Standardized Student Testing

2017
EVALUATION REPORT

Program Evaluation Division

OFFICE OF THE LEGISLATIVE AUDITOR
STATE OF MINNESOTA

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OLA
OFFICE OF THE LEGISLATIVE AUDITOR
STATE OF MINNESOTA • James Nobles, Legislative Auditor

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Members of the Legislative Audit Commission:

Minnesota public schools administer standardized tests every year to hundreds of thousands of students to meet federal and state requirements. The Minnesota Department of Education (MDE) uses outside vendors to develop, distribute, and score these tests.

Arranging for students to take state-mandated tests creates significant logistical, technological, and financial challenges for local schools that can affect student learning. We recommend that MDE do more to systematically measure these challenges and take what steps it can to mitigate them.

Minnesota law includes many requirements for the distribution, scoring, and use of standardized tests. In some instances, these requirements are too prescriptive and should be changed or reconsidered.

Our evaluation was conducted by David Kirchner (project manager), Caitlin Badger, and Catherine Reed. The Minnesota Department of Education cooperated fully with our evaluation, and we thank the department for its assistance.

Sincerely,

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THE GREAT SEAL OF THE STATE OF MINNESOTA
L'ETOILE DU NORD
1858

Summary

Key Facts and Findings:

- Minnesota primarily uses two standardized tests to meet federal requirements, the Minnesota Comprehensive Assessments (MCAs) and the ACCESS for English Language Learners. Alternate versions are used for students with severe cognitive disabilities. (pp. 22-27)

- The MCAs measure student proficiency in math, reading, and science in selected grades. The ACCESS tests measure English proficiency of identified English learners in all grades K-12. (pp. 23, 25)

- The Minnesota Department of Education (MDE) spent $19.2 million on standardized tests in Fiscal Year 2016. Federal sources contributed over one-third of the funding. (pp. 16-20)

- New federal legislation passed in 2015 left many testing requirements intact, but gave states more options to address schools with low test scores. (pp. 7-12)

- MDE uses vendors to develop and distribute its standardized tests. MDE has used effective processes to select and monitor its MCA vendor but could do more to measure local satisfaction with vendors' performance. (pp. 33-45)

- Administering state-required standardized tests strains the resources of many school districts and charter schools. MDE does not systematically measure the local costs and impacts of state testing requirements. (pp. 56-63)

- The use of test scores at the local level varies widely; many principals and teachers do not feel prepared to interpret much of the testing data reported by MDE. (pp. 75-83)

- Some legislative mandates regarding test design and test score use are too prescriptive and have unintended consequences. (pp. 69-70, 80-81)

- Most school districts and charter schools administer other standardized tests in addition to the MCAs and ACCESS tests. More local educators find their locally adopted tests useful than find the state-mandated tests useful. However, major obstacles prevent the use of such tests to meet federal requirements. (pp. 84-87)

Key Recommendations:

- MDE should gather information from school districts and charter schools on the local costs and impacts of administering state-mandated tests, and use these data to inform policy decisions. (pp. 63-64)

- MDE should further increase outreach and support to school districts and charter schools regarding the interpretation and use of test scores. (p. 84)

- The Legislature should remove or reexamine certain legal requirements that prescribe specific test designs or reporting formats, and instead focus on setting priorities for tests overall. (pp. 69-81, 88-89)

Minnesota schools spend significant time and resources on state standardized tests, but their usefulness is limited.

The Minnesota Department of Education has effectively managed its outside testing vendors.

Report Summary

Standardized test scores are the state's primary measure of school performance and student achievement. Although test scores have limitations, they enable comparisons of student performance across schools and school districts.

Federal law drives the use of standardized tests in Minnesota. The state must meet federal testing requirements in order for state and local entities to receive various federal grants. In 2016, Minnesota used $325 million in federal education funding tied to these requirements.

The Minnesota Department of Education (MDE) primarily uses two tests to meet federal requirements. The Minnesota Comprehensive Assessments (MCAs) assess math and reading skills in grades 3-8, reading in grade 10, and math in grade 11. Students also take a science MCA in grades 5 and 8 and one high school grade.

The ACCESS for English Language Learners assesses students identified as English learners on English proficiency from grades K-12. Students take four ACCESS tests: listening, speaking, reading, and writing. Schools may use alternate tests instead of the MCAs and the ACCESS tests for students with severe cognitive disabilities.

MDE funds its testing work using a combination of state and federal sources. Federal funds constitute a little more than one-third of revenue in most years. MDE spent $19.2 million developing, distributing, and maintaining tests in Fiscal Year 2016. For Fiscal Year 2016, the Legislature appropriated $11.2 million for statewide testing that meets federal requirements, compared with $16.9 million in Fiscal Year 2015 and $16 million in Fiscal Year 2014.

Federal legislation passed in 2015 altered some testing requirements, but left others unchanged.

The Every Student Succeeds Act (ESSA) was passed by Congress in 2015. It requires states to set statewide academic standards and assess students' performance in meeting those standards.

Compared to previous law, ESSA gives states greater discretion to intervene when a school's students do not perform well on standardized tests. Additionally, ESSA provides states with some new options for student testing.

MDE is currently developing a state plan to meet ESSA's requirements. Some of ESSA's changes will be challenging to implement. For example, schools may incur penalties for not testing 95 percent of eligible students, but they must also allow parents and guardians to refuse testing for their children if permitted by state law. Minnesota allows parents to refuse tests for their children.

Overall, MDE has appropriately selected and monitored its outside testing vendors.

MDE uses outside vendors to develop, distribute, and maintain its standardized tests. MDE carefully selected its current MCA vendor using a competitive process and monitors the company's performance. MDE does not competitively select a vendor for the ACCESS tests because Minnesota belongs to a consortium of states and territories that collaborate on English language proficiency tests.

Although MDE's vendor selection and oversight process was sound, the department does not systematically assess how well its vendors serve local stakeholders. MDE can do a better job gathering information from school

districts and charter schools about their experiences with the state's vendors.

Administering statewide tests creates challenges for school districts and charter schools.

School districts and charter schools must administer the state's standardized tests. Doing so can create logistical, staffing, and equipment problems that affect instruction and cost money.

Students take the tests on computers, but some schools have limited computer resources. Some must shuttle students in and out of computer labs for weeks in order to complete testing. Students not being tested are often unable to use computers for learning on testing days.

Schools and districts may have to divert staff from other duties to assist with testing. Students receiving special education or English language instruction are often particularly affected while specialist teachers are managing testing for other students.

These impacts can occur for long periods of time. Over half of Minnesota's schools spent more than 15 days (or three weeks) on MCA testing in 2016. Over 300 schools spent 25 or more days (five weeks). Schools with many English learners spent additional days administering the ACCESS.

Students varied widely in the amount of time they spent taking standardized tests, in part because some tests take longer than others. For example, students spent much longer taking the seventh- and eighth-grade math MCAs than the fifth-grade science MCA. English learners spent more time completing the MCAs than other students, and they had to take ACCESS tests as well.

Testing also costs schools money. In a survey, 83 percent of local testing administrators who responded said their school districts or charter schools had bought computing equipment in the last three years to administer state-required tests. Nearly one in five reported hiring extra staff to assist with test administration or test score analysis.

MDE does not collect data about the local impacts of testing that would allow decision makers to consider the effects of proposed policy changes. To provide better information for MDE's own decision making and valuable context for the Legislature, MDE should work with local stakeholders to develop reporting mechanisms that track local costs and impacts.

Many local administrators and teachers do not feel confident interpreting test score data.

MDE reports several scores for each of Minnesota's statewide tests. For example, a seventh-grade reading MCA score report includes, in part, (1) a proficiency score indicating whether the student met state standards; (2) a growth score indicating whether the student improved over the past year at the same rate as other students; and (3) a career and college readiness progress score, showing whether the student's current performance puts the student "on track" to eventually be ready for college-level work.

We surveyed teachers and principals across the state. Many said they found standardized test scores at least somewhat useful. For example, 85 percent of principals and 77 percent of teachers offering an opinion said they found MCA scores very useful or somewhat useful for identifying achievement gaps between groups of students.

However, many also reported that they did not feel prepared to interpret the scores provided by MDE. Over half of

More than half of principals and teachers responding to a survey felt unprepared to interpret key test score data.

Some legislative requirements intended to improve testing have had unintended consequences.

the principals and teachers who responded to our survey said that they did not feel prepared to analyze the MCA growth scores MDE uses most frequently. Even more felt unprepared to use the career and college readiness progress scores. Nearly one-third of teachers said they did not feel prepared to interpret MCA scores overall.

Many teachers and administrators also expressed a lack of familiarity with ACCESS scores, even those who worked with English learners. Nearly 60 percent of teachers who reported having English learners in their classrooms said they did not receive ACCESS scores for their students or did not recall receiving them.

MDE provides some assistance to local educators to improve their understanding and use of test scores, and the department has recently added a position to do further outreach. MDE also targets additional training resources to schools with the lowest-performing students.

Nonetheless, our conversations with administrators and teachers indicate a statewide need for more support. MDE should further increase outreach and training regarding the use of test scores at the local level.

Many principals and teachers prefer locally adopted tests to Minnesota's statewide tests.

Most Minnesota school districts and charter schools administer both statewide standardized tests and other tests adopted locally. The locally adopted tests are frequently designed to provide immediate information to assist teachers in adjusting classroom instruction to fit student needs.

Legislators have required MDE to add components to the MCAs to make them more like the popular locally adopted tests. However, teachers and principals still find locally adopted tests useful more often than they find the MCAs and the ACCESS tests useful.

At present, it is probably not possible to use a single test that provides both helpful ongoing information to educators and meets federal requirements promoting school and district accountability. Tests designed for one purpose do not necessarily serve other purposes equally well.

Some standardized testing laws have lengthened tests and required MDE to report scores that have a high level of uncertainty.

The Legislature has required MDE to develop tests and report test scores in certain ways. Some of these requirements are ill-advised.

State law requires that the MCAs include questions above and below a student's grade level. However, due to federal requirements, MDE has been unable to use these questions in calculating most of the test scores it reports. As a result, statewide tests have been lengthened for all students without much benefit.

State law also requires MDE to report a score based on the MCA describing each student's progress toward career and college readiness. But such scores for elementary and middle school students are methodologically problematic. Projections extending far into the future have a high level of uncertainty, and some of them are likely to be wrong.

The Legislature should remove or reconsider these requirements and instead focus on setting priorities for MDE's testing program.

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Introduction

Standardized tests have long been a part of American education. Educators and policy makers review and analyze standardized test scores because they provide comparative information across schools and school districts that cannot easily be gained in other ways. However, standardized testing has been controversial; some critics have charged that testing has reduced classroom instruction time and led to a narrowing of the curriculum.

In March 2016, the Legislative Audit Commission directed the Office of the Legislative Auditor to evaluate standardized student testing in Minnesota. We focused our attention on the following questions:

- **How well does the Minnesota Department of Education (MDE) manage Minnesota's required standardized tests? How effectively has it overseen the work of its testing vendors?**

- **How does state-mandated standardized testing affect students and schools?**

- **How useful are state test results to policy makers, school districts, schools, teachers, and students?**

To answer these questions, we examined relevant state and federal laws, MDE revenue and expenditure data, and documentation of the state's testing program. We reviewed academic literature on testing and interviewed members of MDE's technical advisory committee, a group of national testing experts that advise the department. We also spoke with advocacy group representatives and testing experts at the University of Minnesota. We attended several testing-related meetings and events, including MDE's annual assessment conference and meetings of local district testing coordinators.

We conducted several interviews with MDE's Division of Statewide Testing staff and also spoke with MDE staff working in areas of federal accountability, English language learning, and special education. We reviewed test vendor contracts and department documentation of its bidding process for vendor selection. We interviewed MDE and Department of Administration staff involved in the state's most recent test vendor contracting process, and we also interviewed representatives of two of MDE's recent testing vendors.

During the spring of 2016, we observed students taking the Minnesota Comprehensive Assessments (MCAs) at four schools in separate school districts, including two elementary schools, one middle school, and one high school. Later in the year, we made formal site visits to seven districts and charter schools, during which we interviewed superintendents and other administrators, principals, classroom teachers, English language specialists, special education specialists, and testing coordinators. Our site visit locations were: Community of Peace Academy, Duluth Public Schools, Long Prairie-Grey Eagle Public Schools, Orono Public Schools, Rochester Math and Science Academy, Saint Paul Public Schools, and Willmar Public Schools. Further, we conducted phone interviews with the testing coordinators at an additional three school districts: Montevideo Public Schools, Perham-Dent Public Schools, and Westbrook-Walnut Grove Schools. Additionally, we spoke with several local superintendents, teachers, research staff, and school board members who contacted us after learning of our evaluation.

We conducted three statewide surveys to ask about test administration logistics and the use of test data. The surveyed groups were: (1) classroom teachers who taught grades or subjects assessed by MDE's standardized tests; (2) principals or academic leaders at schools or other institutions that administered tests in 2016; and (3) district assessment coordinators, an MDE-required position in every school district or charter school that serves as the primary liaison with the department on testing issues. Additional survey information is located in the Appendix.

We also requested and received detailed data from MDE's testing vendors on every individual computerized test administration in the state in 2016 for the MCAs and Minnesota's tests for English language proficiency, the ACCESS for English Language Learners. We analyzed these data to determine how long students spent taking the state's standardized tests and how much time schools spent administering them.

Given available resources, our evaluation focused on MDE oversight of its vendors, local impacts, and the usefulness of tests. We did not examine the development of the tests themselves, review test questions, or assess the tests' alignment with state academic standards. We did not analyze test scores, nor did we attempt to discern what types of factors lead to higher student performance on standardized tests. We did not interview or survey parents or students about their experiences with testing.

We also determined that we could not accurately quantify spending on standardized tests by school districts and charter schools. We did examine the data collected by MDE in its Universal Financial and Reporting System (UFARS) and also requested data on spending related to tests from the school districts and charter schools we visited. However, we concluded that school districts and charter schools do not consistently record or report spending information at the level of detail necessary to produce reliable information for analysis.

Further, we did not comprehensively examine the use of locally adopted tests in Minnesota school districts and charter schools. Although we provide some descriptive information about these tests, we did not evaluate their administration or use or determine if some were more useful than others. For the most part, we also did not examine tests given to some students and not others (such as screening tests for special programs, subject-specific tests such as Advanced Placement tests, or standardized tests used by individual teachers on their own initiative). However, we did examine English language proficiency tests because of the importance of such tests in federal education law, even though those tests are given only to a subset of Minnesota students.

Finally, because our office provides recommendations to Minnesota lawmakers and agencies, we do not offer any findings or recommendations regarding federal testing laws and policies.

Chapter 1: Background

Each spring, hundreds of thousands of Minnesota elementary, middle, and high school students take standardized tests mandated by law and developed and distributed by the Minnesota Department of Education (MDE). State and federal requirements affect public schools in many ways, but few other requirements are felt as immediately and directly by individual students. Aggregated test results appear in media outlets throughout the state and become important parts of local- and state-level policy conversations.

Below, we present a brief introduction to standardized testing in general, review federal and state laws that apply to testing in Minnesota, and summarize the sources of funding MDE uses to meet these federal and state requirements.

Standardized Testing

A standardized test is a test that (1) asks all test takers to respond to the same questions (or to questions drawn from a common source), (2) requires that the questions be administered using a common procedure, and (3) scores all responses using the same process, often using automation. Standardized tests may be administered face-to-face, using pencil and paper, or using computer testing programs.

Purposes

Because of their uniformity, standardized tests have certain advantages that locally devised tests cannot duplicate.

Standardized tests make comparisons of student performance across different classes, schools, or school districts possible.

Regardless of students' educational environments, standardized tests cover the same material and are scored in the same way. Two sophomore students in different schools may each take a language arts class and receive a grade of "B," but without a careful review of the material covered and the classroom evaluations used, it would be difficult to determine if their performances were truly similar. A standardized assessment creates a basis for comparison.

Standardized tests can also be used to identify trends that are occurring across schools. Standardized tests have been the primary means of identifying and measuring gaps in achievement—for example, between white and nonwhite students. In fact, educational inequities were a principal reason for the original introduction of standardized tests in the 19th century, as educational reformers argued that teachers focused on star pupils to the neglect of others.[1]

Standardized tests may provide teachers and administrators with information that is helpful in making instructional or curricular decisions. For example, comparisons of standardized tests

[1] See William J. Reese, *Testing Wars in the Public Schools: A Forgotten History* (Cambridge: Harvard University Press, 2013).

over time may provide useful information to assess how well a new mathematics curriculum is working, or whether changes to staffing or class size are affecting student outcomes.

Standardized tests have also been used for many years in educational settings as a tool for placing students in programs (e.g., for gifted and talented programs); as a means of comparatively evaluating students emerging from various school environments (e.g., for college admissions); and as a means of achieving certification or licensure (e.g., for certifying public accountants).

Limitations

Standardized tests have clear advantages, but they also have clear limitations.

Standardized tests only *measure* student performance; they cannot *explain* it.

If a group of students do particularly poorly on a standardized test, the test results themselves do not indicate *why* their performance was low. The test scores cannot show whether the students experienced weak teaching of the right curriculum, good teaching of the wrong curriculum, severe weather that interrupted sleep the night before the test, or many other factors that might cause low performance.

Test results provide information; teachers, administrators, analysts, and policy makers then interpret that information—together with other data and their knowledge of effective educational practices—to make decisions. For example, test scores in Minnesota have persistently shown a gap between the performances of white students and students of color. However, the scores themselves do not explain why this gap exists or what strategies are likely to be effective in reducing it. Even if an intervention is tried and test scores show that the gap remains unchanged, policy makers must still make an interpretation. They may decide that the intervention was unsuccessful and new strategies should be tried, or they may instead decide that the intervention was poorly implemented or was not in place long enough to have an effect.

Standardized test scores have also been used to evaluate teachers. However, standardized tests themselves do not measure teaching quality; they measure student performance. Test scores can show that students in some teachers' classrooms do better than students in other teachers' classrooms, but cannot explain why those differences occur. The conclusion that teaching quality is the reason for the differences is an interpretation. Other interpretations are also possible—for example, that administrators or parents disproportionately steer students facing challenges toward particular teachers who are deemed especially supportive.

Standardized test scores have the most value when viewed across a large number of tests.

Standardized test scores are a particular kind of measurement—they are statistical estimates. Like all statistical estimates, test scores are expected to contain some amount of "error," or inaccurate measurement. That is, some students will earn a score that is better or worse than their actual abilities for a variety of reasons, including luck, motivation, environmental conditions, health, or other factors. As with most statistical inferences, test scoring relies on an assumption that such "error" is distributed randomly—in other words, over many students and many tests, inaccurate positive measurements and inaccurate negative measurements tend to cancel one another out.

For this reason, the accuracy of estimates increases when more test scores are used to make them. Test scores aggregated across many classrooms should be viewed with greater confidence than a single classroom's scores. Similarly, scores from a classroom should be viewed with greater confidence than the score of an individual student, and a student's overall score should be viewed with greater confidence than the student's subscore on a section of the test.

Because of the possibility of inaccurate measurement, a student's test score alone is not sufficient to assess that student's learning. An individual score is a "snapshot" of a student's performance at a single point in time and may be affected by external factors that are unrelated to the student's abilities.

Trends

Major changes in testing practices have occurred in the past two decades; children's experiences of testing in American schools are quite different than the experiences of their parents. Below, we briefly discuss some of the major trends that have affected testing both in Minnesota and nationwide in the last two decades.

- **Testing by computer.** Computer-based standardized testing has had profound implications for the delivery of tests. Computers allow for nearly instantaneous scoring and faster data analysis than paper-and-pencil tests. Computers have also enabled new types of interactive test questions, such as items that require students to drag and place icons on the screen. Perhaps most importantly, the use of computers has made it possible for each student to take a test that is different from the tests taken by classmates. "Adaptive" tests provide students with different questions based on their previous responses; students who get many answers correct see increasingly challenging questions, while students who are struggling see questions closer to their level of ability.

- **Inclusion of all students.** In the past, students with disabilities and students with limited English skills were commonly excluded from educational standardized tests. However, beginning in the 1990s, federal mandates began to require that students from these populations take the same standardized tests as other students. States had to make available "accommodations," or adjustments to standard testing practices, that would enable students in these populations to complete the same tests as their classmates. In addition, states introduced alternate assessments for students with the most profound cognitive disabilities.

- **Testing based on standards.** Throughout the 20th century, most tests used in K-12 education compared students to one another. For example, a student might receive a score placing her in the 78th percentile, indicating that she scored better than 77 percent of test takers and not as well as 22 percent. Trends in educational reform in the 1980s and 1990s prompted the development of educational tests that measured student performance against pre-established standards instead of against the performance of others. The federal No Child Left Behind Act of 2001 endorsed this approach, prompting the widespread adoption of standards-based tests.[2]

[2] No Child Left Behind Act of 2001, Public Law 107-110, January 8, 2002. The law has "2001" in its title, but it was actually signed into law in early January 2002.

- **Use of test scores for accountability.** Both states and the federal government increasingly turned to tests as a means to hold teachers, schools, and school districts accountable for student outcomes during the 1990s and 2000s. The most visible of these initiatives was the No Child Left Behind Act, which penalized schools receiving federal funding if too few of their students received passing scores on statewide exams.[3] Many states, including Minnesota, have also experimented with using student test scores as a means of evaluating teacher performance.

- **Measuring growth over time.** The use of test scores to make judgments about school or teacher quality has led to increased interest in measuring individual student performance over time. Broadly speaking, such "growth" measurements usually compare a student's current test score to the same student's score on a previous test. Growth measures are popular and are often viewed as fairer to schools or teachers whose students start out at lower performance levels. However, no academic or policy consensus has emerged on exactly what "growth" means or how best to measure it. As a result, there are many growth models in use nationwide.[4] The same student giving the same answers to the same tests could have varying growth scores depending on how growth is defined and measured.

Legal Framework

In Minnesota, the statewide testing system is governed by detailed federal and state laws. Below, we provide an overview of current laws governing Minnesota's standardized tests. We also review significant changes to testing law in recent years, particularly the new federal education law passed in 2015. We then discuss potential challenges that may arise from these changes.

In general, federal law lists minimum requirements for state testing programs; states develop tests and policies that meet those requirements.

Federal law requires states to assess all public school students in specific subjects and grades.[5] Federal law also requires states to use assessment results as part of a "statewide accountability system" that evaluates schools on how well their students are performing and prescribes interventions where student test scores are low.[6] States set the academic standards the tests measure and oversee the design of test formats and test questions. States also design the details of the accountability system, deciding how they will evaluate schools and what actions they will take to address low student performance.

[3] *Ibid.*

[4] For a review of the many types of models in use, see Katherine E. Castellano and Andrew D. Ho, *A Practitioner's Guide To Growth Models* (Council of Chief State School Officers, 2013), http://www.ccsso.org/documents /2013growthmodels.pdf, downloaded January 13, 2017.

[5] Federal law does not specifically require standardized tests, but instead refers to "assessments," which theoretically could refer to other student work products like term papers or portfolios. However, it would likely be extremely difficult to design an assessment system that would meet the detailed federal requirements without using standardized tests.

[6] 20 *U.S. Code*, sec. 6311(c) (2016).

Federal Laws

The federal Elementary and Secondary Education Act of 1965 drives Minnesota's statewide assessment practices, to a large extent.[7] Federal allocations under this law provided over $19.5 billion to states nationwide in federal Fiscal Year 2017 to promote public education. This funding creates a means for the federal government to regulate local public schools. Congress makes the funding conditional on state and local implementation of federal mandates, including requirements for student assessments.[8] Similarly, Congress has tied Individuals with Disabilities Education Act (IDEA) funding to state implementation of federal policy regarding assessments for students with disabilities, among other requirements.[9]

Several sections of the Elementary and Secondary Education Act direct funding to particular schools or school districts through state-level education agencies. Title I of the act directs funding to schools and school districts with large numbers or percentages of low-income students.[10] Title III directs funding to school districts and charter schools that educate English learners.[11] As we discuss below, some aspects of federal law related to testing apply only to Title I schools.

The Elementary and Secondary Education Act has been modified many times since its initial passage, including by the No Child Left Behind Act. In 2015, Congress passed the most recent reauthorization of the Elementary and Secondary Education Act, the Every Student Succeeds Act (ESSA), which we summarize in Exhibit 1.1.[12] Currently, Minnesota and other states are in a transition period as the requirements of ESSA gradually come into effect. As required by the law, MDE is preparing a plan describing how the state will modify its current policies to conform with ESSA's requirements. MDE must submit its final state plan to the federal government no later than September 18, 2017; some elements of the plan need not be implemented until the 2018-2019 school year.[13]

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[7] Elementary and Secondary Education Act of 1965, as amended, 20 *U.S. Code*, chapter 70 (2016).

[8] Throughout this report, when we refer to federal requirements, we are referring to requirements attached to federal funding. States could elect not to accept the federal funding, and then would not be subject to the requirements. We discuss the amount of federal education funding Minnesota receives later in this chapter.

[9] Individuals with Disabilities Education Act, as amended, 20 *U.S. Code*, chapter 33. For a more extensive discussion of IDEA and its impacts in Minnesota, see Office of the Legislative Auditor, Program Evaluation Division, *Special Education* (St. Paul, 2013).

[10] Throughout this report, we use "Title I" and "Title III" to refer to those sections of the Elementary and Secondary Education Act, as amended.

[11] An English learner is a student who first learned a language other than English, usually speaks a language other than English, or comes from a home where English is not usually spoken, and who lacks the necessary English skills to participate fully in academic classes taught in English. See *Minnesota Statutes* 2016, 124D.59, subds. 2(a) and 2a.

[12] Every Student Succeeds Act, Public Law 114-95, December 10, 2015, codified in 20 *U.S. Code*, chapter 70.

[13] A presidential order has delayed all published but not yet implemented federal regulations for 60 days, including some of the regulations related to ESSA. It is unclear whether this delay will affect the final deadline for state plan submissions. See Memorandum for the Heads of Executive Departments and Agencies, 82 *Federal Register*, 8,346 (2017).

Exhibit 1.1: Major Requirements in the Every Student Succeeds Act

Assessments

States must:

- Develop state academic standards in reading, mathematics, science, and English language proficiency, and use those standards to create assessments.
- Assess students annually in math and reading in grades 3-8 and one high school grade.
- Assess students in science once in grades 3-5, once in grades 6-9, and once in grades 10-12.
- Assess students identified as English learners annually in reading, writing, listening, and speaking ability in all grades K-12.
- Assess all public school students in tested grades, regardless of disability status, English language ability, or other student characteristics.[a]

States may:

- Develop and use alternate assessments for students with severe cognitive disabilities; alternate assessments must still test students on grade-level standards.
- Use multiple interim assessments instead of a single end-of-year assessment.
- Permit school districts and charter schools to use a national college entrance exam in place of high school assessments, but only if the exam meets or exceeds state standards.
- Allow parents and guardians to refuse testing for their children.

Reporting

States must:

- Publish assessment results disaggregated into several groups including race, ethnicity, socioeconomic status, disability status, English proficiency status, gender, and migrant status.

Accountability

States must:

- Develop a "statewide accountability system" that evaluates all public schools.
- Include, at a minimum, in the accountability system:
  - Assessment results in math, reading, and English proficiency.
  - Graduation rates for high schools and a state-chosen measurement for schools serving lower grades.
  - An additional state-chosen indicator that is measured consistently for all schools.
- Lower schools' ranking within the accountability system if they do not test at least 95 percent of their students, regardless of the number of parent refusals.
- Identify schools as low-performing if student performance on state assessments is low overall, if performance is low for any subgroup listed in the reporting requirements above, or if graduation rates are low.
- Work with low-performing schools to develop improvement plans.[b]

[a] States may exempt English learners who have been in U.S. schools (except Puerto Rico or other territories) for less than one year from the reading assessment, but not the math, science, or English language proficiency assessments.

[b] Depending on a state's accountability system, slightly different requirements may apply to schools receiving federal funds under Title I of the Elementary and Secondary Education Act.

SOURCE: Office of the Legislative Auditor, based on the Every Student Succeeds Act, Public Law 114-95, December 10, 2015, codified in 20 *U.S. Code*, chapter 70 (2016).

Assessment Requirements

ESSA did not make significant changes to existing federal law regarding testing.

The 2015 Every Student Succeeds Act (ESSA) continues to require statewide assessments for public school students in math, reading, science, and English language proficiency.

As was the law under No Child Left Behind, ESSA requires each state to create "challenging state academic standards" in mathematics, reading or language arts, and science that apply to all public school students.[14] The standards must include at least three levels of achievement that students may attain, such as "does not meet standards" or "meets standards." States must use "a set of high-quality academic assessments" to determine whether public school students are meeting the standards.[15] As required previously, all public school students in grades 3-8 must be assessed each year in mathematics and reading, and students must be assessed twice in science, once in grades 3-5 and once in grades 6-9. Public school students must also be assessed once more in each of the three subjects in their high school years.[16]

ESSA also continues previous requirements that states create English language proficiency standards that apply to students who are learning English.[17] The standards must define different proficiency levels in reading, writing, speaking, and listening. States must annually test all English learners in public schools, in grades K-12, on their English abilities in all four content areas.[18] States must also ensure that English learners take the statewide assessments for math, reading, and science; thus, English learners in public schools are subject to two sets of federal assessment requirements.[19]

States must assess all public school students in the selected grades.[20] The law allows states to use alternate assessments for students with "the most significant cognitive disabilities."[21] In a change from past law, ESSA limits the number of students that may take the alternate assessments. We discuss this limitation further below.

ESSA made two changes intended to give states more flexibility in their choice of assessments. First, the law allows states to meet federal assessment requirements by using multiple interim assessments, rather than a single end-of-year assessment.[22] Second, ESSA allows school districts and charter schools, with state approval, to substitute a nationally

[14] 20 *U.S. Code*, sec. 6311(b)(1) (2016).

[15] 20 *U.S. Code*, secs. 6311(b)(2)(A) and 6311(b)(2)(B)(ii) (2016).

[16] 20 *U.S. Code*, sec. 6311(b)(2)(B)(v) (2016).

[17] 20 *U.S. Code*, sec. 6311(b)(1)(F) (2016).

[18] 20 *U.S. Code*, sec. 6311(b)(2)(G) (2016).

[19] 20 *U.S. Code*, sec. 6311(b)(2)(B)(vii)(III) (2016).

[20] Federal law does not require students attending nonpublic schools to take statewide standardized tests.

[21] 20 *U.S. Code*, sec. 6311(b)(2)(D) (2016).

[22] 20 *U.S. Code*, sec. 6311(b)(2)(B)(viii) (2016).

recognized college entrance exam, such as the ACT or SAT, in place of state tests for high school students.[23]

Accountability Requirements

The No Child Left Behind Act of 2001 set aggressive goals for student performance on standardized tests and imposed strict consequences on schools that did not meet those goals. In response to criticism of that law, the U.S. Department of Education began allowing states to apply for waivers that would exempt them from implementing some of the law's more stringent measures. The Minnesota Department of Education (MDE) has been operating under such a waiver since 2012.

The Every Student Succeeds Act gives states more options than previous federal law to take action in response to low test scores.

