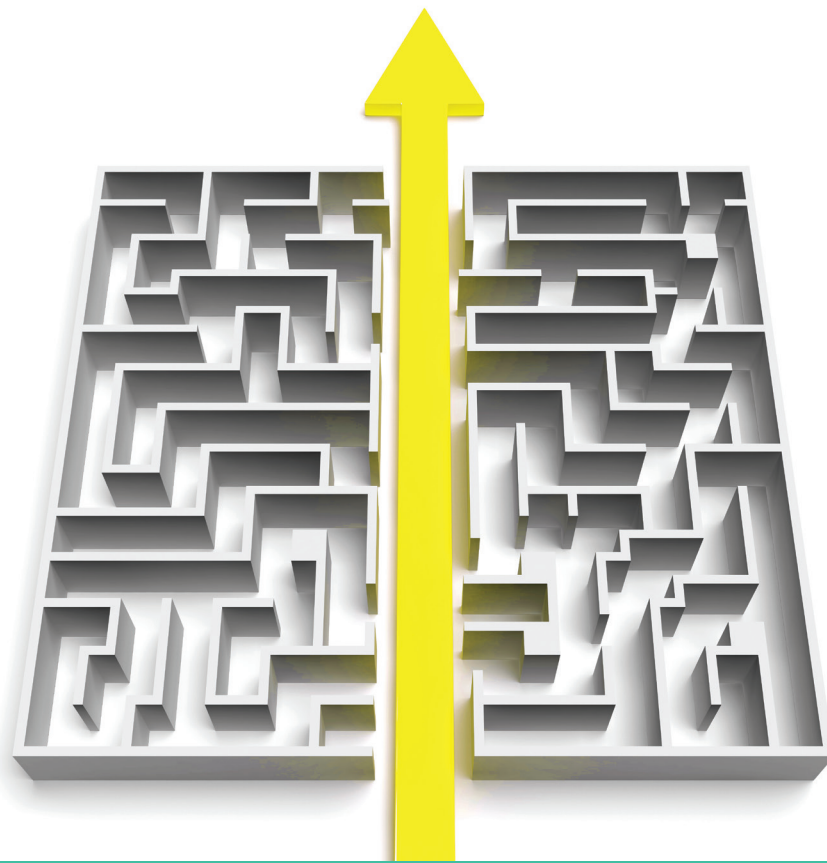# Clearing Policy Barriers to Student-Centered Learning

Recommendations for a More Relevant, Personalized, and Equitable Minnesota Education System

Contents

Introduction and Context

EDUCATION HAS A DESIGN PROBLEM

Minnesota's system of public education has a lot going for it. The state regularly places at the top of lists that rank educational performance.[1] Minnesota's students receive some of the highest ACT and PISA scores in the nation[2] and graduate from high school and four-year college at rates above the national average.[3]

When the data is examined at a deeper level, however, major shortcomings appear. Minnesota has struggled with decades of stagnant academic performance,[4] and unacceptable levels of student disengagement and dropout. Local business and civic communities are pleading[5] for students with skills in problem solving, collaboration, initiative, and creativity,[6] while jobs requiring those skills go unfilled.[7]

Students in underserved communities, particularly students experiencing poverty, students of color, English language learners, students with learning differences, and rural students, are particularly affected by these problems. According to several measures, Minnesota has some of the worst opportunity and achievement gaps in the country.[8] The routine failings of public education to serve all young people is a moral crisis, which also has profound repercussions for the state's civic and economic future.

> "While the traditional model works for some, it was never designed to work for all."

We assert that much of the disappointing performance we see from public education stems from an outdated, factory-model design of school. While the traditional model works for some, it was never designed to work for all. Incremental improvements to the traditional system will yield only incremental progress, and will not result in better outcomes for all students.[9]
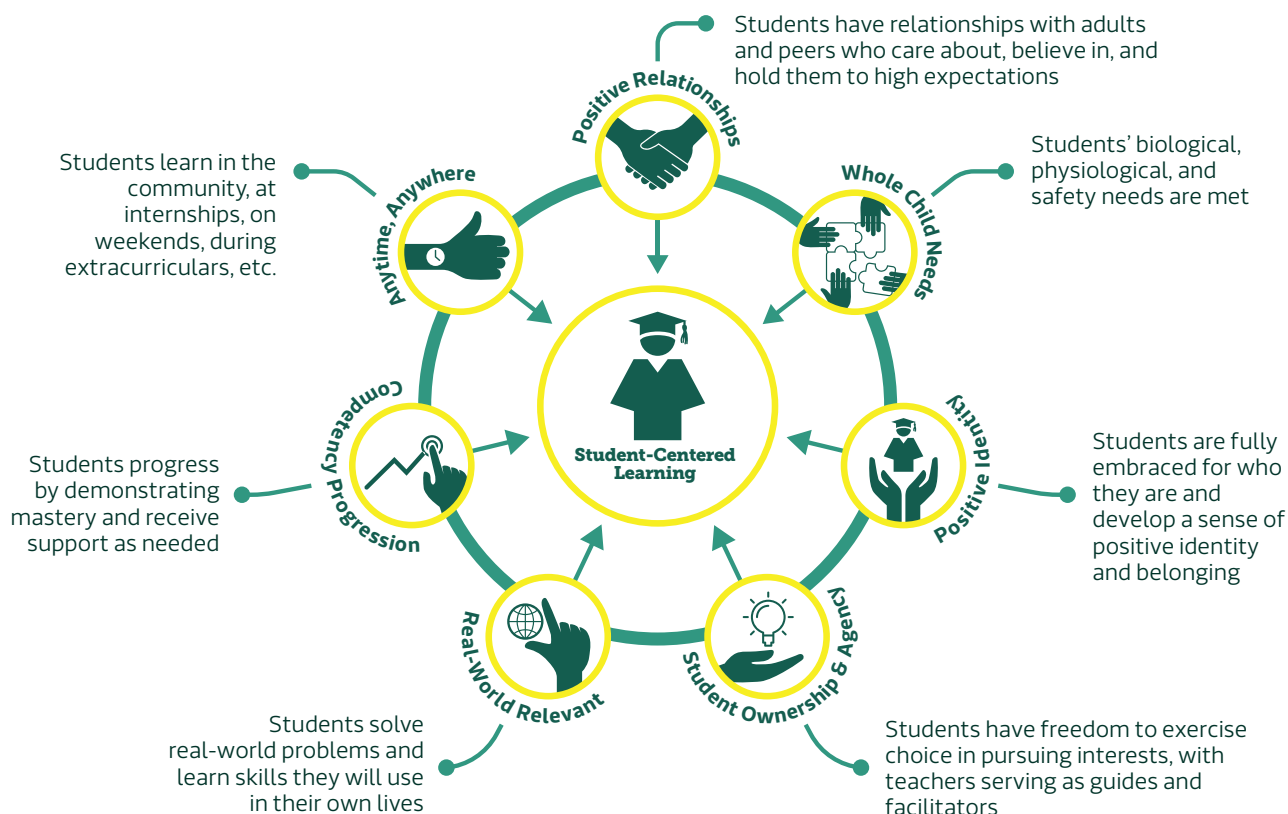
educationevolving.org

