



# Condition of Education

## IN THE COMMONWEALTH

### Measuring Student Success:

Innovative Approaches to  
Understanding Diverse Learners



# Overview

The old management cliché “what gets measured gets done” applies to education as it does to other fields. Originally, this saying was intended to highlight the value of measuring progress as a way to ensure that projects proceed as planned—just as teachers define intermediate benchmarks and evaluate student progress to guide daily learning in pursuit of long-term goals. Yet this statement can also be read in another way: elements of success that can be measured easily tend to receive more care and attention than elements that are difficult to capture through traditional measurement processes. In this way, what “gets measured”—that is, what can be interpreted and assigned value through well-understood methods of documenting progress—receives the time and resources to make sure it “gets done.” Meanwhile, outcomes that are more difficult to capture through existing measurement systems struggle to be seen as equal priorities, even when they are equally fundamental for driving long-term success.

Defining and measuring success are not merely process steps, but critical conversations that shape how education is understood and delivered. They influence how individuals within and outside the system perceive the goals of education. They shape the incentives for stakeholders seeking to improve educational outcomes. And they lead to significant investments of time and money, whether to reward those who have achieved positive results or to bolster those whose results are lagging.

In education, academic achievement on standardized tests has long served as a proxy for student success. High test scores, as compiled on state report cards and lists of “the best” schools or districts, are frequently held up as markers of a quality system, with the power to drive demand in schools and neighborhoods perceived as the most likely to offer students a top-notch education. Meanwhile, high test scores for students—including on external assessments like the SATs—enable access to a range of educational and career opportunities.

Yet academic test scores are just one method of measuring student success, offering at best an incomplete picture of student learning and growth. Methods of measuring success grounded in academic assessments generate student outcomes that can ignore real, meaningful differences in students’ abilities, interests, and goals. For instance, research indicates that a broad-based measure of student engagement and learning (high school grade point average) is more strongly related to college success than SAT or ACT scores.<sup>1</sup> Additionally, relying on test scores to determine whether students are likely to achieve postsecondary success overlooks important factors—such as mental health, homelessness, and other sources of trauma—that have a tremendous impact on student outcomes. Many students disengage in school for these and other reasons that have nothing to do with academic achievement: more than half (56.4%) of Massachusetts juniors and seniors who dropped out of high school in the 2017-18 school year

## THE PROJECT

The Condition of Education in the Commonwealth project is one way the Rennie Center fulfills its mission of producing non-partisan, high-quality, independent research that promotes improvement in public education for all Massachusetts children.

## PROJECT PRINCIPLES

- Education encompasses more than academics.
- Schools should not—and cannot—work in isolation

## PROJECT COMPONENTS

**Data Dashboard:** This interactive tool provides an in-depth look at a range of school performance indicators. Users can delve deeper by looking at different student groups and monitor progress over time. This data is collected from the Massachusetts Department of Early Education and Care, the Massachusetts Department of Elementary and Secondary Education, the Massachusetts Department of Higher Education, the United States Census Bureau, and the United States Department of Education.

**Action Guide:** The Action Guide builds on the Data Dashboard with research-informed recommendations for statewide actions—policies, investments, and expansion of best practices—that have potential to address performance gaps and contribute to broad improvement in student outcomes. The report looks at progress made and remaining challenges and suggests strategies on how to apply those lessons to foster the success of all the Commonwealth’s learners.

had already achieved passing scores on MCAS ELA, math, and science exams.<sup>2</sup>

Furthermore, the process of assessment, far from offering a neutral statement of student ability, is deeply influenced by inequities in our education system and broader society. A study of school data in ten states found that, of 832 schools considered “low performing,” 92.3% were also high-poverty schools (with more than half of students living in poverty).<sup>3</sup> Given the direct correlation between the socioeconomic status of the student population and schools’ performance on standardized tests, schools in low-income, urban environments—often serving primarily or exclusively students of color—are routinely identified as “underperforming” compared with wealthier (and whiter) suburban communities. As Massachusetts has recognized, this tends to “reinforc[e] the notion that inclusive urban schools are low-performing and to be avoided. A school’s performance on standardized tests can [even] influence home values in the surrounding community,” perpetuating cycles of residential segregation and entrenched poverty.<sup>4</sup>

This does not indicate that state tests are meaningless, or that the state’s system of assessment should be eliminated. Assessments can uncover important information about students’ educational experiences and shine a light on individuals or groups of students in need of greater attention. But it does highlight how traditional methods of measurement are insufficient. A more comprehensive and equitable approach to measuring success—and building a system that supports positive long-term outcomes for all students—requires new ways of thinking about how to capture the full range of students’ experiences and understanding. This year’s Condition of Education Action Guide highlights methods of measuring student progress beyond traditional academic assessments, expanding the definition of success in order to support—and celebrate—the aspirations and achievements of all learners.

## Hindsight 2020

Assessments of student progress have been a feature of education for hundreds of years, but the purposes of assessment have undergone a number of shifts over time:

- **Mastery-based assessment:** The earliest form of assessment was grounded in classroom instruction, with teacher-administered oral or written tests that evaluated whether students had mastered particular subjects or bodies of knowledge.<sup>5</sup>
- **Scientific measurement:** With the development and dissemination of standardized aptitude tests, assessment was seen as a consistent way to measure students’ abilities and potential for advancement to higher levels of education.<sup>6</sup>
- **Monitoring & tracking:** As mastery-based and aptitude assessments continued to spread, interest grew in tracking students’ progress over time and comparing results across years and geographic areas.<sup>7</sup>
- **Defining accountability:** The results of testing became increasingly associated

## WHERE WE’VE BEEN

Over the past seven years, the Condition of Education has examined critical leverage points across the education pipeline, analyzing trends and areas for improvement. Previous Condition of Education Action Guides have examined several critical strategies for driving improvement in schools: leveraging community partnerships to offer student support, focusing on social and emotional learning alongside academics, and adopting instructional practices and policies that enable student-centered learning. Beginning with the 2018 Action Guide, we shifted our focus from the substance to the process of reform, looking at how schools and communities can use a continuous improvement approach to learn from, adjust, and improve their practice. Most recently, our 2019 Action Guide examined student voice as an essential lever for educational improvement.

Since its inception, the Condition of Education has aimed to highlight stakeholders within and across Massachusetts communities working to address local challenges. Over the years, we have encountered many practitioners who are seeking robust measures to understand the lived experiences of their students and inform practice, instruction, and/or support services—and, ultimately, to determine whether their approaches are leading to real improvements. These measures are often difficult to identify and implement, particularly at a large scale, leading to limited sources of meaningful data collection in many areas that matter to students, families, and educators.

In other words, we have identified a mismatch between the reform strategies highlighted in previous reports (e.g., community partnerships, social-emotional learning, student voice) and the methods of assessment typically used to report on student outcomes, including in our Data Dashboard. The 2020 Action Guide therefore focuses on how schools, districts, and communities are seeking to gain a fuller understanding of student progress and growth.