ESSA eliminated both the strict consequences of No Child Left Behind and the waivers many states were using as an alternative. ESSA still requires states to develop a "statewide accountability system" that uses the state's annual assessments to publicly identify schools with low-performing students.[24] Schools may be identified based on the overall performance of their students or based on the performance of a student group; student groups include economically disadvantaged students, students in major racial or ethnic groups, students with disabilities, and English learners. When schools are identified, either school districts or the schools themselves must create and implement school improvement plans approved by the state. However, states have far more discretion to define the contents of those plans and consequences for low-performing schools than they did under previous federal law. Although states must have an "accountability system," the meaning of "accountability" is essentially left up to each state.

Previously, only schools receiving funds under Title I or Title III of the Elementary and Secondary Education Act were required to develop improvement plans based on poor performance on standardized tests. Under ESSA, states must require an improvement plan from every school with low performing student groups and every high school with low graduation rates.[25] However, schools receiving Title I funds are classified differently and face somewhat different consequences for low performance, depending on the state-devised accountability system.[26] ESSA eliminated separate accountability requirements that previously existed for schools receiving Title III funding.

ESSA adds new components for states to include in their process for identifying low-performing schools. No Child Left Behind had required that states measure school performance using (1) student proficiency and participation on math and reading assessments; (2) graduation rates (for high schools); and (3) a state-chosen indicator (for schools serving lower grades).[27] To those components, ESSA added (4) growth in proficiency of English learners on the state's English proficiency tests and (5) an additional

[23] 20 *U.S. Code*, sec. 6311(b)(2)(H) (2016).

[24] High schools may also be identified because of low graduation rates.

[25] 20 *U.S. Code*, secs. 6311(d)(2)(D) and 6311(c)(4)(D)(i)(II) (2016).

[26] See 20 *U.S. Code*, sec. 6311(c)(4)(D)(i)(I) (2016).

[27] Minnesota used attendance for the lower-grade indicator.

indicator of school quality or student success.[28] The additional indicator is not specified, but examples offered in the law include measures of "student engagement" or "school climate and safety."[29] States may use almost any indicator they choose as long as it can be measured consistently across all schools and schools' measurements vary.

Future Challenges

Although many education stakeholders have welcomed ESSA's discontinuation of some No Child Left Behind requirements, several aspects of the new law appear problematic.

Some elements of ESSA could pose significant challenges for Minnesota and other states.

ESSA has introduced some requirements that may prove difficult for many states to address. Below, we identify a number of provisions in ESSA that either appears difficult to implement or that seem likely to cause unintended consequences in Minnesota and other states.

- **Participation.** ESSA protects the right of parents and guardians to refuse standardized testing (to "opt out") for their children if state or local laws allow them to do so.[30] As we discuss in Chapter 5, growing numbers of students are not participating in statewide tests. ESSA instructs states to meet the requirement for assessment of all students by showing that at least 95 percent of students were tested. If the number of parent refusals continues to rise, MDE and other state education agencies may have difficulty meeting the 95 percent participation threshold.

- **Cap on alternate assessments.** As noted above, ESSA requires states to provide alternate assessments for students with severe cognitive disabilities. However, ESSA now caps the number of students who are permitted to take the alternate tests at 1 percent of the statewide test-taking population.[31] Historically, alternate tests have made up about 1.5 percent of total tests in math, reading, and science in Minnesota. As a result, one-third of Minnesota students that have previously taken the alternate tests may have to instead take the state's standard assessments with accommodations.

  ESSA allows states to apply for a waiver to this requirement; however, the U.S. Department of Education has stated that waivers will be reserved for "exceptional situations."[32] States requesting a waiver will be required to show they are taking steps to meet the 1 percent cap in future years.[33]

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[28] 20 *U.S. Code*, sec. 6311(c)(4)(B) (2016).

[29] 20 *U.S. Code*, sec. 6311(c)(4)(B)(v) (2016).

[30] 20 *U.S. Code*, sec. 6311(b)(2)(K) (2016).

[31] 20 *U.S. Code*, sec. 6311(b)(2)(D)(i)(I) (2016).

[32] U.S. Department of Education, "Every Student Succeeds Act: Assessments under Title I, Part A & Title I, Part B: Summary of Final Regulations," https://www2.ed.gov/policy/elsec/leg/essa/essaassessmentfactsheet1207.pdf, accessed January 18, 2017, 3.

[33] Title I—Improving the Academic Achievement of the Disadvantaged—Academic Assessments, 81 *Federal Register*, 88,935 (2016) [to be published at 34 *CFR*, sec. 200.6(c)(4)(iv) (2017)].

- **Using English proficiency tests to measure school performance.** As we discussed above, ESSA requires states to evaluate and rank schools based on standardized test scores, graduation rates, and an additional indicator of "school quality or student success." In the past, federal law required that states use test scores from reading and math assessments taken by all students. ESSA now requires that states also use test scores from English proficiency tests, which are taken only by students identified as English learners. However, not all schools serve English learners, and those that do serve widely varying numbers.

  It will be challenging to incorporate measures of English proficiency into statewide school rankings. For example, say that one school has 60 percent of its students meet state standards on the math and reading tests, but only 20 percent of its English learners (30 percent of the school population) achieve a certain level of growth on state English proficiency standards. That school must be ranked against another school where 50 percent of its students meet math and reading standards and 65 percent of its English learners (9 percent of the school population) meet the same level of growth on English proficiency standards. It is not immediately obvious which school to rank higher, or how to rank either of them in comparison to a school that has no English learners at all.

  Further, measures of growth in English proficiency are very different than measures of growth in subjects like math and reading. English learners usually acquire language very rapidly when first in school, but then their progress slows as they move toward mastery of the language. As yet another complication, once students become proficient in English, they are no longer classified as English learners and no longer take the English proficiency tests. Thus, the students who are the most successful eventually stop appearing in the English proficiency test score data altogether.

State Law

State law builds upon federal laws related to testing and introduces some additional requirements. As discussed above, federal law requires that states assess students against state standards in specific grades and develop a "statewide accountability system" that uses student test scores, among other measures, to evaluate and rank schools. States have some flexibility in how they implement these requirements and may implement additional accountability requirements.

Exhibit 1.2 summarizes the primary requirements in state law related to student testing. The requirements fall into four main categories:

- **Assessments.** State law reiterates federal law requiring states to assess students in math, reading, and science in specific grades.[34] State law also requires that statewide math and reading tests be "adaptive," that is, that the tests adjust in difficulty during the test based on student responses.[35] Further, the law requires that MDE construct these adaptive assessments to potentially include questions above and below a student's grade level. Minnesota law also requires that MDE post a form on its website that parents and guardians can use to refuse standardized testing for their children.[36]

[34] *Minnesota Statutes* 2016, 120B.30, subds. 1 and 1a; and 124E.03, subd. 2(b).

[35] *Minnesota Statutes* 2016, 120B.30, subd. 1a(b).

[36] *Minnesota Statutes* 2016, 120B.31, subd. 4a.

Exhibit 1.2: Major Assessment and Accountability Requirements in Minnesota Law, 2016

Assessments

The Minnesota Department of Education must:

- Assess students' proficiency on state academic standards in accordance with federal law.
- For math and reading tests in grades 3-8, use adaptive assessments that may include above-grade and below-grade questions.
- Create and publish a form that parents or guardians may use to refuse statewide assessments for their children.

School districts and charter schools must:

- Offer 11th and 12th grade students a nationally recognized college entrance exam.
- Limit district- or school-adopted assessments to a maximum of 10 or 11 hours of student time per school year (depending on grade level).
- Assess the reading proficiency of students at the end of kindergarten, 1st grade, and 2nd grade using a locally selected test.

Reporting

The Minnesota Department of Education must:

- Report individual math, reading, and science test scores within three days of test completion.
- Provide disaggregated test score results for certain student groups beyond those specified in federal law.
- Report a career and college readiness score for students who have taken the math or reading tests.
- Calculate and report a growth measure indicating high, medium, or low growth for students in grades 4-8 by comparing a student's math or reading score to the student's previous score.

Accountability

The Minnesota Department of Education must:

- Use test results and other measures to identify school districts and charter schools not meeting the World's Best Workforce goals outlined in law.[a]

The Minnesota Department of Education may:

- Require underperforming school districts and charter schools to use 2 percent of their general education funding to address World's Best Workforce goals.

School districts and charter schools must:

- Develop a plan to promote student success using World's Best Workforce goals.
- Report annually on World's Best Workforce progress using test scores and other measures.
- Evaluate teachers and principals using a system that is based at least 35 percent on assessment results.

College Placement

Minnesota State institutions:

- Must *not* place a student in a remedial, noncredit course if the student received a college-ready benchmark score on a statewide standardized test in the corresponding subject area.

[a] World's Best Workforce goals include improving school readiness; meeting third grade literacy goals; closing achievement gaps; promoting career and college readiness; and graduating students from high school. *Minnesota Statutes* 2016, 120B.11, subd. 1(c).

SOURCE: Office of the Legislative auditor, based on *Minnesota Statutes* 2016, 120B, 122A, 123B.47, 124E.03, and 136F.302.

Minnesota also sets some requirements for standardized tests adopted at the local level. Minnesota requires school districts and charter schools serving high school students to offer a nationally recognized college entrance exam to students in 11th and 12th grades.[37] Either the ACT or SAT college entrance exams (or both) may be used, and the state will reimburse districts for the cost of purchasing the tests. School districts and charter schools serving lower elementary students must measure the reading proficiency of students in grades K-2 using a locally selected assessment.[38] Lastly, school districts and charter schools are prohibited from using locally adopted standardized tests to test students for more than 10 or 11 hours of student time, depending on grade level.[39]

- **Reporting.** State law requires that MDE provide individual test results to school districts and charter schools within three days of test completion.[40] Statutes also require MDE to report a "career and college readiness" score for students starting in grade three, a requirement that we discuss further in Chapter 5.[41] In addition, state law requires MDE to calculate student growth scores based on MCA results from previous years, indicating high, medium, or low student growth for the current year.

- **Accountability.** State law creates another accountability system, called the World's Best Workforce, that is separate from the accountability system required by federal law.[42] As we described above, federal law requires that states use school performance on standardized tests, among other factors, to evaluate and rank *schools*. The World's Best Workforce legislation requires school *districts* (and charter schools, which are treated as districts) to create and implement a plan that sets goals for locally chosen measurements of student success. The locally chosen measurements must include statewide standardized test scores, among other indicators. Unlike the federal requirements for evaluating schools, the World's Best Workforce law does not require school districts and charter schools to incorporate English language proficiency test scores into their measurements of success.

  Every three years, MDE must identify school districts and charter schools not "making significant progress" toward improving teaching and learning as outlined in their World's Best Workforce plans. MDE may require underperforming districts to use up to 2 percent of their general education revenue in each of the following three years to take MDE-specified actions intended to improve outcomes.

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[37] *Minnesota Statutes* 2016, 120B.30, subd. 1(e); and 124E.03, subd. 2(b). The requirement is only in effect if state funding is available.

[38] *Minnesota Statutes* 2016, 120B.12, subd. 2(a).

[39] School districts and charter schools may exceed this limit if teacher representatives agree. *Minnesota Statutes* 2016, 120B.301.

[40] *Minnesota Statutes* 2016, 120B.30, subd. 1a(d)(1).

[41] *Minnesota Statutes* 2016, 120B.30, subd. 1(m). Legislation passed in 2016 introduced a grammatical ambiguity in the statute that makes this requirement less clear than in earlier versions of the law. MDE's interpretation is that the law still applies as it did before the language was changed. See *Laws of Minnesota* 2015, First Special Session, chapter 3, art. 3, sec. 7, subd. 1(m); and *Laws of Minnesota* 2016, chapter 189, art. 25, sec. 16, subd. 1(m).

[42] *Minnesota Statutes* 2016, 120B.11. World's Best Workforce goals include improving school readiness; meeting third grade literacy goals; closing achievement gaps; promoting career and college readiness; and graduating students from high school. *Minnesota Statutes* 2016, 120B.11, subd. 1(c).

- **College placement.** Minnesota State institutions are prohibited from placing a student in a remedial, noncredit course if the student received a college-ready benchmark score on a statewide standardized test in the corresponding subject area.[43]

Minnesota's assessments have evolved significantly over the last decade, in part due to changes in federal requirements, but also due to changes in state law. Exhibit 1.3 shows some recent changes to testing law in Minnesota. As is shown in the exhibit, the Legislature has made significant changes to Minnesota's testing laws almost every biennium in the past decade. In some instances, the Legislature has introduced significant policy changes, only to reverse itself. For example, the Legislature added and subsequently removed a requirement that all Minnesota high school students take a national college entrance exam. After the passage of the requirement in 2013, MDE contracted with ACT to deliver the assessment statewide. However, within two years, the Legislature changed course and removed the requirement, instead requiring school districts and charter schools to provide an opportunity for students to take the test on an optional basis, with costs paid by the state.

Exhibit 1.3: Selected Changes to State Assessment Law

Year	Summary of Change
2007	Introduced the Graduation-Required Assessments for Diploma (GRAD). To graduate high school, students had to pass the GRAD writing test and achieve either (1) proficient Minnesota Comprehensive Assessment (MCA) reading and math scores, or (2) a passing score on the GRAD assessment items embedded in the MCAs.
2011	Required that teacher evaluations be at least 35 percent based on test scores
2013	Required that statewide assessments in math and reading be computer adaptive and contain above-grade and below-grade questions
2013	Required MDE to calculate and report college and career readiness scores
2013	Began phasing out GRAD test requirements
2013	Required students to take a national college entrance exam to graduate high school
2013	Adopted World's Best Workforce legislation, a district-level state accountability system
2015	Removed the graduation requirement for students to take a national college entrance exam, instead requiring school districts and charter schools to provide such an exam as an option for students
2015	Limited student time spent taking locally adopted assessments to a maximum of 10 or 11 hours per school year (depending on grade level)
2016	Required school districts and charter schools to publicly post assessment calendars, and required MDE to publish forms for parents who wish to refuse statewide standardized tests for their children
2016	Required Minnesota State institutions to use high school MCA scores for student placement purposes

SOURCE: Office of the Legislative Auditor, based on *Laws of Minnesota* 2007, chapter 146; *Laws of Minnesota* 2011, First Special Session, chapter 11; *Laws of Minnesota* 2013, chapter 116; *Laws of Minnesota* 2015, First Special Session, chapter 3; and *Laws of Minnesota* 2016, chapter 189.

[43] *Minnesota Statutes* 2016, 136F.302, subds. 1 and 1a.

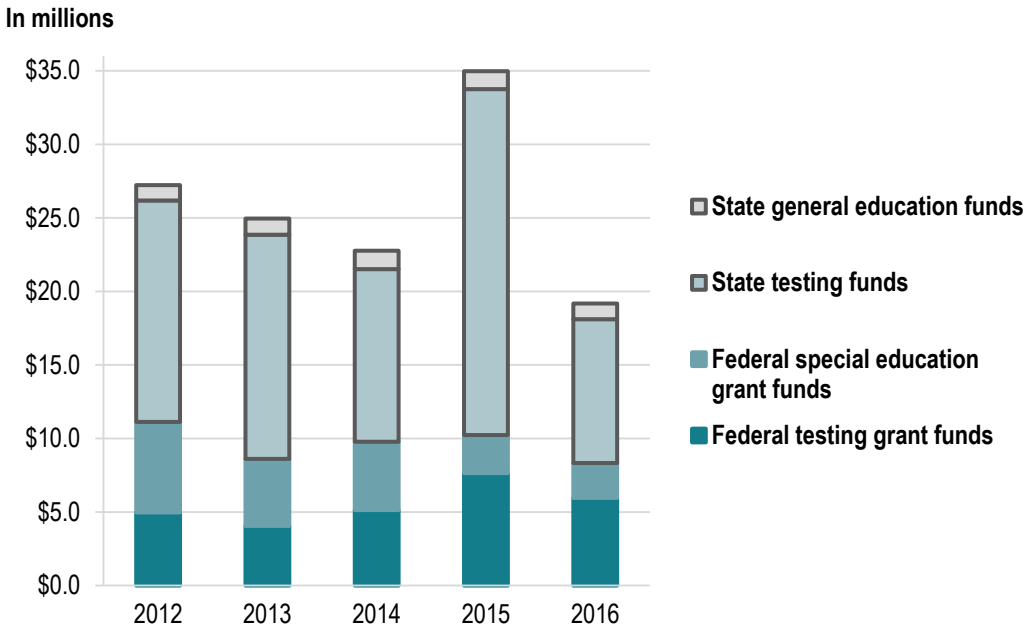
Funding

MDE funds standardized testing from a combination of federal and state sources. Funding amounts stayed fairly constant for many years. However, as we discuss below, funding for testing changed significantly in the last two fiscal years.

Revenue

As shown in Exhibit 1.4, MDE's funding for its standardized testing work is drawn primarily from four sources: federal grants to states for assessments, federal special education grants, state appropriations for assessments, and general state funding for MDE.[44]

Exhibit 1.4: Funding Sources for Minnesota Department of Education Testing Activities, Fiscal Years 2012-2016



NOTE: The Minnesota Department of Education (MDE) may shift state funds within a biennium. MDE carried forward $4.2 million in state appropriations from Fiscal Year 2014 to Fiscal Year 2015 (shown above as part of testing activities in 2015), and also carried forward $1.4 million from Fiscal Year 2016 to Fiscal Year 2017 (not shown on this chart).

SOURCE: Office of the Legislative Auditor, analysis of Minnesota Department of Education data.

[44] In addition, MDE uses some of the federal funding it receives through Title I of the Elementary and Secondary Education Act to support its interpretation of test results, particularly the analysis and reporting of test results for federal accountability purposes. We do not discuss that funding in detail in this report; MDE used approximately $100,000 of Title I funding for its accountability work in 2016.

Federal Funding

The federal funding MDE receives to develop, deliver, and maintain assessments is awarded through grant programs.[45] The amount of funding allocated to each state for the most significant grant programs is determined by a formula.[46] Thus, the amount of money MDE receives varies from year to year based on several factors, such as the population of children in Minnesota compared to the country as a whole. In addition, MDE has occasionally received competitive federal grants to support its assessment work.

In most recent years, federal sources have funded more than one-third of the Minnesota Department of Education's standardized testing expenditures.

Except for 2015, federal funding accounted for at least 35 percent of MDE's funding for standardized tests in each of the past five years. In 2015, the Legislature allocated extra funding for testing and MDE shifted some state funding from the previous year; as a result, the federal proportion of the total was 29 percent.

The overall amount of federal funding available for MDE's standardized testing work has declined, from $12.8 million in Fiscal Year 2012 to $8.8 million in Fiscal Year 2016, not accounting for inflation. This reduction is almost entirely due to reduced use of federal special education funding for testing purposes. MDE used $6.2 million in federal special education funding for testing in Fiscal Year 2012, but only $2.4 million in Fiscal Year 2016. The federal government does not specifically designate special education funding for assessment purposes; MDE determines how much of its special education grant to use for assessment. MDE staff told us that the department has shifted this revenue to other uses, partly because MDE's special education division has prioritized other purposes for the funds, and partly because MDE's testing division reduced some costs for testing students with disabilities.[47]

The federal funding that the state receives to implement standardized testing is dwarfed by a much larger amount of federal funding that is *contingent* on the state's use of standardized tests. In Fiscal Year 2016, Minnesota used $325 million in federal educational funding under Title I and Title III of the Elementary and Secondary Education Act and the Individuals with Disabilities Education Act (IDEA). These major federal education funding programs require that states and local educational entities administer assessments as required by federal law in order to receive funding. In addition, some smaller federal grant programs, such as those for teacher training (Minnesota used $29 million in 2016) and charter school programs ($5 million) implicitly or explicitly require recipients to follow federal assessment requirements.

[45] The following discussion excludes funding and expenditures related to the National Assessment of Education Progress (NAEP), a federally sponsored test administered in a sample of schools that is not part of Minnesota's assessment program. MDE arranges administration of the NAEP in Minnesota using exclusively federal funding.

[46] Technically, MDE does not receive federal funding and then decide how to spend it; the state spends the money first, and is then reimbursed by the federal government.

[47] For example, MDE has reduced some printing and equipment costs because many accommodations for students with disabilities can now be built into the computer-administered testing environment.

State Funding

For its standardized testing work, MDE relies on both a specific appropriation in the biennial education funding bill and general funding provided to MDE.

The Legislature reduced its Fiscal Year 2016 appropriation for statewide standardized tests substantially below previous levels.

Legislative appropriations for MDE's standardized testing work have changed substantially in the past two years. The Legislature has (1) provided additional funding for high school students to take college entrance exams, and (2) slightly increased, then sharply reduced funding for standardized tests that meet federal and state requirements.

In school year 2014-2015, MDE arranged for all Minnesota 11th graders in public schools to take a college entrance exam, as required by state law.[48] The Legislature increased MDE's testing allocation in Fiscal Year 2015 to cover the cost of the chosen exam (the ACT), although there was no specific line item. For the 2015-2016 school year, the Legislature removed the mandatory requirement and instead directed school districts and charter schools to offer students in grades 11 and 12 the opportunity to take a college entrance exam.[49] For fiscal years 2016 and 2017, the Legislature provided money in a separate line item for MDE to reimburse school districts and charter schools for these costs (about $3 million each year).

Although the Legislature did not distinguish among the uses of its statewide testing allocation in Fiscal Year 2015, MDE received an overall net increase in state funding for its ongoing testing program that year after taking college entrance exam costs into account. For Fiscal Year 2015, the Legislature allocated $21 million for statewide testing, compared to $16 million the previous year. MDE spent $4.1 million in Fiscal Year 2015 to provide the college entrance exam, so the overall amount of state funding for the department's ongoing testing work increased by about $0.9 million.[50]

The 2015 Legislature reduced state funding for the tests used to meet federal requirements to $11.2 million for Fiscal Year 2016 (as we noted above, spending for college entrance exams was moved to a separate line item). The new funding amount was a 30 percent decrease from the level two years earlier. As we show in Exhibit 1.5, standardized testing appropriations for fiscal years 2016 and 2017 for tests meeting federal requirements are at their lowest level since 2005, after accounting for inflation.

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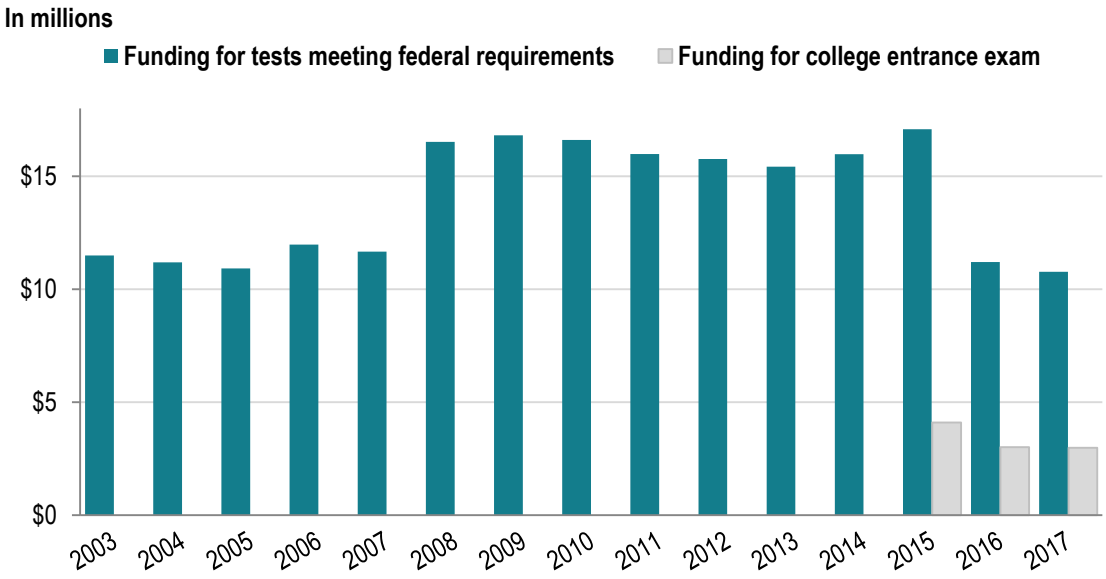
[48] *Laws of Minnesota* 2013, chapter 116, art. 2, sec. 12.

[49] *Laws of Minnesota* 2015, First Special Session, chapter 3, art. 3, sec. 7, codified in *Minnesota Statutes* 2016, 120B.30, subd. 1(e). As written, the law's applicability to charter schools is ambiguous. However, both legislative and MDE staff told us that the law was intended to apply to charter schools and MDE has implemented the law accordingly.

[50] The $4.1 million figure represents the amount MDE paid to ACT to provide a national college entrance exam to all 11th graders. It does not include any additional costs MDE may have incurred to administer the ACT contract.

Exhibit 1.5: State Funding for Standardized Testing, Adjusted for Inflation, Fiscal Years 2003-2017



NOTES: Amounts are in 2016 dollars. Data were adjusted for inflation using the Consumer Price Index—Midwest Urban Area from the Bureau of Labor Statistics. The 2017 adjustment for inflation is estimated by averaging the annual inflation rates for 2012-2016.

SOURCE: Office of the Legislative Auditor, analysis of appropriation laws.

Expenditures

Over the past five years, about 90 percent of MDE's test-related expenditures have been directed to testing vendors—companies that develop, deliver, and maintain the state's standardized tests. MDE has used the remaining 10 percent for personnel costs and other administrative expenses, such as travel and printing. MDE spent $19.2 million to deliver standardized tests in Fiscal Year 2016.

Vendor Payments

MDE has used both federal and state funding to pay the state's testing vendors. Total payments to vendors have varied over the past five fiscal years, ranging from nearly $32 million in Fiscal Year 2015 to a little less than $16 million in Fiscal Year 2016.[51] We provide more detail on payments to vendors in Chapter 3.

Administration

MDE's Division of Statewide Testing employs a staff of about 30 individuals who ensure that the required assessments are available to public schools in the state. These individuals oversee test development, conduct research, analyze data, oversee data reporting, manage state contracts, and support school districts and charter schools with testing needs.

[51] The figure for Fiscal Year 2016 does not include approximately $2.8 million paid to school districts and charter schools as reimbursements for the costs of administering national college entrance exams in 2016, because (1) MDE did not make these payments directly to vendors, and (2) MDE made the payments in fiscal year 2017.

Administrative expenses have gradually increased over the last five fiscal years; in Fiscal Year 2016, MDE spent $3 million on personnel and administrative expenses related to standardized testing. Federal sources currently fund more than half of the total cost of salaries and benefits for MDE's assessment staff and nearly all of the cost of other administrative expenses.

Local Costs

Local school districts and charter schools do not have to pay MDE for test administration or test reporting for the standardized tests managed by MDE. However, many school districts and charter schools do incur costs for equipment, software, staffing, and other administrative needs when administering these tests. We discuss these costs further in Chapter 4. Neither MDE nor the federal government provides school districts or charter schools with funding specifically targeted to standardized testing expenses. Local entities can choose to use some of the federal or state money that they receive for broader educational purposes to defray testing costs.

Chapter 2: Testing in Minnesota

Minnesota schools administer several different assessments to fulfill requirements in federal and state law. Schools may also administer locally adopted assessments that can provide additional information for their day-to-day instruction. In this chapter, we review the primary purposes of assessments in Minnesota. We then describe Minnesota's statewide assessments in detail before briefly discussing locally adopted tests.

Test Purposes

Most Minnesota schools administer several standardized tests that are designed to meet different purposes. In general, tests that assess student academic achievement can be placed into one of three categories based on the primary purpose of the test:[1]

- **Summative tests** are used to measure student abilities *at the end* of a course of learning. They measure the cumulative amount of knowledge or skill a student has gained during a particular course of study or specific period of time. Examples include statewide achievement tests meeting federal requirements, high school exit exams, advanced placement tests, and professional licensing tests (such as a bar exam for attorneys).

- **Formative tests**, also called diagnostic tests, are used to measure student abilities *during* a course of learning. They measure the amount of knowledge or skill in a particular content area that a student has gained so far. They may confirm that students have mastered previous material so that new material can be presented, or perhaps highlight gaps that could be addressed by further, targeted instruction. Examples include many curriculum-based tests and quizzes and various commercial standardized tests designed to assess students several times during the school year.

- **Placement tests** are used to measure student abilities for the purpose of selecting the most appropriate educational setting or to determine whether specialized services should be provided. Examples include special education diagnostic assessments, language proficiency tests, and gifted and talented screening tests.

The boundaries between these categories are fuzzy; tests may provide information that is useful beyond their primary purpose. For example, summative test scores might provide helpful information to educators deciding which students should participate in gifted and talented programs. However, the scores will likely be less useful than information from a test designed specifically to identify students who could benefit from such programs.

Federal regulations require that state tests address the "depth and breadth" of the state's grade-level academic standards, so Minnesota's statewide tests must be *summative* tests of students' proficiency.[2] However, Minnesota state law requires that some statewide tests

[1] The categories listed here are based on Steve Ferrara and Gerald E. DeMauro, "Standardized Assessment of Individual Achievement In K-12," in Robert Brennan, ed., *Educational Measurement*, Fourth Edition (Westport, CT: American Council on Education and Prager, 2006), 579-621.

[2] Title I—Improving the Academic Achievement of the Disadvantaged—Academic Assessments, 81 *Federal Register*, 88,931 (2016) [to be published at 34 *CFR*, sec. 200.2(b)(3)(ii)(A)(2) (2017)].

serve as *formative* and *placement* tests as well.[3] As we discuss in Chapter 5, requiring that tests serve so many purposes creates challenges.

Statewide Assessments

As discussed in Chapter 1, federal and state laws require the assessment of student learning in Minnesota's public schools.[4] To meet these requirements, the Minnesota Department of Education (MDE) maintains a Division of Statewide Testing, which ensures that the required assessments are designed or procured and available to all public schools in the state. In general, MDE provides the tests and guidelines for administration, and school districts and charter schools are responsible for ensuring that the appropriate students take each required test. Exhibit 2.1 summarizes the assessments MDE uses to meet federal requirements.

Exhibit 2.1: Minnesota Assessments Meeting Federal Requirements, 2015-2016

Assessment	Subject	Total Scores Reported in 2016
Minnesota Comprehensive Assessments (MCAs)		
Assesses math and reading proficiency of students in grades 3-8 and once in high school. Assesses science proficiency for students in grades 5 and 8 and once in high school.	• Math • Reading • Science	435,130 438,172 180,511
Minnesota Test of Academic Skills (MTAS)		
Assesses proficiency of students with severe cognitive disabilities in the same grades and subjects as the MCAs.	• Math • Reading • Science	6,495 6,546 2,758
ACCESS for English Language Learners		
Assesses English language proficiency of identified English learners in K-12.	• Reading • Listening • Speaking • Writing	69,609 69,680 69,036 68,903
Alternate ACCESS for English Language Learners		
Assesses English language proficiency of identified English learners with severe cognitive disabilities in K-12.	• Reading • Listening • Speaking • Writing	650 655 644 646

NOTES: The science MCA and MTAS tests are administered in fewer grades than reading and math tests. Numbers vary across subjects due to circumstances such as absences or student refusals. School districts and charter schools may invalidate tests after they are given (for example, due to behavior issues), so the total number of tests administered is likely slightly larger than the number of reported test scores.

