



# The Promise of Performance Assessments: Innovations in High School Learning and College Admission

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## Executive Summary

Today's k-12 and higher education systems have a shared interest in increasing the number of students who graduate from high school ready for the new demands of college and careers, and both systems are edging toward new methods of assessment that could better support these goals. Performance assessments have been identified as a key tool for promoting students' deeper learning and mastery of higher-order thinking skills.

A number of states, districts, and networks of public and private high schools have begun to identify competencies associated with college, career, and civic readiness that they evaluate with performance assessments, which are often assembled into a graduation portfolio that documents students' accomplishments in authentic ways. Like doctoral candidates with dissertations, students often defend their projects and papers before panels of judges, who rigorously evaluate them against high standards; students typically revise their work until they meet those standards. Educators engaged in this work believe that such performance assessments provide a more holistic and accurate view of students' mastery of critical skills, while better preparing them to engage in college-level work.

If designed and used appropriately, such performance assessments could be a key component of k-12 systems and could, along with rigorous curricula and high-quality instruction, drive improvements in teaching and learning. Such assessments can help focus the k-12 system on developing students' competencies and their mastery of the skills needed for college as well as for work and life in the 21st century. At the same time, if organized in an easily reviewable form, results from rigorous, validated, high-quality performance assessments could be used for college admission, as well as for placement or advising decisions, as an additional source of information about students' achievements and potential for postsecondary success. These assessments also have promise for better reflecting the achievements and potential of historically underserved students, responding to concerns raised by stakeholders and researchers about racial and socioeconomic gaps in standardized test scores.

Many colleges have signaled their interest in having access to such information and in developing and knowing students' qualities of character, commitment, and resilience. Although it is not a simple thing to change the data used for college admission, there is widespread agreement among colleges about the need to increase the success of college students, especially underrepresented students of color and students from low-income backgrounds who often are the first in their families to attend college. As a result, a growing number of colleges are seeking more ways to recognize and encourage the development of student abilities that go beyond standardized test scores.

Indeed, while incremental, the trend in college admission is away from over-reliance on multiple-choice standardized tests, toward broader explorations of student knowledge and skills that go beyond identifying one right answer out of five and instead to a demonstration of what students can do to apply their learning in the real world. If higher education were to encourage performance assessment results to inform admission, placement, and advising, colleges would benefit from high school curricula more focused on higher order thinking and performance skills. Not only would students' true skills and potential be more fully represented, but k-12 systems would be more likely to invest in developing and implementing project-based curricula and quality assessment systems that foster analytic and performance skills that are essential for postsecondary success. Moreover,

these efforts could reinforce similar efforts in higher education to improve how postsecondary learning outcomes are assessed and acted upon to improve student outcomes and promote quality academic programs.

This paper outlines current trends, progress, and possibilities for fostering more authentic ways to assess students' competencies and mastery of skills needed for college, work, and civic life in the 21st century. It provides an introduction to performance assessments and their value. It highlights efforts to develop such assessments in k–12 districts, public high school networks, and independent schools, and it explores state and local policies that are bolstering such practices. It examines emerging higher education efforts to go beyond standardized tests in college admission, placement, and advising. It explores the opportunities and challenges associated with greater inclusion of performance assessments in college admission, placement, and advising, and it identifies steps that can build on the progress already made and help performance assessments be high quality, rigorous, and better known in the field:

- Creating a process, standards, and/or body to recognize high-quality k–12 performance assessment systems at the national and/or state level, to allow higher education institutions to understand the meaning of scores from such systems (as they do with International Baccalaureate (IB) and Advanced Placement (AP) programs, for example)
- Designing or evolving a technology-based platform, such as a digital portfolio, to capture student performance more effectively for admission, placement, and advising
- Supporting a network of leading states, districts, and higher education institutions to allow k–12 school systems with strong performance assessment practices to engage more deliberately with higher education institutions and policymakers to strengthen those assessments and their use
- Launching a communications effort to build greater awareness and understanding of performance assessment and its potential for strengthening student learning and bridging k–12 and higher education
- Performing research on topics such as the effect of high-quality k–12 performance assessment systems on postsecondary and career outcomes

These efforts have the potential to bring together k-12 and higher education actors around the idea that both systems can benefit from more authentic and holistic ways of assessing students' competencies and mastery of the skills needed for college, work, and life in the 21st century.

## Introduction

If ever the time was ripe for colleges to consider admission criteria that measure deep learning and its application to real-world problems, it is now. Policymakers, educators, and advocacy groups are challenging the status quo regarding the dominance of traditional standardized tests in both high school graduation and college admission decisions—and sometimes succeeding. As President Obama noted in 2009:

I'm calling on our nation's governors and state education chiefs to develop standards and assessments that don't simply measure whether students can fill in a bubble on a test, but whether they possess 21st century skills like problem-solving and critical thinking and entrepreneurship and creativity.<sup>1</sup>

Business leaders also have indicated the need for instruction and assessments that reflect the kind of complex thinking and performance that are necessary in today's business world. A 2015 report and survey of employers by the Association of American Colleges and Universities noted that:

When it comes to the types of skills and knowledge that employers feel are most important to workplace success, large majorities of employers do NOT feel that recent college graduates are well prepared. This is particularly the case for applying knowledge and skills in real-world settings, critical-thinking skills, and written and oral communication skills.<sup>2</sup>

Both our nation's k–12 and higher education systems have a shared interest in increasing the number of students who graduate high school ready for the new demands of college and careers, and both systems are edging toward new methods of assessment that could better support these goals.

In fact, a number of states, districts, and networks of public and private high schools have begun to identify competencies associated with college, career, and civic readiness that they evaluate with performance assessments, which are often assembled into a graduation portfolio that documents students' accomplishments in authentic ways. Like doctoral candidates with university dissertations, students often defend their projects and papers before panels of judges, who rigorously evaluate them against high standards; students typically revise their work until they meet the standards. Educators engaged in this work believe that such performance assessments provide a more holistic and accurate view of students' mastery of critical skills, while better preparing them to engage in college-level work.

If designed and used appropriately, such performance assessments could be a key component of k–12 systems and could, along with rigorous curriculum and high-quality instruction, drive improvements in teaching and learning. At the same time, if organized in an easily reviewable form, the results from rigorous, validated, high-quality performance assessments could be used for college admission, as well as for placement or advising decisions, as an additional source of information about students' achievements and potential for postsecondary success. As we describe in this report, these assessments also have promise for better reflecting the achievements and potential of historically underserved students, responding to concerns raised by stakeholders and researchers about racial and socioeconomic gaps in standardized test scores.<sup>3</sup>

Many colleges have signaled their interest in having access to such information and in developing and knowing students' qualities of character, commitment, and resilience. Although it is not a simple thing to change the data used for college admission, there is widespread agreement among colleges about the need to increase the success of college students, especially underrepresented students of color and students from low-income backgrounds who often are the first in their families to attend college. As a result, a growing number of colleges are seeking more ways to recognize and encourage the development of student abilities that go beyond standardized test scores.

Indeed, while slow, the trend in college admission is moving away from over-reliance on multiple-choice standardized tests, toward broader explorations of student knowledge and skills that go beyond identifying one right answer out of five and instead to a demonstration of what students can do to apply their learning in the real world. More than 900 4-year colleges and universities around the nation, believing that current tests do not add sufficient new information about applicants' college-ready skills to admission decisions, have made scores from tests like the SAT and ACT optional, while emphasizing the importance of essays and other work samples, plus high school classroom performance (e.g., course-taking, grades, and class rank).<sup>4</sup> Several consortia of colleges have emerged to encourage and help develop new methods of recognizing student accomplishments.

If higher education were to encourage performance assessment results to inform admission, placement, and advising, colleges would benefit from high school curricula more focused on higher order thinking and performance skills. Not only would students' true skills and potential be more fully represented, but k-12 systems would be more likely to invest in developing and implementing project-based curricula and quality assessment systems that foster analytic and performance skills that are essential for postsecondary success. Moreover, these efforts could reinforce similar efforts in higher education to improve how postsecondary learning outcomes are assessed and acted upon to improve student outcomes and promote quality academic programs.

We recognize that there are challenges with the use of more authentic measures of learning in high schools and colleges, and we address a number of them in this paper. There are clearly obstacles that will need to be overcome. Nonetheless, the examples presented in this paper point to encouraging developments that we believe warrant exploration and investment, given their importance for the quality of learning available to young people and its influence on their eventual success.

