	
2c.1	What is the impact of the state's early literacy grant program? Does the impact vary for those who participate only in the state convening versus those who also get coaching? Does it have a spillover effect to other teachers who aren't directly served? How well is it being implemented by schools?	<ul style="list-style-type: none"> • Support needed - plan to issue an RFR
2c.2	To what degree does high quality out-of-school time programming help students develop literacy skills? What role does social-emotional learning play in this process?	<ul style="list-style-type: none"> • AIR (funded by Mott Foundation)

Q	Topic	How
2c.3	What are the short- and long-run effects of instructional specialization (departmentalization) in elementary schools on student achievement and attendance?	<ul style="list-style-type: none"> • Ben Backes and James Cowan
2c.4	To what degree are students segregated at the classroom level within schools? What share of segregation happens at the district vs. school vs. classroom levels?	<ul style="list-style-type: none"> • Support needed
2c.5	How much time is allocated by districts to each instructional area, by grade span? (see also best practices research below)	<ul style="list-style-type: none"> • Support needed
2d	Students with disabilities	
2d.1	Why is our special education identification rate continuing to increase, and to what extent is that driving our lack of progress on MCAS scores, dropout, and graduation rates for SWDs? Do characteristics such as specific type of disability, grade of identification, inclusive practices, or changing populations account for the differences?	<ul style="list-style-type: none"> • Support needed – pitched to UMass Donahue
2d.2	What is the prevalence of co-teaching for serving special education students? What is its impact on behavior and academic outcomes for SWDs and non-SWDs?	<ul style="list-style-type: none"> • Marcus Winters and Nate Jones
2d.3	What is the impact of special education services for learning-disabled students? What is the impact of building/school transitions on high school outcomes? Do included learning-disabled students feel included?	<ul style="list-style-type: none"> • Leanna Stiefel and Amy Schwartz
2d.4	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?	<ul style="list-style-type: none"> • Cady Landa
2d.5	Has the Low Income Education Access Project changed participating districts' practices in identification and placement of low income students for special education services?	<ul style="list-style-type: none"> • Support needed
2e	English learners	
2e.1	How are districts implementing the LOOK Act? What impacts has it had?	<ul style="list-style-type: none"> • Support needed – but not yet. Exploring ideas with Rachel Garrett at AIR. Possibly VISTA?

Q	Topic	How
2e.2	What was the impact of RETELL on EL student outcomes? Does the impact vary by the type of course taken or enrollment cohort?	<ul style="list-style-type: none"> • Marcus Winters
2f	Digital learning	
2f.1	How many districts and schools are incorporating digital content and instructional tools? How often are they used, and for what purposes?	<ul style="list-style-type: none"> • VISTA survey
2g	Assessment	
2g.1	Do the new achievement levels on the Next Generation MCAS accurately reflect whether students are prepared for success at the next grade level and ultimately whether students are prepared for college and career?	<ul style="list-style-type: none"> • Student Assessment Services
2g.2	Do we observe scale drift in the Next Generation MCAS test over time? If so, why, how large is it, and how can it be addressed?	<ul style="list-style-type: none"> • Student Assessment Services
2g.3	How does the validity and reliability of machine scoring of open response questions compare to human scoring?	<ul style="list-style-type: none"> • Pearson
2g.4	Does the mode effect (online vs. paper) vary by student subgroup or other observable characteristics? What are the practical implications of test mode effects on accountability systems at the student, teacher, and school levels? Do paper-based and computer-based tests have different predictive validity for important student outcomes?	<ul style="list-style-type: none"> • Ben Backes and James Cowan
2g.5	Do state assessment science items work effectively for measuring English language learners' science knowledge and skills?	<ul style="list-style-type: none"> • TERC

Reviews of literature and best practices

- 1) What are the characteristics of culturally responsive instruction? Does diversity of representation in curriculum matter for student outcomes? What is the impact of increasing culturally responsive practices?
- 2) How much time should districts allocate to each of the main instructional areas?
- 3) What are the best practices for classroom-based EL supports (push-in, pull-out, embedded, etc.)? How does the appropriate model vary by level of need, context, or other factors?