NEEDED: STUDENT-CENTERED LEARNING FOR ALL

If the traditional model of school does not work for many young people, what is the alternative?

There is no one design of school that will best serve all learners. Students have unique interests, aspirations, learning styles, cultural identities, life experiences, and personal challenges. To meet all students' needs, Minnesota needs greater variation in learning experiences both within and among schools. And the variation must be driven by—must be centered on, personalized to—the unique needs of individual students.

With that said, we have observed that in innovative schools where students are at the center of design decisions, several common principles are embraced. Education Evolving has been working to name and describe those principles through an extensive listening and research process over the last year.[10] The seven principles of student-centered learning that have emerged from this work are:

Students have relationships with adults and peers who care about, believe in, and hold them to high expectations

Students' biological, physiological, and safety needs are met

Students are fully embraced for who they are and develop a sense of positive identity and belonging

Students have freedom to exercise choice in pursuing interests, with teachers serving as guides and facilitators

Students solve real-world problems and learn skills they will use in their own lives

Students progress by demonstrating mastery and receive support as needed

Students learn in the community, at internships, on weekends, during extracurriculars, etc.

Positive Relationships

Whole Child Needs

Anytime, Anywhere

Competency Progression

Real-World Relevant

Student Ownership & Agency

Positive Identity

Student-Centered Learning

ROLE FOR POLICY: CLEAR BARRIERS TO INNOVATION

If student-centered learning that is customized to each student's needs is the goal, what is the strategy? In particular, what is the role for state policy in that strategy?

We assert the role for state policy should be to enable and encourage a climate of innovation,[11] where schools and educators have freedom to design, implement, and refine student-centered learning,[12] while being held accountable for results. Unfortunately, there are still state laws and regulations that compel industrial era designs for learning—policies that make it difficult for educators to innovate with the content, pace, time, space, and role of educators in learning.

The purpose of this paper is to identify, and recommend changes to, those laws and regulations that inhibit innovation in student-centered learning.

> " We assert the role for state policy should be to enable and encourage a climate of innovation. "

ACKNOWLEDGING BARRIERS BEYOND STATE POLICY

We recognize that other sources of policy—in particular, federal policy, school district policy, and collective bargaining agreements—can also inhibit innovation. However, in this paper we have chosen to focus on state policy, in part to keep the scope of this report manageable, but also because the vast majority of policy governing public education exists in state law and rules, as a result of the constitutional delegation of this responsibility to the state legislature.[13]

There are also barriers beyond policy altogether. Perhaps the largest barrier of all is the deep, culturally ingrained idea of what a "real school" looks like: seven period days, rows of desks, students grouped by age, and a teacher speaking to a full class. There is nothing inherently wrong with these school characteristics and for many of us they worked just fine. But this is not the only way to structure a high quality school.

This widely held image of "real school" exerts pressure for sameness and traditionalism at all levels of the public education system. It's the image that's in mind when educators design learning, when board members hear and evaluate proposals for new initiatives, when state departments of education make and enforce regulations, and when families look for a school for their children. It takes an enormous amount of imagination and courage to set aside elements of traditional school, and to embrace and trust schools designed for student-centered learning.

ANOTHER PART OF THE STRATEGY: NETWORKS OF INNOVATORS

Originally Education Evolving identified itself primarily as a policy organization. In recent years we have come to see the extent to which redesigning school requires a deep, cultural mindset shift.[15] A growing portion of our work is to convene networks of innovators—supporting, connecting, and holding up their work redesigning learning and leadership structures in schools.

Our largest project in this area is the national Teacher-Powered Schools Initiative, which is a collaboration between Education Evolving and the Center for Teaching Quality. By hosting events, weaving networks, developing resources for practitioners, and providing direct assistance, we support teams of teachers committed to redesigning school to improve student learning. We also convene a policy advisory council of student-centered schools, a network of innovative superintendents, and several other informal networks in Minnesota.

Our work in this area draws heavily upon the work of scholars in communities of practice,[16] professional learning communities,[17] networked improvement communities,[18] network theory,[19] and the social diffusion of innovation.[20] We are still learning a lot as an organization about how networks can catalyze innovation, and how best to add value as a network convener.

PART 2
Policy Barriers and Recommendations

The guiding question for the remainder of this paper is:

How can policy clear barriers so that learning experiences meet the individual needs of students, and embrace the principles of student-centered learning?