SOURCE: Office of the Legislative Auditor, analysis of Minnesota Department of Education test score data, 2016.

[3] See *Minnesota Statutes* 2016, 120B.30, subd. 1(d)(4); and 136F.302, subd. 1a.

[4] 20 *U.S. Code*, sec. 6311(b)(2)(B)(i)(II) (2016); and *Minnesota Statutes* 2016, 120B.30, subds. 1(a) and 1a(c).

MDE asks each school district and charter school to identify a district assessment coordinator and each school within a district to identify a school assessment coordinator. These staff serve as liaisons with MDE and usually coordinate test scheduling, training, and computer set-up. The specific duties for these coordinator roles vary across schools and districts.

Minnesota Comprehensive Assessments

Federal law requires states to assess students in math, reading, and science in specific grades.[5] The Minnesota Comprehensive Assessments (MCAs) are designed to meet this federal requirement.[6] As Exhibit 2.2 shows, students take the MCAs in math and reading in grades 3-8. Students take the high school reading MCA in grade 10 and the high school math MCA in grade 11. Students take the science MCA in grades 5 and 8 and once in high school, typically in whichever year the student is enrolled in a life science course.

Exhibit 2.2: Minnesota Statewide Standardized Tests, 2016

Grade	Reading MCA	Math MCA	Science MCA[a]	Reading ACCESS	Listening ACCESS	Speaking ACCESS	Writing ACCESS
K				✓	✓	✓	✓
1				✓	✓	✓	✓
2				✓	✓	✓	✓
3	✓	✓		✓	✓	✓	✓
4	✓	✓		✓	✓	✓	✓
5	✓	✓	✓	✓	✓	✓	✓
6	✓	✓		✓	✓	✓	✓
7	✓	✓		✓	✓	✓	✓
8	✓	✓	✓	✓	✓	✓	✓
9				✓	✓	✓	✓
10	✓			✓	✓	✓	✓
11		✓	✓	✓	✓	✓	✓
12				✓	✓	✓	✓

NOTES: The Minnesota Comprehensive Assessments (MCAs) are the statewide tests Minnesota uses to meet federal testing requirements for reading, math, and science. The ACCESS for English Language Learners are the statewide tests Minnesota uses to meet federal testing requirements for English proficiency. When students' English skills have progressed to the point they are no longer identified as English learners, they stop taking the ACCESS tests. Students with severe cognitive disabilities may take alternate tests instead of the MCAs and ACCESS tests. Elementary schools must also administer locally selected literacy tests in grades K-2. High schools must also offer students an opportunity to take a national college entrance exam in grade 11 or grade 12.

[a] Students take the science MCA in one high school grade, typically the grade in which the student takes life science coursework.

SOURCE: Minnesota Department of Education, *Testing Procedures Manual*.

[5] 20 *U.S. Code*, sec. 6311(b)(2)(B)(v) (2016).

[6] Throughout this report, we refer to Minnesota's tests by their simplified abbreviations. When MDE releases a new edition of a test, it indicates that the test has changed by giving the test a new numeric designation. For example, the current iteration of the MCA is the MCA-III, which replaced the MCA-II in 2011 for math grades 3-8, 2012 for science, 2013 for reading, and 2014 for math grade 11.

The MCAs test students' proficiency on the state's academic standards in math, reading, and science. Minnesota has academic standards in other subjects, including fine arts and physical education, but the state does not assess proficiency on those standards. The academic standards were first implemented in the early 2000s (the year varies depending on the subject), and must be revised periodically according to state law.[7]

The Minnesota Department of Education convenes stakeholder groups that are closely involved in developing the MCAs.

MDE convenes multiple stakeholder advisory groups to advise the department on various aspects of standardized testing, including groups focused on standards, accountability measures, technology, and test design. According to MDE's technical manual, more than 2,000 Minnesota educators had served on a committee related to the development of statewide tests as of September 2015.

MCA Test Creation

MDE staff begin the test-development process by using the state's academic standards to create test specifications for eligible test content in each subject and grade level. MDE then works with a vendor, a company that specializes in large-scale testing, to oversee the development of test questions based on the academic standards and test specifications. The vendor hires test question writers who produce draft items for review. After an initial review by MDE and vendor staff, the questions are reviewed by committees of teachers that may recommend editing or deleting test questions based on their own professional judgment.[8] If MDE and the committees reject too many questions, the vendor must develop more at its own cost. After questions have been vetted by the committees of educators, the vendor does additional quality checks before the questions are ready to use.

MCA Test Administration

MDE determines the time period during which school districts and charter schools must administer the MCAs. The 2016 MCA testing period spanned ten weeks from early March through mid-May.[9] There is no time limit for an individual student to complete a test, but schools must complete all testing during this period. Exhibit 2.1 shows the total number of tests administered and scored during the 2016 MCAs. More than 430,000 math and reading MCA test scores were reported in 2016.

The MCAs are administered electronically, on desktop computers, laptops, or tablets, depending on each school's preference and technological capacity.[10] School districts and charter schools must meet the test vendor's technical specifications in order to operate software for the MCAs. We discuss challenges in complying with technology requirements in Chapter 4.

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[7] *Minnesota Statutes* 2016, 120B.021, subd. 4.

[8] Each MCA and MTAS test has multiple committees for different grade levels (for example, new question review for third- and fourth-grade math). There are also committees that work across grade levels, for example, to review test questions for potential bias.

[9] The window for science MCAs ended slightly later than the windows for math and reading.

[10] Students with special needs may receive accommodations that allow them to take the test with paper and pencil.

Schools may choose to administer tests in many different settings. As part of our evaluation, we conducted site visits in seven school districts and charter schools and phone interviews with assessment coordinators in an additional three school districts; we also visited four other school districts to observe MCA testing and speak informally with school staff in the spring of 2016. The schools we visited primarily tested students in computer labs or in their regular classrooms using desktop or laptop computers. Each test session must have a proctor, who may or may not be the students' regular classroom teacher.

Schools may choose to schedule test sessions in different ways. For example, the 2016 reading MCAs for grades 3-8 comprised six sections. MDE estimated that it would take 2.5-3.5 hours for students to complete all sections. Some schools may ask students to complete the entire reading test in one sitting, while others may ask students to complete one section per day across several days.

As required by Minnesota law, math and reading MCAs in grades 3-8 are "adaptive" assessments, meaning that test questions a student receives depend on the student's answers to previous questions.[11] For example, if a student answers many of the first set of questions incorrectly, the next set of questions would adjust down in difficulty. The math MCA can adapt after each individual question. The reading MCA is structured around reading short passages, followed by several questions about each passage. Therefore, the reading MCA cannot adapt after each question, but only at the start of a new passage. Science MCAs are not currently adaptive.

ACCESS for English Language Learners

In addition to requirements for math, reading, and science standards, federal law also requires states to create standards for English language proficiency. States must use the standards to assess the proficiency of all public school students identified as English learners.[12] Minnesota uses the ACCESS for English Language Learners (ELLs) to meet this requirement.[13]

The ACCESS consists of four tests: reading, writing, speaking, and listening. English learners in K-12 take the ACCESS tests each year until their English skills are strong enough that they are no longer identified as English learners. Federal requirements for proficiency testing in math, reading, and science apply to all students, so most English learners in MCA-tested grades take both the MCAs and the ACCESS tests.[14]

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[11] *Minnesota Statutes* 2016, 120B.30, subds. 1(a) and 1a(c).

[12] 20 *U.S. Code*, secs. 6311(b)(1)(F) and 6311(b)(2)(G) (2016). An English learner is a student who first learned a language other than English, usually speaks a language other than English, or comes from a home where English is not usually spoken, and who lacks the necessary English skills to participate fully in academic classes taught in English. See *Minnesota Statutes* 2016, 124D.59, subds. 2(a) and 2a.

[13] ACCESS for ELLs originally stood for Assessing Comprehension and Communication in English State to State for English Language Learners. However, MDE and the consortium that develops this assessment have largely discontinued use of the assessment's full title.

[14] States may exclude students who have spent less than one year in U.S. schools (other than in Puerto Rico or other territories) from taking reading assessments, but not math or science assessments. However, such students' test scores need not be included in the calculations for a school's ranking in the state accountability system. See 20 *U.S. Code*, secs. 6311(b)(2)(B)(vii)(III) and 6311(b)(3)(A) (2016).

The ACCESS tests are developed by WIDA, a consortium comprising 35 states and several territories.[15] Because states must use a test that is aligned with state academic standards, Minnesota had to modify its English language proficiency standards in order to be able to use ACCESS. WIDA provides its members with a model set of standards that they can adopt. Minnesota adopted the WIDA standards as its own and began using the ACCESS tests in the 2011-2012 school year.[16]

ACCESS Test Creation

In contrast to the MCAs, which are designed specifically for Minnesota, the ACCESS tests are "off-the-shelf" assessments. Neither MDE nor Minnesota educators are highly influential in the design and review of ACCESS test questions. As only one member of the WIDA consortium, MDE has some influence over test content, but it does not have the same level of control that it has over the MCAs.

ACCESS Test Administration

As with the MCAs, MDE sets the time period within which schools may administer the ACCESS tests. The 2016 administration testing period spanned eight weeks in February and March. Unlike the MCAs, the ACCESS tests are timed; students are expected to finish each test within a particular time period. The total allowed testing time for all four tests is 2 hours and 50 minutes. However, the time limit is not strictly enforced. Proctors may allow students to test for longer than allotted if the students can "productively use a reasonable amount of additional time."[17]

Prior to the 2016 administration, the ACCESS tests were administered with paper and pencil. Beginning in 2016, the ACCESS tests were primarily administered in a computerized format.[18] The speaking tests, for example, were completed using a headset microphone in response to computer-delivered prompts, instead of being administered one-on-one by a teacher. As we discuss in Chapter 4, this change required some school districts to purchase additional equipment in order to administer the test. While ACCESS administration practices vary across school districts and charter schools, some districts we visited told us that English language teachers tend to schedule and administer the ACCESS tests to their students.

The ACCESS tests are a large proportion of the standardized tests administered by school districts and charter schools with many English learners.

[15] WIDA originally stood for World-Class Instructional Design and Assessment, but the organization dropped the acronym definition and now simply calls itself WIDA. WIDA's members are Alabama, Alaska, Colorado, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, New Hampshire, New Jersey, New Mexico, Nevada, North Carolina, North Dakota, Rhode Island, South Carolina, South Dakota, Oklahoma, Pennsylvania, Tennessee, Utah, Vermont, Virginia, Wisconsin, Wyoming, the District of Columbia, the Northern Mariana Islands, the U.S. Virgin Islands, and the Bureau of Indian Education.

[16] *Minnesota Rules*, 3501.1200-3501.1210, published electronically October 3, 2013. An ELL administrator at MDE commented that Minnesota's previous English proficiency standards would have needed to change in any case; they had become out-of-date and no longer reflected current research on English language instruction.

[17] Extra time is also an available accommodation for students with disabilities.

[18] All sections of the kindergarten ACCESS are still administered using paper and pencil. In addition, the writing portion of the ACCESS is administered using paper and pencil in grades 1-3.

As noted above, the ACCESS has four tests, and students identified as English learners take each component annually. The MCAs are composed of three tests, and are given only to students in select grades. As a result, some school districts and charter schools administer more ACCESS tests than MCA tests each year. For example, Richfield Public Schools administered approximately 5,700 ACCESS tests in 2016, compared to nearly 5,200 MCA tests.

Alternate Assessments

Federal law requires that all public school students be tested, but it allows states to develop alternate versions of their required assessments for students with severe cognitive disabilities.[19] These alternate assessments must still be aligned with grade-level academic standards. For students that meet certain criteria, MDE provides the Minnesota Test of Academic Skills (MTAS), an alternate version of the MCAs, and the Alternate ACCESS for ELLs.

Test Creation and Administration for Alternate Assessments

The MTAS tests are developed through the same process as the MCAs. As with the MCAs, MDE develops test specifications with the input of local stakeholders, and a testing vendor creates test questions that are then reviewed by MDE and committees of educators. As with the ACCESS tests, the WIDA consortium develops the Alternate ACCESS tests for use by its member states.

All students receiving special education services have an individualized education program (often known as an IEP), which is developed with input from the students' teachers and parents (often known as an IEP team). In addition to outlining broad goals and strategies for the student's education, IEP teams decide whether students should take these alternate tests.

MDE's written guidance for teams suggests that they consider several factors, including (1) whether the student is functioning significantly below age expectations, (2) whether the student's disability has a significant impact on the individual's ability to function in multiple environments, and (3) whether the student needs extensive instruction and support to acquire and maintain academic and life skills.[20] An IEP team must *first* consider whether a student can appropriately take the MCAs or ACCESS (perhaps with accommodations), rather than assuming all students receiving special education are candidates for an alternate assessment.

The MTAS tests and the Alternate ACCESS tests are administered during roughly the same time period as their counterpart assessments. Both assessments are administered one-on-one. To administer each test, proctors ask students questions one at a time and record the students' responses. In some instances, students may answer nonverbally, for example by pointing to a card containing the answer. After the MTAS is concluded, proctors enter the student's scores into the vendor's online system; Alternate ACCESS results are packaged and shipped to that test's vendor.

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[19] 20 *U.S. Code*, sec. 6311(b)(2)(D) (2016).

[20] Minnesota Department of Education, *Procedures Manual for the Minnesota Assessments 2015-2016*, (Roseville, MN, 2015), 106-112.

Characteristics of State-Mandated Tests

The four state-mandated tests share some common characteristics, including having security standards and technology requirements, providing accommodations for some students, and meeting legal requirements. We discuss these common traits below.

Security

School districts and charter schools must comply with security rules when administering statewide assessments. For example, all test materials must be kept in a locked storage space. In addition, staff present during test administration are not permitted to read or discuss test content with students.[21] If students ask about a specific test question during or after the test, staff are instructed to provide only general guidance on that topic and not to explain or solve the specific question. District assessment coordinators must ensure that any staff associated with test administration receive training on test security.

Technology

School districts and charter schools administering statewide tests must meet specific technology requirements. Test-taking devices must be updated with the required software for each test, and testing coordinators or technology staff must complete online testing readiness checks before testing begins.

Accommodations and Supports

Students with disabilities who have certain specialized education plans may receive "accommodations" for both the MCAs and the ACCESS tests. Student IEP teams annually review and document students' accommodation needs.[22] MDE provides guidance for selecting appropriate accommodations for the MCAs. WIDA determines the available accommodations for the ACCESS tests. Most of the accommodations available for the ACCESS are similar to those for the MCAs, but the two lists are not identical. Students receiving testing accommodations might use paper test booklets (instead of taking computer-based tests) or hand-held calculators (instead of using a calculator on the computer).

In contrast to accommodations, "supports" are available to any student taking the MCAs and the ACCESS tests. Some supports—such as low-vision magnifiers—are built into the test itself; schools need to document that supports were provided.

For example, some district- and school-level staff told us they prefer to offer testing in small-group settings for some students, instead of having them test in a computer lab with dozens of other students.[23] As a "support," this practice is allowed for any student at any

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[21] Security guidelines do allow early access to test materials for staff who administer alternate tests so they can prepare materials. For example, staff may need to provide students with manipulatives (such as colored counting cubes) appropriate to each test question.

[22] Students with a disability may have a 504 plan or an IEP, depending on the law under which the student qualifies as a student with a disability. Federal law specifically requires that students with a disability have access to "appropriate accommodations." 20 *U.S. Code*, sec. 6311(b)(2)(B)(vii)(II) (2016). Similarly, state law requires that these students are able to access "technically sound" accommodations. *Minnesota Statutes* 2016, 120B.30, subd. 1a(g).

[23] Schools may not have sufficient staff, computers, or space available to allow for small-group or individual test sessions for every student that might find it helpful. However, schools *must* provide small-group or individual testing environments if the need is documented by an IEP team.

time. Some supports, such as text highlighting on the computer screen, are selected by the students themselves.

A separate set of linguistic supports is available for English learners taking the MCAs. Linguistic supports must be arranged ahead of time, but can simply be approved by a classroom or English language teacher and do not require the involvement of an IEP team. For example, English learners may have access to a dual-language dictionary for math and science assessments.

Compliance

Because MDE uses the MCAs and the ACCESS tests to meet federal requirements, it is required by federal law to ensure that the tests are administered to all public school students in the state.[24] However, MDE does not consistently check to see that tests are, in fact, being administered.

Examples of MCA Accommodations
(use requires approval)

- Paper test booklets (including braille and large-print)
- Computer-generated audio for text and graphics in science or math tests
- Sign language interpretation of science or math tests
- Hand-held calculators for math tests in specific grades
- Mathematics manipulatives, such as colored counting cubes

Examples of MCA Supports
(usable by any student)

- Testing in alternate settings or small groups
- Alternate screen size or resolution
- Text magnifiers
- Place markers
- Extended test time
- Computer-embedded tools, such as text highlighting
- Computer-generated audio for text in science or math tests
- Noise buffers

The Minnesota Department of Education has not enforced the federal requirement that all schools administer state-mandated tests to eligible students.

We found that one high school failed to administer the MCAs in 2014.[25] MDE staff appeared to be unaware of this omission until we asked about it, and staff acknowledged that there is currently no system in place to check that tests are being administered as required by school districts and charter schools.

In addition, we noted that several school districts or charter schools have reported far lower numbers of eligible test takers for some of their schools than there are students enrolled. Schools are supposed to account for all of their students; if there is no MCA or MTAS score for a student, then the student should be reported to MDE as absent, not taking the test because of a parent refusal, or one of several other classifications. However, some schools have large numbers of students that are unaccounted for. They have not taken the tests, and they are not reported in any other way. The missing students simply disappear from the data. MDE has not followed up with such schools to ask about the missing data. Instead, the department has simply reported test scores and calculated schools' ratings in the state's accountability system as if the incomplete count represented all students.

[24] 20 *U.S. Code*, 6311(b)(2)(B)(i)(II) (2016). As we note above, there is an exception for students with severe cognitive disabilities who take alternate tests and students who have recently arrived in U.S. schools.

[25] We identified another high school that did not administer the math MCA in 2015. According to the current superintendent, the district did receive an inquiry from MDE about the lack of testing.

RECOMMENDATION

The Minnesota Department of Education should ensure that public school districts and charter schools administer the required standardized tests.

The compliance issues that we found were rare. However, we are concerned that we found them and MDE did not. MDE should be checking to ensure that all schools are administering the state's mandated tests. The federal requirement is clear: the state must administer tests that meet federal requirements to all public school students. Failure to ensure that schools are meeting this requirement could potentially jeopardize federal funding.

Satisfaction with MDE

Various school and school district staff commented that MDE is generally doing a good job coordinating the development and delivery of Minnesota's assessments. We surveyed district assessment coordinators in every school district and charter school that administered the MCAs in 2016.[26] District assessment coordinators were generally satisfied or very satisfied with MDE's testing-related work. Nearly 90 percent of respondents said they were "satisfied" or "very satisfied" with MDE's communication about state testing requirements and testing policies and procedures, and 85 percent of respondents said they were "satisfied" or "very satisfied" with MDE's training related to standardized test administration. As we discuss in Chapter 5, many principals and teachers we heard from expressed dissatisfaction or frustration with testing policies and laws; however, only a handful expressed dissatisfaction with MDE's coordination of test development and delivery.

More than 80 percent of district assessment coordinators said they were satisfied or very satisfied with MDE's communication about:

- Assessment policies and procedures.
- State testing requirements.
- Federal testing requirements.
- Technological system requirements.
- Opportunities to participate in MDE work groups.

Other Mandatory Assessments

In addition to statewide assessments used to meet federal requirements discussed above, school districts and charter schools may have to administer three additional standardized assessments required by law. Two of these tests are required by state law and one is federally required.

- **College entrance examinations.** State law requires school districts and charter schools to offer students in grades 11 and 12 an opportunity to take a nationally recognized college entrance exam during the school day.[27] Districts and charter schools arrange the tests and pay the testing company, and can then be reimbursed by MDE. Minnesota allows school districts and charter schools to choose between administering the ACT and SAT (or both) to meet this requirement.

  Many stakeholders have expressed interest in the use of a national college entrance exam instead of the MCAs at the high school level to meet federal requirements.

[26] Refer to the Appendix for additional survey information.

[27] *Minnesota Statutes* 2016, 120B.30, subd. 1(e).

According to a survey of states by the Education Commission of the States, six states are using the ACT or SAT in 2016-2017 to meet federal testing requirements.[28] Some other states use the ACT or SAT in combination with other standardized tests to meet federal requirements.

However, federal law requires that state tests be aligned with state academic standards.[29] This requirement applies regardless of whether the test is a national college entrance exam. In 2014, MDE staff and consultants conducted an analysis to compare the ACT with MDE's test specifications, which are derived from the state's academic standards.[30] The analysis concluded that the ACT was insufficiently aligned with state academic standards. As a result, Minnesota would not be able to use the ACT to meet federal requirements without modifying its academic standards to more closely reflect the content measured by the test.

- **Literacy assessments.** State law also requires school districts and charter schools to select and administer an assessment to identify students who are not reading at grade level by the end of kindergarten, first, and second grades.[31] While local officials may choose the test they wish, administration of a literacy test is required for schools with students in those grades. No reimbursement is provided to school districts and charter schools to cover the costs of these tests.

- **NAEP.** The National Assessment of Educational Progress (NAEP) is given to a nationwide sample of students in grades 4, 8, and 12. The U.S. Department of Education—not MDE—is responsible for distributing this assessment, including selecting schools to participate and setting the test schedule. Tests are administered in a wide variety of subjects, but state-level results are provided only for math, reading, writing, and science. States, school districts, and charter schools receiving federal Title I funds must participate in NAEP reading and math tests, but no consequences or rewards are connected to NAEP performance. These assessments are not given every year; a sample of Minnesota schools will complete the math, reading, and writing assessments during the 2016-2017 school year.

Locally Adopted Tests

Most local staff told us their school district or charter school administers standardized tests in addition to those described above. Exhibit 2.3 lists the most common locally adopted tests reported by respondents to our survey of district assessment coordinators. Of the 395 respondents, only one reported that his district did not use any locally adopted standardized tests.

School districts and charter schools administer these additional tests for a variety of reasons—to gather information on students in nontested grades or to meet charter school

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[28] Education Commission of the States, "Math and English-Language Arts Assessments and Vendors for Grades 9-12 (2016-2017)," January 2017, http://ecs.force.com/mbdata/mbquestrt?rep=SUM1602, accessed January 19, 2017. According to this source, Connecticut, Illinois, Maine, and New Hampshire are using the SAT. Montana and Nebraska are using the ACT.

[29] 20 *U.S. Code*, sec. 6311(b)(2)(B)(ii) (2016).

[30] The study was required by state law. *Laws of Minnesota* 2013, chapter 116, art. 2, sec. 12.

[31] *Minnesota Statutes* 2016, 120B.12, subd. 2(a).

authorizer requirements, for example.[32] Likewise, school districts and charter schools use the results in many different ways, including to improve classroom instruction, place students in classes or groups based on ability, or measure student growth. We discuss further how school districts and charter schools use these tests in Chapter 5.

Exhibit 2.3: Most Common Locally Adopted Assessments Reported by Survey Participants, 2015-2016

Assessment Name	Description	Number of School Districts or Charter Schools Administering
Optional Local Purpose Assessment (OLPA)	Mid-year computerized assessment in math and reading aligned to state academic standards. Provided by MDE at no cost to districts. To be discontinued after the 2016-2017 school year.	232
Measures of Academic Progress (MAP)	Computerized assessments in reading, math, language usage, and science. Produced by the Northwest Evaluation Association.	217
Armed Services Vocational Aptitude Battery (ASVAB)	Computerized or pencil-and-paper test used for career exploration and to determine qualification for the U.S. Armed Forces. Provided by the U.S. Department of Defense at no cost. Typically administered at the secondary level.	202
ACCUPLACER	Computerized college placement test measuring skills in reading, math, writing, and computer skills. Produced by the College Board.	172
PSAT	Pencil-and-paper tests of reading, math, and writing and language. Designed as a precursor to the SAT college entrance exam. Produced by the College Board.	153
aimsweb	Assessments in reading, math, and language arts administered one-on-one or by computer. Produced by Pearson.	123
Star360	Computerized assessments in math and reading. Produced by Renaissance.	107
Formative Assessment System for Teachers (FAST)	Assessments in reading, math, and social-emotional behavior skills administered one-on-one or by computer. Produced by FastBridge Learning, a joint venture involving the University of Minnesota.	89
Fountas & Pinnell	Assessments measuring student reading levels administered one-on-one. Produced by Heinemann.	76

NOTES: We surveyed all 525 district assessment coordinators (DACs) statewide. MDE requires each school district and charter school to designate a DAC to serve as the primary contact with MDE and testing vendors regarding statewide tests. DACs ordinarily have local coordinating and organizational responsibilities. We received 395 responses, a response rate of 75 percent. We report the survey responses for the purpose of comparison. However, since one in four school districts and charter schools did not respond, all numbers shown above most likely undercount the actual totals. For example, data we received from MDE's testing vendor indicated that 323 school districts and charter schools administered the OLPA in 2016.

SOURCE: Office of the Legislative Auditor, survey of district assessment coordinators, 2016.

[32] A charter school authorizer is an organization granted authority in law to establish a charter school. An authorizer must monitor and evaluate the academic performance of any school it charters, among other responsibilities.

Chapter 3: Vendor Selection and Oversight

Producing a statewide standardized test is a major effort requiring resources and expertise. To assist in the development and delivery of Minnesota's standardized tests, the Minnesota Department of Education (MDE) uses outside vendors. In this chapter, we discuss how MDE selects test vendors and for what services, how MDE monitors and evaluates vendor performance, and MDE's payments for vendor services.

Overview

The testing landscape across the country is constantly changing due to shifting state approaches to testing, evolving academic testing theory, and new technological developments. Yet, many states have adopted a similar organizational approach to meeting testing requirements.

As is the case for most states, outside vendors develop, maintain, and distribute Minnesota's statewide tests.

States contract for testing services for a variety of reasons. MDE staff, for example, said that the department lacks sufficient staff and equipment to produce the tests required by law without the assistance of a contracted entity. To support Minnesota's current tests, MDE would need to develop and maintain secure testing computer systems and software. MDE does not have this logistical ability in-house.

By contracting with outside vendors, the state can also take advantage of economies of scale. Developing standardized tests involves certain fixed costs, such as the creation of a data system to score and analyze test responses. Testing vendors use the same software applications in multiple states, which helps to reduce testing costs for each individual state.

Most states contract with an outside vendor to provide the math, reading, and science tests they use to meet federal requirements.[1] Currently, Minnesota uses a combination of three for-profit and nonprofit assessment providers:

- **NCS Pearson, Inc.**, a for-profit corporation, develops and delivers the Minnesota Comprehensive Assessments (MCA) and the Minnesota Test of Academic Skills (MTAS).[2] Under MDE's direction, Pearson develops the online testing system for

[1] For more information about testing practices in other states, see Education Commission of the States, "State Summative Assessments 2016-2017," January 2016, http://ecs.force.com/mbdata/mbquest5E?rep=SUM1606, accessed February 15, 2017.

[2] The MCAs are standardized tests in math, reading, and science administered statewide to public school students in selected grades in order to meet federal requirements. The MTAS tests are the alternate tests to the MCAs for students with severe cognitive disabilities.

the MCAs, creates test questions, provides testing materials, scores tests, and collects and reports test data.[3]

- **WIDA**, a nonprofit testing consortium of 35 states affiliated with the University of Wisconsin-Madison's Wisconsin Center for Education Research, develops and delivers the ACCESS for English Language Learners (ELLs) and Alternate ACCESS for ELLs.[4] WIDA delivers the tests through a for-profit subcontractor, currently Data Recognition Corporation, or DRC. Under WIDA's direction, DRC provides the online testing system and testing materials, scores tests, and collects and reports test data to MDE and local educational entities.

- **HumRRO**, a nonprofit organization, provides independent verification of computations and analyses made by MDE and its primary vendor, including those used to rank schools under Minnesota's accountability system.[5] HumRRO also conducts quality checks during certain stages of MCA and MTAS design.

MDE contracts for additional services from its testing vendors beyond test design and delivery. For example, Pearson provides research and technical support for MDE's efforts to meet federal testing requirements through various studies on the design of Minnesota's tests. Pearson also provides additional learning supports for students, such as web-learning activities intended to improve student understanding of the state's academic standards. Pearson and WIDA also provide professional development resources to MDE and school districts and charter schools. HumRRO provides statistical support to MDE in a consultative capacity and has conducted or provided support for studies on whether tests are aligned with Minnesota standards and whether technical disruptions that interfered with testing affect test scores.

Vendor Selection

Minnesota law requires state agencies to choose a contractor that provides the "best value" to the state.[6] For the purposes of hiring vendors, MDE has organized its standardized testing work into three domains: (1) producing and delivering the MCAs and MTAS tests,

[3] Under its contract with MDE, Pearson also provides the Optional Local Purpose Assessments (OLPAs), optional tests offered in the fall and winter in reading and mathematics. The OLPAs are not used to meet federal or state requirements.

[4] The ACCESS tests are standardized tests of English language proficiency administered statewide to public school students identified as English learners in order to meet federal requirements. There are four ACCESS tests: reading, writing, speaking, and listening. The Alternate ACCESS tests are the alternate tests to the ACCESS for students with severe cognitive disabilities. WIDA's members are Alabama, Alaska, Colorado, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, New Hampshire, New Jersey, New Mexico, Nevada, North Carolina, North Dakota, Rhode Island, South Carolina, South Dakota, Oklahoma, Pennsylvania, Tennessee, Utah, Vermont, Virginia, Wisconsin, Wyoming, the District of Columbia, the Northern Mariana Islands, the U.S. Virgin Islands, and the Bureau of Indian Education.

[5] HumRRO is also known as the Human Resources Research Organization. As discussed in Chapter 1, federal law requires states to use assessment results as part of a "statewide accountability system" that evaluates schools on how well their students are performing and prescribes interventions where student test scores are low. 20 *U.S. Code* 6311(c)(4)(C) (2016).

[6] *Minnesota Statutes* 2016, 16C.02, subd. 4. "Best value" is the intended goal for state acquisitions of goods and services. Price must be one of the evaluation criteria; other evaluation criteria may include—but are not limited to—environmental considerations, quality, and vendor performance. State agencies must use a best value method for selecting contractors to conduct professional and technical services.

(2) producing and delivering English language proficiency tests, and (3) providing testing-related quality assurance services. MDE uses a separate selection process for each of these three areas of responsibility.

MCA and MTAS

While there are numerous testing vendors across the country, few are competitive for large state contracts; a 2012 report found that 89 percent of the money spent by states to meet major federal testing requirements went to only six testing companies.[7] The characteristics of a state's testing system—such as the extent of the system's technological requirements or the number of students tested—affect the number of potential bidders that will be competitive for a testing contract.

The Minnesota Department of Education implemented a thorough vendor selection process for its most recent MCA and MTAS contract.

MDE begins the contracting process by developing a request for proposals that outlines the expectations that successful proposals must meet.[8] MDE staff in the Division of Statewide Testing led this process during the most recent contractor selection process in consultation with departmental and Department of Administration contracting specialists. Once the request for proposals was ready for release, MDE directly notified more than 40 potential vendors and published the request for proposals in the *State Register*. The department received three bids.