- 4) What are the best ways for teachers to align English learner development standards with content standards?
- 5) Which early childhood reading assessments appear to be most effective in measuring student progress in learning to read?

3: Promote educator development

High priority topics for primary research

Q	Topic	How
3a	Educator preparation	
3a.1	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?	<ul style="list-style-type: none"> • Abt Associates
3a.2	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?	<ul style="list-style-type: none"> • AIR/CALDER
3b	Educator workforce diversity	
3b.1	What is the impact of same-race teacher matching on student outcomes? What impact would diversifying the teacher workforce have on student outcomes?	<ul style="list-style-type: none"> • AIR/CALDER (general); possibly Anna Egalite on differential impact for SWDs

Other primary research topics

Q	Topic	How
3c	Impact of educator effectiveness initiatives	
3c.1	How well does the Performance Assessment for Leaders correlate with later evidence on principals' practice?	<ul style="list-style-type: none"> • Fordham

Q	Topic	How
3c.2	What is the impact of PAL on the pipeline of principals, both in terms of the overall number of completers and the number that actually enter into a principalship? Has it had an impact on principal waivers or vacancies?	<ul style="list-style-type: none"> • Support needed [potential PIER Fellows project?]
3c.3	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?	<ul style="list-style-type: none"> • Support needed
3c.4	Does practicing teaching skills and receiving high quality feedback through mixed-reality simulations improve the skills of teachers in educator preparation programs?	<ul style="list-style-type: none"> • Support needed (but not until next year at the earliest)
3d	Other educator issues	
3d.1	What is the relationship between MTEL scores and the likelihood of entering the teaching workforce, student achievement, teacher summative ratings, and teacher retention? Can the strength of the relationships be improved through differential weights on particular MTEL test objectives, subareas, or sections?	<ul style="list-style-type: none"> • CALDER (IES proposal 2018)
3d.2	How much does principal effectiveness vary? What are the pathways to the principalship in terms of prior training and job experience? Do those pathways or principal characteristics predict their effectiveness? Do effective teachers make for more effective principals? Do principals help retain effective teachers? (multi-state study with GA, MO, NC, TX, WA)	<ul style="list-style-type: none"> • CALDER
3d.3	At what points in the teacher pipeline do we see the largest changes in the diversity of the teaching workforce? Can these changes be explained by observable characteristics?	<ul style="list-style-type: none"> • Melanie Rucinski
3d.4	What types of professional development are districts/schools actually offering? To what extent are they using effective professional development practices?	<ul style="list-style-type: none"> • Support needed

Reviews of literature and best practices

- 1) What is the impact of increasing culturally responsive practices? Which strategies are most effective?

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

High priority topics for primary research

Q	Topic	How
4a	School climate	
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? Is our school climate index a valid measure of the construct? How is school climate changing over time? To what degree and in what ways are districts using the reports from the state survey, and how could we improve them?	<ul style="list-style-type: none"> • Internal (Shelagh)
4b	Social and emotional learning (SEL)	
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)?	<ul style="list-style-type: none"> • Mathematica (seeking grant funding)
4c	Interventions and supports	
4c.1	What is the efficacy of the state's Recovery High Schools?	<ul style="list-style-type: none"> • Possible partnership with Andrew Finch and John Kelley

Other primary research topics

Q	Topic	How
4d	Student discipline	
4d.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?	<ul style="list-style-type: none"> • Urban Institute (Tracey Lloyd)