This paper outlines current trends, progress, and possibilities for fostering more authentic ways of assessing students' competencies and mastery of skills needed for college and for work and life in the 21st century. It draws on a review of relevant literature and secondary sources, as well as extended interviews with 30 k-12 and higher education leaders, including current or recently retired senior admission officers representing public and private universities, leaders of public and private k-12 schools, and leaders of key higher education organizations. It begins with an introduction to performance assessments and their value. It highlights efforts to develop such assessments in k-12 districts, public high school networks, and independent schools, and explores state and local policies that are bolstering such practices. It examines emerging higher education efforts to go beyond standardized tests in college admission, placement, and advising. It concludes with an exploration of the opportunities and challenges associated with greater inclusion of performance assessments in college admission, placement, and advising.



# Performance Assessments in Support of College and Career Readiness

## What Are Performance Assessments and Why Do They Matter?

Performance assessments are not new and are not limited to the American k–12 education system, as anyone who has completed a driving test to receive a driver’s license can attest. Performance assessments in education range from essays and open-ended problems on sit-down tests to classroom-based projects that allow students to demonstrate skills such as research, collaboration, critical thinking, technology application, and written and oral communication. These assessments may be highly individualized, or they can be designed, like the driver’s test, as structured tasks with common elements that are used across classrooms and reliably scored with common rubrics.

The strength of performance assessments—and the source of their validity—is their authenticity. As Linda Darling-Hammond notes in a review of performance assessment models:

What makes the driver’s performance assessment valid is that it directly exhibits the actual skills needed, as they are used in the real world. The assessment does not need to be secret to be a useful test, since the driver must work to acquire and display the necessary skills in order to pass. Rather than relying on secrecy around what facts must be memorized, a robust performance assessment evaluates the way in which knowledge and skills are mastered, combined, and used in practice.

Performance assessments in education are very similar. They gather information about what students can actually do with what they are learning—science experiments that students design, carry out, analyze, and write up; computer programs that students create and test out; research inquiries that they pursue; evidence they have assembled about a question that they present in written and oral form. Whether the skill or standard being measured is writing, speaking, scientific, or mathematical literacy, or knowledge of history and social science research, students perform tasks in which they directly apply the relevant knowledge and skills. As with the driver’s test, even if the task is known, the student must work to acquire and display the necessary skills to pass.<sup>5</sup>

Performance assessments in high schools often take the form of a research investigation or capstone project during the senior year; they may include a curated collection of student work assembled into a portfolio that demonstrates a set of competencies for graduation. Often the performance tasks within the portfolio are designed to illustrate core modes of inquiry in the disciplines—e.g., scientific investigation, mathematical modeling, literary analysis, social scientific inquiry, or artistic performance. These assessments may also include interdisciplinary projects focused on particular problems. As assessment expert James Popham notes, a key benefit of portfolios is that they engage students in self-assessment, allowing them to internalize standards, become self-aware of their learning strengths and needs, and take control of their own learning.<sup>6</sup>

Performance assessments are also designed to prepare students for the intellectual rigor, critical and creative thinking, and self-directedness that are required to succeed in college and careers. They aim to “... tap into students’ higher order thinking skills—such as evaluating the reliability of sources of information, synthesizing information to draw conclusions, and using deductive/ inductive reasoning to solve a problem—to perform, create, or produce something with transferable real-world application.”<sup>7</sup>

Performance assessments are themselves learning tools that can build students’ abilities to apply knowledge to complex problems, while also helping students develop co-cognitive skills such as collaboration, grit, resilience, perseverance, and a growth mindset. Students who experience a steady diet of inquiry projects linked to performance assessments ultimately perform better on measures of higher order skills that involve analysis, synthesis, critical thinking, problem-solving, and communication.<sup>8</sup> Performance assessments also tend to be more valid measures of individuals’ higher order thinking and performance abilities than traditional test measures that rely on multiple-choice questions, thereby predicting success on complex tasks more effectively.<sup>9</sup>

For many years, a large body of studies has found that high school grade point average (GPA) and/ or class rank—which are based on students’ authentic work in high school—are the strongest predictors of college success, outperforming college admission tests. Test scores modestly increase the accuracy of predictions when added to student grades.<sup>10</sup> Recent studies show that the performance components of college admission tests—which require analysis and defense of ideas in writing—are the most powerful aspect of the tests in predicting how students will do in college.

Performance assessments tend to be more valid measures of individuals’ higher order thinking and performance abilities than traditional test measures that rely on multiple-choice questions.

For example, a study evaluating the predictive validity of the SAT found that none of the SAT I tests predicted initial and long-term success in the University of California system as well as high school grade point average did.<sup>11</sup> The study also found that the only SAT test that had strong predictive power was the SAT II writing test, which is closer to an authentic measure of student ability to do college-level work than the multiple-choice questions on the SAT I.<sup>12</sup> Similarly, a study of the revised SAT in 2008 found that high school GPA was more predictive than SAT scores and, across all institutions, the newly added writing section was the most highly predictive of the three individual SAT sections.<sup>13</sup> This signals that authentic measures of the tasks students will actually need to undertake, such as analysis and writing, are better predictors of success in college than multiple-choice measures.

In addition, a recent study of 33 “test-optional” colleges found that student outcomes were not undermined by the test-optional policy: College GPAs were best predicted by high school GPAs, despite wide variations in students’ test scores.<sup>14</sup> Students with strong high school GPAs generally performed well in college, even if they had modest or low test scores. In contrast, students with weak high school GPAs earned lower college GPAs and graduated at lower rates, even when they had markedly stronger test scores. The study also found that students with low test scores and strong course-taking records and GPAs did better than those with the reverse profile.

## Uses of Performance Assessments in the United States and Abroad

In American k–12 education systems, performance assessments have been used for decades as part of the Advanced Placement (AP) and International Baccalaureate (IB) programs in public and private high schools across the nation. Open-ended assessments that include performance components, such as research projects and science investigations, are also widely used in high-achieving schools in nations around the world—for example, in Australia, England, Finland, Hong Kong, and Singapore.<sup>15</sup> Because these assessments are often embedded in the curriculum, they are directly connected to the daily teaching and learning in classrooms, making the assessments themselves useful educational tools.<sup>16</sup>

Performance-based assessments are also used in college admission decisions in these countries. In Finland, college and high school faculty jointly create college matriculation exams, which are composed of a set of open-ended questions and tasks among which students choose as they take the exams. Externally designed performance tasks—which are implemented as classroom projects—are scored as part of the qualifications examinations in most Australian states, England, and Singapore. These scores are then considered as part of college admission and advising. In Queensland, Australia, teachers score portfolios of student work, including specific assessment tasks, on a five-point scale, and send a selection of graded portfolios to a regional panel for moderation. The panel confirms the levels of achievement and may adjust the score if it does not calibrate to the standards.<sup>17</sup>

In the U.S., robust performance assessment systems were developed in many states during the 1990s, and some universities, such as the state university systems in New York and Nevada, called for their use in college admission. Although small-scale initiatives were successful, the challenges of implementing performance assessments on a large scale included the force of tradition, the time and diligence needed to score the assessments reliably in high schools and to examine them in colleges, and the learning curve associated with developing strong assessment designs.

Many of the initial technical challenges of developing and scoring performance assessments have been overcome in subsequent years of research and development,<sup>18</sup> but the challenges of defining goals and changing institutional behaviors and practices remain. A recent example is the effort within higher education institutions to implement competency-based education strategies, which have encountered ongoing difficulties in reaching agreement about what should be measured and how.<sup>19</sup>

K–12 education may have been assisted in this regard by recent focused efforts in states to define a set of “college- and career-ready” competencies, along with initiatives to create common state standards in key disciplinary areas. These efforts have been leveraged by requirements under the nation’s major education law—the Elementary and Secondary Education Act (previously known as No Child Left Behind and now known as the Every Student Succeeds Act)—that states set such standards as a basis for measuring student learning. The newest version of that law, being implemented as of 2017–18, encourages the use of projects, performance tasks, and portfolios to assess higher-order skills.<sup>20</sup>

## State Policies in Support of High School Performance Assessments

Currently, at least 17 states encourage or require performance assessments as part of assessing college and career readiness and graduation competencies (see Appendix). Some require or encourage research or capstone projects. Others use collections of evidence organized into structured portfolios for all or some of their students. Rhode Island, for example, has long used portfolios for graduation. Oregon now allows a portfolio as one of several options for graduation. New Hampshire's new system envisions either a graduation capstone project or portfolio.