Using a five-stage process, the department: (1) certified that each bid met the minimum requirements for consideration, (2) conducted a technical review of responses, (3) assessed responder demonstrations and interviews, (4) considered responder cost proposals, and (5) calculated the winning bid. We summarize this process in Exhibit 3.1. For the detailed analyses in stages (2) and (3), the department assembled a review committee comprising eleven MDE staff, three representatives of Minnesota school districts, and one national testing expert from MDE's technical advisory committee.

The review committee scored each bid without knowing the cost of the competing proposals. During the fourth stage of the process, pricing information was added to the overall score. MDE negotiated a contract with the top scorer, Pearson. The initial contract was effective from January 2014 through October 2016, with the option of continuing to extend the contract annually through the 2018-2019 school year.[9]

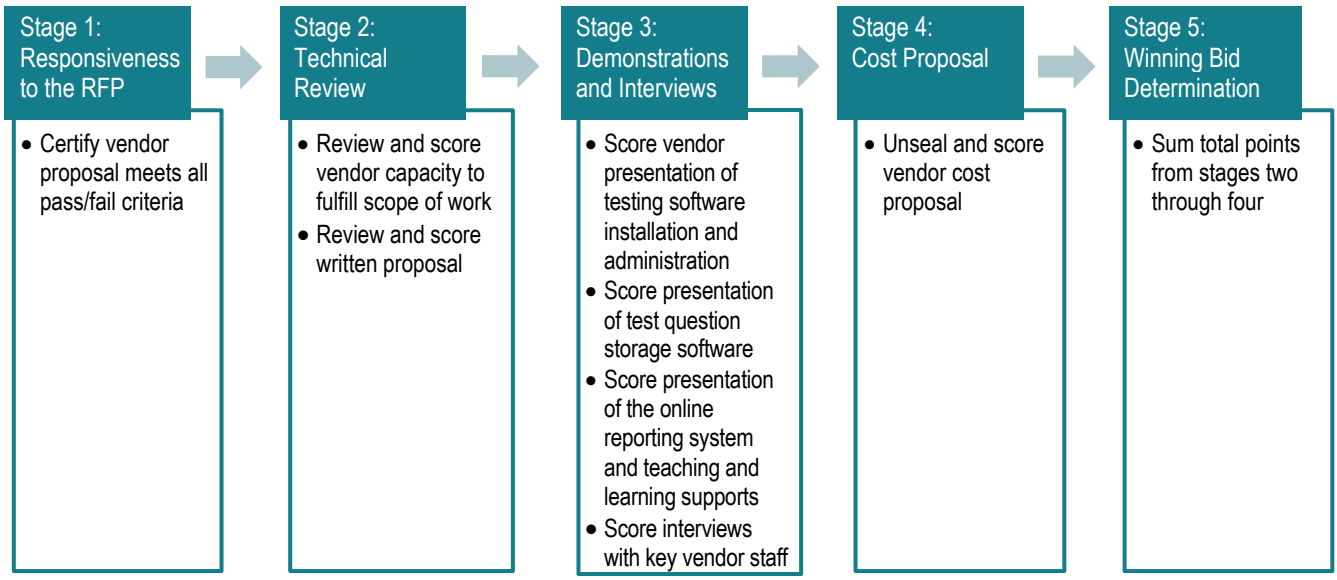
MDE consulted with Department of Administration staff throughout the test vendor selection process. When a state agency contracts with an outside entity, the agency is primarily responsible for selecting the contractor and monitoring its progress. However, the Department of Administration has authority to oversee all state contracting for professional

[7] The study included 45 jurisdictions (44 states and Washington, DC). Matthew Chingos, *Strength in Numbers: State Spending on K-12 Assessment Systems* (Washington, DC: Brown Center on Education Policy, 2012).

[8] A request for proposals (also known as an RFP) is a type of solicitation that outlines the bidding process and contract terms for work related to a particular project or program. An RFP may include a scope of work describing the tasks contractors must perform and a timeline for completion.

[9] In June 2016, MDE granted a contract extension through October 2017. Under state law, the term of the original contract must not exceed two years. The combined contract and extensions must not exceed five years. *Minnesota Statutes* 2016, 16C.06, subd. 3b(b).

Exhibit 3.1: How the Minnesota Department of Education Selected the MCA and MTAS Vendor, 2013



NOTES: The Minnesota Comprehensive Assessments (MCAs) are standardized tests in math, reading, and science administered statewide to public school students in selected grades in order to meet federal requirements. The Minnesota Test of Academic Skills (MTAS) tests are the alternate tests to the MCAs for students with severe cognitive disabilities. A request for proposals (also known as an RFP) is a type of solicitation that outlines the bidding process and contract terms for work related to a particular project or program. An RFP may include a scope of work describing the tasks contractors must perform and a timeline for completion.

SOURCE: Office of the Legislative Auditor, based on Minnesota Assessment System Request for Proposals, Minnesota Department of Education, July 2013.

and technical services.[10] A manager at the Department of Administration who worked with MDE on the agency's most recent testing contracts told us he had no concerns with MDE's contracting processes or its adherence to statutory requirements and Department of Administration guidelines.

Although MDE did not consult directly with local stakeholders while developing the request for proposals, staff said that anecdotal local feedback influenced both the content of the request for proposals and MDE's proposal evaluation criteria. As we noted above, MDE included three local representatives on its proposal review committee.

Recent vendors for the MCAs and MTAS tests were complimentary of MDE's contractor selection process and commented that MDE's procurement process was more robust than is typical in other states. For example, vendor staff commented that MDE's demonstration stage is an unusually strong component of the process that many other states do not use. During this stage, competing vendor representatives appear in person before the committee and demonstrate aspects of the testing software. Review committee members then use the vendor's products to take a test using actual Minnesota test questions.

[10] Professional and technical services are intellectual in character—such as consultation, analysis, evaluation, or programming—and result in the production of a report or the completion of a task. *Minnesota Statutes* 2016, 16C.08, subd. 1.

ACCESS and Alternate ACCESS for ELLs

The process of selecting a vendor for the ACCESS and Alternate ACCESS tests differs from the vendor selection process for the MCAs and MTAS tests.

The Minnesota Department of Education awards the ACCESS and Alternate ACCESS contract to a consortium without going through a competitive process.

Minnesota is a member of the WIDA consortium, an organization with many member states that designs and implements standards, assessments, and other educational opportunities for English learners.[11] Among other services, WIDA has developed English proficiency standards and English proficiency tests that states can use to meet federal testing requirements. MDE adopted the WIDA standards and began administration of WIDA's standardized tests, the ACCESS for ELLs, in 2012.[12]

The state gains several advantages by being a part of a testing consortium. Several studies have shown that consortia reduce costs for states because fixed costs are spread across a greater number of students, thus reducing the testing cost per student. Consortia also enable one test to be used across a larger number of students, which means that statistical conclusions are better supported and scores are easier to interpret. It is particularly helpful to have a larger pool of testers when a test is given to a small number of students in any one state—the Alternate ACCESS tests, for example, were given to less than 700 Minnesota students in 2015-2016. For these reasons, among others, most states have joined one of two large consortia that provide English language proficiency tests.[13]

Just as the department must reach a written agreement with a vendor to arrange for the development and delivery of the MCAs, MDE must come to a financial agreement with WIDA in order to use the ACCESS tests. However, because WIDA is a consortium of governmental bodies instead of a private company, MDE's agreement with WIDA is a joint powers agreement, not a contract.[14] Additionally, unlike the competitive bidding process MDE uses for the MCAs, MDE relies on a single-source process to obtain the ACCESS tests.[15] Therefore, MDE does not issue a request for proposals or evaluate competing bids for the ACCESS contract.

[11] An English learner is a student who first learned a language other than English, usually speaks a language other than English, or comes from a home where English is not usually spoken, and who lacks the necessary English skills to participate fully in academic classes taught in English. See *Minnesota Statutes* 2016, 124D.59, subds. 2(a) and 2a.

[12] *Minnesota Rules*, 3501.1200-3501.1210, published electronically October 3, 2013. MDE began administration of the Alternate ACCESS in 2013.

[13] States not in an ELL consortium are Arizona, California, Connecticut, Mississippi, New York, and Texas.

[14] Minnesota is technically party to a joint powers agreement with University of Wisconsin-Madison's Wisconsin Center for Education Research, the organizational home of WIDA. Joint powers agreements are defined as two or more governmental units—such as state agencies, cities, or counties—working together by agreement to exercise any power common to the contracting parties.

[15] A single-source is an acquisition where only one supplier is determined to be reasonably available for the required product or service. *Minnesota Statutes* 2016, 16C.02, subd. 18.

Quality Assurance

In addition to contracting for the development and delivery of state tests, MDE hires a third vendor under a relatively small contract to provide independent verification of certain testing-related computations and analyses. MDE contracts for these services through a competitive bidding process akin to that which is used to select the MCA and MTAS vendor. MDE most recently solicited proposals for quality assurance services in November 2014. The department received only one bid and selected HumRRO to continue providing these services. HumRRO has been Minnesota's quality assurance contractor since 2006.

Vendor Monitoring

To ensure that the state receives the services outlined in a contract, agencies should adequately monitor the contract's implementation through regular meetings, written progress reports, or regular work products.[16] Although statutes specify that agencies must diligently administer and monitor their contracts, neither Minnesota laws nor Department of Administration guidelines address how to monitor contracts in detail.[17] In the following section, we discuss MDE's monitoring of its testing vendors.

MCA and MTAS

MDE monitors the MCA and MTAS vendor's performance using a combination of meetings, ongoing review of the vendor's work, and regular reports.

The Minnesota Department of Education appropriately monitors the MCA and MTAS vendor.

MDE has developed a multi-pronged approach to overseeing Pearson, its current MCA and MTAS vendor. First, MDE monitors performance through multiple weekly meetings with the vendor to discuss aspects of Pearson's work, such as data and reporting needs, test content, and statistical considerations. At the conclusion of each project phase, MDE also holds "lessons learned" meetings with the vendor to discuss what went well and identify areas for improvement.

In addition to regular contract management meetings, MDE is closely involved in key test design and administration processes. While the vendor is largely responsible for designing and delivering the tests, MDE is involved in many stages of test design, including the development of test characteristics, approval of training for question writers, review of new test questions, and overall quality assurance testing. For example, MDE reviews all new MCA and MTAS test questions before questions are provided to teacher review committees for comment; MDE conducts another review of all MCA and MTAS test questions before they are field tested.

Finally, MDE's contract with Pearson includes expectations for service levels and related payment penalties for situations in which the vendor fails to meet those expectations. The

[16] Office of the Legislative Auditor, Program Evaluation Division, *Professional / Technical Contracting* (St. Paul, 2003), 45.

[17] *Minnesota Statutes* 2016, 16C.05, subd. 4; and Department of Administration, Office of State Procurement, *State Contracting* (St. Paul, last modified 2016).

contract stipulates service expectations for a variety of activities, including developing test questions, maintaining a functional testing platform, responding to calls from school districts and charter schools, and providing accurate reports. MDE monitors vendor performance for several of these services via reports regularly submitted by the vendor. MDE also withholds 10 percent of the vendor payment each school year until the vendor has satisfactorily fulfilled the terms of the contract.

MDE has imposed financial penalties above and beyond those that are outlined as part of the contract's expected service levels. In 2015, vendor technical difficulties led to complete MCA testing stoppages statewide on multiple days. In response, MDE used its ability under the contract to impose financial penalties. MDE and Pearson negotiated both a reduction in the total contract amount (a reduction of $1 million) and the provision of additional contractor services (ultimately worth approximately $1.5 million annually).[18]

The national testing experts on MDE's technical advisory committee praised MDE's management of its contractors, specifically commenting that the department's strong oversight has resulted in the vendor providing a higher quality product than it might otherwise. Further, the two most recent MCA and MTAS vendors told us they were satisfied with MDE's vendor management activities, such as communication, planning, and establishing clear performance expectations.

ACCESS and Alternate ACCESS for ELLs

Because the ACCESS and Alternate ACCESS tests are managed by a multistate consortium, MDE has less ability to control test quality and monitor vendor performance for those tests.

Unlike the MCAs, the Minnesota Department of Education cannot unilaterally control the content or delivery of the ACCESS tests.

Unlike the contract for the MCA and MTAS, in which MDE works with a contractor to design, administer, and score a test, ACCESS and Alternate ACCESS for ELLs are "off the shelf" tests. The research center affiliated with WIDA is fully responsible for design, administration, and scoring, and MDE purchases the tests as is as part of the joint powers agreement. As 1 of 35 states, Minnesota may affect ACCESS tests and WIDA policies—there is an MDE representative on the consortium's advisory board who attends quarterly meetings—but its influence is limited. MDE can only convey concerns to WIDA and request improvements, which WIDA can choose to address (or not).

The Minnesota Department of Education is limited in its ability to address vendor performance issues with the ACCESS tests.

For the same reasons that MDE is constrained in its ability to control ACCESS test content and delivery, it is likewise limited in its ability to address vendor performance issues. Unlike the MCA and MTAS contract, there are no penalties stipulated in the joint powers agreement for poor vendor performance for WIDA. There is also no clause in the WIDA agreement enabling the state to withhold final payment until the contract conditions are met.

[18] At the time MDE imposed financial penalties on Pearson for testing stoppages in 2015, the contract totaled nearly $40.8 million for services from January 2014 through October 2016.

According to MDE staff, the agency's primary recourse for poor WIDA performance involves leaving the consortium.

Further, WIDA subcontracts with a for-profit testing company for many of its testing activities, including the provision of the testing software, delivery of testing materials, data management, and scoring. If MDE has concerns about the subcontractor, the agency must communicate those issues to WIDA and rely on WIDA to communicate the issues to the subcontractor.

Overall, MDE staff commented that past administration of the ACCESS tests has gone smoothly. However, there were significant problems in 2016 with the rollout of new computerized ACCESS tests. MDE staff reported that some states were not able to begin testing as scheduled because the online testing system was not ready, and the vendor had to update published technical requirements in the middle of testing. Such transitions frequently encounter problems in the first year, so the second computer-based administration year (2017) will be an important test of WIDA's ability to successfully manage the transition.

WIDA faces additional challenges as it moves forward under the 2015 Every Student Succeeds Act (ESSA).[19] As discussed in Chapter 1, prior to ESSA, English language proficiency scores were not included in school accountability calculations required by federal law. Thus, WIDA had greater flexibility in how it delivered the ACCESS tests and provided testing data to its member states. Under ESSA, MDE staff will need to determine (1) how to incorporate English language proficiency tests into the state's accountability system and (2) whether WIDA and the ACCESS tests can continue to meet Minnesota's needs. Since the other members of the consortium will be making the same determinations, it is possible that competing preferences will make it difficult for WIDA to satisfy all of its members.

Vendor Costs

Exhibit 3.2 shows the amount MDE has paid to vendors since 2010. As we discussed in Chapter 1, about 90 percent of MDE's test-related expenditures are for testing vendors. While MDE currently relies on three vendors—Pearson, WIDA, and HumRRO—for testing services, MDE has used other vendors in the past. The MCAs and MTAS tests, for example, were provided by two different vendors during that time. Pearson held the contract until the end of the 2011 test administration period, after which the American Institutes for Research (AIR) held the contract through the close of the 2014 test administration. Pearson won the contract again in 2014.

MDE also contracted with ACT after the 2013 Legislature passed a requirement in 2013 that all 11th grade students in public schools take a college entrance exam.[20] As discussed in Chapter 1, the Legislature removed this requirement in 2015, and instead required school districts and charter schools to offer students an opportunity to take a college entrance exam on an optional basis.[21] Local costs are reimbursed by the state.

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[19] Every Student Succeeds Act, Public Law 114-95, December 10, 2015, codified in 20 *U.S. Code*, chapter 70 (2016).

[20] *Laws of Minnesota* 2013, chapter 116, art. 2, sec. 2, subd. 2; and sec. 12, subd. 1.

[21] *Laws of Minnesota* 2015, First Special Session, chapter 3, art. 3, sec. 7, subd. 1.

Exhibit 3.2: Minnesota Department of Education Payments to Testing Vendors, Fiscal Years 2010-2016

(In thousands)

Vendor	2010	2011	2012	2013	2014	2015	2016
Pearson	$22,381	$25,400	$ 4,019	$ –	$ 1,385	$22,423	$13,714
AIR	–	379	19,046	20,618	16,277	3,386	–
WIDA	–	–	1,492	1,510	1,582	1,645	1,880
ACT	–	–	–	–	342	4,064	342
HumRRO	402	243	317	444	368	337	161
Total	$22,784	$26,022	$24,874	$22,572	$19,955	$31,856	$16,097

NOTE: A small reimbursement from Pearson to the state in Fiscal Year 2013 is shown as a reduction in the 2012 amount. Amounts may not sum to the totals shown due to rounding.

SOURCE: Office of the Legislative Auditor, analysis of Minnesota Department of Education data.

As seen in Exhibit 3.3, contracts for the MCAs and MTAS tests make up the largest share of total test vendor payments. Of vendor payments in 2016, for example, 85 percent of costs were for the MCAs and MTAS tests. The expenses for certain contracts are more consistent than others. Payments for the ACCESS, for example, have largely stayed the same over the last five fiscal years. Payments to the vendor providing the MCAs and MTAS tests, however, have varied. While MDE controls certain costs of its assessment program, other expenses are driven externally.

Some legal requirements increase vendor costs.

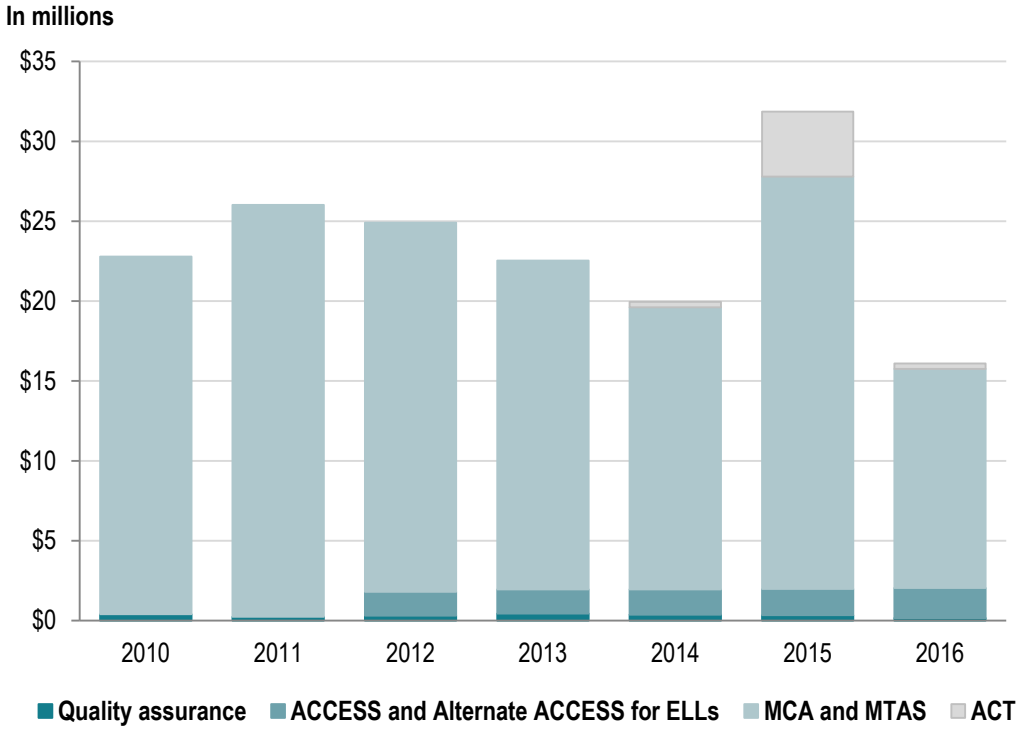
As we discussed in Chapter 1, legislators have imposed various requirements on MDE's testing program. Some of these changes have increased the amount that MDE pays vendors. For example, state laws requiring MDE to use adaptive testing and off-grade questions in statewide tests prompted MDE to pay its MCA vendor to develop, test, and implement large numbers of new test questions. Another legislative requirement to add a "career and college readiness" measure to student score reports obliged MDE to spend resources to develop such a measure, which it did through a vendor. At the federal level, ESSA requires many changes of all states, which will also affect testing costs.

Another major expense for MDE's assessment division is the process of updating tests when standards change. State law requires MDE to review and revise academic standards every ten years.[22] Because the state's tests are designed to assess how well students meet specifically defined standards, whenever standards change, MDE and its testing vendor must reformulate its tests to ensure that they align with the new standards.[23] The process of realigning the tests with new standards is time consuming and creates additional vendor costs. New test specifications must be developed, new questions must be written, and every question must be scrutinized to ensure that it appropriately aligns with the new standards.

[22] *Minnesota Statutes* 2016, 120B.021, subd. 4(a).

[23] By law, MDE will review the state's academic standards for science in the 2018-2019 school year. Language arts will follow in 2019-2020 and mathematics in 2021-2022. These dates represent postponements from the dates initially listed in law. The 2015 Legislature delayed the mathematics standards review five years from its original planned date of 2015-2016. *Laws of Minnesota* 2015, First Special Session, chapter 3, art. 3, sec. 2, subd. 4(b). The 2016 Legislature delayed all planned standards reviews by one year. *Laws of Minnesota* 2016, chapter 189, art. 25, sec. 6.

Exhibit 3.3: Minnesota Department of Education Payments to Testing Vendors by Test Type, Fiscal Years 2010-2016



NOTES: Minnesota required all 11th graders to take a nationally normed college entrance exam during Fiscal Year 2015. The ACT is the national college entrance exam that the Minnesota Department of Education (MDE) used to meet this requirement. The MCAs are standardized tests in math, reading, and science administered statewide to public school students in selected grades in order to meet federal requirements. The ACCESS tests are standardized tests of English language proficiency administered statewide to public school students identified as English learners in order to meet federal requirements. The MTAS and Alternate ACCESS tests are alternate tests to the MCAs and the ACCESS tests for students with severe cognitive disabilities. Minnesota first administered the ACCESS tests in 2012 and the Alternate ACCESS tests in 2013. Prior to the implementation of the ACCESS tests, English language proficiency tests were included as part of the MCA and MTAS vendor contract. The quality assurance vendor independently verifies various computations and analyses made by MDE and its MCA and MTAS vendor.

SOURCE: Office of the Legislative Auditor, analysis of Minnesota Department of Education data.

MDE also incurs significant costs during transitions between testing vendors. Due to state contracting laws, MDE must rebid its MCA and MTAS testing contract at least every five years.[24]

Transitions from one testing vendor to another are complex, time consuming, and expensive.

Each testing contractor uses its own testing software. When the state changes vendors, thousands of questions across many different grade-specific tests must be successfully transferred from one system to another. This is a lengthy, complicated process that requires extra work by staff from both contractors and MDE. An administrator at Pearson, MDE's

[24] *Minnesota Statutes* 2016, 16C.06, subd. 3b(b).

current MCA vendor, acknowledged that vendors are often not as prepared as they should be to hand over work to a successor vendor.

Due to the challenges of transitioning between vendors, MDE builds in one year of transition into each contract for the MCAs and MTAS tests. Thus, if MDE and its vendor agree to all contract extensions, a contract would last five years, which would include four years of test administration and one year for transition. If MDE awards the next contract to a different testing vendor, MDE would likely pay two contractors simultaneously during this transition. For example, MDE paid two contractors—AIR and Pearson—simultaneously during Fiscal Year 2015 to transfer the MCAs and MTAS tests between vendors. For this transition, MDE budgeted $487,000 for Pearson's expenses alone, and staff at MDE said that transitions may exceed expected costs.

These transition costs are in addition to the investments of time and money ordinarily associated with the contracting process. MDE staff reported that developing the request for proposals for the MCAs and MTAS tests can take up to nine months. In the 2013 contracting cycle, it was another six months after the release of the request for proposals before the contract with Pearson was signed.

MDE has established some mechanisms to ease the difficulties of transitioning between vendors. For example, MDE retains ownership of the MCA and MTAS test content, meaning that it can transfer the questions when vendors change. In some states, the vendor owns the test content, meaning that when the state switches vendors, it must either create an entirely new test or arrange to lease or purchase questions from its previous vendor or from some other source. Additionally, MDE has included language in its contract requiring vendors to develop test questions using standard industry practices to facilitate the transfer of test questions between different vendor testing platforms. Despite these efforts, transitioning between vendors remains costly.

Local Satisfaction

As we discuss throughout this report, school districts and charter schools play an important role in Minnesota's testing program. Because the quality of vendor performance and products affects local testing experiences, it is important to understand whether those services are meeting local needs.

Most district testing coordinators are satisfied with the performance of the state's test vendors.

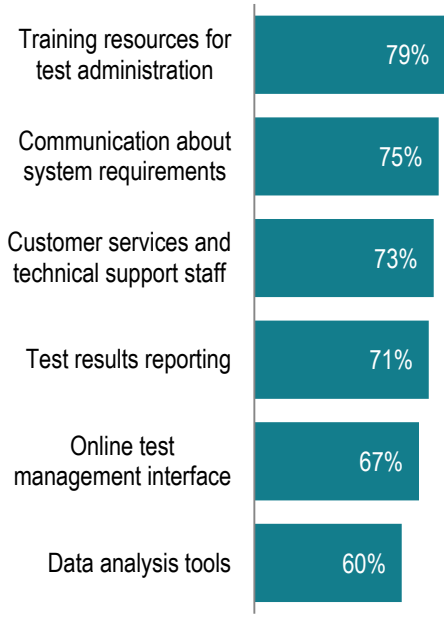
We surveyed district assessment coordinators to learn more about local satisfaction with test vendor services.[25] Respondents were generally satisfied with the services provided by both Pearson (MCAs and MTAS tests) and WIDA (ACCESS and Alternate ACCESS tests). Approximately three in four respondents were "satisfied" or "very satisfied" with Pearson's communication about technological system requirements, customer service and technical support staff, and training related to test administration. Over two-thirds of respondents who work at a school district or charter school administering the ACCESS tests were "satisfied" or "very satisfied" with WIDA's training resources related to test administration,

[25] District assessment coordinators are a school district's or charter school's main contact with MDE and testing vendors regarding statewide tests. Refer to the Appendix for additional survey information.

results reporting, test management interface, and communication about technological system requirements.

Although we found that district assessment coordinators were generally satisfied with MDE's vendors, there were areas in which vendors could make improvements. Slightly more than one in four district assessment coordinators, for example, said they were "unsatisfied" or "very unsatisfied" with Pearson's online test management interface. MDE has made few systematic efforts to gather local opinions about vendors, despite the major role local staff play in the testing process.

Survey question for district assessment coordinators: For the items listed below, please indicate the extent to which you were satisfied or very satisfied with Pearson's services in the 2015-2016 school year.



The Minnesota Department of Education has made limited efforts to gauge the satisfaction of school districts and charter schools with the performance of its test vendors.

MDE has made few intentional efforts to independently gather perspectives of school districts and charter schools about its vendors. Representatives from the department described their efforts as "ad hoc" and often targeted towards specific topics instead of towards satisfaction with vendor services overall. MDE staff told us that stakeholders are quick to volunteer concerns about vendors, so they did not feel there was a great need to seek further information from local representatives.

Instead, MDE primarily relies on the vendors themselves to gauge the satisfaction of school districts and charter schools with vendor performance. Pearson and WIDA administer customer service surveys, and Pearson periodically holds district feedback sessions. MDE staff said they discuss the survey results internally and with the vendors to identify areas for improvement and to prioritize product enhancements.

However, Pearson and WIDA only intermittently collect data about local satisfaction with testing services. Pearson, for example, did not conduct a survey after the 2015 MCA administration, despite the fact that technical disruptions halted testing statewide twice during the testing period. Second, the data are potentially biased. The vendors' analyses and reporting of survey results have been methodologically weak. Survey results have not considered charter school or school district demographics when presenting data, for example. The surveys have also neglected to account for variations in experience across different types of system users. District assessment coordinators, for example, could find Pearson's testing software very easy to use, while test proctors could find the system very confusing. Without breaking apart data by user roles, important differences could be missed.

RECOMMENDATION

The Minnesota Department of Education should improve its measurement of school district and charter school satisfaction with test vendor services.

Anecdotal information from school districts and charter schools related to vendor concerns serve an important purpose. However, we do not think anecdotal information is sufficient for MDE to assess local satisfaction with its vendors. The department should ensure that its vendors not only collect input from local representatives, but that they also analyze and use those data in light of differences between users and user groups.

For example, one MDE staff member commented that she thought some specific reports MDE provides are useful to school districts, but she did not know to what extent district staff use those resources. She also commented that certain services MDE provides may be of greater use to smaller districts than large. However, these opinions were based mostly on speculation. MDE could make use of its vendors' surveys to determine the accuracy of these speculations and focus on efforts that are of greatest use to districts. A more thorough analysis of survey results could allow the department to better ensure equity in the availability of vendor services across all district and user types. Moving forward, MDE should either direct vendors to improve their measurement and reporting of local satisfaction with vendor services or take on those responsibilities internally. However, we acknowledge that—because of the nature of consortia—it may be easier to improve Pearson's performance than WIDA's.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Chapter 4: Local Impacts

State and federal testing mandates affect students, teachers, and administrators at the local level. To better understand these effects, we gathered information about the local impacts of standardized testing in many ways—observing students testing; interviewing teachers and administrative staff; analyzing data from the Minnesota Department of Education's (MDE's) testing vendors; examining selected financial data; and conducting statewide surveys of teachers, principals, and district assessment coordinators.[1] In this chapter, we summarize what we learned from these different perspectives. First, we discuss the amount of time students and schools devote to statewide assessments. We then discuss how standardized testing affects local staff and technological resources.

Time

The amount of educational time spent on standardized testing can be difficult to measure. As we describe in this section, we were able to obtain information on how long students were sitting at a computer taking tests. However, as we discuss in the following sections, testing frequently affects instruction and learning for students at other times as well, which we were not able to measure as easily.

Student Time

Students spend time preparing for and taking standardized assessments. We learned about test preparation by asking teachers about their practices; we were able to directly measure actual testing time for students who took tests using a computer.

Preparing for Assessments

In our conversations with teachers, we learned their approaches to preparing students for standardized testing vary widely.[2] Some teachers we spoke with said preparation for standardized testing has minimal impact on instruction—perhaps involving only a few hours per year for test orientation. For other teachers, testing impacts their instructional approach throughout the school year. Third grade teachers in one district, for example, said they have used multiple-choice questions in some of their classroom assessments to familiarize students with that type of test, even though multiple-choice questions do not provide teachers with as much information about what their students know as some other test formats.

Some teachers we interviewed commented that preparation for standardized testing has changed the content of the curriculum itself. Some described the impacts as positive—such as better alignment with state standards—but others said that schools now focus heavily on tested subjects to the exclusion of all else. While approaches to

> "When I first started teaching, the fifth-grade curriculum included all subjects. Now it is focused almost entirely on reading and math, with…a small amount of social studies and a small amount of health. Science is taught by separate specialists for 45 minutes only once every three days."
>
> **—Fifth-Grade Teacher**

[1] Refer to the Appendix for additional survey information.