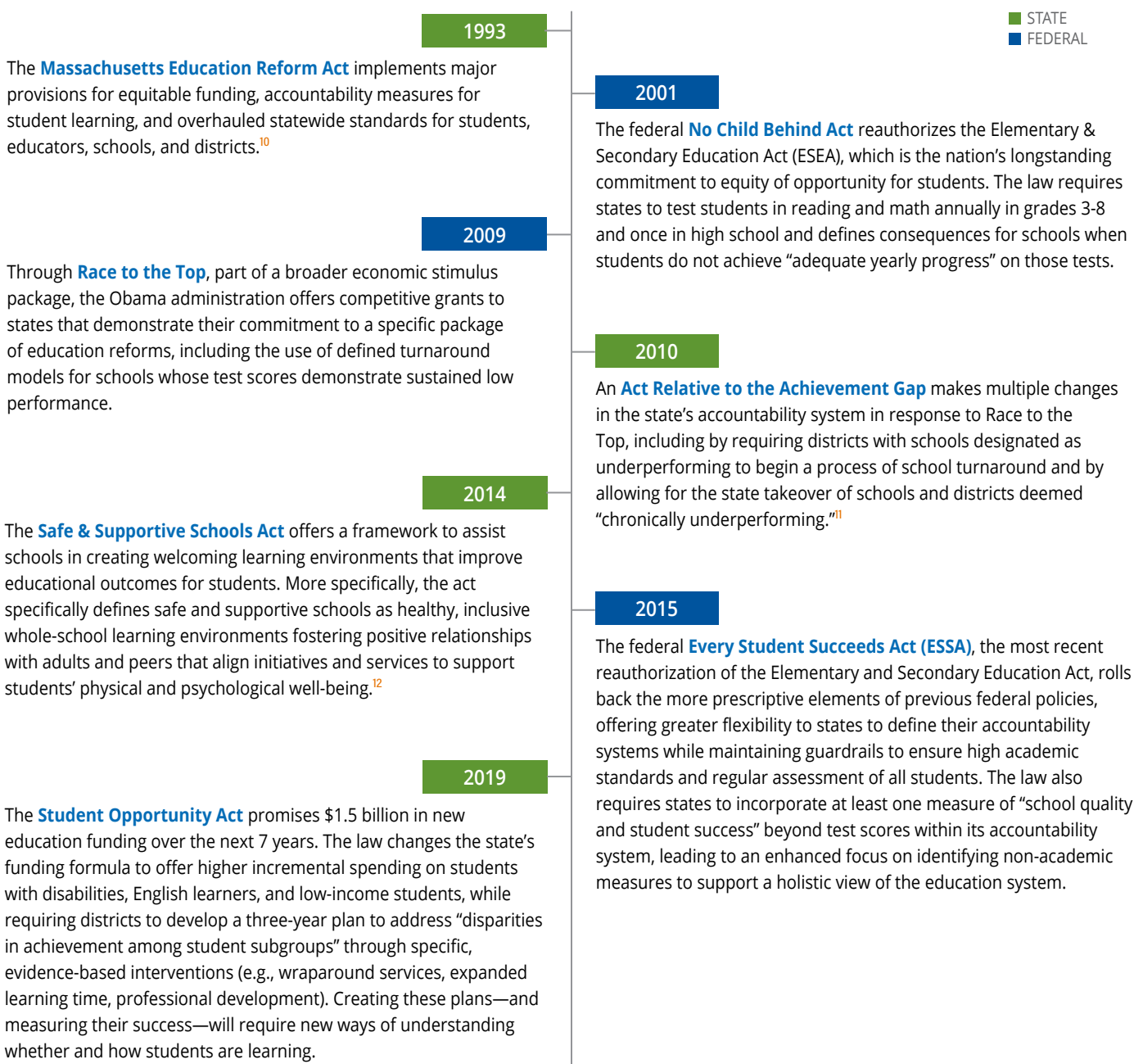
with consequences, both positive and negative. The earliest forms of accountability focused on individual students, defining minimum competencies needed to achieve particular outcomes, while accountability for schools and districts followed later.<sup>8</sup>

- **Norming accountability:** Since 2002, standardized statewide tests, administered annually in grades 3-8 and once in high school, have become the norm for measuring school and district success.<sup>9</sup>

In Massachusetts, as across the nation, policymakers have responded to these shifts (particularly the focus on accountability) by enacting a series of reforms over the past 25+ years. Many of these reforms aim to increase access to high-quality education services and address the diverse needs of the students being served.

## Examining the Massachusetts policy landscape

The timeline highlights important federal and state developments that have impacted the measurement of student success in Massachusetts since the 1993 Education Reform Act ushered in a standardized, statewide system of assessment.



As it currently stands, the state's accountability system includes the following quantitative academic measures:

- Achievement and student growth in English Language Arts, Math, and Science<sup>i</sup>
- High school completion
- English language proficiency

More recently, Massachusetts incorporated several additional measures of student success, in response to ESSA's requirement that states focus on measures beyond test scores:

- Chronic absenteeism
- Completion of advanced coursework
- Enrollment in training or higher education credentials

However, these components collectively add up to a small percentage of the overall accountability designation for schools and districts, meaning that core academic measures are weighted much more heavily.

Statewide indicators can only tell part of the story and are only partially useful in determining next steps to address persistent disparities between student sub-groups (see the Data Snapshot, below, for more). Definitions and measurements of student progress must consider local and community-level indicators, and factor in qualitative/non-academic indicators, to support long-term success for every student.

Developments in policy and practice over the past five years have led to a strong and growing focus on the holistic development of all students. This can be seen through shifts in the state accountability system to incorporate non-academic measures; state-led initiatives to assist district efforts on social-emotional learning, mental health, and integrated student support; a recent state law requiring civic education and engagement for Massachusetts students; and proliferating national and local efforts to infuse culturally and linguistically sustaining practices within schools and classrooms, among other trends.

In this environment, the time is ripe within the Massachusetts education system to revisit the traditional measures that have been used to indicate student progress. Learning from both our successes and our persistent challenges, we have an opportunity in Massachusetts to leverage existing structures and identify opportunities for innovation in how we define and measure student success.

The following report hopes to provide an outline of how the Massachusetts education system can rethink and expand how it measures success. It will focus on three areas:

- **A whole-child approach:** The education system serves diverse students with a range of abilities and lived experiences. To fully support all students in their educational experiences, we must examine the vital non-academic factors that contribute to students' long-term success, such as physical and mental health.
- **Serving all students:** Serving all students requires the use of instructional practice and educational programming that adhere to the core tenets of diversity, equity, and inclusion. This means the eradication of a "one-size-fits-all" approach to education and the shift toward a more student-centered, personalized approach to both academic and non-academic services that respects and supports students' cultural, linguistic, and/or educational backgrounds and current levels of proficiency.
- **Multiple pathways to success:** The education system must include a variety of practices that can promote opportunities for students to become aware of multiple pathways to college and career, along with measures that indicate whether individuals are prepared to succeed regardless of the pathway they choose as they move through and beyond high school.

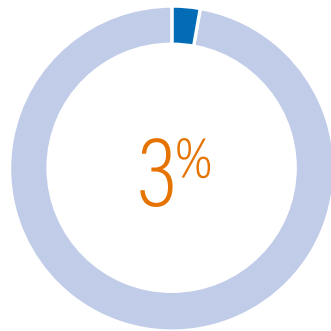
Each section will describe the core features of measuring student success in that field, then spotlight a program that demonstrates these core features in action. Each section also includes a text box with a high-level description of another promising approach to measuring student success. The end of the report highlights how districts and the state are developing new ways of collecting and using data to support a more comprehensive approach to understanding student progress.