While policy flexibility is a theme throughout the remainder of this paper, to be clear, we are in no way calling for a waiver from all laws and regulations. State policy should assure that all students have access to a public education where they are safe, respected, and provided with a high quality education. All recommendations below were held up to these non-negotiable criteria before we included them.

Finally, we note that recommendations in this paper are not fully fleshed out proposals; rather, they present an overall framework and starting point for policy design.

WHAT CHANGES IN STUDENT-CENTERED LEARNING?

The first step to identifying state policy barriers to student-centered learning is to understand what, concretely, changes as educators design learning that is more student-centered.

Over the last year, Education Evolving interviewed teachers and administrators in schools and districts that strongly embrace one or more of the principles of student-centered learning described in Part 1. We had over 25 such conversations, in which we asked two driving questions:

1. What changes do you make to the traditional model of school as you implement the principles of student-centered learning?

2. What policy barriers do you face as you make those changes?

The following table summarizes common themes in their answers to the *first* question:

	What Innovators Change	In Traditional Models	In Student-Centered Models
1	The content students learn	Cover the standards in exhaustive detail, with each subject treated independently.	Meet the standards, but go much deeper in real world, interdisciplinary problem solving, driven by student interests.
2	The pace at which students learn	Students progress according to age-determined grade.	Students progress by demonstrating competency, often independent of age.
3	The space and time of learning	In the school building, 8am to 3pm, September until June.	Additionally, out in the community, beyond the school day and year.
4	The role of educators in student learning	Mostly providing direct instruction through lecture.	Serving as facilitators and coaches, validating and advising learning rather than only providing direct instruction.
5	How success is measured	Mostly proficiency and growth in standardized tests of language and math.	Standardized tests used, but also portfolios, performance assessments, SEL, climate, and engagement measures, and more—often chosen based on the school's unique mission and program.

POLICY BARRIERS TO MAKING THOSE CHANGES

As we listened to educators' responses to our *second* question, we identified four education policy "subsystems" that were mentioned frequently. Practically speaking, the majority of Minnesota's education laws and regulations can be grouped into one of these subsystems:

- Standards, Credits, and Seat Time
- Testing and Accountability
- Licensure and Staffing
- Finance and Funding Streams

The extent of barriers in these four subsystems to the five change areas described in response to first question is indicated in the following table. The cells are color-coded as follows:

- **GREEN** cells indicate that the subsystem in the corresponding column does not interfere greatly with the student-centered change in the corresponding row.
- **YELLOW** cells indicate moderate hassle, difficulty, or risk.
- **RED** cells indicate major incompatibility or outright barriers.

Changes In Student-Centered Learning	Minnesota Policy Subsystem Compatibility With These Changes			
	A. Standards, Credits & Seat Time	**B.** Testing & Accountability	**C.** Licensure & Staffing	**D.** Finance & Funding Streams
1. The content students learn	!! (red)	! (yellow)	!! (red)	(green)
2. The pace at which students learn	! (yellow)	!! (red)	(green)	! (yellow)
3. The space and time of learning	! (yellow)	(green)	(green)	!! (red)
4. The role of educators in student learning	(green)	(green)	!! (red)	(green)
5. How success is measured	! (yellow)	!! (red)	(green)	(green)

educationevolving.org

A BLURRY LINE BETWEEN A "BARRIER" AND A "HASSLE"

In practice, several of the yellow and red cells above signal something between a hassle and an outright barrier. Across all four policy subsystems, innovators have found ways to work around many of these barriers. For example, they've worked with the Minnesota Department of Education (MDE) to make compliance and reporting requirements work with their unique learning programs.

But these roundabout solutions often require extra paperwork to seek waivers, maintaining two separate student data systems (one for the state and one for the school), and ongoing conversations with regulators to negotiate a compliant approach. These workarounds take energy away from serving students, and discourage and exhaust school staff. There are also grave political reasons for school boards and administrators to avoid using workarounds. If a school official is perceived as improperly "bending the rules" it could make the front page of the local paper, harm their reputation, and even cost them a job.

Therefore, even though a few schools are making roundabout solutions work, this is neither sustainable nor scalable if Minnesota's goal is statewide change. State policy must be explicitly open to innovation, rather than accepting roundabout solutions as good enough. With that conviction, we move to consider the four policy subsystems and barriers faced in each.

> "State policy must be explicitly open to innovation, rather than accepting roundabout solutions as good enough."

SUBSYSTEM A: STANDARDS, CREDITS, AND SEAT TIME

Subsystem Overview

Minnesota law defines baseline "standards" for what public school students should learn. State standards are required in the areas of language arts, math, science, social studies, and physical education; districts are also required to adopt standards locally in health, the arts, world languages, and career and technical education. The content of the standards are not spelled out in law; rather, statute requires MDE to create and adopt standards in rule, in consultation with communities and educators.[21]

Standards in each subject are grouped by grade. For each standard, MDE publishes one or more "benchmarks", which are concrete statements of what students should know or be able to do in order to meet that standard.[22] Benchmarks are also used to develop items for the state standardized tests.

For a student to graduate from high school in Minnesota, they must both meet state standards and also earn 21.5 "credits".[23] One credit is usually awarded after completion of each year-long high school course. State law previously linked hours of instruction or "seat time" requirements to credits (i.e. was based on Carnegie Units), but in the 1990s the legislature removed that explicit connection.[24] The 21.5 required credits currently include:

- Four credits of language arts
- Three credits of math
- Three credits of science
- Three and a half credits of social studies
- One credit of the arts
- At least seven elective credits.