[2] We visited and conducted interviews with multiple staff at seven Minnesota school districts and charter schools; we also conducted telephone interviews with representatives of three other districts.

test preparation instruction vary, we found that preparing students for standardized tests is a widespread practice in Minnesota schools.

Most teachers reported spending classroom time to prepare students for testing in ways unrelated to academic content.

While all schoolwork directed toward better understanding the state's academic standards prepares students for the state's standardized tests, most teachers also set aside class time to prepare students for standardized testing in ways unrelated to academic content.[3] In our survey of teachers, 89 percent of respondents teaching students who took the MCAs reported spending some amount of class time during the 2015-2016 school year on MCA test-preparation activities unrelated to the curriculum, such as teaching students to use computers or navigate testing software. Forty percent of teachers with students who took the MCAs reported spending more than five hours on these activities during the 2015-2016 school year. For example, one recently retired principal told us that teachers at his school taught students how to use the testing computers because the students were used to interacting with mobile devices that function differently than laptop or desktop computers.

Some teachers spend a great deal of class time on test preparation activities outside of the academic curriculum. Several special education teachers and administrators we interviewed said that standardized testing is very unlike what their students ordinarily encounter in the classroom and requires additional preparation. One teacher of students with autism spectrum disorders, for example, noted that her students become very attached to classroom routines; changes to those routines, such as standardized tests, must be carefully prepared for and managed.

Completing Assessments

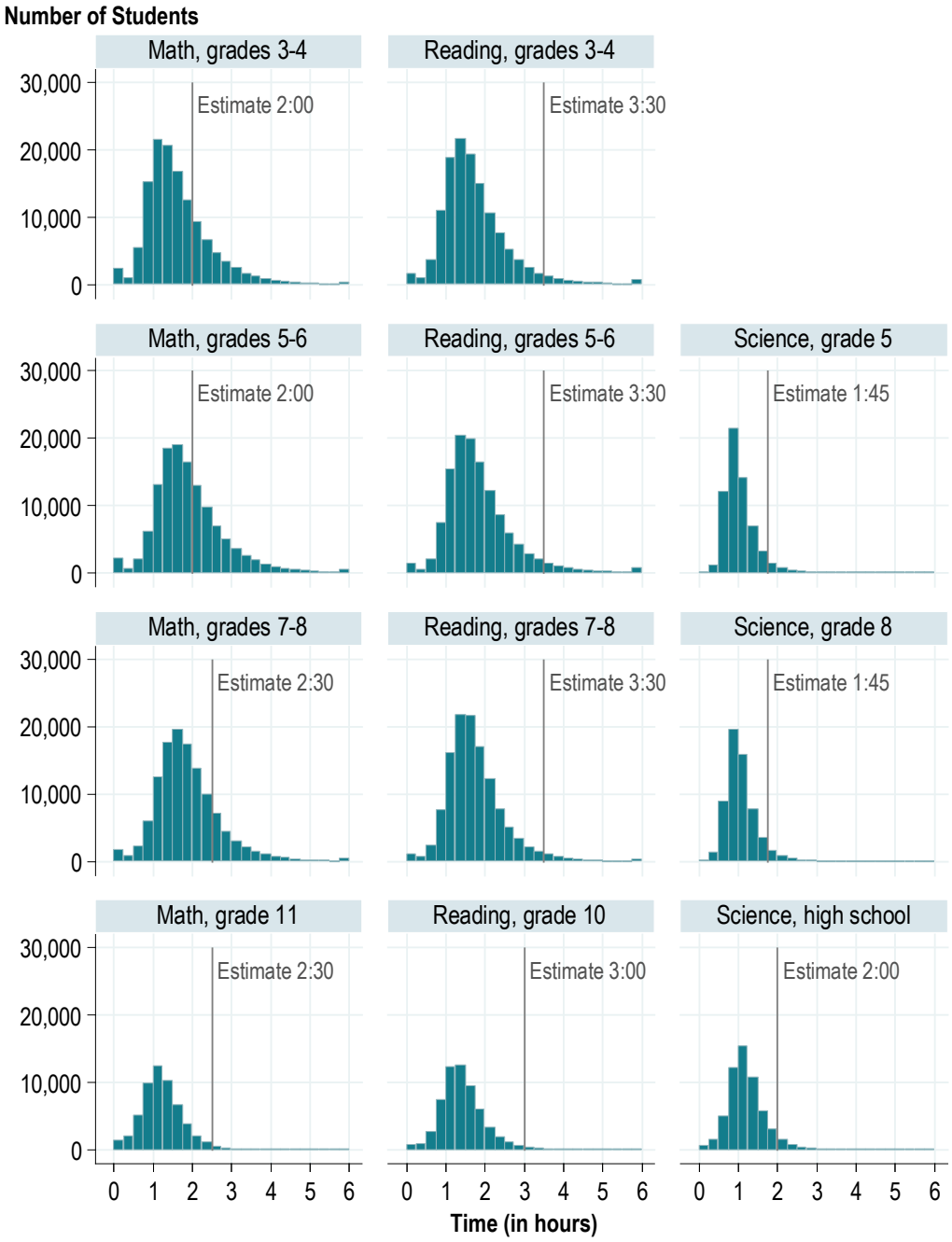
We analyzed data from the state's testing vendors to determine how long public school students spent taking the MCAs and ACCESS tests in 2016. Because the only data available were for students who tested by computer, our analysis included most MCAs and ACCESS tests, but not all. We could not measure time spent taking: (1) kindergarten ACCESS tests in listening, reading, speaking, and writing; (2) ACCESS writing tests in grades 1-3; and (3) MCAs and ACCESS tests for students whose disabilities prevent them from using a computer.[4] Our analysis also did not include the state's tests for students with severe cognitive disabilities, which are not administered by computer.[5]

[3] The ACCESS for ELLs (English Language Learners) tests measure progress toward meeting Minnesota's academic standards for English language proficiency. To meet federal requirements, every student in grades K-12 identified as an English learner takes ACCESS tests in reading, listening, writing, and speaking.

[4] Also, our analysis did not distinguish between time spent taking the tests themselves and time spent doing other related tasks on the computer, such as logging in or viewing instructions.

[5] Additionally, we had no timing information on the other tests required by state and federal law: (1) locally adopted early elementary literacy tests, required in all public schools serving students in grades K-2; (2) national college entrance exams, which must be offered as an option to all high school students; and (3) in selected schools, the National Assessment of Educational Progress (NAEP).

Exhibit 4.1: Time Spent Taking MCAs Compared to Minnesota Department of Education Estimates, 2016



NOTES: The Minnesota Comprehensive Assessments (MCAs) are standardized tests in math, reading, and science administered statewide in selected grades. The Minnesota Department of Education (MDE) estimates shown are the maximum estimates the department provided. In some instances, the estimate is a range, such as two to three hours. Tests taking more than six hours are displayed as taking six hours.

SOURCE: Office of the Legislative Auditor, analysis of data obtained from Pearson, the MCA testing vendor.

MCAs

Exhibit 4.1 shows the amount of time students took to complete math, reading, and science MCAs in 2016. The MCAs for each grade and subject are different, and students spent longer on some tests than others. For example, the fifth grade science MCA went relatively quickly; half the students in our data took the test in under an hour. Seventh and eighth grade math MCAs took longer; 85 percent of students spent an hour and a half or more. In general, elementary and middle school students spent less time on science tests than on math and reading tests. In high school, all three subjects took similar lengths.

Before testing begins, MDE provides estimates for how long students should take to complete each test. Student testing times for the vast majority of MCAs were less than the maximum time estimates.[6] However, the MCAs are untimed, and some students take much longer than the estimates. Statewide, over 3,200 math tests and over 3,500 reading tests in grades 3-8 took students more than five hours to finish.

The total MCA testing time for individual students in 2016 varied widely, depending in part on how many tests they took.

Students in tested grades take one to three MCA tests annually. Students in grades 3-8 take the math and reading tests; those in grades 5 and 8 take the science test as well. High school students take one reading, math, and science MCA over the course of their high school career. As such, high school students may take only one MCA in a year, depending on the grade in which they take the high school science MCA. Thus, the total amount of time students spend on the MCAs in a given year depends in part on what grade they are in and how many tests they take.

Exhibit 4.2 shows the total amounts of time individual students spent taking the MCAs. Unsurprisingly, students taking fewer tests generally took less time to finish testing than students taking more tests. The median time spent by a student taking one MCA in 2016 (a ninth grader taking the science MCA but not reading or math, for example) was 1.2 hours. The median time spent by a student taking two MCAs was 3.1 hours, and the median time spent by a student taking three MCAs was 4.5 hours.

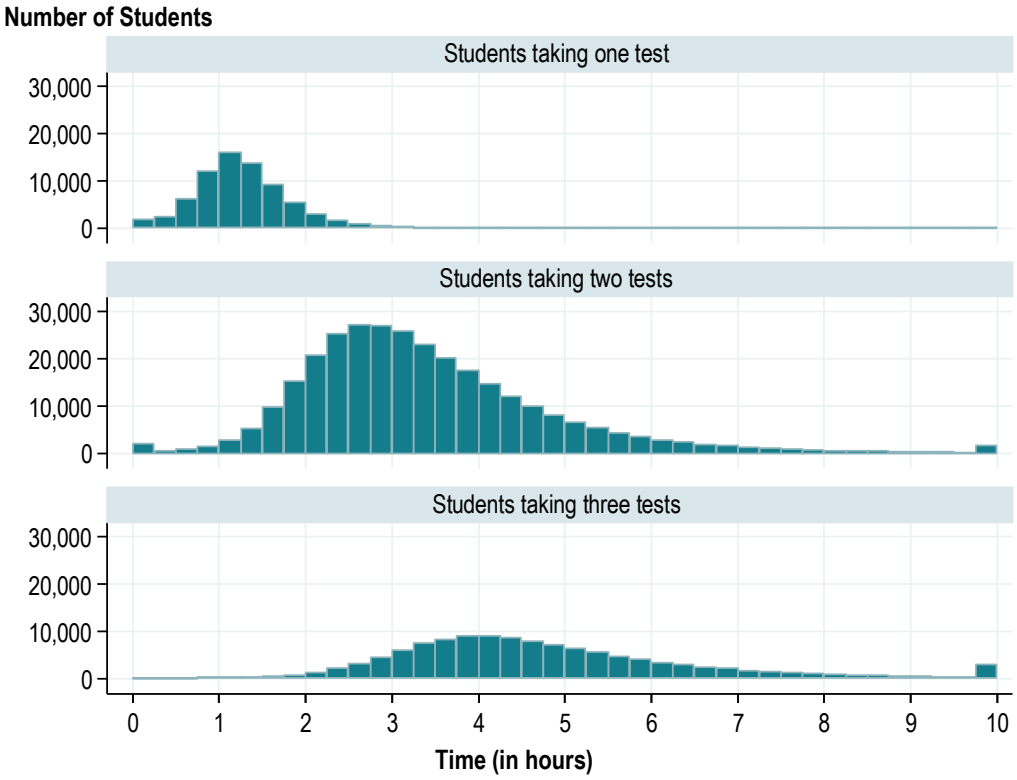
Fifth and eighth grade students (who take three tests) spent the most time testing. Ninety percent of students in other grades finished all MCAs in under five hours, but only 64 percent of fifth and eighth graders were able to do so. Seven percent of fifth graders and 4 percent of eighth graders—or more than 7,000 students total—spent more than eight hours taking the MCAs.

School districts and charter schools may choose to administer a test in a single block of time on a single day or administer different sections of the test across several days. In addition to overall time, we examined on how many different days students worked on their MCAs.[7] The median student taking just one MCA in 2016 (primarily high school students) finished testing in one day. The median student taking two MCAs tested on four separate days, and the median student taking three MCAs tested on six separate days. Thirteen percent of students took the MCAs on eight or more days.

[6] In some instances, MDE provided a range—for example, two to three hours. We show only the maximum estimates in Exhibit 4.1.

[7] The data we received did not allow us to determine the amount of time spent testing per day.

Exhibit 4.2: Total Time Individual Students Spent Taking MCAs, 2016



NOTES: The Minnesota Comprehensive Assessments (MCAs) are standardized tests in math, reading, and science administered statewide in selected grades. Students whose total testing time was more than ten hours are displayed as taking ten hours.

SOURCE: Office of the Legislative Auditor, analysis of data obtained from Pearson, the MCA testing vendor.

ACCESS Tests

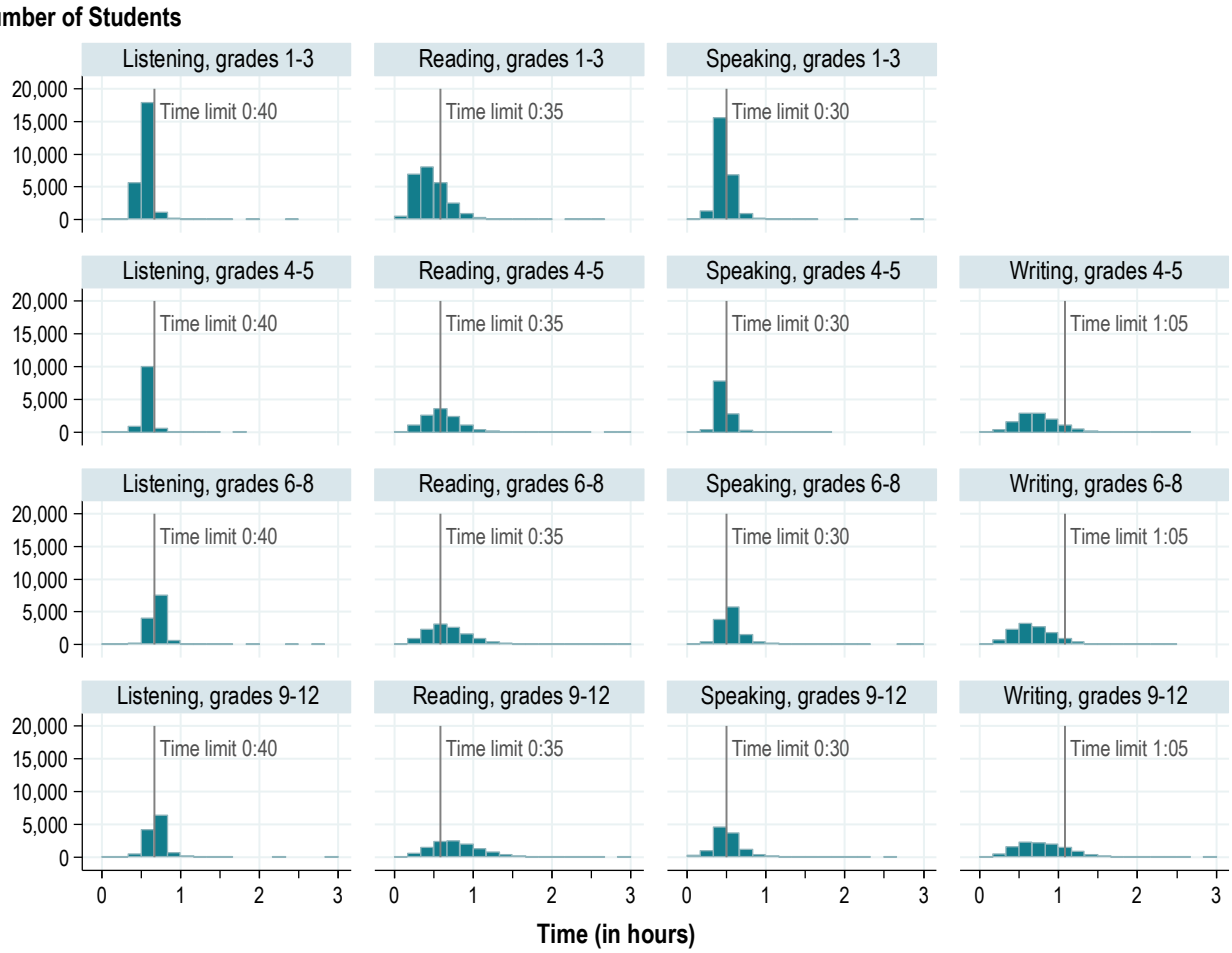
Schools annually administer ACCESS tests in reading, writing, speaking, and listening to all identified English learners in grades K-12.[8] Unlike the MCAs, the ACCESS tests have time limits. These time limits vary by test, ranging from 30 minutes for the speaking test to 65 minutes for the writing test.[9] However, the time limits are not strictly enforced. Proctors may allow students to test for longer than allotted if the students can "productively use a reasonable amount of additional time."[10] Exhibit 4.3 displays how long Minnesota students spent taking the ACCESS tests in comparison to the time limits.

[8] An English learner is a student who first learned a language other than English, usually speaks a language other than English, or comes from a home where English is not usually spoken, and who lacks the necessary English skills to participate fully in academic classes taught in English. See *Minnesota Statutes* 2016, 124D.59, subds. 2(a) and 2a.

[9] Students that are provided with accommodations because of a disability may take longer than the prescribed time.

[10] Minnesota Department of Education, *Procedures Manual for the Minnesota Assessments 2015-2016*, (Roseville, MN, 2015), 161.

Exhibit 4.3: Time Spent Taking ACCESS Tests Compared to Time Limits, 2016



NOTES: The ACCESS for ELLs (English Language Learners) tests are standardized tests that measure English language proficiency for students identified as English learners in all grades. Although the tests have time limits, proctors may allow students to work longer on the tests if the students can "productively use a reasonable amount of additional time." Minnesota Department of Education, *Procedures Manual for the Minnesota Assessments 2015-2016* (Roseville, MN, 2015), 161. All ACCESS tests for kindergarten and writing ACCESS tests in grades 1-3 are paper-and-pencil tests; we only received timing data for computerized tests. Tests taking more than three hours are displayed as taking three hours.

SOURCE: Office of the Legislative Auditor, analysis of data obtained from WIDA, the ACCESS testing vendor.

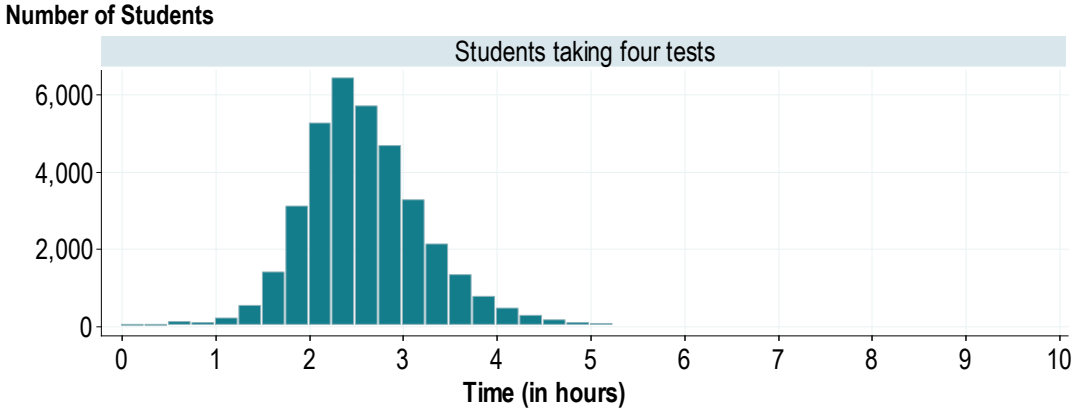
Many ACCESS tests in 2016 took students longer than scheduled; about one-third of tests went over the time limit. However, few took more than 30 minutes over the test's allotted time. Reading tests, for example, were especially challenging to complete in the scheduled time. Seventy-two percent of high school students did not complete the ACCESS reading tests in the time allotted. Yet, only 17 percent of students taking the high school reading test took more than 30 minutes extra.

Students generally spent less time taking individual ACCESS tests than taking individual MCAs.

Individual ACCESS tests are designed to be shorter than individual MCAs. The longest ACCESS test is designed to take no more than 65 minutes, while the longest MCA is estimated to take 210 minutes (3.5 hours). Students finished more than 98 percent of speaking and listening ACCESS tests in less than an hour each, and more than 90 percent of reading and writing tests in less than an hour and fifteen minutes each. In contrast, students finished only 35 percent of individual MCA tests in less than an hour and fifteen minutes.

In addition to spending less time on individual ACCESS tests than individual MCAs, when considering the total amount of time the median student spent testing in 2016, it took less time to complete all of the ACCESS tests than all of the MCAs. The majority of students spent less than three hours taking all ACCESS tests, as shown in Exhibit 4.4, and nearly all students spent less than four hours.[11] While total testing time for the MCAs varied by the number of tests taken, only 45 percent of students finished all MCAs in less than three hours.

Exhibit 4.4: Total Time Individual Students Spent Taking ACCESS Tests, 2016



NOTES: The ACCESS for ELLs (English Language Learners) are standardized tests to measure English language proficiency for students identified as English learners in all grades. Students in grades K-3 are omitted because they do not take all tests using a computer (and thus we did not have timing data for them). Students whose total testing time was more than ten hours are displayed as taking ten hours.

SOURCE: Office of the Legislative Auditor, analysis of data obtained from WIDA, the ACCESS testing vendor.

Like the MCAs, school districts and charter schools may choose to schedule ACCESS tests over multiple days. The median student taking four ACCESS tests took them on four separate days; nearly all students for whom we had data finished ACCESS testing in less than six days.

Overall, English learners spend more time taking standardized tests than other students.

[11] This statistic includes only those students in grades 4-12, where all four tests were administered by computer. We did not have data for ACCESS tests administered with pencil and paper, which includes all ACCESS tests in kindergarten and the writing ACCESS in grades 1-3.

English learners are required to take more tests than students not receiving English language services. To meet federal requirements, identified English learners take ACCESS tests in every grade. They also take the MCAs in grades 3-8 and once per subject in high school, like all Minnesota public school students. For example, an English learner in eighth grade takes seven standardized tests: the math, reading, and science MCAs, and the listening, reading, speaking, and writing ACCESS tests.

In addition to taking more tests, English learners also spent more time taking the reading and science MCAs in 2016 than students not receiving English learner services. For most reading and science tests, the average English learner spent 10-30 minutes longer taking MCAs than their classmates in 2016, depending on grade and subject. Further, English learners were heavily represented among students spending a very long time taking the MCAs, especially at the high school level. Five percent of high school English learners took at least an hour longer than MDE's estimated time to take the reading MCA, and 7 percent took at least an hour longer to take the science MCA. Less than 1 percent of their classmates took an hour longer than MDE's estimated times to finish these tests.

School Time

Our examination of time at the individual student level showed that test times for most students fell below MDE's maximum estimates (for the MCAs) or exceeded the time limits by relatively small amounts (for ACCESS tests). However, schools rarely test all students simultaneously. The cumulative amount of time needed to test all students in a school is much greater than the amount of time needed for any individual student.

A majority of schools spend several weeks administering required standardized tests.

In 2016, only 9 percent of schools were able to complete all MCA testing within a single week (five days or less).[12] More than half of the schools in the state took more than three weeks (15 days) to administer the MCAs to their students, as shown in Exhibit 4.5. Over 300 schools took 25 school days—five full weeks—or more to complete MCA testing for all students.

The majority of Minnesota school districts and charter schools that administer the MCAs also administer ACCESS tests. Exhibit 4.5 also shows the number of days schools spent administering the ACCESS tests by computer in 2016. On average, schools take fewer days to administer the ACCESS tests than the MCAs; the tests are shorter and are given only to English learners. Still, 42 percent of the schools that gave ACCESS tests spent at least ten days administering the tests. Eighteen percent of schools spent more than three weeks (15 days) administering ACCESS tests.[13]

[12] To arrive at the number of days on which schools administered tests, we counted any date on which at least one student at the school was testing.

[13] Because all kindergarten ACCESS tests and writing tests in grades 1-3 are not administered by computer, our data do not show the full amount of time elementary schools spent on the ACCESS tests. The unavailable data is a large proportion of the total because there are more English learners in lower grades than upper grades; these pencil-and-paper tests made up nearly 30 percent of all ACCESS tests administered in grades K-6 in 2016.

Exhibit 4.5: Total MCA and ACCESS Testing Days per School, 2016

Figure 1. MCA

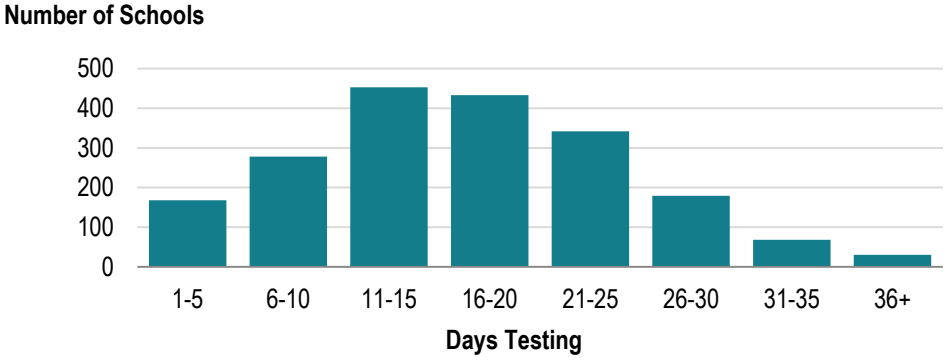
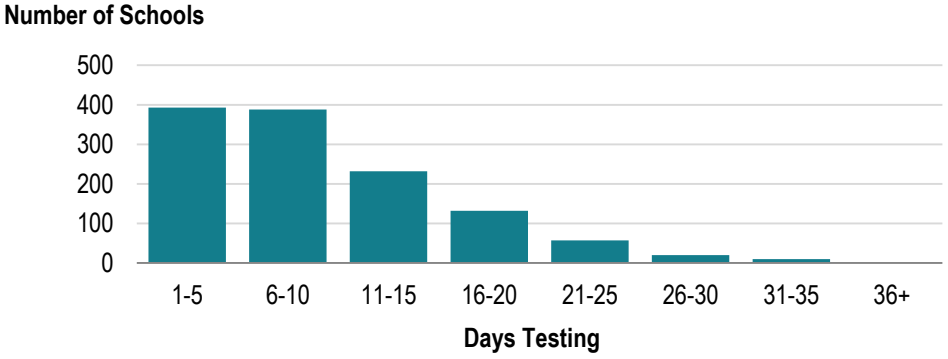


Figure 2. ACCESS



NOTES: The Minnesota Comprehensive Assessments (MCAs) are standardized tests in math, reading, and science administered statewide in selected grades. The ACCESS for ELLs (English Language Learners) are standardized tests to measure English language proficiency for students identified as English learners in all grades. Because the only data available were for students who tested by computer, our analysis included most MCA and ACCESS tests, but not all. In particular, our data probably undercount days that elementary schools spent administering ACCESS tests.

SOURCE: Office of the Legislative Auditor, analysis of 2016 testing data obtained from Pearson and WIDA, MDE's testing vendors.

Our conversations with school district and charter school staff suggested several reasons why standardized testing lasts so long at the school level:

- **Limited resources.** Technological and space constraints often affect how quickly schools can test their students. As we discuss below, many schools must gradually shuttle many students through one or two computer labs, making testing last for many days. Scheduling students who need isolated settings to test may be difficult because of space issues. One director of special education told us she had turned administrators out of their offices to administer some tests, and in one instance a teacher tested a student in a classroom where other students were doing unrelated activities.

- **Technical disruptions.** Issues such as computer malfunctions, cyber-attacks, and Internet connectivity problems can delay testing. Such problems are widespread; half of the principals we surveyed reported that technical issues forced their staff to halt MCA testing schoolwide at least once in 2016.[14] In our survey of district assessment coordinators, 75 percent of respondents working at a district that administered the MCAs reported spending time dealing with technical disruptions of the MCAs in 2016; in districts that administered ACCESS tests, 43 percent reported dealing with disruptions to those tests. Technical disruptions may be a result of deficient school-level technology or the result of issues with the vendors' systems; local staff we spoke with said they do not always know the source of a problem. In either case, technical disruptions prolong the time schools spend testing.

- **Students taking extra time.** As we noted above, most students finish tests in less than or reasonably close to the maximum expected testing times. However, when even a few students take much longer than the scheduled times, scheduling complications and delays can ensue. For example, at one high school where we observed MCA testing, students testing in the morning needed more time to complete their tests than the school had planned. Other students arriving in the afternoon to begin their tests found that no computers were available. More than a dozen students lingered in the media center waiting for an available computer.

  In 2016, students spent more time than MDE estimated on 13 percent (about 134,000) of the MCAs. Three percent of tests (about 36,000) took at least an hour longer than MDE's maximum estimate. Most schools have to address scheduling around such tests; 71 percent of schools had one or more students who spent at least an hour longer taking an MCA than MDE's maximum estimate. At nearly one in four schools, more than 20 tests took at least an hour more than MDE's estimated time.

Staffing

School and district staff have a variety of responsibilities related to standardized testing: they spend time reviewing testing requirements, organizing test materials, scheduling testing, preparing technological equipment, proctoring tests, entering data, gathering and analyzing results, and more. Staff must meet these responsibilities for each state-mandated test they administer. More than half of Minnesota schools administer the MCAs, the ACCESS tests, and the Minnesota Test of Academic Skills (MTAS), which are the alternate tests to the MCAs for students with severe cognitive disabilities. A smaller share of schools administer the Alternate ACCESS for ELLs, the English language tests for students with severe cognitive disabilities.

[14] While district assessment coordinators and principals reported that technical disruptions were widespread, testing vendors' data indicated that technical disruptions affected a minority of student tests. According to the MCA vendor, no more than 7 percent of tests (about 70,000) experienced technical interruptions during the 2016 MCA administration. For the ACCESS tests, about 7 percent of tests (about 15,000) were affected by unexplained interruptions. The ACCESS vendor did not clarify whether these interruptions were due to a technical disruption. However, these counts reflect only students who were in the midst of testing when a disruption occurred. If, for example, a school experienced problems with a first group of testers in the morning and suspended testing for the rest of the day, the total number of students affected by the technical disruption would be greater than the number shown in the vendors' data.

Staff Involvement

MDE asks school districts and charter schools to designate at least one individual as a district assessment coordinator. Frequently, these staff coordinate the scheduling of space and proctors, the training of staff, and the preparation of computers or other testing equipment. In addition to these coordinators, teachers and administrators often play key roles in administering the tests required by law. In our survey of principals and academic leaders, 72 percent of respondents said that teachers at their school were involved in test preparation or administration and 58 percent said principals were involved. Schools also make heavy use of technology support staff during the testing season; 62 percent of survey respondents said technology staff were involved in test preparation or administration at their school.

School districts and charter schools rely on a variety of staff to assist with state-required standardized tests.

To accomplish testing responsibilities, schools frequently rely on other staff as well, such as paraprofessionals, guidance counselors, librarians, instructional coaches, secretaries, and even social workers. School administrators frequently told us that test administration was a tremendous organizational challenge that lasted for weeks. Principals we spoke with in one district commented that it was important to have several different people at a school read MDE's testing manual each year to understand its nuances. One long-time principal compared the effort to keeping track of the tax code.