<sup>i</sup> For more information on how achievement and student growth are calculated, see Massachusetts Department of Elementary and Secondary Education: About the Data: Public Schools & Data: [profiles.doe.mass.edu/help/data.aspx?section=assess](https://profiles.doe.mass.edu/help/data.aspx?section=assess)

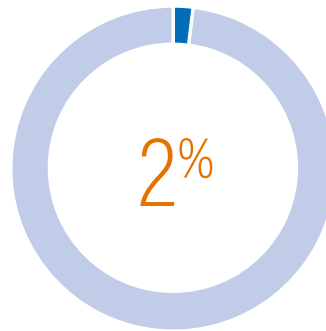
## DATA SNAPSHOT

Based on its scores on national and international assessments, Massachusetts consistently leads the nation when it comes to achievement in core academic subjects. Yet the state continues to struggle with huge and persistent gaps across student populations. When statewide data is disaggregated based on race/ethnicity and low-income status, tremendous disparities are revealed in student experience and outcomes, including in reading and math achievement scores, student mobility rates, the number and severity of disciplinary incidents, access to advanced coursework, and the need for remediation in college. In addition, other states have pulled ahead of Massachusetts in expanding access to some proven-effective interventions (such as early childhood education and early college) where success is more difficult to measure through traditional assessments. In this way, the Commonwealth's solid performance on standardized tests can mask challenges with ensuring that all students have access to the learning opportunities they need to succeed.

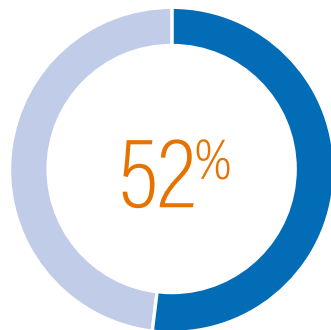
The Rennie Center's Data Dashboard provides an overview of school performance by compiling state-level indicators that illuminate areas of success and areas for continued improvement. Recognizing the need to focus on factors beyond academics, the Rennie Center has added several new indicators this year that highlight a broader range of students' experiences and opportunities. The four new data points below offer a snapshot of the data available on our online dashboard ([renniecenter.org/data](https://renniecenter.org/data)), which allows users to monitor general trends in the data over time and disaggregate results based on a range of student characteristics (e.g., race and English Learner status).



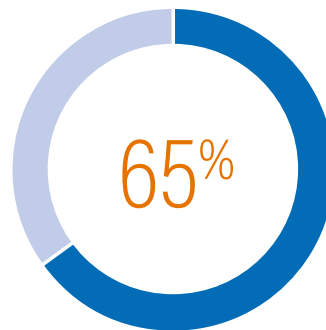
Out-of-school suspension rate<sup>A</sup>



Dropout rate<sup>B</sup>



9th grade students enrolled in at least one arts class<sup>C</sup>



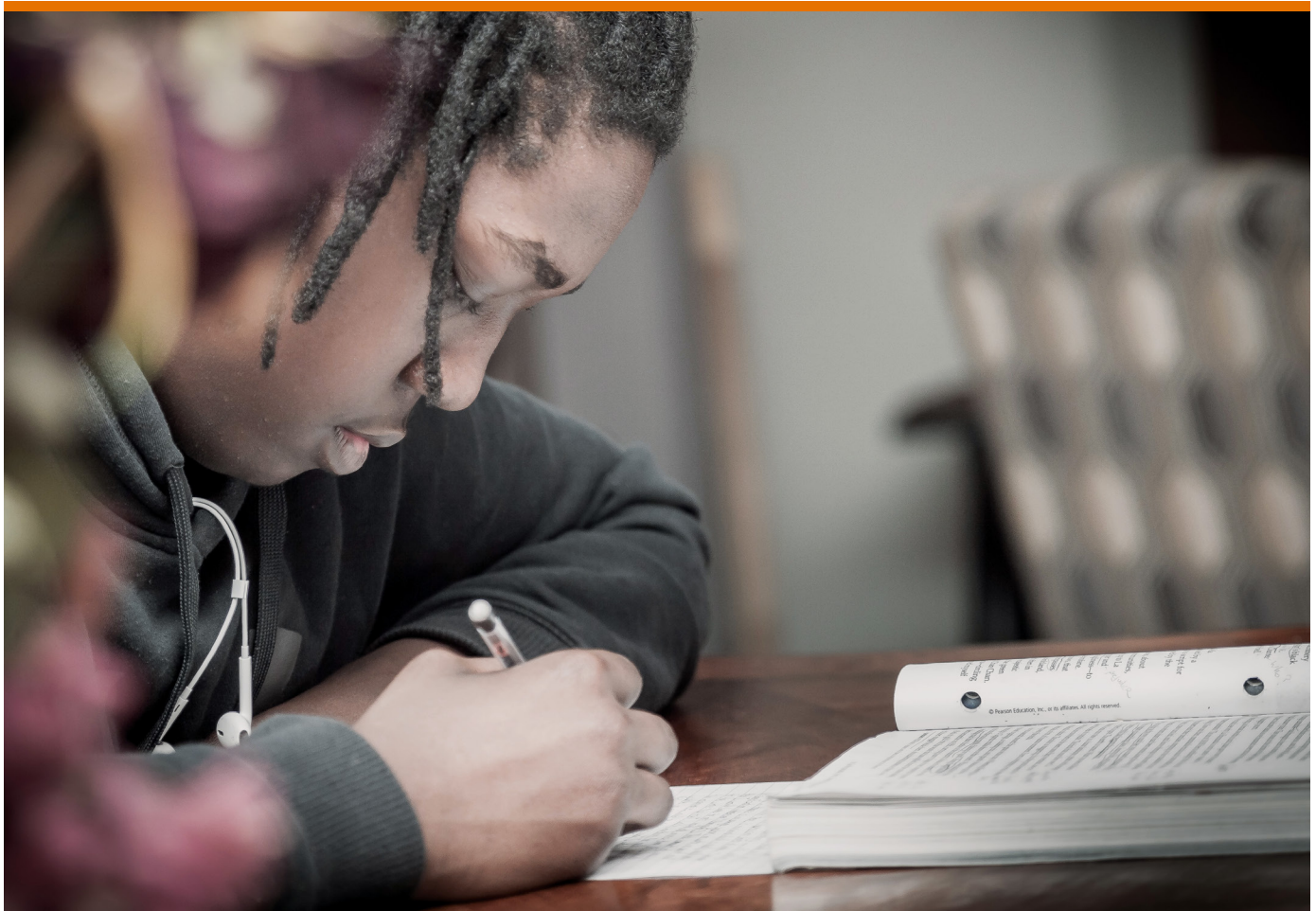
Advanced coursework completion rate<sup>D</sup>

<sup>A</sup> Massachusetts Department of Elementary and Secondary Education: data reported for All Students in 2018 -19 Student Discipline Data Report.

<sup>B</sup> Massachusetts Department of Elementary and Secondary Education: data reported for All Grades in 2017 -18 Dropout Report.

<sup>C</sup> Massachusetts Department of Elementary and Secondary Education: data reported for 9th grade students enrolled in at least one arts class in 2019 Arts Course-taking Report.

<sup>D</sup> Massachusetts Department of Elementary and Secondary Education: data reported for All Students in 2019 Advanced Course Completion Report.