Lastly, Minnesota law requires schools to be in session for at least 165 days each year, which must include 850 hours of instruction for kindergartners, 935 hours for students in grade 1 through 6, and 1020 hours for students grades 7 through 12.[25]

Changing the Content Students Learn and How Success is Measured

BARRIERS IN STANDARDS, CREDITS, AND SEAT TIME: Many of those we interviewed feel that the current state standards interfere with designing learning experiences that are relevant to students' futures, and sufficiently rigorous to prepare them for the demands of college and 21st century work and citizenship. Namely, we heard that the state standards and benchmarks can seem:

- **Overly prescribed**, which can discourage students from pursuing their interests and passions, and can limit the creativity of teachers;

- **Overly expansive and too shallow**, which limits the extent to which students can engage in deep and extended inquiry on a topic of interest; and

- **Overly content-focused.** While some standards require applying problem solving and critical thinking skills, many are focused on esoteric content knowledge.

Many educators feel that standards with these characteristics contribute to the growing sense of disengagement students feel as they move through school. For example, between fifth grade and eleventh grade, students who report "feeling engaged at school" drops precipitously, from 75 percent to 34 percent.[26] Similarly, the extent to which students perceive their learning as useful declines 24 percent over the same grades.[27] This is unacceptable, given we know that engagement and perceived relevance are critical determinants of student achievement.[28]

To be clear, standards are important. Students benefit from a clear description about what is expected of them. And, with Minnesota spending billions of dollars per year on E-12 public education, it makes sense that, even in the context of student-centered learning, some common objectives for learning are set at the state level. The question is how the form and substance of the standards can be improved, to better prepare students for college, careers, and life.

> "Standards [should be] designed to prioritize deep, enduring concepts and foundational habits of mind."

RECOMMENDATIONS: Fortunately, there is a better way to design standards, used by the highest performing, most educationally equitable countries in the world, including Singapore, Finland, and Canada[29]—and increasingly used here in the United States.[30] It focuses on defining standards around what researchers call "focus and coherence"[31] or "endurance, leverage, and readiness".[32] Simply put, it means standards are designed to prioritize deep, enduring concepts and foundational habits of mind, which are applicable to future academic content and to students' future lives.[33]

While standards in Minnesota and around the country have improved in recent years,[34] more work is needed to make them more focused, coherent, and flexible to allow for students to meet high expectations while following their own interests. To that end, we recommend that:

A1 MDE and future standards review committees revise state standards with a goal of greater focus and coherence, and with more emphasis on 21st century skills and deep, enduring concepts, over specific content knowledge.

A2 The Legislature amend MN Statute 120B.021, Subdivision 2, paragraph a, to require that at a minimum one-third of participants in standards review committees are not subject matter experts who teach the discipline in E-12 or higher education, but rather are representatives from civic and business communities with practical expertise in how skills will be used in life beyond school.[35] While such representatives have participated on past committees, explicitly valuing their role is important.

A3 The Legislature amend the language on benchmarks in MN Statute 120B.023, replacing the text "Schools must offer and students must achieve all benchmarks for an academic standard to satisfactorily complete that state standard", with language like, "Schools must use the benchmarks as a guide in defining the appropriate evidence of having met a standard".

We also offer a somewhat larger fourth recommendation, which builds on the intent of the 2013 World's Best Workforce law by defining "college and career readiness"[36] so that it is aligned with skills Minnesota's employers report they seek when hiring.[37] Namely, we recommend that:

A4 The Legislature convene a special legislative task force of educators, communities, families, higher education, and business and civic leaders to define a set of 21st Century Competencies for College, Career, and Life. The end product would be an official public document, posted on the MDE website, which sets out Minnesota's values for skills like problem solving, creativity, collaboration, communication, and critical thinking.

While these 21st century competencies would not formally be a set of standards, they would be an official statement about what Minnesota values in learning. Subject-specific standards review committees would be asked to consult the 21st century competencies during each standards review process and consider how they could incorporate them into subject standards. Other states, including New Hampshire, Maine, and Iowa have gone through a similar process.[38]

Changing the Pace at Which Students Learn

BARRIERS IN STANDARDS, CREDITS, AND SEAT TIME: Statute is not explicit that credits can be earned and standards fulfilled by students demonstrating mastery rather than by seat time. While MDE offers guidance that supports a mastery-based approach,[39] many of the state data reporting systems are setup to collect data on "courses" offered, assuming they will be one period a day for a year or a semester. The net effect is that many administrators and educators struggle to fully implement competency progression.

RECOMMENDATION:

A5 We recommend that the Legislature amend MN Statutes 120B.02, Subd. 2, Paragraph a, to state explicitly that schools and districts may recognize standards, award credits, and promote students through courses and grades based on student demonstration of competency, independent of any requirements of time spent—and ask MDE to ensure its data reporting systems accommodate such an arrangement.

> " While these 21st century competencies would not formally be a set of standards, they would be an official statement about what Minnesota values in learning. "

Changing the Space and Time of Learning

BARRIERS IN STANDARDS, CREDITS, AND SEAT TIME: As described above, state statute defines minimum required hours of instruction by grade. Those we interviewed for this paper said that it's not clear, especially for the purposes of the Minnesota Automated Reporting Student System (MARSS),[40] when hours can be logged for students learning online, off site (such as at an internship or service learning opportunity), or at different times, such as evenings, weekends, and during the summer.

A related challenge is that several special categories of programs that involve independent, anytime, anywhere learning—including online learning, project-based learning, work-based learning, and flexible learning year—require separate MDE approval. However, innovative learning experiences are increasingly including *portions* of these types of programs without being fully built on any of these programs. It's sometimes not clear to innovators when a program contains enough of these components that they must seek explicit approval.

RECOMMENDATION: To address these two challenges, we recommend that:

A6 The Legislature amend MN Statutes 120A.41, which governs minimums for instruction time, to make it explicit that required hours of instruction can include hours in which students are learning at any place and at any time. For students learning off site, schools may take "attendance" based on whether a student will be learning on a given day, not based on whether they will physically be at the school site, as long as their learning is coordinated and validated by a licensed teacher.