> While the district assessment coordinator does a lot of work managing testing, there is still a tremendous amount of work to be done at the school level. The high school guidance counselor probably spends 30-40 percent of his time on testing after the holidays, and the high school hires substitute teachers to either administer tests or to substitute for teachers who administer tests. Multiple computer technicians work to ensure that testing goes well. With all the organizational challenges, testing week is like invading Normandy.
>
> **—High School Principal**

Some school districts have staff dedicated solely to managing standardized tests; at one urban district, district-level assessment coordinators told us that they are available from 7:00 a.m. to 7:00 p.m. every day during testing to provide support to school staff. However, this is not possible in most districts; 91 percent of district assessment coordinators responding to our survey said it was not a full-time position. At one charter school we visited, the district assessment coordinator was also the school's administrative assistant, its food and nutrition coordinator, and its after school programming coordinator, among other responsibilities.

> Two years ago, my district began providing a $1,500 stipend to school assessment coordinators (SACs) for each middle and high school in the district. Being a SAC is a lot of work. SACs have to coordinate schedules and set up computer labs. My school also has a high percentage of students in special education, so my SAC has to coordinate a lot of testing accommodations.
>
> The SAC last year did a great job, but when the year was over, he told me he would never be a SAC again. I offered to double his stipend, and he still refused the position. I'm not sure what I'm going to do; there is no way I can manage testing on my own.
>
> **—Middle School Principal**

Some school districts and charter schools reported hiring additional staff to assist with standardized testing. In our survey of district assessment coordinators, 18 percent of respondents said that their districts hired additional staff to assist with assessments. In

most instances, the additional staff were used to help administer tests; a few respondents said additional staff helped interpret scores or performed other test-related activities, such as substitute teaching for teachers who were administering tests or providing extra technology support.

At two districts we visited, administrators commented that they pay existing staff for additional work hours to support testing needs. For example, a director of special education said her district pays special education teachers to perform administrative tasks required for the MTAS outside of their contract hours, so that they are not reducing their classroom instruction time in order to complete required training or do the necessary data entry.[15]

Conflicting Responsibilities

Many school staff contribute time and energy to administering standardized tests. In many cases, testing responsibilities directly affect their other responsibilities and thus indirectly affect student learning.

Standardized testing tasks hinder or prevent some school personnel from carrying out their everyday school responsibilities.

Many individuals we interviewed described ways that testing affected student educational experiences by taking teachers out of the classroom. In one school district, for example, an assessment coordinator we interviewed said it was common for students who were not testing to lose instructional time because their teachers were occupied with testing other students. She said that this was true for students in mixed grade level classes—for example, joint 10th and 11th grade classes—and for students in special education. Another principal commented that student-to-instructor ratios in nontesting classrooms are higher during testing; he said he would hire additional support staff during testing if his school had the resources. A reading intervention specialist who serves as a school assessment coordinator said that she provides no reading intervention services to students during the school's testing period.

Testing may also take administrators away from their regular responsibilities. A director of teaching and learning commented that schools in her district essentially "lose" assistant principals for the entire period students are testing. Because of the difficulties this causes, she said that district officials have considered giving teachers more testing responsibilities, but have hesitated to do so for fear of impacting student instruction even more. An administrator in another district said that because his district uses some of its mentor teachers to help with standardized testing, mentoring of newer teachers does not take

> In my district, many elementary and all secondary schools have counselors assigned to them. In some instances, these counselors are heavily involved in coordinating testing schedules and testing accommodations for both the MCAs and the MTAS tests because there is no other person on the school staff who can take on these duties. When this happens, important counselor responsibilities—such as group counseling—cease during testing for students in that school.
>
> **—Supervisor of Specialized Services**

[15] As we described in Chapter 2, the MTAS tests are given one-on-one with proctors administering each question, recording student scores, and entering the scores into the vendor's data collection software after test completion.

place during the testing period. He described this as a particularly important loss because the district has many teachers with variances who need extra support.[16] He also told us that staff from his district have less time for crisis management, such as determining alternatives to suspension. Other administrators we spoke with expressed concerns that testing responsibilities impact their ability to address school-wide issues, such as student discipline.

Schools and districts educating students who take the MTAS or Alternate ACCESS face distinctive staffing challenges. Instead of being delivered by computer, both alternate tests are administered by a staff person on a one-on-one basis. Because a staff person can test only one student at a time, this method of administration is much more resource intensive than computer-based testing where one staff person can test many students at once. One director of special education estimated that it takes a student three weeks, often testing in short time periods each day, to complete both the MTAS tests and Alternate ACCESS tests. As a result, students can lose up to a month of special education instructional time while their teacher administers the MTAS to each individual student in turn. Students not testing work with paraprofessionals during that period, but paraprofessionals do not introduce students to new academic content. A charter school director likewise said that testing takes special education teachers in her school away from their other students; she commented that by meeting testing requirements, the school was not meeting some of its responsibilities under special education law.

> Even if the third grade classes are done with their assessments, special education teachers will still be supervising groups of kids that receive special education services. Usually I would have a "push in" with a special education teacher to help some students in math, but during testing, I don't have a "push in" for three weeks.
>
> Normally during the push in, I might be working with a mid-level group while the special education teacher works with my students in special education. When the special education teacher isn't there, I help the students in special education, and other kids who might be struggling, as well as the advanced students, don't get as much help from me.
>
> **—Third-Grade Teacher**

In addition to special education teachers, some local staff told us that English language teachers are also pulled away from their students in order to administer tests. One English learning coordinator at a metropolitan area charter school explained that she typically facilitates small group "pull outs" for English learners in the afternoon. During testing, however, she stops the small group support and spends the time testing instead. A principal from an outstate school district explained that while English language teachers are administering ACCESS tests, English learners in her school that are not testing may not receive any English learning instruction for a month.

As we noted above, technology staff often play a large role in test administration. These responsibilities can affect the support they provide to other teachers and students. At one district, a technology specialist explained that testing demands sometimes prevent him from assisting teachers with classroom technology issues during testing. A charter school assessment coordinator said that her school's technology support person works full time on testing for the weeks that testing takes place. At a large metropolitan school district, assessment coordinators commented that the district's information technology office directs its staff to follow specific procedures when addressing testing-related technology problems; otherwise, the tech support staff risk being pulled into administering tests.

[16] Variances allow individuals to teach subjects for which they are not licensed by the Minnesota Board of Teaching.

Technological Resources

In addition to staff support, Minnesota's standardized assessments require computers and technological infrastructure to be successful.

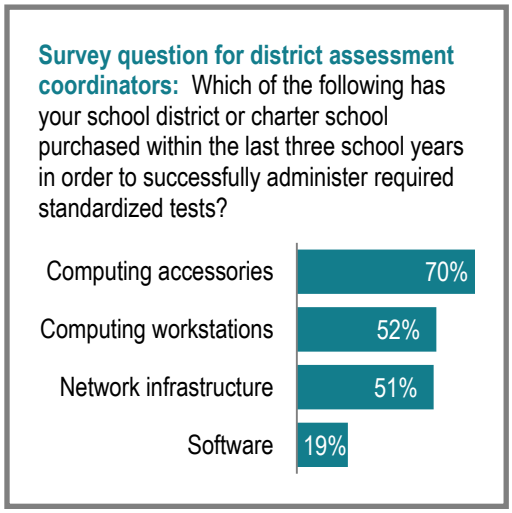
Equipment Needs

Both the MCAs and ACCESS tests are now delivered primarily by computer. As we discussed in Chapter 1, the change from paper-and-pencil to computer testing has allowed innovations in assessment, such as the use of adaptive tests. However, delivering tests by computer has also created challenges at the local level.

Computer-delivered testing requires school districts and charter schools to own and maintain certain technical equipment and infrastructure.

Statewide computerized testing dictates that districts and schools maintain equipment compatible with testing software requirements. MDE and its vendors distribute documentation outlining acceptable device types, operating systems, processing speeds, memory, screen size, and more. While MDE and its vendors have made efforts to enable MCA testing on a broad range of devices, technical requirements for assessments may still vary from year to year and from vendor to vendor. In 2016, for example, the minimum screen size required for the ACCESS tests was larger for some devices than that required for the MCAs. Likewise, the ACCESS tests were available on more types of Apple operating systems than the MCAs.

Although schools and districts vary widely in their computing capabilities, most districts reported spending funds on technical equipment necessary for testing. In our survey of district assessment coordinators, 83 percent of respondents reported that their school district or charter school made additional technological purchases during the last three years that were necessary for the successful administration of statewide tests. Purchases included computing accessories, such as headsets, keyboards, or mice; computing workstations, such as desktops or iPads; network infrastructure, such as servers or bandwidth; and software, such as operating systems.



Conversations with local staff during our site visits aligned with our survey findings. Several school districts and charter schools we visited purchased voice recording headsets specifically for ACCESS testing in 2016; some staff said they had no other instructional use for this equipment. Staff at two districts we visited commented that they recently invested in desktops for computer labs, but that they likely would not have done so were it not for state testing needs. At a large metropolitan school district, staff provided us with a technology audit their district prepared before testing in 2015-2016. The audit identified needs for computer upgrades, new computers, and computing accessories in order to conduct state-mandated tests; the estimated cost was nearly $492,000.

Competing Uses

While standardized testing needs drive some local technology purchases, many of the technological resources in schools are used both for testing and student instruction.

In many schools, standardized testing limits the use of computers for other instructional purposes.

Many individuals we interviewed reported that the instructional use of technological resources—such as computer labs and portable devices—is severely limited during testing. At a large metropolitan school district, staff told us that school computer labs are tied up and unavailable for other uses for as much as six weeks to complete standardized testing. A recently retired outstate principal expressed frustration that his district had invested in computers for instructional purposes, but they are not available for weeks during testing. He said that the lack of access to computers takes away from student learning and upsets the routine. Staff in another district explained that they gather laptops from schools across the district in order to administer tests at the middle school. As a result, the availability of these resources for instructional use is limited at the other schools.

> We spend way too much time with these [standardized] tests. They eat up our computer time and administrative time in regard to getting the tests administered. At times, our computer labs and/or laptop computers are monopolized for weeks at a time.
>
> **—Junior High Principal**

Sometimes, the lack of computer availability stops classes or activities altogether. A teacher at one charter school, for example, explained that elementary and middle school students take a computer class at the school, but that the computer classes are cancelled during the testing period because the computers are needed for testing. As a result, students miss their class, and their regular classroom teachers lose the preparation time they ordinarily have when students are working with the technology teacher. An elementary principal told us that, in order to accommodate testing, her school has to convert classrooms into computer labs. Some staff said that schools with computer labs located in media centers have had to close media centers entirely during the testing period.

Staff at other school districts mentioned that testing impacts the use of technology in classrooms broadly, beyond the availability of devices. In some cases, teachers and students are asked to reduce Internet usage in their classrooms during testing to preserve bandwidth for the students taking tests. One district we visited, for instance, does not allow teachers to stream videos in their classrooms during testing when students elsewhere in the building are taking standardized tests.

Limited technological resources extend the testing period in some schools.

At several school districts we visited, staff told us that testing lasts longer because of their limited technological capacity. Many schools have a limited number of computers and can only test so many students at once. For example, one principal told us that her elementary school has approximately 900 students and three computer labs. The number of students that must test combined with limited technological capacity means that testing lasts for months. One charter school assessment coordinator noted that demands on technological resources were compounded by some students who took much longer than the scheduled

time to complete their MCAs. Because those students had to use the computer lab in order to finish their tests, access to the lab for other classes and grades was impacted.

The quality of a district or charter school's technological equipment also impacts testing time. One assessment coordinator told us that many of her district's computers are aging and some are not operational. Some large classes cannot test together at the same time because not enough computers in the computer labs are in working order. In order to administer ACCESS tests to her district's small population of English learners, she told us she had to "beg, borrow, and steal" the appropriate computers from locations across the district.

In addition to the limited availability and quality of computers, some schools reported that other technological infrastructure—such as Internet and wireless bandwidth—limited their ability to test students. A charter school we visited had experimented with using wireless computers for testing, only to find that testing slowed dramatically during passing periods when nontesting students began using their wireless devices. One recently retired high school principal commented that his school had two computer labs but usually tested no more than 30 students at a time, because attempts to test more had led to technological disruptions. In one district we visited, bandwidth issues went beyond the school and district level; administrators told us that many neighboring districts used the same Internet service provider, and that their students taking tests were competing for bandwidth with students testing in other districts.

In two districts, staff commented that testing challenges have eased as their schools have moved towards a one-to-one student-to-computer ratio, enabling many more students to be tested at the same time. For example, teachers at one suburban school commented that their frustrations about the length of testing were partially alleviated by recent technological investments. In 2016, their district purchased sets of Chromebooks to share between classrooms; the added technology eased some of the pressure on computer labs and helped with test scheduling challenges.

Discussion

Some of the testing-related challenges experienced by students and schools are a result of federal requirements that are beyond MDE's and the Legislature's control. For example, several individuals told us that testing students across fewer grades would reduce the negative impacts of testing, but federal law stipulates which grades must be tested. Some educators of students receiving special education services expressed frustration that their students spend long periods of time testing because they are tested on material more advanced than what they encounter in the classroom; however, federal law requires that all students be tested against grade-level standards.

However, there is no federal law that requires schools to spend many weeks testing students, nor does federal law require that school districts and charter schools purchase computer equipment and accessories in order to administer standardized tests. Those local impacts are the result of state-level policy choices.

The Minnesota Department of Education has done little to measure the impact of testing on local schools or to assess the local effects of changes in test design or policy.

Neither MDE nor test vendors systematically gather input from school districts and charter schools about testing's implications for staffing and curriculum, technological needs, or the amounts of time students and staff spend on testing-related activities. Likewise, neither MDE nor test vendors systematically gather data on the costs incurred by districts to administer the state's standardized tests.[17]

To date, the department's focus has been largely on maintaining the integrity of assessments and meeting federal and state requirements. For example, MDE is currently working with advisory groups and has sought feedback from districts and schools on important policy changes related to the Every Student Succeeds Act (ESSA). Amidst much discussion regarding possible changes to Minnesota's testing program and statewide accountability system, little attention has been paid to logistical issues of testing and their impact locally.

MDE makes changes every year to the state's standardized testing program. However, the department does not collect systematic data in a way that allows it to measure or act on the impacts of these changes at the local level. For example, in 2016, the department added additional questions to reading and math MCAs to meet a legislative requirement (as we discuss in more detail in Chapter 5). MDE knew that this change would lengthen the MCA, but it has not analyzed data to see whether schools spent significantly more days testing students in 2016 than in 2015 as a result.

Similarly, the consortium that produces the ACCESS (in which Minnesota is a member) shifted test administration from pencil-and-paper to computer in 2016. MDE has not assessed to what extent this change has (1) affected local costs, due to new technological requirements, or (2) affected administration times, because teachers no longer directly administer the speaking test one-on-one.

RECOMMENDATION

The Minnesota Department of Education should systematically evaluate the impacts of testing on local school districts and charter schools and use what it learns in making policy decisions.

The department has relied heavily on anecdotal information to learn about local experiences with testing. While such information is valuable, we think that the department could be doing more to systematically measure the local impacts of testing described in this chapter. MDE should explore how it might collect data about testing's impacts on staffing, instruction, costs, the availability of technology, and student time, among other things. It would be important for the department to develop its data-gathering practices in collaboration with school districts and charter schools, so that the process of measuring impacts does not itself become yet another challenge for local staff to handle.

[17] MDE collects spending information from all school districts and charter schools, but the information it collects is not sufficient to categorize expenditures by the purpose of the spending. For example, a computer purchase would likely be classified as a technology purchase, not a testing expense, even if the computers were purchased in order to administer tests.

Ongoing, consistent measurement would provide the department and the Legislature with a better understanding of the impacts of changes to MDE's testing program. Regular evaluations could also point to problems that the department should devote greater time to addressing. For example, we were told in more than one district that some special education students are taught by paraprofessionals or substitute teachers during the administration of the MTAS, the alternate tests to the MCAs for students with severe cognitive disabilities. The tests must be administered one-on-one; one director of special education told us it can take teachers in her district weeks to work through their caseload of students. Neither MDE nor its testing vendor currently attempts to measure how long students spend completing the MTAS, let alone the tests' cumulative impact on students in special education classes.

As MDE moves forward, it is important that the department place a renewed emphasis on understanding the impact of its testing program at the local level. Gathering more complete information will provide decision makers with critical information as they continue to assess the best ways to adhere to federal requirements and ensure the development of a high quality and useful testing program for the state.

Chapter 5: Usefulness

The state, school districts, and charter schools administer standardized tests, in part, to satisfy federal requirements. But standardized tests ought to be useful beyond mere compliance with federal law. In this chapter, we review how the Minnesota Department of Education (MDE), schools districts, and schools use standardized tests.

Standardized test scores are the state's primary measures of school performance and student achievement.

As we discussed in Chapter 1, standardized test scores provide key information that can be compared across schools. Despite their limitations, test scores have become a standard means by which student achievement is measured, both by the state and by the public. The "school report cards" MDE publishes on its website focus on standardized testing outcomes and provide only a few other pieces of evaluative information, such as graduation rates for high schools and the results of student engagement surveys.[1]

To better understand local opinions about testing and test scores, we visited and conducted interviews with multiple staff at seven Minnesota school districts and charter schools; we also conducted telephone interviews with representatives of three other districts. In all of the school districts and charter schools we visited, school administrators spoke of the importance of Minnesota Comprehensive Assessment (MCA) scores in shaping public perceptions of school quality.[2] Some senior administrators we spoke with said that one of their first tasks upon reviewing MCA scores is to consider how to explain them to local media, school boards, or other external stakeholders. However, test scores from the ACCESS for ELLs (English language learners) may be less prominent; some local administrators noted that external stakeholders are less interested in these assessments.[3]

Score Reporting

MDE provides extensive information about test scores to school districts, charter schools, policy makers, and the general public. Local school officials have access to the most comprehensive data because they receive detailed information about each of their students. Parents and guardians receive detailed information about their own student's performance but do not receive individual data on other students. Publicly available data summarizes information on groups of students so that individual student information is not revealed.

[1] Minnesota school report cards, which summarize information about school outcomes, are available at http://rc.education.state.mn.us. Student engagement surveys question students about their experiences with schooling, such as asking if they agree with the statements, "If something interests me, I try to learn more about it," or "Adults at my school listen to the students."

[2] The MCAs are standardized tests in math, reading, and science administered statewide to public school students in selected grades in order to meet federal requirements.

[3] The ACCESS tests are standardized tests of English language proficiency administered statewide to public school students identified as English learners in grades K-12 in order to meet federal requirements. There are four ACCESS tests: reading, writing, speaking, and listening. An English learner is a student who first learned a language other than English, usually speaks a language other than English, or comes from a home where English is not usually spoken, and who lacks the necessary English skills to participate fully in academic classes taught in English. See *Minnesota Statutes* 2016, 124D.59, subds. 2(a) and 2a.

Scores

MDE and its vendors analyze students' responses to test questions and produce a variety of different scores for each test. We detail these various scores in Exhibits 5.1 (MCA) and 5.2 (ACCESS). Broadly speaking, there are three types of student scores.

Measurements of proficiency (such as "Partially Meets the Standards" or "Meets the Standards") are based on comparing the student's responses to the state's academic standards. Because scores are based on the state's academic standards, it is theoretically possible for all of the students taking the test (or none of them) to meet the standards. All of the ACCESS scores listed in Exhibit 5.2 are measures of proficiency, though the ACCESS tests do not use the same "meets the standards" language to describe student performance.

Measurements of growth (such as "High Growth" or "Medium Growth") are based on comparing the student's responses to his or her previous year's responses, and then to the performance of other students who took the test. Students are ranked against one another based on how their scores differed from their previous scores. The students who improved the most in comparison to their peers are labeled as achieving "high growth" and those who improved the least are labeled "low growth." Because these labels are based on a ranking of students from best to worst, growth scores are not tied to proficiency. A student could move from "partially meets the standards" in one year to "meets the standards" in the next year, yet still be listed as achieving "low growth" if most other students with the same earlier year score did better.[4]

A **measurement predicting future performance** (the score depicting "progress toward career and college readiness") is based on comparing the student's MCA responses to a benchmark score. MDE developed the benchmarks by projecting how students receiving certain MCA scores in earlier grades would likely perform when taking the ACT college entrance test in 11th grade. Students who score at or above the benchmark scores are labeled "on track" to "demonstrate career and college readiness in this subject on a college admissions test."[5]

Two legislative requirements have led MDE to report scores in ways it would not otherwise use. The first of these makes scores more difficult to understand; the second causes MDE to report scores that have large amounts of uncertainty.

[4] As we discussed in Chapter 1, there are many ways of defining and measuring growth. Defining growth based on comparing students to their peers has been the method used in Minnesota for both the MCAs and the ACCESS tests. Growth scores have different meanings for English language proficiency because students that start with very limited English ability tend to acquire new language skills rapidly, while classmates who already have some English competency improve more slowly. Further, once students become proficient in English, they are no longer identified as English learners and do not take the ACCESS tests.

[5] Minnesota Department of Education, *Minnesota Assessment Reports Interpretive Guide 2015-2016* (Roseville, MN, 2016), 24.

Exhibit 5.1: MCA Scores Reported to School Districts and Charter Schools

Score Type	Description	Example Scores
Achievement levels*	Worded statements about a student's overall proficiency with regard to state academic standards.	Does Not Meet Partially Meets Meets Exceeds
Achievement level descriptors*	Sentences indicating what students scoring at this level typically can do in the classroom. This information is not included in the data files sent to school districts and charter schools containing the scores of all students, but is readily available online.	*Reading, Partially Meets:* Students at this level demonstrate skills of the Minnesota Academic Standards with limited consistency and accuracy, and they interact best with texts of basic to grade-level complexity.
Scale scores*	Numeric scores representing a student's overall performance.	*3rd grade*: 301 to 399 *4th grade*: 401 to 499
Sub-score performance indicators*	Worded statements about a student's performance for the specific content areas within a test.	*Algebra*: Below Expectations *Algebra*: At or Near Expectations *Algebra*: Above Expectations
Sub-scores	Numeric scores representing a student's performance on specific content areas within a test.	*Algebra*: 1 to 9
Minnesota growth scores*	Worded statements about how a student's score compares to the previous year's score. Calculated only when a student took the MCA in this subject the previous year.	High growth Medium growth Low growth
Growth z-scores	Numeric scores indicating how a student's score compares to the previous year's score. A positive number represents greater than average growth and a negative number represents lower than average growth. Calculated only when a student took the MCA in this subject the previous year.	-3.0 to +3.0
Student progress scores*	Numeric score used in estimating a student's progress toward career and college readiness. Reported for math and reading only.	About 2,000 to 3,000

NOTE: Asterisks indicate that the score appears on the individual student report sent to parents and guardians.

SOURCE: Office of the Legislative Auditor.

Exhibit 5.2: ACCESS Scores Reported to School Districts and Charter Schools

Score Type	Description	Example Scores
Proficiency levels*	Numeric scores representing the student's performance compared to the state's English proficiency standards in each language domain.	*Reading*: 1.0 to 6.0 *Writing*: 1.0 to 6.0 *Speaking*: 1.0 to 6.0 *Listening*: 1.0 to 6.0
Composite scores*	Numeric scores representing the student's performance, based on different combinations of test scores in the four language domains.	*Oral Language (speaking and listening)*: 1.0 to 6.0 *Literacy (reading and writing)*: 1.0 to 6.0
Level descriptors	Single words associated with the first digit of each proficiency level and composite score, aiding interpretation of the score's meaning.	1: Entering 2: Emerging 3: Developing 4: Expanding 5: Bridging 6: Reaching
Scale scores*	Numeric scores representing a students' overall performance. Although the same scale is used for each test, the scores are not comparable across tests; a score of 300 in Listening is not comparable to a score of 300 in Speaking.	100 to 600
"Can Do" descriptors	Sentences indicating what students scoring at this level typically can do in the classroom. This information is not sent directly to school districts and charter schools, but is readily available online.	*Writing Level 3, Grade Level Cluster 3-5:* Students at this level can process or produce the language needed to: • Produce simple expository or narrative text. • String related sentences together. • Compare/contrast content-based information. • Describe events, people, processes, procedures.

NOTE: Asterisks indicate that the score appears on the individual student report sent to parents and guardians. Level descriptors are provided on individual student reports for kindergartners.

SOURCE: Office of the Legislative Auditor.

The Minnesota Department of Education reports two different measures of student growth that are confusing for stakeholders to distinguish.

In 2009, the Legislature placed into state law a specific method of calculating and reporting student MCA growth scores.[6] The law requires MDE to calculate growth by comparing students to all other students receiving the same score in the previous year. Students that do

[6] *Laws of Minnesota* 2009, chapter 96, art. 2, sec. 7, codified in *Minnesota Statutes* 2016, 120B.299.

substantially better than their peers are labeled as having "high growth," those who do substantially worse than their peers have "low growth," and those in the middle have "medium growth." As required by state law, MDE publicly reports the total number of students scoring in each category on the school "report cards" on MDE's website.[7]

However, MDE does not use the high, medium, and low growth categories for any other purpose. For example, MDE uses the individual growth scores, not the legislatively mandated categories, as part of its required process for measuring school performance under federal law. MDE staff acknowledge that the state's multiple measures of growth are confusing.

RECOMMENDATION

The Legislature should remove the specific MCA growth formula in law and instead provide broad guidance to the department.

We take no position on whether the legislatively defined approach or the MDE-defined approach to measuring growth is preferable. As we discussed in Chapter 1, there is no universally accepted meaning of "growth" with regard to student testing. However, we think it is confusing for the state to be reporting two different measures of the same concept.

In general, we believe it is unwise for the Legislature to put a specific formula related to the calculation of test results into law. Federal requirements, testing technology, academic testing theory, and the tests themselves are likely to change over time, potentially making formulas created at a particular moment obsolete or even inaccurate. The Legislature should remove the detailed growth formula in *Minnesota Statutes* 2016, 120B.299, and instead give the department broader guidelines—for example, that MDE must measure student growth, or MDE should give student growth greater weight than student proficiency in ranking schools against one another. MDE would then have the ability to adjust the formulas it uses as needed, in consultation with departmental stakeholders and methodological experts.

A legal requirement causes the Minnesota Department of Education to report potentially inaccurate career and college readiness progress scores to parents, guardians, and schools.

In 2013, the Legislature required that MDE "establish empirically derived benchmarks…in grades 3-7 that reveal a trajectory toward career and college readiness" and ensure that "parents, teachers, and school administrators are able to use elementary and middle school student performance data to project students' secondary and postsecondary achievement."[8] In response to this mandate, MDE developed a measure of "progress toward career and college readiness"—using college readiness benchmarks associated with the ACT college

[7] *Minnesota Statutes* 2016, 120B.29, subd. 10; and 120B.36, subd. 1.

[8] *Laws of Minnesota* 2013, chapter 116, art. 2, secs. 12-13. The Legislature later expanded this requirement to include eighth grade and high school grades, though a 2016 amendment introduced a grammatical ambiguity that makes the overall requirement less clear. We agree with MDE's interpretation that the 2016 Legislature intended to continue requiring career and college readiness benchmarks for students in grades 3-8. See *Laws of Minnesota* 2015, First Special Session, chapter 3, art. 3, sec. 7; and *Laws of Minnesota* 2016, chapter 189, art. 25, sec. 16, codified in *Minnesota Statutes* 2016, 120B.30, subds. 1(m) and 1a(d)(3).

entrance exam as a starting point—and began using it for the first time in 2016 MCA score reports.[9]

Unfortunately, the legislative requirement directs MDE to report to parents, guardians, and schools a measure that has a large level of statistical uncertainty. As we described in Chapter 1, students test scores are statistical estimates that are expected to contain some inaccuracies, or "error." Students may receive a score that is higher or lower than their actual abilities due to luck, motivation, environmental conditions, health, or a variety of other factors.

> Where did the MCA student progress scores come from? How did we add another measure, to be shared with parents in the MCA results for each student, and not communicate that score, and what it means to educators? If a student is proficient on their MCA test, are they not "on track" for college and career readiness? Coming up with additional ways to interpret individual test results does not add to the validity of the tests.
>
> **—Middle School Principal**

Student performance on tests tends to be correlated from one year to the next, as long as the tests measure similar material. A student that has an average score one year is likely to be fairly close to average in the next year. Thus, one can use students' MCA scores to predict their scores in the following year. But those predictions will also contain some error—some students may do much better or much worse, so some of the predictions will be wrong.

Each additional year into the future being predicted increases the amount of potential error and decreases the usefulness of the prediction. For elementary and middle school students, where the predictions for college readiness look many years into the future, the amount of potential error is so large that the scores are essentially meaningless. One national testing expert who advises MDE commented that—given the amount of uncertainty—scores should probably show 5 percent of students as being on track for college readiness, 5 percent as being off track, and 90 percent categorized as "don't know."[10]

The law requires MDE to make a prediction analogous to a long-range prediction of election results. Just as a student's test results are likely to be similar to the student's results from the previous year, a congressional district's election results are likely to be similar to its results from the previous election. However, it would be a much greater challenge to use a single year's election results to project the results of elections ten years into the future for all districts.

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[9] We note that the "career and college readiness" scores are essentially just "college readiness" scores, since they are solely based on student outcomes at postsecondary institutions. Further, because the scores are aligned to the ACT, but the ACT is not aligned to Minnesota's academic standards, it is possible for students to receive test scores showing that they meet standards for the MCAs but are not on track for career and college readiness, or vice versa.

[10] Even high school standardized test scores have a large amount of uncertainty in predicting college success. ACT reports that high school students who meet its college readiness benchmarks have a 75 percent likelihood of completing the corresponding college course with a C grade or better without remediation. Thus, *one in four* students that meet the ACT benchmarks earn grades of D or lower or require remediation. See Sarah Clough and Scott Montgomery, "How ACT Assessments Align With State College and Career Readiness Standards" (ACT, 2015), https://www.act.org/content/dam/act/unsecured/documents/Alignment-White-Paper.pdf, accessed January 16, 2017.

RECOMMENDATION

The Legislature should repeal the law requiring that the Department of Education provide career and college readiness progress scores for elementary and middle school students.

The philosophy behind the "career and college readiness progress" score—that schools should be preparing students for successful adult lives—is sound. Unfortunately, the score itself is not. There is simply too much uncertainty when projecting student performance many years into the future, especially based on a single year's test score. At the very least, these scores should not be reported to parents and schools without clear guidance that they are highly unreliable; we do not think they should be reported at all. The Legislature should repeal the requirement in *Minnesota Statutes* 2016, 120B.30, subd. 1(m), that MDE report such scores for elementary and middle school students.

Given the efforts of students and schools to complete the tests, the Legislature's desire to use the MCAs in as many ways as possible is understandable. However, we suggest that a better approach is not to ask "how can MDE and schools use standardized tests to measure college readiness?" but rather "how can MDE and schools best evaluate whether Minnesota students are ready for college?" Using standardized tests may be one part of the answer to the second question, but they should not be used by themselves to produce an unreliable prediction sent to parents and guardians.