## A Whole-Child Approach

Schools paying attention to the needs of the whole child strive to ensure that each student is healthy, safe, engaged, supported, and challenged. Measuring these holistic needs in a school setting is critical for two reasons. First, school staff engage with students each day and have the opportunity to see them participate in a range of social and academic experiences. With the right tools and training, they can gain keen insights into students' physical, social-emotional, and mental wellbeing. Schools that are well-equipped to evaluate and address a range of student needs serve as important community resources and connectors, either by bringing student services into the school (e.g., an in-school health center) or by connecting students and their families with external sources of support.

Second, non-academic factors like mental health, physical well-being, social-emotional development, and trauma can greatly impact students' readiness to learn and their ability to demonstrate what they have learned. For example, students dealing with anxiety may struggle to perform well on tests, even when they have a thorough understanding of the tested material. Therefore, schools need to be aware of the potential impact of non-academic factors as they look to evaluate student learning—and as they seek to develop healthy, capable lifelong learners.

Programs that link schools and students with a broad set of programs and services—such as enrichment opportunities, physical and mental health care, and family counseling—have shown promise in improving student outcomes. For example, schools working with one such program, City Connects, have seen an increase in student test scores and a decrease in chronic absenteeism, grade retention, and dropout rates.<sup>13</sup> Because of these long-term benefits, studies have found that society sees a \$3-\$14 return on investment for every dollar spent on such interventions.<sup>14</sup> These strong results indicate the value of investing in understanding and addressing the holistic needs of learners.



## Measuring student success with a whole-child lens

Equipping teachers, schools, and districts with a comprehensive insight into students' needs will refocus energy and resources toward factors that contribute to students' long-term success, such as physical and mental health, safety, and relationships with the community.<sup>15</sup> Practitioners should consider several factors when seeking to adopt a whole-child approach to measuring student success.

### Use multi-tiered supports and universal screening to identify and address students' academic/non-academic needs

A multi-tiered system of support is a necessary component of effectively serving students, offering a comprehensive framework for meeting students' academic and non-academic needs. It begins with a user-friendly but meaningful universal screening process that uses data to identify student needs. The process often includes both teacher-administered external assessments and student-centered internal assessments (such as guided self-assessments or surveys). Other data sources can also be used to corroborate findings from these forms of assessment, including records of classroom performance and teacher observations of student behavior and interactions with other students. Of course, universal screening is not the ultimate result of a high-functioning system of support: once student needs are identified, the system should offer an integrated set of core, supplemental, and intensive interventions that can meet students where they are, and it should allow educators to track and analyze the impact of interventions in order to continuously improve the support they offer to students.

### Prepare and equip staff with appropriate skills to implement, monitor, and interpret non-academic results

Assessing students' non-academic needs requires staff who can collect and understand baseline data on student needs, progress, and trajectories. To do this work effectively, teachers must receive dedicated support and training, particularly on monitoring and assessing student wellbeing, which is not usually covered in pre-service training. Of course, with few exceptions, classroom teachers are not trained mental health professionals or social workers, nor are they expected to be. But in many cases, teachers are already carrying out this sort of assessment in informal ways, as they experience the manifestations of students' mental and social-emotional health and seek to understand the factors that affect student learning and evaluation. Rather than rely on intuitive methods, teachers who have been trained in assessing non-academic needs have a set of tools that they can use to better understand their students as individuals. Instead of serving as health care professionals, then, teachers would be well-served by building their ability to analyze baseline data and make referrals to professional service providers (school mental health staff or others) as needed.

Finally, and critically, training must focus on helping teachers understand and use assessments in culturally and linguistically sustaining ways that acknowledge, value, and promote students' diverse cultural backgrounds and lived experiences.

### Engage students, parents, and community partners to gain a deeper understanding of students' experiences outside of school

Measuring student success with a focus on the whole child should involve a two-way exchange of information between school staff and students, families, and community members who can help round out the picture of student experiences. On the one hand, schools can gain a better understanding of the needs of learners—and their strengths, such as resilience in the face of obstacles—when they welcome external perspectives on students' development and seek to better understand the environments in which students live. At the same time, schools can communicate valuable information to families about their students' non-academic development based on formal and informal assessments of progress.

In order to build the mutual trust and respect needed for these conversations, family engagement should be grounded in strong relationships, viewed as a full collaboration, and linked to learning outcomes.<sup>16</sup> One strategy for integrating parents as full partners in their students' learning—and which could readily incorporate non-academic results—is the use of academic parent-teacher teams. This involves multiple, extended parent-teacher meetings in which teachers explain what a student is learning, parents

and teachers share individualized information on the child's progress, and parents practice strategies to help their child fill in any gaps in learning.<sup>17</sup>

The following examples highlight how these considerations have been applied in practice and offer insight into how a whole-child approach to measuring student success can be implemented and spread.

## SPOTLIGHT ON Methuen Public Schools

Methuen Public Schools is a state leader in designing programming and services to facilitate understanding of the whole child. This process began in earnest five years ago, as district leaders reflected on the challenges that students were bringing to the table and community-wide risk factors such as high rates of substance abuse and families living in poverty. Based on an analysis of counseling records from the prior years and a survey of mental health staff, district leaders (particularly John Crocker, Director of School Mental Health & Behavioral Services, and Gina Bozek, Director of Student Services) identified depression and anxiety as the most pressing mental health needs facing students.



In response to this clear need, Methuen piloted methods to screen for depression and anxiety among students. Rather than rolling out a big initiative district-wide, staff instead chose to start small, focusing on “one student, one measure, and one day” at a time. During the initial phase of implementation, school mental health staff sought active consent from families for the screening, which was administered via pencil-and-paper surveys in a one-on-one or small group setting.

Over the past few years, the district has refined its model in order to allow for much broader preventative screening, coupled with intensive support and interventions for students identified with moderate to severe depression or anxiety. Rather than seeking active consent, the district now notifies families in grades K-12 that students will participate in mental health screening and allows them to opt out (less than 1% of parents/guardians chose to do so in the 2017-18 school year). Students in grades 5-12 fill out online questionnaires, which ask multiple questions to assess risk factors for depression and anxiety (for example, how often students feel bad about themselves, whether they have thoughts of hurting themselves in some way, and how difficult those problems have made it to focus on work or get along with others). In grades 3-4, teachers are trained to administer the Strengths & Difficulties Questionnaire. In this case, teachers select a subgroup of students who demonstrate risk factors and complete the survey on their behalf, using it to supplement the results of teacher observation.

School mental health staff have immediate access to the results of the online questionnaires, allowing them to follow up immediately in crisis situations and take action to intervene as needed in other cases. Screening data is strictly confidential and shared with mental health staff only, although (with permission from parents or guardians) it may be shared with teachers in order to help them better understand students' ability to engage in the classroom. Mental health staff also follow up with families of students with elevated scores, working with them to decide on appropriate next steps (e.g., in-school therapy, outside referral).

According to the 2017-18 Accountability Report on the Methuen Comprehensive School Mental Health System, “As a function of the scaling up of mental health screening, there was a 66 percent increase in the number of students identified who required mental health services,” compared with prior methods of identification. Based on these results, school mental health staff created 236 intervention plans for students in need of intensive support. Staff also tracked the performance of students following the creation of intervention plans, finding that more than half (51.3%) improved their academic performance throughout the year and nearly three-quarters (73%) improved in terms of social-emotional development.<sup>18</sup>

Overall, as this data demonstrates, Methuen’s mental health evaluation and service model is not only preventing crisis situations in schools and strengthening the school mental health infrastructure, but also leading to broader improvement in student behavior, engagement, and academic outcomes.