A7 The Legislature and MDE move toward creating general rules for responsible operation of the special categories of programs described above, rather than requiring schools and districts to submit applications for approval. Only educational programs which are entirely based on one of the special categories described above—for example, full online schools—should require explicit approval.

SUBSYSTEM B: TESTING AND ACCOUNTABILITY

Subsystem Overview

Minnesota statutes lay out a comprehensive system of testing and accountability.[41] Much of this system is built around requirements in the 2001 federal No Child Left Behind Act (NCLB), the federal waiver Minnesota received in 2012, and most recently in the accountability plan Minnesota submitted under the 2015 federal Every Student Succeeds Act (ESSA).

Under this system, all students take a state standardized test in reading and math in grades 3 through 8, and once in high school. They also take a science test in grades 5, 8, and once in high school, but this assessment is not used for accountability purposes. For most students, these tests are the Minnesota Comprehensive Assessments (MCAs), however students with special needs are eligible for an alternate exam, "MTAS". Finally, English language learner students also take an annual "ACCESS" exam.

MDE is required to publish performance data about each school and district on their "report card" website. Report cards include information about student aggregate "proficiency" and "growth" scores, graduation rates, and demographics. These report cards are important because they can influence a family's choice about where to enroll their students, and can also influence the extent to which educators feel their school is heading in the right direction.

Under its new ESSA plan, the state will apply a "funnel" approach to "identify for support" the lowest performing five percent of schools, based on their proficiency, growth, graduation rates, and the ESSA "fifth indicator". Support is provided through six Regional Centers of Excellence housed at the state's regional service cooperatives, and includes things like curricular reviews, staff professional development, and assistance developing turnaround plans.

Punitive accountability on schools has been almost entirely eliminated since 2012, when Minnesota received its federal waiver. Gone are the NCLB-era mandated interventions, including possible restart or closure. The only consequences for schools are receiving support from MDE, being required to dedicate portions of federal funds for specific activities, and feeling the stigma of being labeled as "needing support".
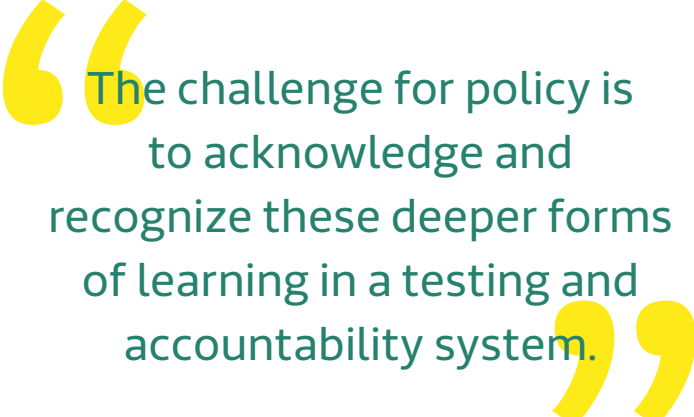
Changing the Content Students Learn

BARRIERS IN TESTING AND ACCOUNTABILITY: It is critical that students develop foundational skills in reading, writing, and math. For too long the inequities experienced by some groups, particularly low-income students and students of color, weren't acknowledged. The advent of testing and data reporting requirements under NCLB made those inequities visible, which is important. But, testing and accountability reforms have also led to a narrowing of curriculum[42] and frustration among teachers and students.[43]

Another problem is that the skills currently tested are not the only education outcomes that matter.[44] Student-centered learning often involves deeper inquiry on multi-disciplinary problems, through which students practice critical thinking, problem solving, and creativity—skills valued by the business community and society at large.[45] The challenge for policy is to acknowledge and recognize these deeper forms of learning in a testing and accountability system, in addition to critical skills in reading and math.

LONG-TERM RECOMMENDATION: There is a style of assessment that both values and verifies the development of foundational skills in reading and math, while at the same time measuring deeper inquiry and multidisciplinary problem solving: performance assessments.

> "The challenge for policy is to acknowledge and recognize these deeper forms of learning in a testing and accountability system."

On performance assessments, students typically complete complex, applied tasks designed by educators, which are embedded into and even part of student learning experiences. For example, a performance assessment in math might be: "Your town's population is predicted to increase over the next 3 years. In order to meet the future needs of the town, you need to analyze, write, and present a proposal to add a water tower that will be capable of holding 40,000 cubic feet of water."

In recent years, with advances in the fields of statistics and psychometrics, these assessments are increasingly able to be used for state accountability.[46] Teachers use common state rubrics and work samples to make official proficiency judgements about their students based on the students' work on performance assessments. Those teacher judgements are then confirmed by other teachers in a blind sampled cross-verification system, and also verified against traditional standardized state tests given in some years. Statistical reliability in such an accountability system has been shown to be high, as long as it is carefully designed.[47]

In recent years, New Hampshire has taken large-scale performance assessment for accountability from idea to reality. In 2013, New Hampshire applied for a waiver from the U.S. Department of Education (USDE) to pilot a performance assessment-based accountability system, as described above.[48] By 2015, USDE was so impressed with the success of the pilot that they used it as the model for a new provision in ESSA: the "Assessment and Accountability Demonstration Authority". This provision allows up to seven other states to apply for the authority to launch a pilot similar to New Hampshire.

Given the enormous potential shown by performance assessment systems to measure 21st century skills, and to reduce time spent on tests that educators and families perceive as unhelpful for learning, we recommend that:

B1 Minnesota move to a testing and accountability system based on performance assessments, complemented and verified by traditional assessments in some years. Like New Hampshire, Minnesota should start with an opt-in "pilot" group of a few schools, to which additional schools would be added over time. To begin this process, Minnesota would need to apply for one of the seven ESSA demonstration waivers.

Changing the Pace at Which Students Learn

BARRIERS IN TESTING AND ACCOUNTABILITY: Even if Minnesota moves to a primarily performance assessment system per the above recommendation, there would still be standardized tests given in some grades. And, districts not part of the performance assessment pilot would continue to use those tests. While the MCAs have improved in recent years, the state tests still have some deep flaws.