Timing

School districts and charter schools receive test score data from MDE at several different times:

- **Immediately** after MCA administrations in the spring of each year, MDE's test vendor makes each student's preliminary test score available electronically to school districts and charter schools. These early scores contain information only on student proficiency; they do not include any information about growth because MDE calculates growth based on statewide patterns after all testing is concluded. MDE allows local officials to decide whether to share these provisional scores with parents and guardians or teachers. There is no immediate reporting of scores for the ACCESS tests or the state's alternate tests for students with severe cognitive disabilities.[11]

- **In mid-summer**, MDE sends school districts and charter schools large data files that contain detailed score data for each student on each of the state-mandated tests administered in the preceding year. Local school officials can use the data files to generate their own analyses, or they can use a series of standard analyses provided online by MDE and the MCA test vendor. MDE also releases public data files stripped of information that could be used to identify individual students. In early August, MDE's test vendors send school districts and charter schools individual student score reports for mailing to parents and guardians.

[11] In 2016, school districts and charter schools were able to view individual ACCESS scores in late May, two months after ACCESS testing was completed statewide.

- **In early fall**, MDE sends school districts and charter schools information on the "multiple measurement ratings" and "focus ratings" that the state uses to meet federal requirements for measuring school performance. These data are also released publicly. Every third year, MDE announces which schools must complete school improvement plans and will receive additional departmental support because of low test scores. Moving forward, this part of the timeline may change after MDE reconfigures its accountability system to meet new federal requirements.

Federal requirements effectively prevent the Minnesota Department of Education from providing MCA scores to teachers and schools during the school year, when they might be more useful.

Since the passage of the No Child Left Behind Act in 2001, the federal government has required state assessments to "address the depth and breadth" of the state's academic standards.[12] Because the state's academic standards represent the material that students are expected to learn throughout a particular grade, students are tested near the end of the school year. However, giving tests late also means that scores arrive late, so that teachers and administrators have little time to adjust teaching or curriculum in response to individual students' test scores.[13] Teachers and administrators often find this timing incompatibility frustrating.

> [The MCA] is taken at the end of the year and when we finally get the scores, *the teachers no longer have those kids*. This is easily the stupidest part of the MCA. If the data is to be used, we need it immediately. However, the data is not used, because by the time we get it, the kids have moved to another class with another teacher who isn't going to look at the MCA scores because they don't even know the kids' names yet. Useful tests monitor progress continuously and early on so that data can be used to improve instruction.
>
> **—Secondary (7-12) Principal**

State law requires that MDE provide student test scores within three school days of a student completing the MCA.[14] MDE addresses this requirement by providing individual proficiency scores immediately, but it cannot provide individual growth scores because MDE's growth calculations use the scores of students statewide and thus cannot be completed until all students have tested.[15]

Although districts now receive MCA scores before the school year ends as a result of this law, our conversations with administrators and teachers suggest that they remain unsatisfied. Since students take the MCAs in March, April, and May, test scores still arrive near the end of the school year, and growth scores do not arrive until the summer.

Under the Every Student Succeeds Act (ESSA), the federal education law passed in December 2015, states are permitted to use interim assessments that take place during the

[12] Title I—Improving the Academic Achievement of the Disadvantaged—Academic Assessments, 81 *Federal Register*, 88,931 (2016) [to be published at 34 *CFR*, sec. 200.2(b)(3)(ii)(A)(2) (2017)]. Under the No Child Left Behind Act regulations, this requirement was located at 34 *CFR*, sec. 200.3(a)(1)(i) (2016).

[13] That is, teachers cannot make adjustments that would affect the students who tested that year. There is time to adjust teaching or curriculum for the following year's students.

[14] *Minnesota Statutes* 2016, 120B.30, subd. 1a(d)(1).

[15] As we discussed in the previous section, MDE's method of calculating growth scores is mandated in law.

school year for federal accountability requirements.[16] In theory, this change could enable MDE to redesign the MCAs to provide schools and districts with information throughout the year. However, given the logistical difficulties for school districts and charter schools that we described in Chapter 4, converting from one year-end test to multiple interim tests seems only advisable if MDE and its vendors can redesign test delivery to reduce impacts on schools and students.[17]

Uses of State Tests

Although school districts and charter schools may feel public pressure when test scores are low, few consequences at the state level are tied to performance on Minnesota's standardized tests. Below, we describe MDE's current uses of standardized test scores, particularly policies that affect schools or districts differently based on their students' scores. As we discussed in Chapter 1, MDE is currently developing changes to many of the policies below to align with ESSA requirements.

Uses by the State

Despite the prominence of test scores, MDE's use of the scores is mostly indirect. Various programs within the department use MCA and ACCESS scores as one means of evaluating the effectiveness of state initiatives. However, MDE bases few decisions about the distribution of resources or the provision of services on test scores. The most important decisions based on test scores relate to the distribution of federal funds.

Minnesota does not impose strict penalties on schools whose students perform poorly on standardized tests, nor does it substantially reward schools whose students do well.

The state's use of test scores for accountability purposes is limited. At most, schools and districts that are identified as low performing must complete additional plans and demonstrate they are spending a portion of their state or federal funding on MDE-approved activities. We briefly outline the state's current use of tests to measure school performance below. As we discussed in Chapter 1, Minnesota and other states are currently reworking their methods of measuring school outcomes to meet ESSA's requirements.

- **Federal accountability requirements.** The state's primary use of test scores is to distribute funding and to require schools to make improvements as part of its accountability system under federal law.[18] MDE calculates "multiple measurement ratings" and "focus ratings," based mostly on MCA scores, for every school in the

[16] Every Student Succeeds Act, Public Law 114-95, sec. 1005, December 15, 2015, codified in 20 *U.S. Code*, sec. 6311 (b)(2)(B)(viii) (2016).

[17] Using interim standardized tests would also introduce complexities because the state must use the tests to measure student proficiency. For example, if the tests were designed to be shorter and cover only part of the state's standards at each administration, the state would essentially be enforcing the sequence and pacing of curriculum in schools statewide. Students who did not meet standards at an earlier administration would not have an opportunity to be tested again later on the same material. If the full tests are given at multiple times throughout the year, then many students would be tested repeatedly on curriculum they have not yet encountered. Further, the state would have to decide how to evaluate a student who meets standards on earlier administrations but does not meet them at later administrations.

[18] See Chapter 1 for a more detailed discussion of federal and state law regarding testing.

state.[19] Schools with low multiple measurement ratings or focus ratings that receive federal funds under Title I of the act must meet certain requirements. In particular, these schools must (1) create school improvement plans designed to increase their multiple measurement ratings and (2) use 20 percent of their Title I funding for school improvement activities. MDE approves the plans and the funded activities; MDE also uses federal funding to provide support to these schools using six "Regional Centers of Excellence," offices that house specialists in reading, math, special education, data analysis, and other areas.[20] School districts and charter schools with low ACCESS scores that receive funding under Title III of the Elementary and Secondary Education Act also must conduct extra planning, but face neither financial penalties nor constraints on their use of Title III funds.

Schools that do not receive Title I or Title III funding have faced no consequences for low test scores under MDE's accountability system for meeting federal requirements other than publication of their scores. However, as a result of ESSA's changes, Minnesota and other states will have to require school improvement plans for some non-Title I schools as well. Further, ESSA eliminated the separate accountability system tied to Title III funding and made other changes that will require the state to reformulate the multiple measurement rating or replace it with a new measure.

- **State accountability requirements.** In 2013, the Legislature enacted the "World's Best Workforce" legislation, which required school districts and charter schools to develop performance measures based mostly on standardized test scores.[21] By law, MDE may require school districts and charter schools not making "sufficient progress" on the law's goals over a consecutive three-year period to direct up to 2 percent of their basic general educational revenue toward MDE-specified activities to support the goals of the law.[22]

  The World's Best Workforce requirements apply to all public school districts and charter schools, regardless of their receipt of federal Title I or Title III funding. As with Minnesota's policies under its accountability system to meet federal requirements, low-performing school districts and charter schools do not receive less money, but they lose some flexibility in how that money is spent.

  MDE also uses test scores to calculate the amount of literacy incentive aid paid to schools. Under state law, each school serving third and fourth graders receives

[19] The multiple measurement rating comprises four elements, three of which are based on MCA score data. The fourth element is graduation rate, which is only applicable for high schools. The focus rating comprises two elements, both of which are based on MCA score data.

[20] The offices are located in Fergus Falls, Marshall, Mountain Iron, Rochester, St. Cloud, and Thief River Falls. Only three of the six are supported by federal funding.

[21] *Laws of Minnesota* 2013, chapter 116, art. 2, sec. 6; and art. 4, sec. 1, subd. 8(u), codified in *Minnesota Statutes* 2016, 120B.11; and 124E.03, subd. 2(i).

[22] *Minnesota Statutes* 2016, 120B.11, subd. 9(b); and 124E.03, subd. 2(i). The law's goals include improving school readiness; meeting third grade literacy goals; closing achievement gaps; promoting career and college readiness; and graduating students from high school. See *Minnesota Statutes* 2016, 120B.11, subd. 1(c). As of January 2017, MDE had not defined "sufficient progress" or identified school districts and charter schools that have not made sufficient progress; the first three-year period is not yet complete. MDE expects to propose measurements of sufficient progress in conjunction with its plan for ESSA. Basic education revenue is the largest component of the general education revenue program, a state aid program that makes up approximately two-thirds of local education revenue statewide.

funding tied to MCA scores.[23] Specifically, schools receive funding for each third grade student meeting or exceeding proficiency and each fourth grade student making medium or high growth on the reading MCAs.

Uses by School Districts and Charter Schools

Federal and state laws prescribe few specific local uses for standardized test scores. For the most part, school districts and charter schools may decide whether and how to use standardized test scores to make decisions and prompt more effective instruction. In this section, we describe some of the ways statewide test scores are being used by local administrators, teachers, and other educational professionals.

MCAs

The MCAs are the most visible of the state's mandated tests, and they provide information on every student in tested grades.[24] Some local uses for these tests are prescribed in law, though we did not evaluate how closely such requirements are followed. For example, the World's Best Workforce law requires school boards to adopt and regularly report on a long-term strategic plan that includes "a system to periodically review and evaluate the effectiveness of all instruction and curriculum" that takes into account standardized test scores.[25] Minnesota law also requires that school districts and charter schools base 35 percent of teacher evaluations on standardized test scores, and that districts base 35 percent of principal evaluations on test scores.[26] As we discussed above, schools that receive federal Title I funding may need to develop and implement school improvement plans to address low test scores.

Administrators from every school district and charter school we visited said that they must pay attention to MCA scores because outside stakeholders use them to judge educational outcomes. However, beyond the public relations aspect of reporting and explaining test score performance, the uses of test scores for educational purposes varied from one district to another and from one school to another.

Local jurisdictions vary widely in their use of MCA data.

In some school districts and charter schools, MCA scores play a key role in decisions about curriculum, staffing, or professional development. For example, in one school district we visited, an elementary principal described how declining test scores had led to a reexamination of teacher professional development. After reviewing test scores, he focused the next year's professional development trainings for teachers on reading instruction. A high school principal in the same district noted that after students had reported that they were unfamiliar with some of the concepts tested, the school adjusted its curriculum to ensure that students were exposed to all content in the standards prior to testing. At a charter school we visited, the school's director and academic dean told us that MCA scores had played a part in a decision not to renew some teachers' contracts.

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[23] *Minnesota Statutes* 2016, 124D.98.

[24] Some students with severe cognitive disabilities take an alternate test, the Minnesota Test of Academic Skills (MTAS), instead of the MCAs.

[25] *Minnesota Statutes* 2016, 120B.11, subds. 2(3) and 5.

[26] *Minnesota Statutes* 2016, 122A.40, subd. 8(b)(9); 122A.41, subd. 5(b)(9); 123B.147, subd. 3(b)(6); and 124E.03, subd. 2(h). The law covering principals does not specify that the data used be aligned to state standards. Thus, school districts could use locally adopted standardized tests to meet its requirements.

In other schools, MCA scores are treated as a small piece of a larger amount of gathered data and observations. In several school districts and charter schools we visited, administrators told us that they used MCA scores to assist with student placement decisions, but that they would not place students based solely on a single score. Instead, MCA scores might be combined with scores from locally chosen tests, teacher recommendations, and other information to produce as full a picture of the student as possible.

We conducted two statewide surveys asking about experiences with standardized tests, one of teachers and one of principals or other site-level academic leaders.[27] Written responses from some principals suggested that MCA scores are probably used very little in their schools. Some principals and charter school directors responding to our survey of academic leaders were vehement in their criticism of the MCAs, using colorful terms like "pointless," "unfair," "draconian," "ineffective," "a joke," "obsolete," "waste of time," and "massively inaccurate."

Though many teachers and principals found the MCAs somewhat useful, most think that they are not as useful as they could be.

Despite the hostility in many written responses, principals and teachers responding to our surveys generally found the MCAs to be at least "somewhat useful" across a wide range of potential uses, as shown in Exhibit 5.3. Principals were generally more enthusiastic about the usefulness of the MCAs than teachers. Both groups found that MCA scores were most useful for assessing whether individual students meet state standards, identifying achievement gaps between groups of students, and comparing students' academic performance to that of students in other schools. In contrast, both groups found test scores less useful for guiding professional development for teachers and evaluating teacher effectiveness. The latter was the only potential use of test scores to be marked "not useful" by a majority of both survey groups.

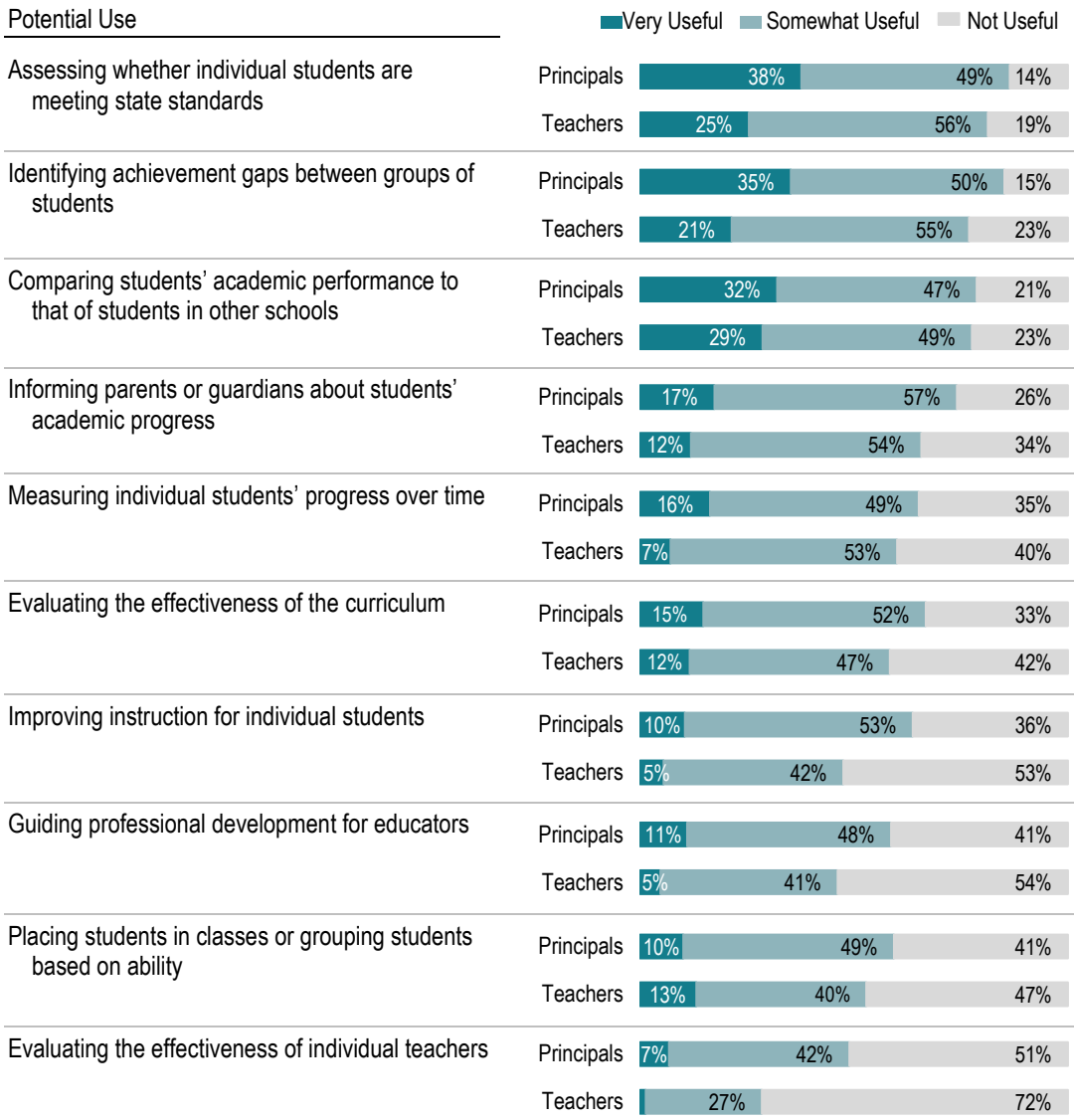
> We test our students far too much. MCA results come in the fall—when a teacher no longer has that student. Its autopsy data and it does not really inform our instruction. The results are not specific enough to drill down. So a 5th grade student gets a 545, what does that really tell us? MCAs are high stakes for the schools, but not the students.
>
> **—Elementary Principal**

However, most written comments we received about the tests' usefulness expressed dissatisfaction that the MCAs were not useful *enough*. Several themes appeared across multiple written responses:

- MCA score data arrive too late in the year to be of use to teachers and administrators.
- A once-a-year test does not provide enough information to accurately measure student performance.
- The work that schools must do to administer the MCAs is onerous and out of proportion to the usefulness of the test scores.
- Students, particularly high school students, have little motivation to do as well as possible on standardized tests because there are no stakes for students.

[27] See the Appendix for details of our teacher and principal surveys.

Exhibit 5.3: Principals' and Teachers' Opinions on the Usefulness of MCA Scores, 2016.



NOTES: Respondents were asked to indicate "how useful each assessment is for each activity listed" for the MCAs, ACCESS tests, locally chosen tests, and classroom-based tests. Don't know/not applicable and no response excluded. The principal survey included some site-level academic leaders (e.g., charter school directors, program directors) who do not carry the title of "principal." See the Appendix for details of our surveys.

SOURCE: Office of the Legislative Auditor, surveys of principals and teachers, 2016.

ACCESS Tests

As we discussed in Chapter 2, the ACCESS tests make up a significant portion of Minnesota's total testing activity. Some school districts and charter schools with large populations of English learners administer more ACCESS tests than MCAs each year, because ACCESS tests are given at each grade level.

During our site visits to school districts and charter schools, we asked not only about the usefulness of the MCAs, but also of the ACCESS tests. Despite the extra time it takes to administer the ACCESS tests, teachers and administrators that were familiar with ACCESS scores often said they found them to be useful. In particular, some teachers we spoke with highlighted the usefulness of descriptors provided by the test vendor that indicate what a typical student scoring at each level "can do" in a classroom context.

> Interpretation of ACCESS scores… helps me as a building administrator plan programming, address specific student needs, and drive professional development for our classroom teachers. I feel that this year, our [ELL] department has done a very good job of reaching out and explaining the scores so that I can work with teachers to make informed decisions about instruction and focus.
>
> **—Elementary Principal**

Many administrators and teachers with English learners in their schools and classes do not use ACCESS scores or know how to interpret them.

However, some of the individuals we spoke with outside the English language teaching field had little knowledge of the ACCESS tests. Senior administrators in one district with a very large English learner population acknowledged that they paid far less attention to ACCESS scores than to MCA scores, even though the district administers more ACCESS tests than MCAs each year. Nearly half of the principals responding to our survey whose schools had English learners said that they did not feel prepared to interpret ACCESS test scores.

Similarly, 58 percent of teachers responding to our survey who had English learners in their classrooms said that they did not receive ACCESS results for those students or did not know if they had received them. At one charter school we visited with a student body of 71 percent English learners, most classroom teachers we interviewed said that they did not look at ACCESS scores. They considered them primarily of interest to English language teaching specialists and school administrators.

Challenges

As we described in Chapter 4, the process of administering state-mandated standardized tests is often difficult for school districts and charter schools. Given these difficulties and the associated impacts on student learning, it is important that the information provided by the tests be understandable and useful. However, MDE, school districts, and charter schools face several obstacles to using standardized tests effectively.

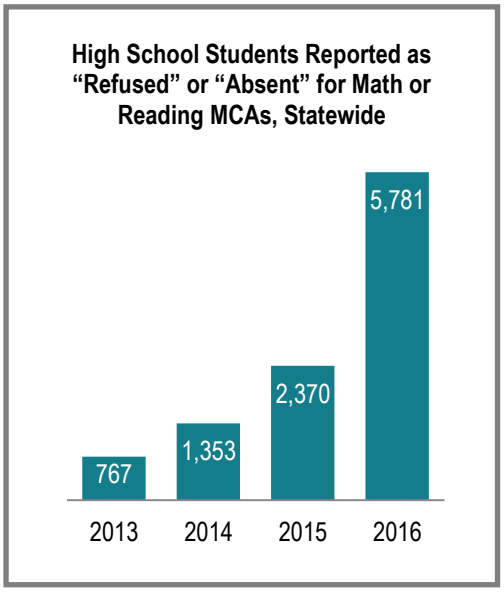
Testing Refusals

Standardized testing has been controversial and frequently opposed by some education policy stakeholders. Part of this opposition has taken the form of encouraging parents and students to "opt out" of state-mandated standardized tests—to refuse to participate in testing on grounds of principle.[28] As this campaign has gained national attention, its effects have been felt in Minnesota.

[28] Minnesota law allows parents and guardians to refuse standardized tests for their children. *Minnesota Statutes* 2016, 120B.31, subd. 4a. Federal law protects the right of parents and guardians to refuse standardized testing if state or local laws permit them to do so. 20 *U.S. Code*, sec. 6311(b)(2)(K) (2016).

Though still a small fraction of students statewide, the number of students refusing to take the MCAs has grown dramatically in the last few years.

The number of enrolled students not taking the MCAs has climbed rapidly in recent years. Students were reported as "refusals" or "absent" for about 1,700 MCA tests in 2013.[29] In 2016, nearly 12,000 tests were reported in those same categories. Refusals are particularly concentrated among high school students in parts of the Twin Cities metropolitan area.



The opt-out movement has primarily affected MCA participation. There has been only a slight decrease in ACCESS participation over the past four years, and no meaningful change in the numbers of students taking alternate tests.

The district most affected by the opt-out movement has been Minneapolis Public Schools, where over 55 percent of eligible 10th grade students and over 60 percent of eligible 11th grade students did not take the math or reading MCAs in 2016. This lack of participation has profound consequences for the usefulness of MCA data.

In Minneapolis Public Schools, 2016 math and reading MCA scores at the high school level should not be used to estimate overall student performance, student growth, or achievement gaps because of the number of nonparticipants.

The increasing number of test refusals threatens the validity of interpretations made from the data. Validity, or whether the test is likely to accurately measure districtwide student learning, is compromised because the students who refuse to take the test are not randomly distributed in the student population. Because certain types of students are more likely to refuse to test, combined test scores from the students who do take the tests are likely to be different than if every student was tested, a statistical problem known as "selection bias."

The level of testing nonparticipation among high school students in Minneapolis Public Schools has reached the point where it is no longer appropriate to endorse the test results as a valid measure of districtwide student learning. Tests are still valid at the individual level; a student's individual test score is not affected by classmate refusals. However, the current level of test refusals makes it impossible to rely on the MCAs to measure important district-level outcomes at the high school level, such as the achievement gap between white and nonwhite students. If the opt-out movement continues to grow at its current rate, other school districts and charter schools in Minnesota will likely encounter similar problems.

[29] When parents or guardians inform schools that they do not want their children to participate in state-mandated standardized tests, state test data list the student as a "refusal." Our review of student testing data indicated that the numbers of students marked as refusals and those marked absent on test days have both increased simultaneously, although the number of absences has not climbed as sharply as the number of refusals. We interpret these data to be two representations of the same phenomenon, and report both statistics together.

From a federal compliance standpoint, ESSA's provisions regarding parent refusals are contradictory. The law requires states to test all public school students in designated grades.[30] Further, it requires that states set up their accountability systems so that schools are penalized in the state's rankings for testing less than 95 percent of their students.[31] Proposed federal regulations require that schools that are not testing at least 95 percent of their students (or 95 percent of any designated student group) create and implement an improvement plan designed to boost participation.[32] However, ESSA also protects the right of parents and guardians to opt their children out of standardized tests if state or local laws allow them to do so, and further requires that schools receiving Title I funding notify parents and guardians if such laws exist.[33] At this point, it is unclear to what extent the federal government will penalize states where there are high numbers of parent refusals. Because the opt-out movement has already dramatically reduced testing participation in some other states, Minnesota may have an opportunity to learn from how those states and the federal government address the opt-out movement before refusals become a serious threat to Minnesota's compliance with federal law.

Unnecessary Testing

In 2013, the Legislature required that the reading and math MCAs for students in grades 3-7 be "fully adaptive," so that test questions would vary based on a student's previous responses.[34] Students getting many questions correct receive more challenging questions, while students getting many questions wrong receive easier questions. As part of this requirement, the law mandated that MDE use "above-grade" and "below-grade" questions.[35] That is, a fifth-grade student getting many questions correct would eventually see questions designed for sixth- and seventh-graders; a classmate getting many questions wrong would eventually see questions designed for third- and fourth-graders. MDE first implemented this mandate in the 2015-2016 MCAs.

Some portions of the MCAs are not used in the calculation of proficiency or growth scores and simply add to the amount of testing without providing helpful information.

The state requirement for off-grade questions in state tests did not fit well with federal requirements. Under the federal guidance existing at the time, the U.S. Department of Education required states to assess students based strictly on grade-level content. States

[30] 20 *U.S. Code*, sec. 6311(b)(2)(B)(i)(II) (2016).

[31] Specifically, when a school tests less than 95 percent of its students, nontesting students below the 95 percent threshold are counted as not proficient. For example, if a school has 100 students in grade 11, 65 of them take the MCA, and 60 are proficient, then the school is credited with 60/95 or 63 percent proficient and 35/95 or 37 percent nonproficient. 20 *U.S. Code*, secs. 6311(c)(4)(B)(i)(I) and 6311(c)(4)(E)(ii) (2016).

[32] Elementary and Secondary Education Act of 1965, as amended by the Every Student Succeeds Act—Accountability and State Plans, 81 *Federal Register*, 86,224 (2016) [provisionally to be published at 34 *CFR*, sec. 200.15(c) (2017)]. These regulations have been released in their final form, but their implementation has been postponed for 60 days under a presidential order that delayed all published but not yet implemented regulations. See Memorandum for the Heads of Executive Departments and Agencies, 82 *Federal Register*, 8,346 (2017).

[33] 20 *U.S. Code*, secs. 6311(b)(2)(K) and 6312(e)(2)(A) (2016).

[34] The law was later amended to include eighth-grade students as well. *Laws of Minnesota* 2013, chapter 116, art. 2, sec. 13, codified in *Minnesota Statues* 2016, 120B.30, subds. 1a(a) and 1a(b).

[35] *Ibid*. We refer to such questions below as "off-grade" questions.

could choose to *add* additional test content to include off-grade questions, but they could not reduce the amount of on-grade testing to do so. Further, states were not allowed to use above-grade or below-grade testing results for the scores used for federally approved accountability systems.

As a result, MDE lengthened the MCAs in 2016 to add off-grade questions to meet the requirement in state law, but did not use those questions when calculating proficiency scores and growth scores. The only scores reported by MDE that used the additional off-grade questions were the student progress scores used to measure career and college readiness, a test score use that we are recommending that the Legislature discontinue for most students because of high levels of uncertainty. In addition, MDE added extra questions for all students, not just those performing above or below grade level, in order to make the tests the same length for all students.

The 2015 ESSA law changed federal policy on off-grade test content. Moving forward, states will be able to use above- and below-grade questions to calculate student test scores for use in accountability calculations.[36] However, states will still be required to report grade-level proficiency. Testing experts we consulted had somewhat mixed opinions on the value of off-grade questions; some thought that meeting the federal requirement to assess student knowledge of grade-level content requires the use of only grade-level questions.

RECOMMENDATION

The Legislature should require the Department of Education to report on the usefulness of above-grade and below-grade content in the MCAs in the context of the new federal law.

Had there been no change in federal law, we would have recommended that the Legislature remove the requirement for off-grade MCA content, because it forced MDE to add additional test questions with little productive use. However, the recent changes to federal law may enable MDE to use above-grade and below-grade questions in its calculations of grade-level proficiency.

We suggest that the Legislature require MDE to study the law's final regulations (released in November 2016, but postponed by the new presidential administration) and any additional nonregulatory federal guidance to determine whether it can follow both legislative and federal requirements without lengthening the MCAs beyond the number of questions needed to measure student proficiency and growth. If MDE concludes that it cannot add above- and below-grade questions without lengthening the tests, it should provide information to the Legislature about how it will make use of the additional questions required by law. Legislators can then assess whether the additional information gained is worth lengthening the tests and determine whether to keep the statutory requirement.

Training and Interpretation

The amount of test score data generated by MDE is impressive. For example, the MCA and MTAS data file provided to school districts and charter schools includes 160 data columns

[36] 20 *U.S. Code*, sec. 6311 (b)(2)(J)(i)(II)(bb) (2016); see also Elementary and Secondary Education Act of 1965, as Amended by the Every Student Succeeds Act—Accountability and State Plans, 81 *Federal Register*, 86,223 (2016) [provisionally to be published at 34 *CFR*, 200.14(b)(1)(ii) (2017)].

for each separate student and test. To help teachers and administrators make sense of these extensive data, MDE and its vendors publish numerous guidance documents.

The Minnesota Department of Education's testing documentation, though comprehensive, can be challenging to understand and interpret.

> I feel that the results of the MCAs have so many variables involved that it is hard to really know where we as a school/district stand. I realize that we are now looking more at the growth from year to year, but I think it is still confusing.
>
> **—Fifth-Grade Teacher**

MDE's guidance ranges from simple explanations on each student's individual score report to extensive technical documentation that provides details about the statistical computations used to derive student scores from the test answers. Reading and understanding all of MDE's documentation is a significant investment of time and energy. Our conversations with school district and charter school staff suggested that a few district-level research staff do master much of this detail. But other users may gain only a superficial understanding of test score information. As a result, data may be misinterpreted or misused.

MDE attempts to distill the most important information about interpreting MCA scores into a 37-page *Interpretive Guide*.[37] However, abridging large amounts of information can leave out important details. In our visits to local school districts and charter schools, we asked teachers and administrators to explain how they used test scores. At times, we were told of uses that seemed sensible to the individuals we interviewed and that were not discussed in the *Interpretive Guide*, but which in fact conflicted with recommendations in MDE's more detailed technical documentation.

In one location, for example, teachers told us that they inferred growth from test scores by directly comparing a student's current scale score to the previous year's scale score (that is, inferring growth if a student has a sixth-grade score of 659 and the previous year had a fifth-grade score of 554). MDE's *Interpretive Guide* alone would not contradict this interpretation, but a careful reading of the technical documentation would show that this inference is incorrect. Scale scores from one grade cannot be directly compared with scale scores from a different grade.

Providing detailed test score data to school districts and charter schools is of limited value if local officials and teachers are not prepared to interpret the information they receive. But local school staff varied widely in their ability to appropriately interpret test score data.

Many school district and charter school staff do not receive sufficient training and support to appropriately use test data.