### A Homegrown Assessment of Kindergarten Readiness in Somerville Public Schools

For the past five years, kindergarten teachers in Somerville Public Schools have used a locally developed inventory, the Kindergarten Entry Screening Inventory (KESI), to determine how schools best support students’ acclimation and adaptation to the school environment. Created in partnership between pre-K and kindergarten teachers, the teacher-administered screener examines seven domains of readiness, including early literacy, mathematical concepts, and social-emotional development. Teachers use the results to improve the classroom environment and enable more productive teacher-child interactions. Because the assessment is aligned with the kindergarten report card, teachers can also share any relevant findings with families as they discuss students’ progress.

Recognizing the importance of consistent implementation, teachers receive a rubric and toolkit (including observation guidelines) to support them in accurately assessing student skills. Consistency across schools and classrooms allows staff to analyze and draw conclusions from the data about the most effective settings and strategies to prepare students for kindergarten. For example, teachers are currently examining whether there is any difference in outcomes for students who participated in the four-week Summer Explore Kindergarten Transition Program, which allows incoming kindergarteners to experience the school environment. In this way, the results of the KESI have the potential to drive improvements in district-wide programming, along with individual classroom outcomes.



## Serving All Students

Teachers understand the importance of differentiating instruction to make content accessible to all learners, but the concept of “one-size-fits-all” is often the rule when it comes to assessment. There are undoubtedly benefits in offering some standard forms of evaluation that allow educators, policymakers, and the public to determine whether students are achieving designated benchmarks (in particular, because this tends to expose gaps in outcomes between sub-groups of students that might not be otherwise apparent). But there are limits to the value of standardized assessments. To start, they may obscure real and significant gains in learning by students performing either above or below the proficiency level of the assessment. Additionally, they benefit students who possess an aptitude for demonstrating knowledge in a particular way (often, through written responses), while limiting other students’ ability to show all that they know and can do. And particularly when the content or format of assessments are misaligned with cultural expectations and lived experiences of students, testing can function as a tool for perpetuating oppression within the education system. Standardized assessments tend to be oriented around mainstream norms and values, and they can discount or discredit diverse perspectives and understandings.

In place of one-size-fits-all assessments, educators should seek options to promote a student-centered, personalized approach to measuring student success, seeking to reveal useful and relevant information about all students, regardless of their cultural/ educational background or their current level of proficiency.

## Measuring success for all students

Students enter the classroom with different skill sets, benefit from different instructional methods, and have different goals and interests once they leave school. Therefore, there needs to be a way to measure how well students are building the knowledge and competencies they need to succeed. Practitioners should consider the following factors when approaching questions about how to measure the success of all learners.

### Integrate multiple means of assessing student learning in daily pedagogy

Within the classroom, teachers often have flexibility to shape both formative and summative assessments that guide and measure student understanding. Yet designing assessments that capture accurate, actionable information about each student can still be daunting. Understanding and applying principles aligned with the Universal Design for Learning (UDL) approach can serve as a helpful starting point for rethinking assessment practices. As stated in the 2018 Condition of Education action guide, “UDL is a framework for learning guided by an understanding that a one-size-fits-all curriculum does not serve any student well. Through flexible and customizable teaching methods, assessments, and curriculum materials, UDL is designed to give every student the opportunity to access rigorous content.”<sup>19</sup>

In particular, part of the UDL design process and training focuses on setting clear goals and offering flexible ways of getting to those goals. Many types of assessments measure skills that are not actually core to what is being tested, such as a math assessment that asks students to write a paragraph explaining their reasoning for giving a particular answer. While math knowledge is required to complete this task successfully, students' writing skills also affect whether they can express their ideas clearly. A UDL approach, in contrast, would offer multiple methods for students to express the underlying math concepts (e.g., a diagram, oral response, or the use of voice-to-text software). In other words, educators working within a UDL framework seek to set a clear objective, analyze the potential barriers that may keep students from demonstrating their understanding, and offer options so that students can avoid the barriers that would impede them from achieving success. This approach is useful across all subjects, in both general and special education classrooms, and indeed for the education system as a whole.

### Support assessment models that integrate culturally and linguistically sustaining practices

As distinguished education researcher Gloria Ladson-Billings has said, “All instruction is culturally responsive. The question is: To which culture is it currently oriented?”<sup>20</sup> What is true for instruction is also true for assessments, as these tend to reflect cultural norms both in their content and their form. When assessments incorporate examples and references that are disconnected from students' lives, students may not be able to demonstrate their understanding of the underlying material.<sup>21</sup> Meanwhile, expectations about students' language use and style of communication are frequently embedded in the form of assessment and the method of evaluating success. Taken together, these challenges mean that traditional forms of evaluation grounded in the norms of white-dominant culture may not give a comprehensive or accurate picture of what students know and can do, particularly for students of color. Research has indicated that for students who speak multiple languages, assessments given in the primary language of instruction offer less reliable conclusions than for monolingual students, requiring supplementary data from other sources to gain a full understanding of student learning.<sup>22</sup> For instance, an assessment system used in many early childhood settings across Massachusetts does not test dual language learners on their language proficiency until they are able to complete the assessment in English, preventing educators from observing improvements in children's cognitive development and language processing abilities.

Educators can promote culturally and linguistically sustaining practices (CLSP) throughout the school day—including within assessments—by utilizing “the cultural knowledge of students, families, and communities to adapt practices, materials, and environments to engage, motivate, and facilitate deep learning.”<sup>23</sup> In order to carry out this work effectively, it is essential that educators begin by examining their own cultural viewpoints and implicit biases. They must also seek opportunities for effective and respectful engagement with students, families, and community members.<sup>24</sup> Over time, by strengthening their self-knowledge and understanding of others, educators will also become more adept at designing and using measurement practices that value the diverse cultures of their students.

## Bring students into the process of co-designing assessments and measuring/understanding their own learning

Inviting students to evaluate their own understanding—and giving them a voice in how their learning is assessed—is effective for a multitude of reasons. It promotes culturally and linguistically sustaining practices by valuing the experiences and perspectives of students rather than asking them to conform to existing cultural norms regarding assessment. It fosters student investment in their long-term success, increasing their engagement in school and supporting the growth of essential social-emotional competencies such as self-efficacy and growth mindset.<sup>25</sup> And it promotes other skills that will help prepare students for life after school, including critical thinking, creativity, and communication.<sup>26</sup>

Students can take an active role in defining and measuring success by setting goals for their own learning and identifying how they will determine whether or not they have been successful. In some cases, this may involve creating new rubrics, checklists, or measurement tools, while in other cases it may require students to reflect on their experiences with existing forms of evaluation. Regardless of whether students are creating new materials or interpreting their results, a participatory assessment process helps surface meaningful conclusions while also promoting student ownership of their own learning.

The following examples highlight how these considerations have been applied in practice and offer insight into how schools and educators can support effective evaluation for all students.

## SPOTLIGHT ON Natick Public Schools and Newton Public Schools

In Natick and Newton, assessments are not viewed merely as a way for educators to evaluate student learning. Instead, they are tools for students to understand themselves and set a vision for their future. By engaging students in a participatory assessment process, both districts are preparing graduates to advocate for themselves and their interests, building skills that will serve them well regardless of the path they take.