The **Rhode Island High School Diploma System** requires that all students must demonstrate proficiency in applied learning skills—critical thinking, problem-solving, research, communication, decision making, interpreting information, analytic reasoning, and personal or social responsibility—across six core content areas.<sup>21</sup> The Diploma System requires local districts to determine, with state guidance and review, how they will certify mastery of content knowledge as well as the ability to apply that knowledge to real-world projects and problems through portfolios, exhibitions, or a certificate of mastery. As the state's description notes:

For decades, employers and colleges complained that applied skills are sorely lacking in current high school graduates. Merely remembering facts is only a good first step toward a true subject mastery, which involves using facts and formulas to solve problems in widely different contexts. The mechanics of English are only valuable if a student can compose competent, effective business letters to a variety of clients, co-workers or potential employers, for example. ... After high school, employers and higher education evaluate their workers or students primarily from evidence of mastery—such as completed and on-time tasks, written work, plans, designs, products, records and so forth.<sup>22</sup>

Students demonstrate applied learning skills through evidence of mastery from presentations, such as speeches, projects, or performances, or from products, such as essays, collections of short stories, or science journals. In the body of evidence treating the core content areas and applied learning skills, students must include one successfully completed on-demand task, one extended task, and single task reflecting one of their own interests or passions. A goal of the diploma system is that "... it harnesses students' interests in the service of their own learning. Traditional education asked students to "park" their passions at the door, which invited alienation among those students who find coursework irrelevant to their real concerns. School advisors and content-area teachers help students design exhibition and portfolio projects that satisfy their own natural thirst for information and skills."<sup>23</sup>

Employers and higher education evaluate their workers or students primarily from evidence of mastery—such as completed and on-time tasks, written work, plans, designs, and products.

New Hampshire's **Performance Assessment of Competency Education** (PACE) pilot replaces most standardized tests with a combination of locally developed performance assessments and common performance tasks that are used across districts. The assessments are designed to track students' progress and ensure a full understanding of each subject. Periodic standardized tests are used to validate the results—grades 3, 4, and 8 use Smarter Balanced Assessments, and in grade 11,

the SAT is administered. In their senior year, students prepare a portfolio of their assessments for exhibition and defense. For all other tested grades and subjects, students are assessed on activities that are embedded in the regular curriculum and related to real-world problems. The activities, which often are interdisciplinary, may require collaboration with other students and may take several weeks for students to complete. The students are required to explain their projects and apply their work to real-world problems.<sup>24</sup> Graduation rates in the participating districts have improved since implementing competency-based learning and performance-based assessments.<sup>25</sup>

PACE is designed to align with New Hampshire's comprehensive college- and career-ready standards and to promote competency-based learning. To support schools and districts as they implement PACE, the state also offers training for teachers on how to develop and use performance assessments.<sup>26</sup> The move toward performance assessment is part of a larger effort in New Hampshire to redesign the state's accountability system to better reflect students' learning and mastery of skills.

**Oregon** recently revamped its high school graduation requirements to better prepare students for college, work, and citizenship via the creation of a more rigorous and meaningful diploma.<sup>27</sup> With a 7-year phase-in, the new requirements include: increased coursework, the completion of a personalized learning plan for post-high school education and career goals, and demonstration of proficiency in the state's Essential Skills, nine cross-disciplinary skills students should develop across k–12.<sup>28</sup> Students can demonstrate proficiency in the Essential Skills using a variety of options: Oregon's statewide assessment (Smarter Balanced), other standardized assessments (e.g., ACT, SAT, IB, or AP exams), Work Samples (locally developed and administered performance assessments, scored using a standardized rubric, and embedded in an academic program), or local district assessments. Work Samples allow students to demonstrate proficiency on local performance assessments that are scored using the State Scoring Guide. Recently, the Oregon Department of Education received funding to create a statewide bank of 30 Work Samples for each required Essential Skill. The bank is intended to supplement local development of Work Samples tasks. The online system allows schools to access the statewide bank and have multiple people independently score student work against a common rubric. The online system can also be used to calibrate scorers and increase score reliability.

A number of other states are using the **Innovation Lab Network's Performance Assessment Resource Bank** (PARB) as a source of high-quality performance tasks that are mapped to college- and career-ready standards.<sup>29</sup> This curated collection of resources serves as a platform for sharing high-quality performance assessments and resources, and brings together educators and leaders who use, develop, and share these tools. The PARB includes performance assessment tasks and support materials for designing and effectively implementing innovative systems of assessment, all focused on more meaningful learning.

## Performance Assessments in Districts and School Networks Around the Nation

This state policy work is complemented at the local level by initiatives led by districts and networks of schools. Perhaps the longest standing initiative is that of the **New York Performance Standards Consortium** (NYPSC), which has been successfully using performance assessments and graduation portfolios for two decades. Other school networks, like the **Internationals Network for Public Schools**, **Envision Schools**, **New Tech Network**, the **Asia Society's International Studies Schools Network**, and **Big Picture Learning** have followed their lead.

Created in 1998, **NYPSC**, a group of 38 public, non-charter high schools, has a long track record showing the benefits of performance assessments, especially for low-income and other typically underserved students. The consortium enrolls primarily low-income students of color, many of whom are learning English as a second language.

The consortium's performance-based assessment system is grounded in the in-depth, inquiry-based curricula taught by all consortium teachers. Following consortium guidelines, teachers develop a series of performance-based assessment tasks, known as PBATs, to determine readiness to graduate. These are scored using common rubrics within each of the core academic subjects: literature (an analytic literary essay), social studies (a research-based paper), science (an original experiment based on research in scientific journals), and mathematics (a problem-solving application of higher mathematics). Some of the consortium schools also require an arts exhibition, a world language demonstration, and/or a presentation of learning from an internship. In addition to their written papers, students are required to present their work orally before a review board of teachers and representatives from the higher education and business communities. They defend their portfolios with a formal presentation and then respond to audience questions about their work, much like a dissertation defense. Students are graded on the PBATs based on common rubrics designed and revised by consortium teachers.

Ann Cook, Executive Director of NYPSC and former Principal at Urban Academy, a consortium school, observed that students are more successful when they can dig into subjects that interest them.<sup>30</sup> When a paper or project stems from a particular interest of the student, often involving a teacher's own special expertise and interests, students want to delve deeper, to pay closer attention, to see where an idea goes, and to try a different path when one path goes nowhere. The final product is much more likely to be revised willingly and meticulously by the student, just as real-world problems and solutions require revision and experimentation. "It matters hugely to kids that the work they're doing has come out of an interest or question of theirs," Cook emphasized. "Questions like, 'Did Martin Luther King make the Movement or did the Movement make King?' You get a much better product when students are really invested in the work."

Participating schools have a waiver from all but one of the New York State Regents examinations that are typically required for a high school diploma in New York State. According to Cook, the Consortium schools sought waivers because they found the Regents tests a constraint on curriculum, and there was no proof that success in passing the Regents exams spelled success in higher education. "Seventy percent of the New York high school graduates who take and pass the five required Regents exams end up going to 2-year colleges and have to be remediated," said Cook. "Students don't learn to write, and too many of their high school courses are focused on Regents test prep. In contrast, Consortium students write continually and focus on what interests them and their teachers."

Students are required to present their work orally to a review board of teachers and representatives of the higher education and business communities. They defend their portfolios with a formal presentation and then respond to audience questions about their work.

The Consortium's efforts have seen promising results, boasting a higher high school graduation rate for African-American students, Latino/a students, English language learners, and special needs students than other New York City public schools, and a higher second-year college persistence rate than both the state and the nation, despite the fact that Consortium students overall come from less advantaged populations.<sup>31</sup> The dropout rate at consortium schools has been much less than that of the rest of the city's high schools. "Without being selective, these schools beat the odds in New York City and the nation in rates for student graduation, college-going and college persistence for working class and poor youth," wrote City University of New York Professor Michelle Fine in a Consortium report, "Educating for the 21st Century: Data Report on the New York Performance Standards Consortium."<sup>32</sup> The report added:

Designed with intentionality toward intellectual inquiry and performance, the schools challenge both high-achieving students and those students who are most educationally vulnerable—English language learners, students receiving special education services, minority males.

The consortium is a way of saying to people, "Look, there are other ways of knowing how kids are doing that doesn't have to involve tests that are high stakes, that are dictating curriculum in a way," said Cook. "When you assess students in ways that don't involve high-stakes tests, it changes the teaching, it changes the curriculum. It allows you to do all kinds of things in your classes that I think are much more likely to engage students." And, she adds, the students leave high school knowing how to think critically.

As we describe in the next section, schools in the Consortium have had a strong college admission rate for their students, and the Consortium has developed a strong partnership with the City University of New York that allows the university to pay attention to the ambitious work students have done.