Q	Topic	How
4d.2	Are there differences in the use of discipline, school climate, etc. for districts participating in the Rethinking Discipline project vs. other districts and/or vs. the same districts prior to participation?	<ul style="list-style-type: none"> • Urban Institute (Tracey Lloyd)
4d.3	What is the impact of the change in the student discipline law on teacher retention?	<ul style="list-style-type: none"> • Marcus Winters
4e	Interventions and supports	
4e.1	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?	<ul style="list-style-type: none"> • Collaborative for Education Services
4e.2	To what extent have schools participating in the Transforming School Climate project implemented a high fidelity multi-tiered behavioral health framework? What factors facilitate or impede implementation, particularly in high needs and underperforming schools? Compared to similar non-participating schools, do participating schools demonstrate improvement in student outcomes?	<ul style="list-style-type: none"> • Plan to issue an RFR
4e.3	What is the impact of physical activity interventions in underperforming schools on student outcomes?	<ul style="list-style-type: none"> • Tufts University
4f	Other questions	
4f.1	What is the impact of a student's death on his or her peers, as measured by test scores, attendance, behavior, etc.? How does the impact vary by demographic group? Are some causes of death more traumatic than others?	<ul style="list-style-type: none"> • Josh Goodman and Janelle Fouche
4f.2	What is the impact of full-day kindergarten on cognitive and non-cognitive outcomes among students with and without disabilities?	<ul style="list-style-type: none"> • Shaun Dougherty
4f.3	What has been the impact of the change in the state's marijuana laws on student outcomes?	<ul style="list-style-type: none"> • Support needed

Reviews of literature and best practices

- 1) How can schools best deploy additional guidance counselors and social workers?
- 2) What interventions improve attendance and reduce chronic absenteeism?
- 3) What evidence supports the Safe and Supportive Schools framework, particularly its guiding principles?

5: Turn around the lowest performing schools and districts

High priority topics for primary research

Q	Topic	How
5a	State accountability and support system	
5a.1	Is the redesign of the Statewide System of Support having the impact we had hoped?	<ul style="list-style-type: none"> • Ebony Bridwell-Mitchell
5a.2	Is the new accountability system meaningfully differentiating schools? Is it targeting resources to the right schools? Does it include the right indicators?	<ul style="list-style-type: none"> • Internal (Rob Curtin)

Other primary research topics

Q	Topic	How
5b	Sustaining school improvement over time	
5b.1	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? Did the hold-harmless during the assessment transition affect the trajectories of exited schools?	<ul style="list-style-type: none"> • Support needed – some cohort analysis being done internally
5b.2	Has the performance of the bottom 10 percent of schools improved over time? (Is the floor rising?)	<ul style="list-style-type: none"> • Internal (Adrienne)
5b.3	How do low performing schools allocate time during the school day? During extended-day programs?	<ul style="list-style-type: none"> • Support needed
5c	Labor market issues	
5c.1	What are the characteristics of the teacher labor market / labor pool for turnaround schools? Does each region have a sufficient number of qualified teachers for the needs of the lowest performing schools?	<ul style="list-style-type: none"> • AIR
5c.2	What impact have the new compensation models in the Level 5 districts had on educator retention/turnover, identification for increased responsibilities, and total costs?	<ul style="list-style-type: none"> • Schueler

Q	Topic	How
5d	State systems improvements	
5d.1	What does strong implementation of turnaround practice 4 (culture, climate, social-emotional learning, and family engagement) look like? Are those characteristics well captured in the Monitoring Site Visit protocol?	<ul style="list-style-type: none"> • Internal
5d.2	What additional data on students might add new perspectives on how to improve the lowest performing schools? (e.g., ever poor versus never poor, student trauma, absenteeism)	<ul style="list-style-type: none"> • Internal

Reviews of literature and best practices

- 1) What practices improve racial equity in low performing schools?

6: Enhance resource allocation and data use

High priority topics for primary research

Q	Topic	How
6a	ESE data tools and supports	
6a.1	How are districts receiving the Resource Allocation and District Action Report grants using the RADAR tools and resources? What impact have the evidence-based interventions they have implemented had in their districts?	<ul style="list-style-type: none"> • Internal and DMGroup
6a.2	What are districts' perceptions of the usefulness of the state's data tools?	<ul style="list-style-type: none"> • VISTA

Other primary research topics

Q	Topic	How
6b	Monitoring	
6b.1	Has the shift to risk-based monitoring in Public Schools Monitoring had an impact on district practices? On the likelihood of making a finding or the types of findings made during monitoring visits? On how the team works together?	<ul style="list-style-type: none"> • Internal (survey of monitored districts) – additional support may be needed