Beginning in 2017, Natick Public Schools staff undertook a community-wide process to develop a “profile of a graduate,” examining and articulating the core elements that graduates should know and be able to do. To inform this effort, district leaders surveyed staff, parents, and students; they also interviewed business leaders and local colleges to learn what they want to see in future candidates. After much discussion and debate, a unified profile of a graduate emerged, which was then used to build a scope and sequence across all grade levels—even in elementary schools. Natick teachers are now aware of what students should be doing to work toward the key characteristics, such as critical thinking and self-determination.

However, the profile is not simply used by educators to ensure that they are building critical skills. In keeping with the focus on building empowered, engaged learners, Natick also developed a system of annual self-reflections and assessments that all high school students use to gauge their strengths, abilities, interests, and future plans. The assessment process starts by asking students to develop a vision statement for the next 1-5 years. Students then take a series of surveys—for instance, a study skills self-examination, likes and dislikes survey, learning style evaluation, and personal strengths survey—to better understand themselves and reflect on how they can move closer to their vision for the future. Throughout, the goal is to build self-awareness, which—along with targeted supports—helps students define their own version of post-graduation success and evaluate their progress toward it.

This focus on personalization and self-reflection, intended for students in both general education and special education settings, echoes many of the themes and strategies prevalent in the transition planning process for students with disabilities. Across the Commonwealth, approximately 58,000 students between ages 14 and 22 are currently participating in the transition planning process, which is intended to support students as they drive toward their postsecondary vision and goals. It involves a years-long approach to assessment driven by students’ own needs and interests and focuses on four domains: education/training, independent living, employment, and community participation.

One district that has built a robust approach to transition planning is Newton Public Schools, where the process centers around a transition assessment binder. Students with IEPs use this to assemble a portfolio of assessments that document their interests, preferences, strengths, and needs. Teachers and students share access to the items in the portfolio, using them to identify which assessments work best to showcase students' interests and abilities. By building in reflection points throughout a process of ongoing assessment, students can share their perspectives: Which assessments worked for them? What did they learn from particular assessments? In this way, even as students are building self-knowledge, they are also encouraged to think more broadly about the assessment process and help define how their progress is measured.

### **Aligning Student Assessment with “Nā Hopena A’o”: Culturally Relevant Practices in Hawaii**

The Hawaii State Department of Education (which manages the state's single school district) is keenly aware that all aspects of education are shaped by cultural values and expectations. The Department has established a series of statements—known as Nā Hopena A’o—that lay out intended learning outcomes for all students grounded in native Hawaiian values. These include a strengthened sense of belonging, excellence, aloha (“Have the heart of a chief”), and Hawaii (“Hawaii is my prized place”).<sup>27</sup> All schools are responsible for implementing this framework, ensuring that these values are core to instruction and evaluation statewide.

One group of schools that has been particularly focused on culture-based education is the Hawaiian Focused Charter Schools (HFCS). Although these schools have been in existence since the early 2000s, for many years they used standardized assessments that educators felt did not communicate the full range of student knowledge and development. Starting in 2015, through the Culturally Relevant Assessment project, these schools developed a set of assessments that aimed to assess student readiness, growth, and cultural commitment. The project “ensures that evaluation reflects HFCS school values and recognizes that students need to have the right place and elements around them, a strong cultural tie and an understanding of where they come from and where they’re headed.”<sup>28</sup> Research from Hawaiian schools has found that culture-based education positively impacts students' social-emotional well-being, academic outcomes in reading and math, and civic engagement<sup>29</sup>; the assessments developed by the HFCS allow schools to better measure the effects of education in these areas and more.



## Multiple Pathways to Success

One complicating factor in measuring student success is that each student has her or his own individual definition of what long-term “success” looks and feels like. Therefore, a comprehensive, holistic, and equitable process of evaluating student progress must incorporate methods of understanding whether students are prepared to thrive in their own intended pathway. This means that schools must be equipped to understand students’ goals and intentions, while also evaluating whether students have built the competencies they will need to access and advance in college or a career.

Research has highlighted three types of skills that play a role in helping students plan for their futures:

- Self-exploration skills, which help students examine their personal interests, skills, and values;
- Career exploration skills, which help students determine how their individual attributes align with particular careers (and their associated prerequisites, such as particular postsecondary credentials or course sequences); and
- Career planning and management skills, including the ability to conduct an effective job search, understand financial needs, and other skills critical to a successful transition to college and/or the workplace.<sup>30</sup>

Schools and community partners can play a critical role in helping students attain these skill sets—and evaluating their progress as they work toward proficiency in each one.

## Measuring Success Across Multiple Pathways

A school system that supports multiple pathways allows students to choose from a variety of courses, programs, and learning opportunities that prepare students to progress beyond high school toward a goal aligned with their aptitudes and interests. The following practices and measurement strategies can promote opportunities for students to understand their options and the education and training requirements associated with them.



## Leverage community partnerships to understand what students know and can do both inside and outside of the classroom

Out-of-school learning experiences can take many forms: before- and after-school programming; work-based learning (e.g., internships, job shadowing); service-learning opportunities; and partnerships with community-based organizations that offer academic support and enrichment. Participating in these types of activities complement the academic curriculum students receive in school with a broader array of programming, exposing young people to new ways of building and demonstrating their knowledge.<sup>31</sup>

The learning that takes place in these environments is not usually captured as part of students' overall academic records—they rarely get grades for participating in out-of-school programming. Nevertheless, schools and community partners should think creatively about how to collaborate on data access and sharing. This topic most often arises in the context of transmitting information from schools to outside partners, but it is equally important that the data collected in partner programs through observations and formal or informal assessments gets shared back with schools. Students have a chance to demonstrate a broad range of skills and competencies through out-of-school experiences, which can supplement the information that teachers gain from classroom tasks and instruction. Developing methods of recording, tracking, and sharing data across programs—and between programs and schools—can help illuminate students' strengths and continuing needs when it comes to college/career preparation, along with their holistic growth and development into thriving young adults.

## Understand and identify career pathways based on student aptitudes

Many young people are eager to explore potential career options aligned with their abilities, but schools often provide limited opportunities for career exploration.<sup>32</sup> An effective model of career exploration allows students to both self-reflect on their own skills and learn about career options that make use of those skills. Many of the assessments that Natick and Newton Public Schools use to support student self-assessment, described above, help uncover useful information about students' abilities and how these align with potential postsecondary options.

For instance, the Positive Personal Profile (which Natick students take in their junior year) asks students to take stock of characteristics “that will be relevant to their job search, employability, job match, retention and long-range career development.”<sup>33</sup> Among other items, students are asked to reflect on their talents, temperament, and preferences for a work environment. Students follow up this assessment by taking the Career Cluster Interest Survey, a tool offered through O\*Net OnLine (which is sponsored by the U.S. Department of Labor's Employment and Training Administration). Together, the personal profile and interest survey help students zero in on possible career matches that align with their strengths. Integrating assessments such as these within the school day can open up new options for potential careers to all students, particularly those who do not grow up in families or neighborhoods where they regularly come into contact with individuals working in a variety of fields.

## Prepare students for success in college and career

While it is critical for students to understand their individual abilities in order to identify potential career paths, other forms of assessment can measure students' preparation for postsecondary opportunities more broadly by looking for evidence of competencies core to success across multiple college and career pathways. Whether framed as “soft skills,” “real-world skills,” or “21st century skills,” these tend to include items such as conflict management, verbal communication, collaboration, and problem-solving.