A similar consortium has emerged in California, where some districts are moving toward requiring performance assessments for graduation—requirements that align with district-created graduate profiles that articulate what students must know and be able to do to demonstrate college and career readiness. Following the state's suspension of the California High School Exit Exam (CAHSEE) in 2016, a group of districts, school networks, and individual schools joined together to form the **California Performance Assessment Collaborative (CPAC)**, which represents educators, policymakers, and researchers who are studying and advancing the use of authentic approaches to assessment, requiring students to demonstrate applied knowledge of content and use of 21st century skills. CPAC is composed of over 40 schools from across the state, as well as representatives from the school districts of Fresno, Long Beach, Los Angeles, Oakland, Pasadena, and San Francisco. Linked Learning schools, Big Picture Learning, Envision Schools, High Tech High, Internationals Network for Public Schools, and New Tech Network are also participating in the collaborative.

CPAC serves as a professional learning community dedicated to the advancement of meaningful assessments for California students. Throughout the school year, CPAC members—all of whom have developed graduation portfolios or capstone projects—deepen and refine their performance assessment practices through in-person meetings, site visits, and information sharing. Participants have developed common principles that inform and guide their various approaches to performance assessment. The Learning Policy Institute supports CPAC by orchestrating learning opportunities for participants and engaging in research and documentation of performance assessment practices.

The lessons captured and documented will inform educators seeking to implement performance assessments in their schools, districts, and networks. Research findings will also provide local, state, and federal policymakers with important information as they develop next-generation assessment and accountability policies.

For example, in November 2014, the **Pasadena Unified** school board approved new graduation requirements aligned with the district's revised "Graduate Profile." The new requirements, which include a portfolio and defense, go into effect for the Class of 2019. This new Graduate Portfolio and Defense requirement allows students to showcase their academic achievement and proficiency in the four Cs (Critical Thinking, Creativity, Communication, and Collaboration), and to reflect on and refine their learning and growth. The portfolio and defense process allows students to communicate information and present effectively in multiple formats to a panel of judges. Throughout their 4 years of high school, students select their best work samples, complete a reflection for each piece, and upload/store these artifacts in their portfolio. The first part of the portfolio and defense process requires students to submit artifacts demonstrating their competencies in the following three areas:

1. Research: Students must complete a six- to eight-page research paper and demonstrate their critical thinking skills, their use of evidence to support claims, and their critical reading ability.
2. Creativity and innovation: Students must display these qualities in work that showcases creative/innovative solutions, processes, and/or actual product.
3. Written communication: Students must write a three- to five-page reflection paper that demonstrates evidence of their written communication skills and their ability to reflect and assess growth and progress on items 1 and 2 above. This paper will also serve as the script for the oral presentation.

The second part of the process requires students to defend their learning through oral communication and presentation. Students must:

- share three graded documents from their portfolio with a panel of judges;
- conduct an individual presentation of 8–10 minutes in front of the panel of judges;
- demonstrate their use of technology through well-produced audiovisual aids or media; and
- engage in a 5-minute question-and-answer session to demonstrate their growth, reflection, and self-evaluation.

Students are assessed using common rubrics that have been developed by the district. Students who do not meet the standards will be required to revise and resubmit their work.

Other districts in California are moving toward partial or full requirement of performance assessments for graduation. For instance, **Oakland Unified** requires students to complete capstone projects during their senior year, and **Sacramento Unified** requires students to complete a service learning project or senior project.



Among the networks of schools with similar systems are the **Envision Schools**, a network of three public charter schools in the San Francisco Bay Area. It has designed a Portfolio Defense Model that provides students with several opportunities over their high school careers to demonstrate their mastery of leadership, communication, and analytical and research skills. Students collect and present their most rigorous work across subject areas, while also reflecting on the skills they have learned and their plans for post-high school success. This process prepares students to “tackle college-level work, having repeatedly practiced the academic and cognitive skills necessary in higher education.”<sup>33</sup> Envision’s methods result in a high percentage of its students—80%, most of them students of color and students from low-income families—attending 4-year colleges and universities, with a college persistence rate of 90% from year one to year two.<sup>34</sup>

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Envision Schools require students to complete the University of California “a–g” subject requirements—history, English, mathematics, laboratory science, a language other than English, visual and performing arts, and a college-preparatory elective—to ensure they are eligible and prepared to attend a 4-year university. Through projects in these courses, students learn inquiry, analysis, research, creative expression, communication, critical thinking, and collaboration skills. Throughout, students reflect and revise their projects. In 10th grade, they must complete a Benchmark Portfolio Defense and in 12th grade, a College Success Portfolio Defense. The portfolio includes:

- Five certified artifacts, three of which the student defends orally. The five artifacts represent each of the core academic competencies (including English/social studies and science/mathematics), as well as a workplace learning internship experience in which all students participate during the second semesters of 11th and 12th grades.
- A written reflection accompanying each artifact, discussing how the student used 21st century leadership skills and grew as a learner. Together, the reflections must represent all the leadership skills (communication, critical thinking, collaboration, and effective project completion). The workplace learning internship experience reflection cannot represent only one of the leadership skills.
- A cover letter synthesizing the student’s mastery of the core academic competencies and 21st century leadership skills, similar to a college admission personal essay.
- A college- and career-readiness plan.
- A digital presentation of the work.

In a blog for Edutopia, the George Lucas Educational Foundation website, Bob Lenz, a co-founder of Envision Schools who in 2015 became the Executive Director of the Buck Institute for Education, wrote:

In a defense presentation, each student describes work he or she has done, presents artifacts that represent various skills and competencies, and connects the learning experience to his or her goals for the future. Talking about their learning—articulating it, reflecting on it, internalizing it—engages students in the kind of assessment that continually reinforces skills, deepens knowledge, and prepares them for the future. ... Our expectation is that students will become thinkers, not merely students skilled at regurgitation and armed with test-taking strategies. ... [T]he goal should be for students to graduate with an arsenal of information and skills that they know deeply and can use in a wide variety of future settings.<sup>35</sup>

Envision Schools' teachers also consider students' social-emotional learning to be critical to their success in college and beyond. Gia Truong, Envision's CEO, noted, "We need to make sure that kids and family understand that they can do this work in college. In their portfolio defenses, they reflect on who they are, what their needs are, how to meet them in the colleges that they are attending, what to do when they are stuck. They need to know how to work within the system, how to get resources and make connections. Our focus on identity, perseverance, and grit as outcomes is as important as getting these kids into college."

The types of performance assessment systems discussed here can be central components of a comprehensive system of assessments, in which no one test or assessment alone is the primary method for determining student learning or achievement.<sup>36</sup> Within these systems, performance assessments are a critical component of supporting meaningful learning in that the results of such assessments can provide a comprehensive view of student knowledge and dispositions related to college, career, and civic readiness; a developmental view of student progress; and valuable information for instructors about how to modify and adapt future instruction.

Although the details of these performance assessment systems are different, there can be common principles that unify this type of assessment, making the process simultaneously rigorous and relevant for students. For example, CPAC has defined this set of nine principles guiding the performance assessment systems that different schools and districts have developed:

1. Features of the performance assessment system are **aligned to clearly articulated student competencies** focused on assessing readiness for postsecondary success in college, career, and civic life.
2. The system is designed to take into account **the needs of English language learners, recent immigrants, and students with disabilities** so that they can demonstrate what they know and are able to do.
3. The system includes the **collection and/or exhibition of evidence of student proficiency** in relation to the competencies.
4. Presentation before an **authentic audience** allows students to demonstrate their knowledge and skills by sharing their learning publicly.
5. Students have **multiple opportunities to develop and demonstrate mastery**: If their exhibition or portfolio is not proficient, there is an expectation of revision until proficiency is achieved.

6. Performance is evaluated according to **rubrics and clear criteria of competence** across multiple dimensions of performance.
7. Outcomes from the performance assessments provide data on how students are performing in order to **improve curriculum and instruction**.
8. The system enables students to **take ownership over their own learning** by allowing them to make choices about what they develop and exhibit.
9. **Reflection is a critical component** of the performance assessment process; students engage in metacognitive processes to reflect on and improve their work and to plan, with their teachers, for future learning and growth.

Across all of the districts and school networks described above, the performance assessments are designed not only to assess students' mastery of 21st century skills and competencies, but to do so within core subject areas (e.g., mathematics, English, science, social studies), requiring students to demonstrate their command of content knowledge in the various disciplines. In addition, some of the networks have developed systems to validate mastery, for example, through calibration among teachers on the development of the assigned performance tasks and the scoring of the resulting student work, using well-defined, standardized rubrics that anchor the tasks. In all of these cases, there is an extensive process of feedback from teachers, and revision and reflection on the part of students.