MCAs are fundamentally grade-level tests, which assess primarily the standards within a single grade. Because of this, schools are disincentivized from meeting the needs of students who are either far behind or highly advanced. For example, a fourth grader who starts the year at a first grade level of proficiency in math and progresses to the third grade level by the end of the year counts as a failure for the purposes of both proficiency and growth, even though they've made excellent progress.

RECOMMENDATION: Under ESSA, it is possible for states to implement fully grade-adaptive tests *with vertically aligned scoring.* These tests use student responses to quickly adapt the test to include questions from above or below their grade level. These tests then produce student scores that are on a vertically aligned scale across grades. To return to the example of the fourth grader who moved from a first to a third grade level of math proficiency, a test with vertically aligned scoring would be able to capture this impressive two years of growth.

> "Schools are disincentivized from meeting the needs of students who are either far behind or highly advanced."

To capture and incentivize the progress of all students—including those who are far behind and those who are very advanced—we recommend that:

B2 The Legislature ask MDE to develop fully grade-adaptive, vertically scaled state tests. To keep the length of the test manageable, the state could no longer report subdomain scores for reading and math tests; very few schools use the MCAs for formative purposes so these subdomain scores are not useful.[49]

B3 Once these tests are implemented, we recommend that MDE revise its ESSA plan to determine growth scores in its accountability system based on the extent to which each student has increased their vertically aligned score, even if their academic growth happens far above or below the student's grade level.

Finally, with regards to the state's required tests of reading, math, and science in *high school*, we recommend that:

B4 The Legislature use the ACT test as the high school assessment in place of the MCA tests.[50] Most students already take the ACT as they apply for college; using the test as the statewide assessment can reduce duplicative testing and help pave the way for more equitable access to postsecondary education.

Changing How Success is Measured

BARRIERS IN TESTING AND ACCOUNTABILITY: While using performance assessments and a fully grade-adaptive, vertically-aligned standardized testing system is a better way to evaluate academic skills, such a system still does not capture and reward all of what schools, families, communities, and businesses value in learning. To recognize and hold up the work educators in student-centered schools are doing, the state accountability system should encourage a broader approach to defining success.

Nationwide surveys[51] and studies of family decision-making[52] show that factors such as student engagement, safety, climate, and social emotional learning (SEL) are important to families. Additionally, some families choose schools with learning programs built around a particular theme, such as language immersion, environmental stewardship, STEM, and more. Many of these models have field-recognized assessments that measure their success with their mission; for example, a language immersion school might use a foreign language exam.

RECOMMENDATION: The state should include a broader set of measures of student and school success on the state report card. Namely, we recommend that:

B5 MDE include a measure based on student and family surveys of engagement. We know, from research described earlier in this paper, that these factors are both determinants of learning and important to students and families. This measure would become part of the new ESSA "fifth indicator" of school quality and student succes (SQ/SS), and also be reported on the state report card.[53]

> "Factors such as student engagement, safety, climate, and social emotional learning (SEL) are important to families."

B6 Additionally, MDE would allow schools and districts to self-report one to three additional measures, which aligned with their unique learning program. The state could provide a "menu" of possible measures—for example, social emotional learning, well-rounded education, etc.—and could also let schools write-in their own measures. While these measures would become part of the school's official report card, they wouldn't be used for accountability purposes.

These two recommendations would require the state to make updates to its data system to support these new measures. We recommend this be initiated by a Legislative appropriation and/or creation of a data system task force to identify specific improvements that need to be made.

SUBSYSTEM C: LICENSURE AND STAFFING

Subsystem Overview

In 2017, the Minnesota Legislature made major changes to the state's teacher licensure system. Under the new system, all the state's licensure-related functions are given to a new entity, the Professional Educator Licensing and Standards Board (PELSB). Namely, the new Board will conduct rulemaking related to licensure, and will process all licensure requests and applications.

Under the new system, teachers can apply for one of four different tiers of license:

- A **Tier 1** license is available to individuals with a four-year degree or career technical education (CTE) experience, when a school cannot find another "acceptable" candidate. The term of the license is one year and it can be renewed three times (more with cause).

- A **Tier 2** license is available to individuals with a subject-specific master's degree and on an interim basis to those currently enrolled in an approved teacher preparation program. The term of the license is two years and it can be renewed up to three times.

- A **Tier 3** license is available to teachers licensed in other states, as well as to individuals pursuing "licensure by portfolio".[54] The term of the licenses is three years and it can be renewed indefinitely.

- A **Tier 4** license is available to individuals who have completed a state-approved licensure program, passed all licensure exams, and completed at least three years of teaching experience at a lower tier license. The term of the license is five years and it can be renewed indefinitely.

Within these four tiers, licenses are granted in specific "fields", such as science, math, history, reading, etc.[55] Teachers of elementary education do not receive subject-specific field licensure, but rather receive a general elementary license. There is also a large set of license fields for special education teachers serving students with specific disabilities, as well as several career technical education licensure fields.

Changing the Role of Content and the Role of Educators in Learning

BARRIERS IN LICENSURE AND STAFFING: As students play a larger role in driving their learning they often do more work independently, in small groups, or using online learning software, games, and simulations. While teachers may spend less time providing direct instruction, they spend more time building relationships, mentoring, advising, and validating learning. The role of the teacher is more important than ever, but it is different than it traditionally has been.

RECOMMENDATION: To help prepare teachers who choose these new roles, we recommend that:

C1 The Legislature direct PELSB to create a new "Personalized Learning" licensure field, designed for teachers who act as coaches, guides, and advisors in personalized models such as inquiry-based learning, project-based learning, community-based learning, expeditionary learning, online learning, and more. This would likely be an endorsement license gained in combination with another primary license.