In conjunction with traditional assessment tools, authentic assessments that evaluate 21st century skills can help educators provide targeted support and offer useful information to students about their readiness for life after graduation. For instance, teachers can observe students' ability to engage in productive discussions with teammates and use checklists or rubrics to evaluate whether they demonstrate collaborative or problem-solving skills. When students have the chance to participate in work-based learning experiences, employers can fill out rubrics to give feedback on whether students demonstrate workplace-ready attributes. At the same time, because discussions of “appropriate” or “professional” behavior tend to be grounded in white-dominant norms, educators, employers, and others benefit from training and preparation before engaging in these conversations,

particularly when interacting with students who do not share their cultural backgrounds.

The following examples highlight how these considerations have been applied in practice and offer insight into how to support postsecondary success for all students.

## SPOTLIGHT ON Vermont's Flexible Pathways Initiative

Students in Vermont have many choices when it comes to how they will complete their high school experience and transition to a college or career pathway. In 2013, building on more than a decade of prior work to support personalized learning and postsecondary readiness, the state passed a law establishing the Flexible Pathways

Initiative. Under this initiative, school districts are given freedom (and resources) to create a menu of options for students: dual enrollment, early college, work-based learning, virtual and blended learning, a state-developed High School Completion Program, and career and technical education. While the state manages the overall initiative and provides training and facilitation guidance, the implementation of multiple models takes place at the local level, where district leaders are charged with expanding innovative approaches.

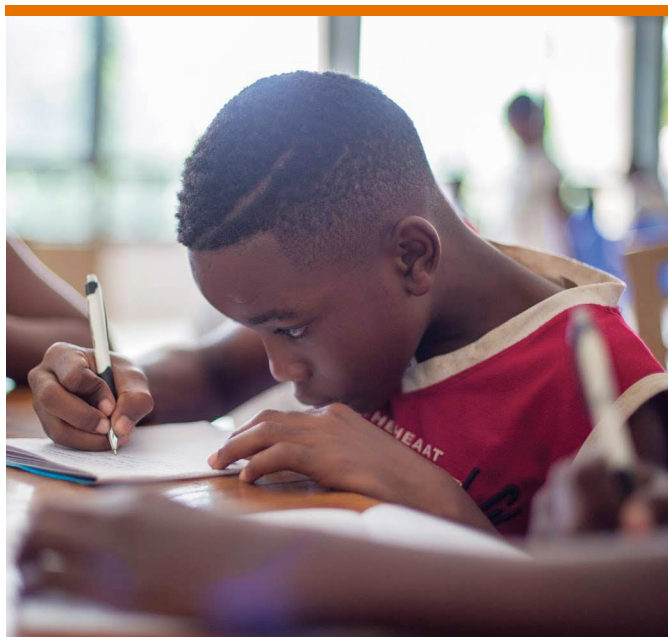
In keeping with the proliferation of options for students, the state has also built into its accountability system two indicators that recognize the value in a variety of pathways. The first measure is meant to examine whether students are college and career ready before graduation. To evaluate this measure, state officials look at student results on one of eight “externally validated assessment[s] of career and college readiness”<sup>34</sup>:

- Completion of a college course (with a grade of C or better)
- SAT
- ACT
- Advanced Placement test
- International Baccalaureate assessment
- College Board's College-Level Examination Program (CLEP) assessment
- Armed Services Vocational Aptitude Battery
- Industry-recognized credential

Any 12th grade student receiving a score at or above the state-designated cut score on this assessment is counted as college and career ready. The number of such students is divided by the total number of students leaving school that year to obtain a college and career readiness rate that determines whether schools and districts are on- or off-target.<sup>35</sup>

It is worth noting that Vermont's assessment of college and career readiness is still largely dependent on preexisting data sources created to determine academic readiness for college. While the state has made impressive progress toward evaluating multiple pathways by examining a diversity of options, developing more flexible indicators focused on a broad range of skills and competencies remains a real challenge for leaders in all states.

Along with measuring college and career readiness, a related indicator within Vermont's accountability system examines whether recent high school alumni are participating in college and career programming within 16 months of graduation. Assessing this



indicator requires substantial data tracking and analysis by state leaders, including data collection from the National Student Clearinghouse, Department of Labor, and Vermont Agency of Human Services. This requires an investment in data infrastructure and staff support to work with information from multiple sources. Nevertheless, according to the state's accountability plan, a "summative measure that [can] capture the broad range of outcomes we want our graduates to pursue" is critical to understanding the success of educational institutions.<sup>36</sup>

Vermont's Flexible Pathway Initiative draws heavily upon community partners—notably institutions of higher education and businesses hosting work-based learning experiences—to help understand what students know and can do. Data-sharing agreements allow institutions outside the K-12 system to report their results to the state, which makes those results available to school districts. Because out-of-school student outcomes, such as course grades and attainment of industry-recognized credentials, factor into the evaluation of school and district progress, leaders in those schools and districts have incentives to support rigorous and high-quality programming at partner institutions.

### Documenting students' skill development: Digital badging in Boston and Providence

With support from Boston After School & Beyond and the Providence After School Alliance, out-of-school programs in Boston and Providence have been able to offer participating students an innovative type of credential to demonstrate their learning: digital badges. A digital badge is a visual representation of a skill that a student possesses, and it can be shared on resumes, job or college applications, and networking sites like LinkedIn. Boston and Providence offer digital badges to students who can demonstrate their understanding of key concepts like teamwork, engagement, perseverance, communication, and critical thinking.

The two cities differ in the exact procedures that students use to earn a digital badge. In Providence, programs use a competency-based rubric that defines the elements of each skill and how students have demonstrated the skill within their out-of-school programming. In Boston, students must complete a skills assessment, maintain at least 80% attendance in program activities, and assemble a portfolio to demonstrate their learning and understanding of the skill.

While digital badging is still a fairly new approach to recognizing out-of-school learning—and codifying the elements of "soft skills" such as perseverance—it presents a promising way to measure student progress in areas that schools often struggle to capture. To learn more about the digital badging pilots in Boston and Providence, see the Rennie Center reports *Expanding the Boundaries of Education: Two Cities' Efforts to Credential Real-World Skills Through Digital Badges* (February 2019) and *Elevating Real-World Learning: Learning from Two Cities' Efforts to Credential Skills through Digital Badging* (January 2020).

#### BOSTON DIGITAL BADGES



#### PROVIDENCE DIGITAL BADGES





## District- and state-level developments in collecting and using student data

The above examples make clear that district- and state-level leadership can produce significant innovation in measuring student success, as with Methuen’s focus on student mental health, Natick’s development of a portrait of a graduate, and Vermont’s commitment to tracking students’ college and career preparation. Districts and the state have also produced important advancements in the collection and use of student data, particularly data from novel sources. Effective methods of data tracking are critical at both the micro level—helping teachers pinpoint students in need of interventions and identifying whether particular strategies have succeeded—and at the macro level, where they can strengthen evidence-based policy-making and evaluate the effects of systemic changes. The following sections focus on recent developments within districts and the state that demonstrate the potential to impact policy debates in the coming years.

### District practices: Massachusetts Consortium for Innovative Education Assessment

While districts are rarely responsible for administering assessments directly, they nevertheless play a critical role in developing an infrastructure for evaluation at the school level. Among other things, districts help identify tools and strategies for assessing a broad range of skills and competencies; support educators in understanding and using assessment methods (both new and existing); and engage families and communities to determine what is of value and communicate information in a useful and accessible manner. Leveraging their ability to build connections between schools, districts are key to the flow of information, including evidence of effective practices—and they can gain even more critical insights by sharing information across multiple districts.