These elements are critically important for both the educative and measurement goals of the performance assessments. In particular, colleges may want to know how some key features are addressed in the assessment systems, including:

1. Assessment of core knowledge underlying disciplinary expertise and the application of higher order skills.
2. Validation of mastery through systems by which assessment scoring is moderated, calibrated, or audited, so there is a verified demonstration of mastery.
3. Demonstration of levels of mastery so that colleges know whether a student's command of a subject or skill is at a rudimentary or advanced level, and how this was assessed (e.g., through the application of a particular rubric that can be made available).
4. Well-defined rubrics that contain precise, detailed specifications. These rubrics may benefit from being developed collaboratively with or reviewed by postsecondary institutions or professional organizations. The more widely accepted the rubrics are, the more value they will acquire.
5. Frequent and substantive feedback, which is essential to teaching and learning. Reporting how feedback is provided will help performance-based assessments to be more widely accepted by college faculty.
6. Multiple assessments that illuminate student abilities, including regular formative assessments combined with frequent substantive feedback to promote learning and validate student accomplishments.

To the extent that developers of these performance assessment systems can address these kinds of considerations, the odds that the systems will be accepted and used by higher education are likely to increase.

## Performance Assessments in the Independent School Sector: The Mastery Transcript Consortium

The movement toward performance assessments as a more authentic way for students to demonstrate their knowledge and competencies is not limited to public schools. The **Mastery Transcript Consortium** (MTC) is a nascent effort that illustrates the growing movement at the high school level away from grades and standardized tests as the barometers for student achievement. The MTC was started in March 2017 by leaders of independent high schools with the goal of developing an alternative model of assessment. Letter grades are replaced by mastery credits. MTC leaders say they have received positive feedback from college deans for their plan to create a mastery transcript without grades.<sup>37</sup> “The initial formation of the MTC hopes to use the collective influence, access, and flexibility of established independent schools to change the college preparation model for all high schools ... not just private schools,” according to the MTC Vision Statement. “The MTC hopes to change the relationship between preparation for college and college admissions for the betterment of students.”

Right now, said D. Scott Looney, Head of School at Hawken School in Cleveland, OH, and a founder of MTC, grades essentially measure seat time in class.<sup>38</sup> What he envisions is an electronic transcript that demonstrates actual learning. The transcript might show a student receiving a credit for persuasive writing. A student would have a website with potential credits. A click on a credit would take the viewer to a rubric that would show the institutional standard used to judge the student’s work and feedback. “Imagine a folder for every possible credit—a folder for persuasive writing, a folder for history knowledge, a folder for persistence,” said Looney. “And every time a student has a really good piece of evidence that suggests mastery, they put it in that folder. When they have enough evidence to meet the minimum threshold, they submit it for credit. Then, potentially, a teacher (or teachers) at that school who has the authority from the institution to do credit review concludes, ‘Yes, this constitutes mastery,’ and the credit goes onto the transcript. Or ‘This does not constitute mastery,’ and kick it back to the student.”

Looney said the electronic portfolio creates a high school transcript without grades as students complete work. The transcript will also include a definition of mastery for each credit, which would be set by individual schools. Although a persuasive writing credit at Punahou School in Honolulu, HI, might not be based on the same rubric used for a persuasive writing credit at Hawken School in Cleveland, the format of the transcript itself would be standardized “so that college admission officers will be able to easily read them. We think this transcript will be readable in less than two minutes,” said Looney. According to MTC’s Vision Statement, the transcript “allows college admission officers to dive deep within a transcript to see the specific standards of the sending high school and actual evidence of student work and mastery, thus giving depth and transparency to the student’s work record.”

More than 100 independent schools have joined the dues-funded consortium. Patricia Russell, Dean of Studies at Phillips Academy in Andover, MA, who is the inaugural interim executive director of MTC, emphasized that, although all the consortium members are interested in supporting the design and development of the new transcript, they have not yet all decided if or when to implement it at their schools. The MTC hopes that other schools, including public schools, will join the consortium once it is more established. Looney said he and others have been talking to college administrators about the new organization and its goals. “We’ve gotten some nice feedback from college admission deans,” Looney said.

According to Looney, the current assessment system “is broken and is harmful to children,” and not just because it doesn’t adequately show who students are and measure what they really know and can do. Both he and Russell contend that school has become extremely stressful for too many students, and their motivation is not enough about learning but instead on earning the highest grade possible—a grade that becomes more meaningless with grade inflation and compression.

When students are working mostly for an extrinsic reward—a letter grade—they quickly forget about half of what they have learned, Looney said. When their motivation to learn is intrinsic, and they are working on something that interests them, they remember, and they know how to transfer their learning to other situations. “If the kids learn something and then they go out in the world and have no idea what to do with it, we haven’t succeeded,” he said. “Both schools and colleges keep talking about wanting to educate the whole person. There’s a lot more to a person than how long they sat and listened to a U.S. history lecture.”

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## Performance Assessments in College-Level Courses and Exams

The need for greater emphasis on deeper learning in k–12 schools has also begun to impact college-level curriculum offerings. The College Board, which created the AP program, has recently responded to demands for assessments that measure deeper learning with its **AP Capstone** program. The AP Capstone program is designed to help students develop curiosity and independence, collaborate with others, and make logical, evidence-based decisions—and to demonstrate to institutions of higher education that participating students are college (and career) ready.<sup>39</sup> The 2-year, externally validated program requires students to take two courses in sequence: AP Seminar (during their sophomore or junior year) and AP Research (during their junior or senior year). The courses aim to develop research, collaboration, and communication skills considered vital for college success.

According to Trevor Packer, Senior Vice President of Advanced Placement and Instruction at the College Board, “The AP Capstone program was requested by admission officers who are members of the College Board, most notably Phil Ballinger from the University of Washington. It was also influenced by other admission leaders like MIT’s Stuart Schmill.”<sup>40</sup> Ballinger and other admission officers told the College Board that they saw “too many high school projects that were fluffy,” said Packer. “And so we set out to create a methodology, rubrics, and protocols for rigorous student project work.” The courses were first implemented in 2014 in about 100 schools and have expanded since then.<sup>41</sup> Several higher education institutions, including Princeton University, Florida State University, and California State University, Los Angeles, have endorsed the AP Capstone program or have developed credit and placement policies for at least one of the two courses.<sup>42</sup>

The College Board explains the two courses:

In AP Seminar, students investigate real-world issues from multiple perspectives, gathering and analyzing information from various sources in order to develop credible and valid evidence-based arguments. In AP Research, students cultivate the skills and discipline necessary to conduct independent research in order to produce and defend a scholarly academic thesis.

The AP Seminar is graded according to three criteria. Twenty percent of the score is based on a team project and presentation, 35% is based on an individual research-based essay and presentation. A final exam, which assesses students' abilities to understand and analyze an argument and synthesize information, counts for 45% of the final score. There are no multiple-choice questions on the final exam. After students have completed the AP Seminar, they are eligible to enroll in the yearlong AP Research course, where they select their own multidisciplinary topic to study and complete a 4,000- to 5,000-word scholarly research paper. There is no final exam. Instead, 75% of the grade is based on the paper and 25% on the oral presentation and defense. In addition, students are required to keep a portfolio that documents development of their work. Students who score well on the assessments, as well as four other AP exams, earn a special diploma or certificate that signifies outstanding academic achievement and attainment of college-level academic and research skills, helping them stand out on college applications.

MIT's Schmill said he likes that the projects are "student-directed—students get to pick the research projects they work on—and that the projects are interdisciplinary, which is more like the real world. Both of these make the course more relevant and motivating to students." Noting that teachers and students select their topics, Packer said the College Board believes that "students will learn much more content knowledge and skills when they are engaged." The courses also focus on transferable skills. "We want to break the stranglehold of content coverage on definitions of rigor," Packer said. "It's the most exciting thing we've done in years."

As of January 2017, 650 schools across the nation were participating in AP Capstone, with an estimated 29,000 students enrolled. This is a fraction of the number of interested schools, as the demand for the AP Capstone courses has far exceeded the supply of training slots the College Board can offer. All teachers of AP Capstone courses are required to participate in professional development that includes a course-specific, 4- or 5-day workshop followed by about 10 hours of online assessment scoring training.

Both Packer and Ballinger said they were especially pleased that the program is attracting a diverse group of students. In 2016, more than 33% of the AP Capstone students were eligible for free or reduced-price lunches; 19% were Latino/a, and 13% were African-American. Ballinger said he liked that both elite private boarding schools and urban schools with predominantly low-income and minority students are engaged in the same academically rigorous program. "We need to broaden possibilities for disadvantaged students regardless of the school they attend," he said. "We see the AP Capstone program as much more accessible."

Admission officers also point to the **International Baccalaureate (IB) Program** as an example of how performance assessments have successfully been used to evaluate students on their communication, critical thinking, and research skills. Founded in 1968, the IB is administered by a nonprofit educational foundation that offers four programs of international education “that develop the intellectual, personal, emotional and social skills needed to live, learn and work in a rapidly globalizing world.” IB operates a high-quality curriculum and performance assessment system in more than 100 countries around the world.