Staffing devoted to test score interpretation and use varies among districts. Large school districts, such as Minneapolis and St. Paul, have dedicated offices with multiple full-time research staff to serve the district's data needs. Other school districts and charter schools, on the other hand, may place this responsibility with a single administrator who handles test score interpretation duties in addition to other tasks.

[37] The *Interpretive Guide* is available at http://education.state.mn.us/MDE/fam/tests/. A separate interpretive guide for the ACCESS tests, developed by those tests' vendor, is available at https://www.wida.us/get.aspx?id=25.

MDE's creation of the Regional Centers of Excellence was partly intended to provide additional data analysis resources to school districts and charter schools that need them. However, by design, the Regional Centers of Excellence primarily work with schools receiving Title I funding whose students have low test scores. Our research suggests that the need is much broader.

In our surveys, almost half of principals and teachers said that they did not feel prepared to analyze MDE's student growth data. Even higher percentages said that they did not feel prepared to analyze the student progress scores on which career and college readiness is based. Twenty percent of principals and more than 35 percent of teachers whose students took MCAs said that they do not feel prepared to interpret MCA scores overall. Almost half of the principals and teachers responding to our survey who work with English learners do not feel prepared to interpret ACCESS scores overall. Nearly one in three district assessment coordinators said that they were unsatisfied or very unsatisfied with MDE's services related to the use and interpretation of assessment data.[39]

Survey question: Overall, I feel sufficiently prepared to interpret MCA scores.

	Agree	Disagree
Principals	75%	20%
Teachers	57%	36%

Survey question: Overall, I feel sufficiently prepared to interpret ACCESS scores.

	Agree	Disagree
Principals	43%	47%
Teachers	27%	49%

See note.[38]

Our findings are consistent with a 2016 study by the Center for Applied Research and Educational Improvement (CAREI) at the University of Minnesota. That study concluded that:

> A large percentage of survey respondents indicated their school's or district's capacity to effectively use data to guide educational decisions was fair or poor. Despite substantial motivations and efforts to use data, most educational systems in Minnesota lack the capacity to meet their own needs for data-based decision making.
>
> Educational professionals consistently described the need for additional resources to help them use data. There are very limited resources at all levels of the educational systems in Minnesota to access, analyze, present, and interpret data in a timely and effective manner.[40]

[38] Percentages do not sum to 100 percent due to omission of "don't know" responses. Survey responses to the MCA and ACCESS questions are limited to principals and teachers whose students took MCAs and ACCESS tests in 2016, respectively. "Agree" includes "agree" and "strongly agree" responses; "disagree" includes "disagree" and "strongly disagree."

[39] See the Appendix for details of our district assessment coordinator survey.

[40] Theodore J. Christ and Kimberly Gibbons, with Jane Fields and Beverly Dretzke, *Minnesota Needs Assessment: Research, Evaluation, Assessment, And Data Use In Schools* (Minneapolis: Center for Applied Research and Educational Improvement (CAREI), February 2016), vii.

RECOMMENDATION

The Department of Education should continue to increase outreach and support to school districts and charter schools regarding the interpretation and use of standardized test scores.

As we discussed in Chapter 4, Minnesota school districts and charter schools go to great lengths to administer the MCAs, the ACCESS tests, and the state's alternate tests for students with cognitive disabilities. State-mandated standardized tests create extra costs and can affect staffing and technological resources for weeks. Thus, to the extent possible, school districts should make good use of the results of standardized tests.

However, we found that school officials' and teachers' familiarity with standardized test scores was uneven. In our surveys, surprisingly high numbers of both teachers and principals said they did not feel prepared to interpret test data. Some local staff we interviewed displayed a thorough grasp of test data, but others were misusing the data in ways that affected their understanding of student performance.

MDE has provided a number of resources to local school staff to aid with interpretation of standardized test scores. The department publishes copious documentation describing tests and test scores. MDE's assessment division has offered an annual conference in St. Paul and developed various webinars and videos around testing topics, including the use of test data. In July 2016, the division filled a new outreach and training specialist position. The position's responsibilities include both direct outreach to local administrators and teachers and making the department's and vendors' existing resources more accessible and usable.

The new hire is a step in the right direction. We would also encourage MDE to look for ways to expand the services of the Regional Centers of Excellence to more schools. Although it is important to provide assistance to schools whose students have lower test scores, the resources that the regional centers provide can be helpful to all schools. One charter school administrator we interviewed commented that her school had benefited from the assistance it received from one of the regional centers. But once the school's scores improved, it no longer received the help; she noted that "you have to fail to get resources."

Uses of Locally Adopted Tests

As we discussed in Chapter 2, most school districts and charter schools in the state use locally adopted standardized tests in addition to the tests mandated by the state. In many instances, the locally adopted tests are "formative" or "diagnostic" tests, intended to be administered during the school year to assess a student's current strengths and weaknesses and provide teachers with immediately useful information to guide instruction. As such, they provide different information than the MCAs and ACCESS tests, which are mostly intended to measure the performance of groups of students against a set of comprehensive standards.

> The MAP tests are superior to the MCAs: more helpful in informing instruction; more easily administered; more helpful data for teachers, administrators, and parents; more readily interpretable growth data. The mandated use of Minnesota-specific comprehensive assessments is redundant for a school choosing to administer the MAP tests, but many do so, including us, because the MAP tests are superior in meaningful ways.
>
> **—Charter School Principal**

Generally, more teachers and local administrators say locally adopted standardized tests are useful than say the MCAs are useful.

In our surveys, we asked principals and teachers to assess the standardized tests their districts used locally—such as MAP, FAST, and STAR—and the MCAs across the same set of usefulness criteria.[41] As can be seen in Exhibit 5.4, more principals and teachers found their locally adopted tests to be useful across nearly every single criterion we asked about. Even for assessing whether students meet state standards, more principals said locally adopted tests were very useful than said the MCAs were very useful.

> Our school began giving FAST this year and piloted it last year. It gives great information and doesn't take away classroom instruction time…. MCAs take away valuable instruction time and don't give very useful information.
>
> **—Sixth-Grade Teacher**

Based on our site visit conversations and the written comments on our surveys, we suggest four key reasons why locally adopted tests are more popular than the MCAs:

- **Convenience.** Locally adopted tests are generally completed in a shorter period of time and require less organizational effort than MCA testing. Teachers and administrators often receive complete results almost immediately.

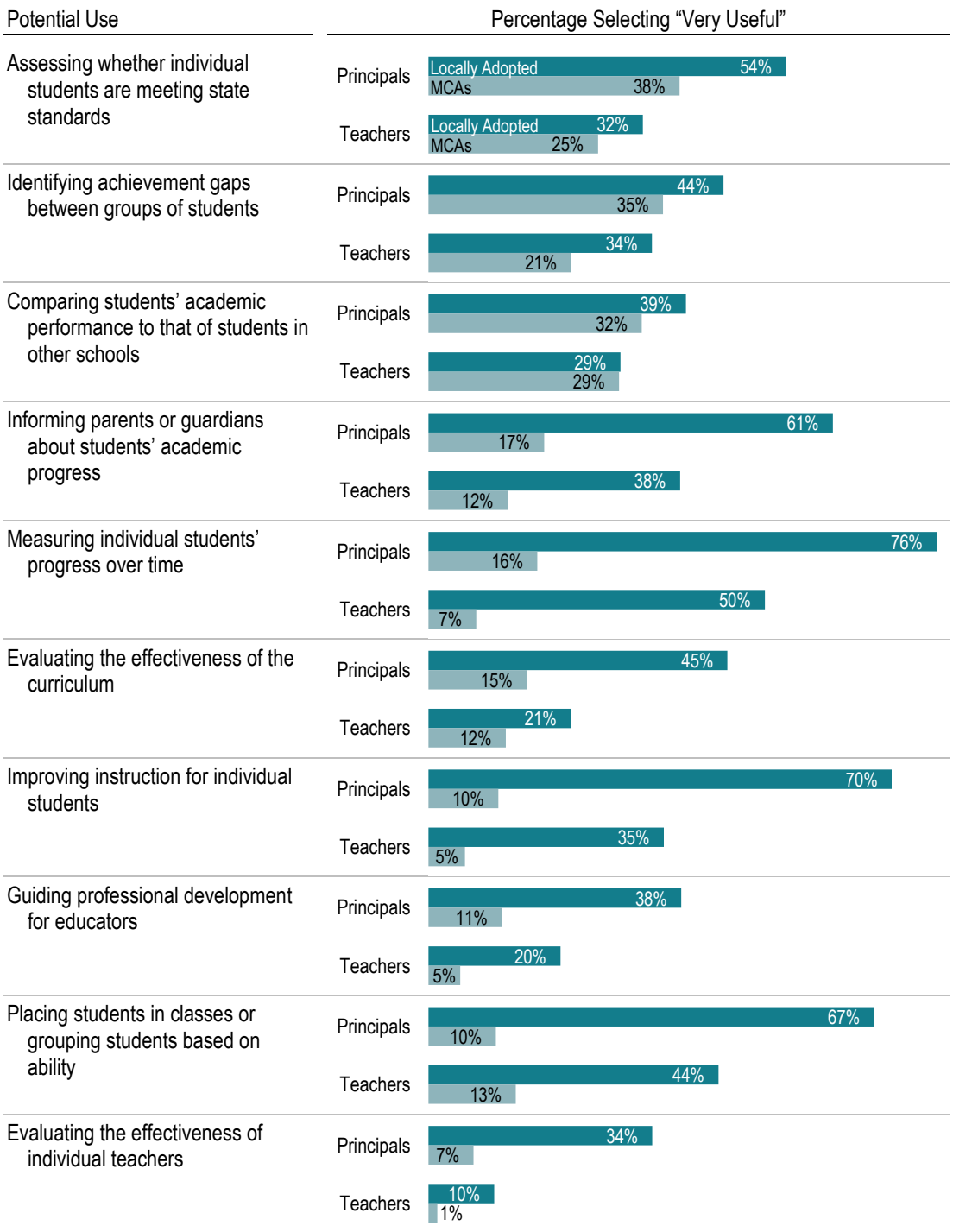
- **Flexibility.** Because locally adopted tests are usually not externally required, school district and charter school administrators can tailor their use to meet their own needs. If local administrators become dissatisfied with a test, they can discontinue it and begin using a new one. They can choose to test in some grades and not others, or test some students and not others. For example, administrators in one district we visited were enthusiastic about a particular locally adopted assessment that they said provided exceptional insights into student learning. However, they acknowledged that the test is not designed for students with cognitive disabilities and does not allow many accommodations for such students, so the district does not administer the test to those students.

- **Comprehension.** Tests like the MAP and STAR have a single scale of achievement. These tests assess students on their knowledge and provide scores unrelated to the student's grade level. For example, a score of 200 on the MAP indicates the same level of accomplishment for any student, which may be highly advanced for a first grader but far below expectations for a tenth grader. Teachers and administrators find it easier to compare such scores across time and subjects and do not need to use statistical calculations to interpret them.

- **Repetition.** Locally adopted tests are often designed to be given several times throughout the school year. As a result, teachers and administrators can gauge growth that occurs within the school year, while the student is in the same classroom with the same teacher.

[41] The Measures of Academic Progress (MAP) is produced by the Northwest Evaluation Association. The Formative Assessment System for Teachers (FAST) is produced by FastBridge Learning, a joint venture involving the University of Minnesota. The STAR (not an acronym) is produced by Renaissance.

Exhibit 5.4: Principals' and Teachers' Opinions on the Usefulness of Locally Adopted Tests and the MCAs, 2016



NOTES: Respondents were asked to indicate "how useful each assessment is for each activity listed" for the MCAs, ACCESS tests, locally chosen tests, and classroom-based tests. Other possible responses included: not useful, somewhat useful, or don't know/not applicable. See the Appendix for details of our surveys.

SOURCE: Office of the Legislative Auditor, surveys of principals and teachers, 2016.

For now, the more popular locally adopted tests probably cannot meet the federal requirements addressed by the MCAs.

Despite the greater enthusiasm for locally adopted tests among educators, they do not currently meet the requirements of federal law. Until test vendors successfully demonstrate they have addressed the following issues, any discussion of replacing the MCAs with these more appealing tests is premature.

- **Alignment to standards.** By federal law, tests used for federal accountability purposes must be aligned to each state's academic standards.[42] The locally adopted commercial tests used most often in Minnesota are created by vendors who market the tests nationally. Some vendors claim that they tailor their tests to each individual state's standards, or that scores on the vendor's tests closely predict student scores on state-mandated tests.[43] However, testing experts we spoke with expressed doubt that such tests could meet the U.S. Department of Education's technical requirements for alignment. As far as we are aware, no state has successfully used a formative test to meet federal testing requirements.

- **Summative purpose.** Formative, computer-based adaptive tests are designed to adapt to each student's abilities, regardless of whether those abilities are at the student's grade level. If a student answers a large number of above-grade or below-grade questions, the student is no longer being evaluated against the depth and breadth of the standards for the student's grade, as required by federal regulations.[44]

Legislative efforts to rework the MCAs to make them more like locally adopted tests have been generally unsuccessful.

In response to criticism of the state's standardized tests from educational stakeholders, the Legislature has required MDE to make the MCAs more like locally adopted formative tests. State law directs MDE to design the MCAs to provide "useful diagnostic information" that will be "available to teachers…for improving student instruction."[45] Elements the Legislature has added to the MCAs have included, for example, the use of growth scores, immediate reporting of scores after test administration, adaptive testing, and above-grade and below-grade test content.

Despite these changes, more local educators still find locally adopted formative tests to be helpful across a wide range of potential uses than find the MCAs to be helpful. Directing

[42] 20 *U.S. Code*, sec. 6311 (b)(2)(B)(ii) (2016).

[43] It is not surprising that test scores are correlated when tests cover the same subject matter. A student that scores poorly on a mathematics formative test, for example, is unlikely to get a high score on a test that measures student performance against state mathematics standards. However, such correlations in student test performance do not mean that a locally adopted test would meet the federal technical criteria for alignment with state standards.

[44] Some advocates have suggested revising the state's academic standards to redefine grade-level performance along a continuum of student learning so that adaptive assessments that include off-grade questions could be used. In other words, rather than developing a test to fit the standards, this approach would change the standards to make different types of assessments usable.

[45] *Minnesota Statutes* 2016, 120B.30, subd. 1a(d)(4).

MDE to provide testing results from its summative tests so that they appear to be more like formative tests has not addressed educators' concerns.

Further, legislative changes have sometimes been awkward for MDE to implement—for example, the above-grade and below-grade content requirement—or created additional logistical or technical challenges at the local level. In some instances, provisions promoting usefulness for educators contradict other preferences expressed in law. For example, state law requires MDE to develop a writing test as soon as is practicable, yet also requires that scores be reported to students within three days.[46] Because writing tests are typically graded by hand, these two requirements are likely incompatible.

The inability of the Legislature or MDE to effectively address educators' complaints about the usefulness of MCA scores is not a flaw in law or department policy. Efforts to change the MCAs to give them the advantages of individual-level formative tests may be doomed as long as federal law requires states to use summative tests that measure the "depth and breadth" of state standards. The widely cited *Standards For Educational And Psychological Testing,* produced by several national professional organizations as a joint effort, warns against attempts to do too many things with the same test:

> There are often tensions associated with using educational assessment for multiple purposes. For example, a test developed to monitor the progress or growth of individual students across school years is unlikely to also effectively provide detailed and actionable diagnostic information about students' strengths and weaknesses…. Most educational tests will serve one purpose better than others; and the more purposes an educational test is purported to serve, the less likely it is to serve any of those purposes effectively.[47]

Thus, attempts to make the MCAs more like a formative test may weaken its ability to serve federal accountability purposes, and still not provide the benefits that local educators want.

RECOMMENDATION

The Legislature should avoid prescribing specific content or reporting formats for standardized tests. Instead, the Legislature should set clear, meaningful priorities it can use to hold the Department of Education accountable.

No single test can do everything well, and choices in test design create tradeoffs. The decision to use untimed tests may provide more accurate information about each individual student's abilities, but it has also contributed to scheduling headaches for school districts and charter schools. The decision to measure growth from one year to the next year using comparisons with other students may fairly measure student outcomes, but it also ensures that growth scores cannot be released until after the completion of all testing.

Current state law outlines several purposes for MDE's testing program. But there is no prioritization among them; all appear to be equally important, and MDE is directed to go in

[46] *Minnesota Statutes* 2016, 120B.30, subds. 1a(c) and 1a(d)(1).

[47] American Educational Research Association, American Psychological Association, and National Council on Measurement in Education, *Standards For Educational And Psychological Testing* (Washington, DC: American Educational Research Association, 2014), 188.

multiple directions at once. For example, MDE is required to construct the MCAs such that the tests:

- Align with state academic standards.[48]
- Meet federal requirements, which require that the tests measure the "depth and breadth" of the state's standards.[49]
- Provide diagnostic information to teachers.[50]
- Serve as a placement test for Minnesota State postsecondary institutions.[51]
- Serve as a measure of teacher and principal effectiveness.[52]
- Enable parents and school staff to make long-range projections of likely student success in postsecondary settings.[53]

MDE must construct tests to meet these multiple purposes while also following legislative requirements regarding the types of questions used, the types of scores reported, the speed with which scores are reported, and the method by which tests are delivered.[54] The end result of these multiple mandates is that the department uses its discretion to balance the competing priorities outlined in law.

The Legislature can best give meaningful direction to the department by clearly prioritizing its goals. For example, one possible prioritization would be: (1) meet federal requirements, (2) limit testing time for students, (3) reduce costs for school districts and charter schools, and (4) provide results quickly. If these were labeled the most important criteria, MDE could make decisions about its testing program accordingly and could be held accountable for those decisions. On the other hand, a different set of prioritizations would lead to different decisions; for example, (1) reduce state costs, (2) provide educators with diagnostic information on individual students, (3) provide data that can be used to evaluate teachers, and (4) meet federal requirements.

We recommend that the Legislature use broad prioritizations like these to guide departmental policy rather than requiring that the state's standardized tests contain specific elements or produce specific kinds of scores. The complexity of testing almost ensures that some legislative requirements will have unforeseen and unintended consequences. Giving the department greater flexibility to meet legislative goals may also make it easier for MDE and the state to take advantage of ongoing innovations in information technology.

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[48] *Minnesota Statutes* 2016, 120B.30, subds. 1(a) and (b).

[49] *Minnesota Statutes* 2016, 120B.30, subd. 1a(c); and Title I—Improving the Academic Achievement of the Disadvantaged—Academic Assessments, 81 *Federal Register*, 88,931 (2016) [to be published at 34 *CFR*, sec. 200.2(b)(3)(ii)(A)(2) (2017)].

[50] *Minnesota Statutes* 2016, 120B.30, subd. 1a(d)(4).

[51] *Minnesota Statutes* 2016, 136F.302, subd. 1a.

[52] *Minnesota Statutes* 2016, 122A.40, subd. 8(b)(9); 122A.41, subd. 5(b)(9); and 123B.47, subd. 3(b)(6).

[53] *Minnesota Statutes* 2016, 120B.30, subd. 1a(d)(3).

[54] See *Minnesota Statutes* 2016, 120B.30, subd. 1(a), subds. 1a(a) and (b), and subd. 1a(d)(1); and 120B.299.


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List of Recommendations

- The Minnesota Department of Education (MDE) should ensure that public school districts and charter schools administer the required standardized tests. (p. 30)

- MDE should improve its measurement of school district and charter school satisfaction with test vendor services. (p. 45)

- MDE should systematically evaluate the impacts of testing on local school districts and charter schools and use what it learns in making policy decisions. (p. 63)

- The Legislature should remove the specific MCA growth formula in law and instead provide broad guidance to the department. (p. 69)

- The Legislature should repeal the law requiring that the Department of Education provide career and college readiness progress scores for elementary and middle school students. (p. 71)

- The Legislature should require the Department of Education to report on the usefulness of above-grade and below-grade content in the MCAs in the context of the new federal law. (p. 81)

- The Department of Education should continue to increase outreach and support to school districts and charter schools regarding the interpretation and use of standardized test scores. (p. 84)

- The Legislature should avoid prescribing specific content or reporting formats for standardized tests. Instead, the Legislature should set clear, meaningful priorities it can use to hold the Department of Education accountable. (p. 88)


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Appendix: Survey Methodology

To learn more about standardized testing at the district and school levels, we conducted three statewide surveys.

Teacher survey: Using a Minnesota Department of Education (MDE) database, we compiled a list of teachers who taught students eligible to take the Minnesota Comprehensive Assessments (MCAs) or Minnesota Test of Academic Skills (MTAS) in 2016.[1] We included only teachers who taught at least half-time and who taught tested subjects. For example, we included classroom elementary teachers for grades 3-6 and math teachers for grade 11, but we excluded high school social studies teachers and physical education teachers at all grade levels. We included special education and English language teachers.

From this listing of teachers, we drew a stratified random sample of 802 individuals. We received responses from 268 teachers (33 percent), although 4 of these indicated in written responses that they were not part of our survey population (they taught adults or preschool students). We excluded those, leaving us with 264 responses for analysis. The 95 percent confidence interval for the results from our teacher survey is plus or minus 6 percentage points.[2] When we refer to survey results for a subsample of teachers (for example, only those who taught English learners), the confidence interval may be larger.

Principal survey: Using an MDE database, we compiled a list of all schools or other educational entities that administered MCAs, MTAS tests, ACCESS tests, or Alternate ACCESS tests in 2016.[3] For each school, we identified the academic leader; in most cases, this individual was a principal, but sometimes it was a charter school director, program director, special education director, or other administrator. In a few instances, there were multiple academic leaders for a single school or one academic leader for multiple schools. We accounted for these so that each individual had approximately the same probability of being included in our sample.

From this list of principals and academic leaders, we drew a stratified random sample of 813 individuals and received 474 responses (58 percent). The 95 percent confidence interval for the results of our principal survey is plus or minus 3 percentage points. When we refer to survey results for a subsample of principals (for example, only those at schools with English learners), the confidence interval may be larger.

District Assessment Coordinator survey: District Assessment Coordinators are a school district's or charter school's main contact with MDE and testing vendors regarding statewide tests. Using an MDE listing, we contacted all individuals identified as district

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[1] The MCAs are standardized tests in math, reading, and science administered statewide to public school students in selected grades in order to meet federal and state requirements. The MTAS tests are the alternate tests to the MCAs for students with severe cognitive disabilities.

[2] A 95 percent confidence interval means that if random samples of the same size were drawn repeatedly from the same population of teachers, the true survey result for the entire population would fall within the measured intervals 95 percent of the time.

[3] The ACCESS for ELLs (English language learners) tests measure progress toward meeting Minnesota's academic standards for English language proficiency. To meet federal requirements, every student in grades K-12 identified as an English learner takes ACCESS tests in reading, listening, writing, and speaking. The Alternate ACCESS tests are alternate tests for students with severe cognitive disabilities.

assessment coordinators for Minnesota school districts, charter schools, and educational entities that administered the MCAs in 2016. In school districts or charter schools with more than one coordinator, we asked that only one response be provided. We received responses from coordinators in 395 of the 525 school districts and charter schools we contacted (75 percent).[4]

Additional notes: All three surveys were conducted online. We initially contacted potential respondents by e-mail, and they completed the surveys using an Internet survey tool. For the teacher and principal surveys, we also sent reminder letters by U.S. mail to potential respondents that had not yet completed the survey.

In addition to calculating a confidence interval to account for the possibility that the samples might not reflect the populations, we also considered weighting the survey results to account for nonresponse bias. That is, if we found that individuals with certain characteristics were less likely to respond to the survey, we would give extra weight to the responses we received from individuals having those characteristics. However, we found that such weighting rarely changed our survey results by more than 1 or 2 percentage points. Thus, for the sake of simplicity, we use unweighted survey results in the report.

[4] Because we contacted all coordinators, there is no need to extrapolate from a sample to a larger population; thus, there is no confidence interval to report.

Minnesota Department of Education

March 2, 2017

James Nobles, Legislative Auditor
Office of the Legislative Auditor Room 1
40 Centennial Building
658 Cedar Street
St. Paul, MN 55155

Dear Mr. Nobles:

Thank you for the Office of the Legislative Auditor's (OLA) review of Standardized Student Testing. The Minnesota Department of Education (MDE) is committed to continuous improvement of our work and your evaluation of statewide testing is appreciated.

After carefully reviewing your evaluation I have found it to be thorough and fair. The continued focus on student testing at the state and national level, as well as potential testing impacts from the federal Every Student Succeeds Act (ESSA), makes the release of your evaluation well-timed. It provides valuable feedback on how MDE conducts its work and useful information to policymakers. Please find MDE's feedback to your key recommendations below.

Recommendation 1:

MDE should gather information from school districts and charter schools on the local costs and impacts of administering state mandated tests, and use these data to inform policy decisions.

MDE agrees with recommendation 1, with a caveat that it would not provide an undue reporting burden on school districts and charter schools. Your evaluation notes that in tests specifically designed for Minnesota Academic Standards we may be able to work with our vendor to reduce administrative burden. However, as you have noted in your evaluation, MDE may not have the same ability to reduce testing burdens with an off-the-shelf testing product. Further, we believe the information provided by districts should not only inform MDE implementation, but also help inform decisions made by policy makers as well. Given that MDE is required to provide assessments outlined in state and federal requirements, information collected from districts and charters may provide details that cannot be solved by MDE alone without legislative changes.

Recommendation 2:

MDE should further increase outreach and support to school districts and charter schools regarding the interpretation and use of test scores.

MDE agrees with recommendation 2. Access to data and the examination of multiple data points will only continue to increase. In order for schools to successfully use data analytics to inform instruction and interventions, ongoing professional development is critical. MDE has created a small data analytics team in our division of statewide testing to provide districts, teachers, and parents increased information regarding student assessment. Through a recent federal grant, MDE has hired an individual to provide support to districts to help them better understand and utilize data related to assessment. With appropriate funding, MDE would continue to increase outreach and support to schools in order to better interpret and utilize test score information.

Recommendation 3:

The Legislature should remove or reexamine certain legal requirements that prescribe specific test designs or reporting formats, and instead focus on setting priorities for tests overall.

MDE agrees with recommendation 3. When considering the role of districts and charters in administering tests, it is important to appreciate and respect local control. Often after legislation is passed, and during implementation, we learn of unintended or unanticipated challenges for districts and charters. When statutory language prescribes specific testing or reporting formats, MDE lacks the flexibility to adapt quickly to address district and charter needs. My staff and I stand ready to work with the Legislature, districts, and charters to identify and decrease areas of statute that may prescribe test designs and reporting formats that may result in additional burdens.

Originally the MCAs were developed to provide a systems check on schools for accountability purposes. Over time, the role and use of state assessments has expanded to serve multiple purposes, including many they were not designed for, in addition to accountability. Ultimately, a stronger focus on teacher-made formative assessments are best used to increase proficiency and close achievement gaps; rather than over-dependence on summative, point-in-time, accountability exams.

MDE appreciates your thoughtful and comprehensive evaluation of statewide testing, and the fair overview of state required assessments, and MDE's role in administering them. We look forward to working with lawmakers and expert advocates around the recommendations provided in your evaluation and to using the audit in our ongoing continuous improvement efforts.

Sincerely,

Dr. Brenda Cassellius
Commissioner

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Minnesota State High School League

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Miscellaneous
Minnesota Film and TV Board, April 2015
The Legacy Amendment, November 2011
Public Libraries, March 2010
Economic Impact of Immigrants, May 2006
Liquor Regulation, March 2006

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MnDOT Highway Project Selection, March 2016
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MnDOT Noise Barriers, October 2013
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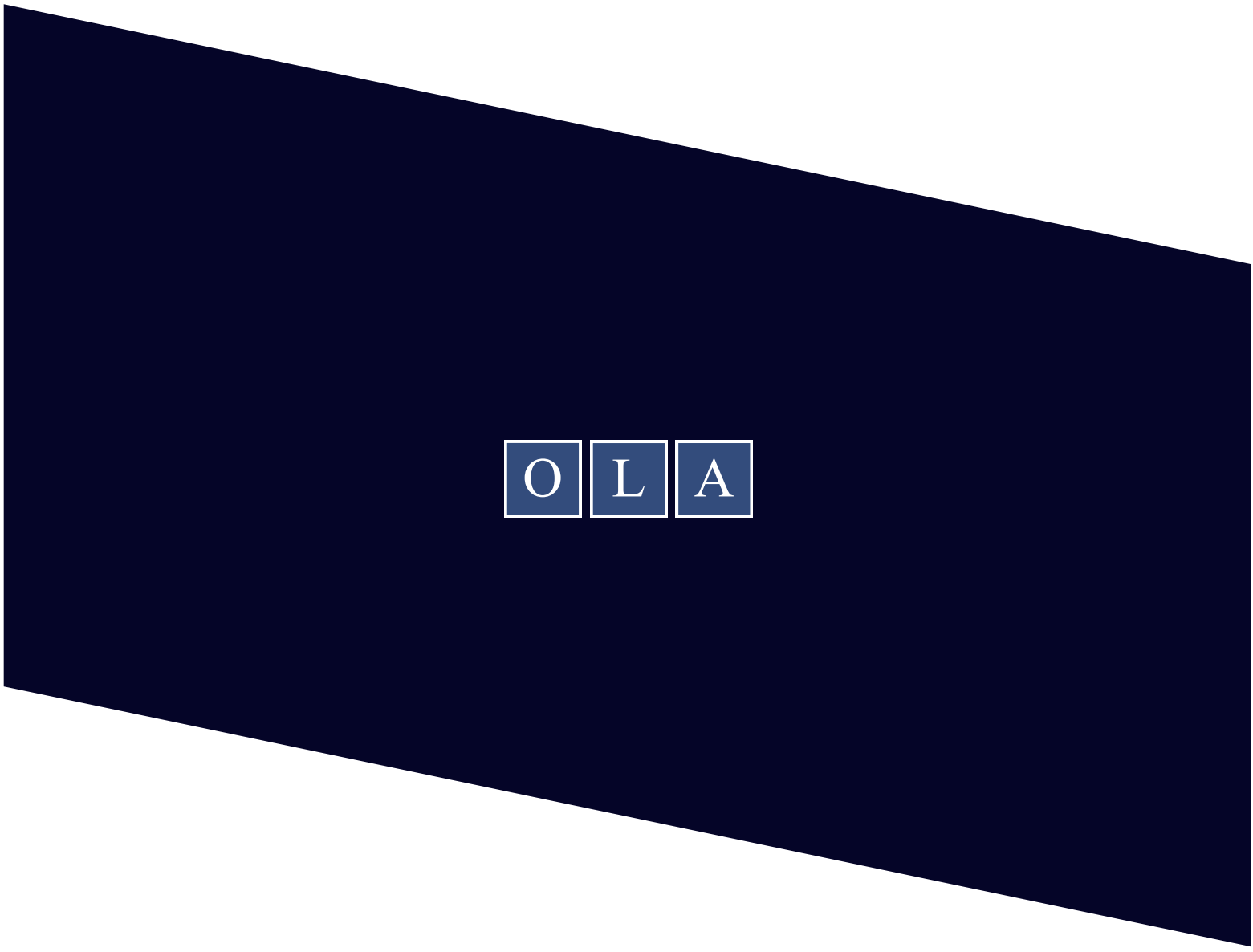

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