> " The role of the teacher is more important than ever, but it is different than it traditionally has been. "

A critical feature of this license would be that teachers who hold it may serve as the licensed teacher of record for a student meeting standards or earning credits *in any subject area*, so long as the school could demonstrate the ability to provide the student access to a subject matter expert (per bullet point 4 in the list of skills below) as needed. The skills required for this license field should include, at a minimum, the following:

1. Helping students to own and personalize their learning, including helping students discover their unique passions, interests, and talents—and working with them to create engaging, standards-aligned experiences oriented around those characteristics.

2. Validating and overseeing learning, for example building formative assessments, using rubrics to evaluate students' portfolio of work against standards, assigning portions of high school credits for multidisciplinary projects, etc.

3. Helping students to discover, evaluate, and use sources for learning, including coaching them in approaching experts, evaluating an online source's credibility, using digital databases and libraries, practicing media literacy, arranging internships and other community-based experiences, and more.

4. Knowing when and how to consult or refer students to subject matter experts, to answer a question or validate a work product. That subject matter expert could be a person on staff, a community expert, or other qualified person. It is the explicit professional responsibility of the teacher to recognize when this is the case.

To be clear, no teacher should be required to have this new license to do personalized learning—only those who seek the interdisciplinary licensure flexibility described above, or those seeking jobs at schools who want to hire teachers with a personalized learning background. Finally, for teachers who already practice this skill set, there should be a route to apply for this new license without completing additional coursework.

There is already some precedence for this type of field in the Teacher Coordinator of Work-Based Learning license, which enables a teacher to coordinate learning done by students at a job or internship, without directly providing or overseeing that learning. The skill set for that field focuses on "enabling students to learn", and knowing how to "establish and monitor" learning experiences rather than providing them directly.[56]

SUBSYSTEM D: FINANCE AND FUNDING STREAMS

Subsystem Overview

Minnesota's education funding system is complex, with over 30 different funding streams, each with its own formula. Most fundamentally, the streams are divided between general education revenue, which makes up about two-thirds of all state and local spending, and other categorical revenue. In 2017, Minnesota appropriated about $8.9 billion in state revenue for E-12 public education, with another $2.7 billion funded through property taxes.[57]

The interaction between state appropriations and property taxes is complicated. About half of the $2.7 billion funded by property taxes are for school board- and voter-approved "excess referendum" and "debt service" levies; the remaining portion are certified levies, which help to fund parts of several general education and categorical streams.[58] State formulas are weighted such that districts with lower property wealth end up funding less of the formula in their district through local property taxes, and instead rely more heavily on state aid.

Schools submit student enrollment information via the state MARSS reporting system, which is used to calculate the amounts they will be paid each year. The state sends school districts and charter schools the bulk of their state dollars via payments issued twice per month. Throughout the year, schools use the state's Uniform Financial Accounting and Reporting System (UFARS) to report the school sites and program categories where they spent their funds.

Changing the Pace at Which Students Learn

BARRIERS IN FINANCE AND FUNDING STREAMS: Students progressing through their own learning journeys by demonstrating competency, rather than by putting in seat time, run into challenges as they near the end of high school. For example, what happens when a 16-year-old has completed all required standards and credits, but is still a "junior" based on their age? Do they graduate early and lose access to revenue to continue their learning?

RECOMMENDATION: A strong option for students in this position is to take advantage of Concurrent Enrollment or Post Secondary Enrollment Options (PSEO), which are programs where students take college-level coursework at their high school or on a college campus, and earn college credits while still in high school.[59] While a full discussion of how to improve and expand these programs is beyond the scope of this paper, we offer here the general recommendation that:

D1 The Legislature and MDE seek to expand the use of the Concurrent Enrollment and PSEO programs, through continued legislative appropriations, communications and awareness building initiatives, and other efforts.

Changing the Space and Time of Learning

BARRIERS IN FINANCE AND FUNDING STREAMS: Schools we interviewed feel there is lack of clarity around when and how they can collect revenue for the learning students do off-site, including learning online (in blended learning courses that have an online portion) and learning out in the community (such as participating in an internship). As discussed earlier, some schools are unsure whether they need to be approved as an online learning or a work-based learning program, respectively, to claim revenue for these students.[60] This contributes to an environment of fear and confusion.

RECOMMENDATION:

D2 We recommend that the Legislature amend 126C.10 to make it explicit when, and under what conditions, schools can collect revenue for students learning off-site, for example for students involved in community-based, work-based, or blended learning activities. As long as schools and districts document that they are actively coordinating and validating student learning, they should be able to have students learning off-site and claim membership of those students for the purposes of funding. (This recommendations is related to recommendations A7 and A8 above.)

Overall Finance and Funding Stream Recommendations

One final barrier presented by the state's funding system is its overall complexity. Running such a system requires a high level of overhead not just at MDE, but in districts and schools across the state. Changing and simplifying the system always creates winners and losers, which has led to a bias for the status quo, and resulted in complicated provisions for gradually phasing out old arrangements.

> "Having dedicated funds can make it easier, politically, to spend money on innovation."

LONG-TERM RECOMMENDATION:

D3 We recommend that the Legislature revisit each funding stream, ask the purposes for which it was created, simplify and combine those formulas as much as possible without compromising those purposes, and merge streams that do not have specific requirements into the basic general formula.

Finally, we wanted to note that several of the innovators we spoke with expressed the desire for dedicated funds for innovation, perhaps awarded through a competitive grant program. They indicated having dedicated funds can make it easier, politically, to spend money on innovation. While we support this idea, it's important that any innovation that is implemented via such a grant has a clear route to fiscal sustainability, so that it would not just fade away when the grant has expired.

PART 3
Next Steps

Innovation Zone or Universal Changes?