Rigor, inquiry, research, reflection, and critical analysis, as well as service to community and the world and responsible citizenry, are hallmarks of the International Baccalaureate program.

Rigor, inquiry, research, reflection, and critical analysis, as well as service to community and the world and responsible citizenry, are hallmarks of the program. Multiple assessments are built into the program and often include essays, structured problems, or case studies. These are scored by teachers and combined with the results of “sit-down” tests, which are generally open-ended essay and problem solutions. In their junior year, IB students complete an independent, self-directed research project that they explain in a 4,000-word essay. A number of studies have found better educational outcomes for IB graduates in college over non-IB graduates, including higher college GPAs, college persistence and retention rates, and college graduation rates, after controlling for prior academic performance and socioeconomic status.<sup>43</sup>

For many years, college admission officers—and many others—had no idea what the IB was. “It really took a lot of proactive work on the part of that organization to make admission officers understand what they were working with,” said David Hawkins, Executive Director of Educational Content and Policy at the National Association for College Admission Counseling (NACAC), explaining that IB representatives presented themselves at big and small, well-known and not-so-well-known education conferences to make their case. Hawkins, who noted the snail’s pace at which change occurs in admissions, suggested that performance assessment adherents and others asking that colleges adopt new ways of determining who is qualified for a particular college might look to the example of the IB program:

What the International Baccalaureate did was so valuable to admission officers because they essentially showed their research on how their test scores corresponded to Advanced Placement test scores. And then, of course, colleges started doing their own research and started figuring this out for themselves. So, I do think there’s an example in that. The performance assessment community would be very smart to be able to say, “This is how our assessments line up with what you’re used to seeing.” And, of course, that’s going to vary from locale to locale and state to state. But I think it is something within their power to do.

## Innovations in College Admission

As the k–12 performance assessment efforts described above continue to gather steam, college admission officers are beginning to consider how to incorporate this kind of information in the admission process. Part of their interest is due to their belief that these approaches may provide better information about who students are and what they can do, and part is because they hope that they can gain deeper knowledge about the capacities of many of the students they would like to enroll to increase diversity.

### The Expansion of Measures for Admission Decisions

Less than three decades ago, college admission officers had little leeway in deciding which high school graduates to accept at their postsecondary education institutions. College admissions “were pretty formulaically driven,” said Bradley Quin, a former Admission Dean who then served as Executive Director of Higher Education Advocacy and Special Initiatives at the College Board before his retirement. “You had an SAT score, you had an ACT score, on one scale, the GPA on another. You drew a line across the grid, and people who were above the line got in, and people below the line didn’t.”<sup>44</sup> Perhaps a letter of recommendation or an essay was added to the mix, or a legacy connection or a special talent in athletics or the arts was a consideration, but all in all the process was fairly simple.

Today, “holistic review,” as Quin put it, “is the coin of the realm” in admission decisions. Holistic review refers to considering the entire person, not just the data about academic performance shown in grades and test scores. Holistic review has served as a cornerstone for legal arguments about race-conscious admission because it allows for individualized review that treats no applicants as a representative of a particular group. Assessing the whole person can mean taking into consideration background, interests, extracurricular activities, content and writing in essays that include various student “prompts,” and race, as the U.S. Supreme Court recognized in its 2013 and 2016 decisions in *Fisher v. University of Texas at Austin*.<sup>45</sup>

Holistic review is also the most common selective admission approach, largely because it fulfills institutions’ need to make more nuanced, individualized admission decisions from an ever-growing applicant pool. It is at least partially aimed at benefiting students who may not have the best grades or test scores but whose special talents and interests would positively contribute to the college community. In a 2015 study of enrollment officials at 338 4-year institutions, 76% of those at all participating institutions and 92% of those at more selective institutions reported using holistic review in admission. Those institutions also noted that using holistic review was effective in achieving institutional goals.<sup>46</sup>

Holistic review may provide an important opening for performance assessment, as it already seeks to understand each applicant as a whole person, using a variety of sources of information. This flexible framework uses multiple pieces of information and institution-specific rubrics with a range of intersecting factors to understand and assess each applicant, his or her accomplishments, and his or her potential to succeed and contribute to the institution’s community. It also allows the institution to consider each individual applicant and the class as a whole. As a result, traditional measures represent only one dimension of the ultimate decision to admit.<sup>47</sup> The College Board’s



landmark Admissions Models Project, for example, identified nearly 30 academic factors and almost 70 nonacademic factors that may be included.<sup>48</sup>

Two studies by Robert Sternberg, Professor of Human Development at Cornell University, show beneficial results from performance assessments in both diversifying the student body and predicting first-year college success. One, the Rainbow Project, funded by the College Board, collected data from 1,013 high school seniors and college freshmen using multiple-choice items, open-ended tasks, the SAT, original problems, and performance-based measures to assess practical, analytical, and creative skills.<sup>49</sup> In a 2010 article for the American Association of Collegiate Registrars and Admissions Officers, Sternberg and his co-authors wrote:

The Rainbow assessment was found to improve the predictive validity of college GPA relative to high school GPA and SAT. Based on multiple-regression analyses, the new measures alone nearly double prediction of college GPA when compared with the SAT alone. Furthermore, the new measures predicted an additional 8.5 percent of the variance in college GPA beyond the initial 14.1 percent contributed by the SAT and high school GPA. The Rainbow assessment also was shown to reduce ethnic-group differences relative to the SAT alone.<sup>50</sup>

Building on the success of the Rainbow Project, Sternberg initiated an effort at Tufts University in 2006 called the Kaleidoscope (or Kscope) Project, which used optional questions on the Tufts University admission application to test for WICS (Wisdom, Intelligence, and Creativity Synthesized).<sup>51</sup> “Students who scored at high levels on the Kaleidoscope assessment have shown increased participation in extracurricular activities during their first year of college, relative to those who did not score as high,” Sternberg wrote.<sup>52</sup> “Academically, these high-scoring students performed at levels comparable to students who excelled in ways other than through Kaleidoscope, such as in student government, musical, athletic, or other forms of high school participation.”<sup>53</sup> The assessment also predicted leadership involvement for students across racial/ethnic groups.

Another important finding was that the new assessments showed that greater numbers of underrepresented students of color possessed the skills to succeed in college. Regarding the Rainbow Project, Sternberg wrote that the findings “suggest that measures can be designed that reduce racial and ethnic group differences on standardized tests, particularly for such historically disadvantaged groups as Black and Latino students. These findings may also have implications for reducing adverse impact in college admissions.”

The new assessments showed that greater numbers of underrepresented minorities possessed the skills to succeed in college.

Sternberg initiated admission programs at Tufts and Oklahoma State University, where he held administrative and academic posts, that were designed to move beyond test scores and grade point averages to consider creative, practical, and analytical attributes that he found to be predictors of college and work success. Both universities appear to be still using versions of the work he initiated.<sup>54</sup>

## Colleges Currently Using Performance Assessments in Admission Decisions

Some colleges already have taken steps to broaden the application process, such as the **City University of New York** (CUNY), the Massachusetts Institute of Technology (MIT), and the University of Michigan Ross School of Business. For example, CUNY and schools from the New York Performance Standards Consortium (NYPSC) are working together through a pilot project in which CUNY considers applications to its top 4-year colleges from consortium students who might have been overlooked because they lacked high-stakes test results. NYPSC provides CUNY a robust package of transcripts, personal statements, letters of recommendation, and performance-based assessment tasks that the consortium believes offer a nuanced and thorough portrait of each candidate's academic abilities. This year, more than 100 students from Consortium schools applied to CUNY 4-year colleges through the pilot program.<sup>55</sup>

The **Massachusetts Institute of Technology** and the **University of Michigan Ross School of Business** have adopted portfolio initiatives, which are voluntary at MIT and mandatory in Ross' 3-year Bachelor of Business Administration program. In August 2013, MIT added an optional Maker Portfolio supplement to the undergraduate application—in addition to existing research projects, performing arts portfolios, and art/architecture portfolios—as “an opportunity for students to showcase their projects that require creative insight, technical skill, and a ‘hands-on’ approach to learning by doing,” according to the MIT Freshman Applicants page.<sup>56</sup> According to MIT Dean of Admissions Stuart Schmill, the addition “allows us to discover students who might otherwise be overlooked” in the admission process.<sup>57</sup> No students, he said, are accepted who are “below the bar, but it has highlighted students we might otherwise have missed.”<sup>58</sup> Of 19,000 freshman applicants, about 1,000 submitted portfolios in 2016, Schmill reported. Since the initiative's introduction, thousands of students have submitted maker portfolios; the Obama White House suggested that more universities consider adopting a similar element in their admission policies.<sup>59</sup>

Students may submit images, a short video, and technical documentation describing a project completed outside their typical high school activities, especially a project “that require[s] creative insight, technical skills, and a ‘hands-on’ approach to learning by doing.”<sup>60</sup> Portfolios are rated based on creativity and technical ability, not just on outcome. Elements considered include process, reasons for the project, the thinking that went into the project, and student contribution. Only one portfolio may be submitted, and it must be a description of one project completed outside of school, internships, work, or extracurricular activities. “We want to see how you learn, create, and problem-solve in an unstructured environment,” the admission page states. “In addition to answering questions about your project, you may upload up to four images or a video about your project. In total, all video elements must be less than three minutes in runtime. Many different projects would fit the bill, for example: new origami designs, a chainmail suit, a potato cannon, a knitted fractal, or a computer program/app.”