One example of school districts working together to measure student learning and school quality more holistically is the Massachusetts Consortium for Innovative Education Assessment (MCIEA). This consortium comprises eight school districts—Attleboro, Boston, Lowell, Milford, Revere, Somerville, Wareham, and Winchester—interested in rethinking how student learning and school quality are measured. The consortium has a two-pronged approach: 1) teachers learn how to develop, use, and share high-quality performance assessments, and 2) a five-part school quality framework brings together academic results, surveys, school administrative data, and other sources of information to provide a fuller picture of students' experiences at school.

Teachers from MCIEA districts build their skills in designing and implementing rigorous performance assessments through professional development offered by the Center for Collaborative Education. By meeting in district working groups, teachers can also learn from their colleagues in other cities, allowing effective ideas to be spread within the network and helping promote consistent evaluation of student results. MCIEA maintains a bank of proven exemplars aligned with six elements of effective performance assessment (e.g., “Requires application & transfer of learning,” “Outlines clear criteria for success,” and “Results in original products or solutions”).

The MCIEA school quality framework focuses on three “essential inputs” (teachers and leadership, school culture, and resources) and two “key outcomes” (academic learning and community and wellbeing), offering a more complete picture than traditional measures of school performance. Together, these inputs and outputs also highlight a range of information that matters to families and community members.

By building in opportunities for cross-school norming of student outcomes and seeking to integrate multiple measures within a comprehensive school quality framework, MCIEA helps participating districts learn and value new ways of measuring student success, while focusing greater public attention on the factors that affect school quality and student success. MCIEA is currently working on building out its online dashboard, which will eventually support greater scalability and the participation of more districts across the state. As this process continues, the lessons learned have the potential to inform future iterations of performance measurement in Massachusetts.

## State practices: Data alignment across education systems

State-level involvement in assessment ranges from selecting required exams and defining benchmarks to collecting and interpreting the results. These tasks help determine the ways in which student success in the classroom is measured and compared. And especially since the federal Every Student Succeeds Act required states to incorporate a non-academic measure in their assessment frameworks, states must also think broadly about what is needed to promote positive outcomes, from school readiness through workforce participation. This requires, among other things, identifying critical transition points in the student experience and effectively communicating information across state departments to promote consistency in practice and a shared understanding of student strengths and needs.

The Commonwealth has taken a number of steps to promote vertical alignment of data across early education and care, elementary and secondary education, higher education, and beyond. Such longitudinal data systems allow educators to monitor student progress across grade levels and help state leaders gain insights on changes to policy and practice. In response to these needs, Massachusetts received grant funding in 2009 and again in 2015 to develop a centralized data system known as Edwin Analytics. According to the Department of Elementary and Secondary Education, Edwin “is unique because it integrates longitudinal data from early education through post-secondary education and the workforce.”<sup>37</sup>

While Edwin offers a powerful tool for educators to make decisions regarding teaching and learning, the state is also working to generate better data that can be shared across transition points. This is particularly true when it comes to collecting and sharing data on students' pre-kindergarten experiences. One focus of the Massachusetts Preschool Development Birth to Five Grant—a collaborative effort involving multiple state agencies—is building a system to track data across state-funded programs serving children from birth to age five. This includes data from the Ages & Stages Questionnaire (ASQ), a screening and parent engagement tool that's widely used by health care and early childhood providers to better understand young children's

developmental milestones. Project leads are working to ensure that information collected through the ASQ by one agency—say, a home visiting program—is made available, safely and appropriately, to early learning providers or others working with the same child, in order to support more targeted and effective services for the state’s youngest learners.

The Department of Elementary and Secondary Education, meanwhile, has developed a survey to capture data on students’ experiences prior to kindergarten. The short survey, given during kindergarten registration or orientation, asks whether students had an early childhood experience, the setting where that experience took place (e.g., center-based program, family child care program, or both), and the weekly dosage on average over the year prior to kindergarten. Based on the response to the questions, children are given a code that corresponds with their level and type of pre-K education. Starting in the 2018-19 school year, these codes are being collected as part of the state’s student information system, allowing for data to be matched regarding students’ prior preschool experience and their later school performance. At the state and local level, this information can be used for multiple purposes: to better understand and plan for children’s experiences prior to arriving to kindergarten, including feeder patterns between preschool and kindergarten; to identify opportunities for joint professional development among community-based preschools, public preschools, and kindergarten administrators and educators; to promote access to high-quality universal preschool programs; and to evaluate correlations between early childhood experiences and outcomes in the K-12 system.

At the other end of the education pipeline, the Department of Higher Education launched the Performance Measurement Reporting System (PMRS) in May 2019. The system brings together key data points on Massachusetts’ community colleges and state universities, focusing specifically on four areas: access and affordability; student success and completion; workforce alignment and outcomes; and fiscal stewardship. For instance, the report on workforce alignment examines whether institutions are promoting degree attainment in high-demand occupations in order to support students’ employment prospects and the economic development of the Commonwealth. Another key component of the PMRS is the data display, which highlights information on all these fields in a user-friendly dashboard. Interested individuals can view and manipulate a series of graphs showing data trends, allowing for comparison over time (and across institutions). Additionally, equity gap analyses enable a deeper investigation into differences in outcomes among various demographic groups, differentiating results by race/ethnicity, gender, and income level.

All of the recent developments in state data collection and usage allow practitioners and researchers to uncover new, significant conclusions on education in Massachusetts. Moving these forward, and advancing toward an aligned preK-workforce data system, will increase the capacity of state leaders, local education agencies, and communities to better understand student experiences and shape a system that supports the success of all learners.



## Conclusion

No assessment (or set of assessments) can capture everything a student knows and can do. Many critical elements of learning—social-emotional well-being, perseverance, engagement—resist easy measurement. And the design of assessments, along with students' lived experiences and attitudes toward those assessments, can affect whether students are able to demonstrate their authentic understanding of important academic and non-academic content.

But districts and states are increasingly leaning into this challenge, seeking to unlock new information that can help them better serve individual students and develop systems of success to support all learners. Educators in Methuen and Somerville are gaining new insights into students' holistic strengths and needs, helping support healthy development from kindergarten entry through high school graduation. In Natick and Newton, teachers are partnering with students to generate meaningful, personalized data on every learner's abilities and aspirations, while on the other side of the country Hawaii is advancing its vision of culture-based education, including through culturally relevant assessment. And as Vermont seeks to understand the multiple postsecondary pathways its students take, programs in Boston and Providence are piloting innovative methods of measuring growth in essential attributes that contribute to lifelong success.

Each of these examples highlights an approach to measuring success that promises to illuminate student understanding in new and important ways. For many years, Massachusetts was content to rest on its laurels, pointing to its nation-leading results on national assessments to demonstrate its success. Moving forward, district and state leaders must consider new methods that will provide more complete, accurate, and equitable information about student understanding in order to support better long-term outcomes for all learners.

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## About the Rennie Center

The Rennie Center for Education Research & Policy's mission is to improve public education through well-informed decision-making based on deep knowledge and evidence of effective policymaking and practice. As Massachusetts' preeminent voice in public education reform, we create open spaces for educators and policymakers to consider evidence, discuss cutting-edge issues, and develop new approaches to advance student learning and achievement. Through our staunch commitment to independent, non-partisan research and constructive conversations, we work to promote an education system that provides every child with the opportunity to be successful in school and in life.

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