At MIT, portfolios are rated based on creativity and technical ability, not just on outcome. Elements considered include process, reasons for the project, the thinking that went into the project, and student contribution.

MIT faculty members, alumni, and staff with specific expertise and experience in particular modes of “making” review each portfolio; their evaluations are included in the applicant’s folder for consideration in the admission process.<sup>61</sup> Expert review is essential, Schmill emphasized. “Projects that I think seem cool a faculty member will say [are so] common and basic that his 5th-grader could have done it. On the other hand, faculty may rave about a project that seems opaque to me,” he said. Two members of the engineering faculty advisory board who are experts in a particular field review each portfolio. “But it’s a challenge to keep busy faculty engaged,” he said. Overall, Schmill said, he is positive about having added a Maker Portfolio option to the application, but he has been disappointed by the fact that most students who submit maker portfolios are men who come from families “of means.” There is more gender balance in the submissions of research, performing arts, and art/architecture portfolios.<sup>62</sup> This raises a question about how performance assessments can be used and supported so that they truly reduce equity gaps and do not simply reinforce the status quo. If such opportunities are left to the initiative of students—as an option rather than a requirement, and without systems of support in k–12—disparate outcomes may be more likely to occur.

The highly competitive Ross School of Business at the University of Michigan added a portfolio requirement in 2016. Those seeking Preferred Admission—guaranteed admission from high school—are required to submit the Ross BBA Admissions Portfolio because “we are interested in gaining a deeper understanding of who you are and why you are interested in studying business,” the admission website states. “The Ross BBA Admissions Portfolio offers you the opportunity to express your interest, intent, and experience in business. It’s also a chance to showcase unique aspects of who you are because we know that you are more than a number.”<sup>63</sup> Students must choose a current event or issue in their community and discuss the business implications, including a proposed solution that incorporates business principles or practices. In addition, applicants must “upload a document or artifact that represents something significant about your life to show your learning in action.” The artifact can be “a high school project or paper, a community newspaper article highlighting an important achievement, a personal website, a piece on a school or community program or an event that [the applicants] were instrumental in creating or implementing.”

## National Efforts to Expand the Evidence Used for Admission Decisions

Another sign that colleges are open to expanding admission criteria is their participation in such organizations as the **Making Caring Common** (MCC) project, organized out of Harvard University’s Graduate School of Education, and the national **Coalition for Access, Affordability and Success**. The goals and programs of these groups differ, but they include efforts to widen the range of authentic work and accomplishments considered for student applicants, diversify the pool of college admittees, encourage high school students to focus on meaningful ethical and intellectual engagement, and increase use of digital portfolios in college applications. The shared intention is to move away from narrow portraits of students and devise college admission criteria that provide a more comprehensive picture of a student’s ability to succeed in and contribute to the college community.

The MCC project at Harvard Graduate School of Education leads a range of efforts intended to help educators, parents, and communities raise children who are caring, responsible to their communities, and committed to justice. In its 2016 report, *Turning the Tide*, MCC addressed the college admission process and launched a 2-year campaign “to harness the collective influence

of college admissions to send a unified message that both ethical engagement and intellectual engagement are highly important and to more fairly capture the strengths of students across race, class and culture.”<sup>64</sup> The report urges a stronger emphasis in college applications on authentic community service, students’ family contributions (e.g., working to support household expenses), and students’ ethical responsibility and concern for others, rather than a long list of internships and AP courses that show few signs of passion, caring, or individual interest and rigor.<sup>65</sup>

The report recommends that more universities implement admission processes that “can more accurately and meaningfully assess young people’s contributions to others and their communities,” with particular attention to diversity of student background and experiences. It also urges colleges to actively work to reduce the stress associated with admission tests like the SAT and ACT, for instance, by considering making them optional.<sup>66</sup> A wide range of higher education stakeholders endorsed *Turning the Tide*, including 175 enrollment leaders, 12 academic researchers, 12 allied organizations, and 10 high schools.<sup>67</sup> MCC is working on follow-up efforts, including pursuing changes to the Common Application so higher education institutions can recognize a broader range of family and community contributions.<sup>68</sup>

Leaders are interested in more flexible means for colleges to see evidence of what students have accomplished, what they care about, and what they can do.

Similarly, the national **Coalition for Access, Affordability, and Success** was created in 2016 by a group of more than 130 selective public and private colleges and universities to create a new pathway for college admission, with special attention to supporting under-resourced students during the college preparation process.<sup>69</sup> Still in its early implementation phase, the Coalition application adheres to the idea that technology can be used to level the playing field by providing students with an online platform containing free tools intended to streamline the college application process, including a “digital locker.” The digital locker serves as a single, centralized toolkit for students to organize classwork and personal writing, and to build and refine their applications to numerous institutions.<sup>70</sup> The private, secure locker has unlimited space and can only be accessed by the student who owns the account.<sup>71</sup> Students can start adding items such as capstone projects, essays, research projects, and performance videos as soon as they open their Coalition account (high school freshmen and sophomores are encouraged to start early). Students then can share items with a mentor (e.g., teacher or counselor) for feedback before submitting selected items to institutions as part of their applications for admission. By 2017–18, some 113 institutions planned to accept the Coalition application.<sup>72</sup>

The report from Harvard’s Making Caring Common project urges a stronger emphasis in college applications on authentic community service, students’ family contributions, and students’ ethical responsibility and concern for others, rather than a long list of internships and AP courses.

## Using K–12 Performance Assessments to Inform Higher Education Decisions: Opportunities and Challenges

There is clear potential for performance assessments to enhance college admission, placement, and advising—and to help both the higher education and k–12 sectors improve their ability to deliver on their mission-based educational interests and goals. Adopting performance assessments more broadly will require both k–12 and higher education to consider the various opportunities and challenges that may be ahead, summarized in the chart that follows.

	K–12	Higher Education
Opportunities	<p><b>Performance assessments could:</b></p> <ul style="list-style-type: none"> <li>• Produce better information to assess achievement and potential</li> <li>• Promote deeper learning</li> <li>• Prepare students for college-level work that demands independence and self-direction</li> <li>• Build connections between k–12 and higher education</li> </ul>	<p><b>Using performance assessments in admission could:</b></p> <ul style="list-style-type: none"> <li>• Encourage high schools to strengthen their curricula to make students more ready for college and 21st century careers</li> <li>• Give students additional ways to demonstrate their knowledge and skills to institutes of higher education</li> <li>• Improve how "merit" is assessed in the admission process</li> <li>• Enhance efforts to admit and retain a more diverse group of students in all institutions, including those considered elite</li> <li>• Reinforce new efforts to build systems and platforms to support efficient, effective, and equitable review of student applications</li> <li>• Build connections between k–12 and higher education</li> </ul>
Challenges	<p><b>Performance assessments must be developed and used in ways that:</b></p> <ul style="list-style-type: none"> <li>• Narrow and close achievement and opportunity gaps</li> <li>• Are effectively implemented by appropriately trained educators and supported by school leaders</li> <li>• Are tested to ensure validity and reliability</li> <li>• Can interact with evolving state systems of assessment, accountability, and supports</li> <li>• Do not overwhelm available budget, time, and resources</li> </ul>	<p><b>Performance assessments must be used in admission, placement, and advising in ways that:</b></p> <ul style="list-style-type: none"> <li>• Narrow and close achievement and opportunity gaps</li> <li>• Are adaptable to a variety of institution-specific admission policies and processes, including flowing easily into placement decisions</li> <li>• Are used effectively by appropriately trained admission leaders and staff</li> <li>• Do not add new financial or logistical burdens to already stretched admission offices (unless performance assessments can replace existing requirements in some way)</li> <li>• Cannot be easily "gamed"</li> </ul>





From the College Board’s AP Capstone program, which recognizes the value of measuring deeper learning, to the adoption by MIT and the University of Michigan Ross School of Business of portfolios in applications, the possibilities are growing for consideration of performance assessments by college admission deans. There is also interest in the use of such evidence for placement and advising purposes. If colleges are to expand their definitions of assessment, they will need efficient means to receive and use more authentic information in a manageable form.

As David Hawkins notes, “There is a constraining factor when it comes to more comprehensive tools. And that is, that the volume of applications is so large at so many institutions that there simply isn’t the people power or the time to implement something that is radically different from what we see now.” What admission officers are backed up against, he said, is a “hard administrative wall.”

That challenge is being taken up by those who are interested in finding solutions to the practical problems of using authentic work in higher education decision making. Some secondary school leaders, working with assessment developers, have proposed a kind of digital portfolio: It would provide a summary of student evidence that could be read quickly, coupled with a table of contents that can enable access at various points in the admission, placement, or advisement process to selected artifacts and their scoring rubrics and evaluations. Figure 1 illustrates what this digital portfolio might look like.<sup>73</sup> Should such a system emerge as an additional “common app,” it could allow for more widespread use of authentic evidence of student accomplishment.

**Figure 1**

**Digital Portfolio at Graduation**

<b>Summary:</b> Transcript, GPA, college- and career-readiness test scores, statement of goals, distinctive accomplishments or “badges,” short essay, 2-minute video clip from portfolio presentation, table of contents		
<b>Science and Mathematics Inquiry</b>		Investigation of water quality in a local community (science and mathematics), includes paper, data set, and PowerPoint presentation
<b>Social Science Inquiry</b>		What social and political forces influenced the passage of the 14th Amendment to the Constitution? (historical inquiry)
<b>Literary Analysis</b>		Immigration and the American Dream in the 20th century literature (literary analysis), including videotaped presentation to panel
<b>Work-Based Learning</b>		Building Green: What my team learned from designing an environmentally friendly town hall annex (with engineering plans and specifications)

The development of standardized, competency-based transcripts, such as the one proposed by the Mastery Transcript Consortium, is another direction worth pursuing. Given the sheer volume of applications that today's admission officers must review, making complex information readily understandable and efficient to utilize for admission decisions is key to any such digital transcript or portfolio system. This kind of transcript may prove to be acceptable for college admission purposes if the standards are rigorous, admission officers readily understand the vehicle, and mastery is easily ascertained via the transcript. If combined with a summary component to ensure efficiency in the admission process, this type of standardized, competency-based transcript has the potential for widespread adoption among colleges.

## Conclusion

As this report has demonstrated, well-designed and appropriately used performance assessments of various types have the potential to be key components in driving improvements in teaching and learning in the k–12 system. Such assessments can help focus the k–12 system on developing students’ competencies and their mastery of the skills needed for college as well as for work and life in the 21st century. Performance assessments can also provide to higher education institutions a better reflection of the achievements and potential of k–12 students and, in particular, historically underserved students. To help drive the adoption of such practices and, in doing so, to increase the pool of students ready for college-level work, higher education institutions can create demand through inclusion of performance assessment results in admission, placement, and advising decisions.

To help drive the adoption of such practices and, in doing so, to increase the pool of students ready for college-level work, higher education institutions can create demand through inclusion of performance assessment results in admission, placement, and advising decisions.

This report has described innovative efforts that are leading the way and helping the field learn how to include performance assessments in college admission and placement decisions in ways that are efficient and manageable. During the development of this paper, we heard from k–12 and postsecondary practitioners, researchers, and experts with suggestions for additional steps that can build on the progress already made and help performance assessments be high quality, rigorous, and better known in the field. Next steps could include some or all of the following:

- Creating a process, standards, and/or body to recognize high-quality k–12 performance assessment systems at the national and/or state level, to allow higher education institutions to understand the meaning of scores from such systems (as they do with IB and AP programs, for example).
- Designing or evolving a technology-based platform, such as a digital portfolio, to capture student performance more effectively for admission, placement, and advising.
- Supporting a network of leading states, districts, and higher education institutions to allow k–12 school systems with strong performance assessment systems to engage more deliberately with postsecondary institutions and policymakers to strengthen those systems and their use.
- Launching a communications effort to build greater awareness and understanding of performance assessment and its potential for strengthening student learning and bridging k–12 and higher education.
- Performing research on topics such as the effect of high-quality k–12 performance assessment systems on postsecondary and career outcomes.



Each of these efforts would require the support and participation of a range of stakeholders who do not often work together. But therein lies the potential for this work to bring about broader changes than simply informing college admission, placement, and advising decisions. Instead, these efforts could help k-12 and higher education better align on expectations for college and life readiness, identify new ways to identify potential and talent (especially within traditionally overlooked or underserved student populations), and create the education systems that the 21st century demands.

## Appendix: State Policies in Support of Performance Assessments

The chart below is intended to provide a snapshot of current state law and policy. It is based on research conducted by EducationCounsel in 2016–17. State law and policy in this area are evolving; some information may become out of date after this report is published.

State	Policy Type	Specifics on the Policy
Colorado	Optional graduation requirement	Districts can (and are recommended to) include portfolios or capstone projects in their graduation requirements. <sup>74</sup>
Connecticut	Statewide graduation requirement	Students must complete a one-credit senior demonstration project defined as a yearlong independent study, in which the student completes a research project, portfolio, internship, community service program, or other activity. <sup>75</sup>
Georgia	Statewide graduation requirement	Starting with the 2016–17 school year, schools will be held accountable for the “percent of graduates completing a career-related, work-based learning program or a career-related capstone project.” <sup>76</sup>
Hawaii	Statewide graduation requirement	All students develop a career portfolio during high school. <sup>77</sup>
	Optional graduation requirement	To obtain a STEM Honors state recognition certificate, students must complete a STEM capstone project in an approved course (plus eight credits of mathematics and science requirements).
Idaho	Optional graduation requirement	Students must complete a senior project that typically includes a paper, portfolio, presentation, and final product/activity/event. <sup>78</sup>
Kentucky	Optional graduation requirement	Districts have the option of awarding high school graduation credits in either of two ways: Carnegie Units (120 hours of instructional time in a subject) or performance-based credits (defined at the local level). <sup>79</sup> Performance-based credits can include senior year or capstone projects and work-based learning (internships, cooperative learning experiences, etc.).
Massachusetts	Optional graduation requirement	Districts have the option of incorporating the MassCore program of studies into their local graduation requirements. MassCore recommends that students engage in additional learning opportunities, including senior projects. <sup>80</sup>

State	Policy Type	Specifics on the Policy
New Hampshire	Optional requirements	Districts have the option of participating in the Performance Assessment of Competency Education accountability system and are encouraged to offer extended learning opportunities to students, such as independent study, internships, and community service. <sup>81</sup> Based on state-defined criteria for “mastery,” students receive credit for high school courses as they demonstrate mastery on local assessments. Capstone assessments or portfolios are planned as a requirement for graduation.
New York	Waiver of state Regents exam for selected schools	The New York Performance Standards Consortium—a collaborative of 28 schools—has a waiver that excuses its students from participating in four of the five statewide Regents exams required to receive a diploma. The consortium’s use of rigorous performance assessments is credited by many for its high graduation and college acceptance rates. <sup>82</sup>
North Carolina	Optional graduation requirement	Districts can include a high school graduation project in their local graduation requirements. <sup>83</sup>
Oregon	Graduation assessment options	Students can demonstrate college, career, and civic readiness using a variety of assessments, including student work samples. These may be developed locally or by the state. <sup>84</sup>
Pennsylvania	Discontinued graduation requirement	Pennsylvania eliminated its statewide culminating project requirement after the 2015–16 school year. <sup>85</sup>
Rhode Island	Statewide graduation requirement	Students must complete two of the following performance-based diploma assessments: graduation portfolio, exhibition, comprehensive course assessment, or Certificate of Initial Mastery. <sup>86</sup>
South Dakota	Statewide graduation requirement	Students must earn one credit from the following options: capstone experience, CTE course, service learning, or a world language. <sup>87</sup> Schools must offer students a capstone experience (senior experience, youth internship, or entrepreneurship experience) or service learning.
Vermont	Proficiency-based high school diploma	Vermont has developed a proficiency-based high school diploma model that allows students to demonstrate mastery through teacher-designed assessments, written papers, presentations, portfolios, and projects that are locally determined and aligned to the state’s content standards. <sup>88</sup>
Virginia	Performance assessment options	Virginia supports districts that develop local performance assessments to replace some Standards of Learning tests and to constitute part of the score for other exams that serve as end-of-course exams. <sup>89</sup>
Washington	Optional graduation requirement	Districts can choose to include a culminating or senior project as a local graduation requirement. <sup>90</sup>

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