Part 2 of this paper presented recommendations for policy changes that would enable educators to depart from a traditional, factory model design of school towards a 21st century, student-centered model. State policy has two main options for acting on these recommendations. First, it could change the primary state statute, which affects all schools. Such changes shouldn't require existing schools to change, but should instead open up opportunities and flexibilities that any school or district could use if they choose.

The second option is that the Minnesota legislature could amend the "Innovation Zone" program passed into law in 2017.[61] Under that program, schools and districts can create an "innovation zone plan", in which they specify the innovations they seek to implement and the statutory flexibilities they request. The legislature would simply amend the list of possible flexibilities provided in that law to include the recommendations presented in this paper.

The line between these two options need not be concrete. For example, some of the policy changes might first be made for innovation zone schools and then later—when shown to result in innovative learning without permitting fraud or abuse—be made law for all schools. Over time mainline policy will come to resemble the policy for innovation zone schools, as more and more is moved into mainline statute.[62]

Conclusion

Minnesota needs drastically different and better approaches to learning in order to meet the needs of all students, and the challenges of the 21st century. That will require a move to more student-centered learning—that is, learning that is built on a foundation of strong relationships, responsive to basic needs, driven by students, respectful of their identities, adaptive to their academic needs, and relevant to their lives beyond school.

" State policy must also adapt so that it is open to innovation and new designs for learning. "

Redesigning learning changes core elements of school such as the roles of content, pace, space, time, and people. These changes require deep shifts in mindsets at all levels of the public education system, including policymakers, educators, and families. *State policy must also adapt* so that it is open to innovation and new designs for learning.

We look forward to working with students, families, educators, communities, and state policymakers to advance the recommendations presented here, with the goal that one day student-centered learning will be a reality for all students in Minnesota.

End Notes

1 U.S. News & World Report and McKinsey & Company. 2017. "Best States for PreK-12." *U.S. News & World Report.* https://www. usnews.com/news/best-states/rankings/education/prek-12

2 Matos, Alejandra. 2015. "Minnesota students tops again in ACT scores." *Star Tribune,* August 26.

3 Shapiro, Doug et. al. 2017. *Completing College: A State-Level View of Student Attainment Rates.* Herndon, VA: National Student Clearinghouse Research Center.

4 Nation's Report Card. 2015. *Minnesota State Profile.* Washington, DC: U.S. Department of Education. https://www.nationsreportcard.gov/profiles/stateprofile/overview/MN

5 Minnesota State CareerWISE in Education. 2012. *Employers Speak: Minnesota Workforce Needs.* Saint Paul, MN: Minnesota Chamber of Commerce, MnSCU, and MN DEED.

6 National Association of Colleges and Employers. 2016. *Job Outlook 2016: The Attributes that Employers Want to See.* Bethlehem, PA: Author.

7 Minnesota DEED. 2014. *Minnesota Job Outlook to 2020.* Saint Paul, MN: Author.

8 Hamilton, Jonathan, Paul Spies, Jennifer Godinez, Carlos Mariani, et al. 2016. *State of Students of Color and American Indian Students Report.* Minneapolis, MN: Minnesota Education Equity Partnership.

9 Graba, Joseph. 2004. *We Cannot Get the Schools We Need by Changing the Schools We Have.* Saint Paul, MN: Education Evolving (Transcript of a speech to a gathering of Grantmakers in Education and the Philanthropy Roundtable.)

10 Education Evolving will describe how we arrived at these principles—through observations and interviews with innovative educators and students, a literature review of academic research, and a landscape scan of organizations similar to ours—in a separate paper to be published October 2017.

11 Kolderie, Ted. 2015. *The Split Screen Strategy.* Minneapolis, MN: Beaver's Pond Press.

12 Ingersoll, Richard, Patrick Dougherty, and Phil Sininides. 2017. *Teachers' Roles in School Leadership.*

13 See Minnesota State Constitution, Article XIII, Section 1. Similar provisions exist in all state constitutions. See Education Commission of the States. *Fifty State Review.* 2016. Denver, CO: Author.

14 Hess, Frederick. 2013. *Cage Busting Leadership.* Cambridge, MA: Harvard Education Press.

15 Kolderie, Ted. 2008. *Other Half of the Strategy: Following Up on System Reform by Innovating with Schooling.* Saint Paul, MN: Education Evolving.

16 Wenger, Etienne. 1998. *Communities of Practice: Learning, Meaning, and Identity.* Cambridge, UK: Cambridge University Press.

17 DuFour, Richard and Robert Eaker. 1998. *Professional Learning Communities at Work.* Bloomington, IN: Solution Tree and ASCD.

18 Bryke, Anthony et. al. 2016. *Learning to Improve.* Cambridge, MA: Harvard Education Press.

19 Holley, June. 2017. *An Introduction to Network Weaving.* Network Weaver.

20 Rogers, Everett. 2003. *Diffusion of Innovations.* New York: Simon & Schuster, Inc.

21 MN Statutes 2016, Section 120B.021

22 MN Statutes 2016, Section 120B.023

23 MN Statutes 2016, Section 120B.02, Subdivision 2

24 Minnesota Legislative Reference Library. 2017. *Resources on Minnesota Issues: Academic Standards.* Saint Paul, MN: Author. https://www.leg.state.mn.us/lrl/guides/guides?issue=academic

25 MN Statutes 2016, Section 120A.41

26 Gallup Organization. 2015. *The Gallup Student Poll.* Washington, DC: Author.

27 Minnesota Department of Education. 2016. *Snapshots on Minnesota Youth.* Roseville, MN: Author.

28 Kaput, Krista. 2017. *Evidence for Student-Centered Learning.* Saint Paul, MN: Education Evolving.

29 Schmidt, William et. al. 1997. *Many Visions, Many Aims: A Cross-National Investigation of Curricular Intentions in School Mathematics.* Norwell, MA: Kluwer Academic Publishers.

30 Conley, David. 2014. *College, Careers, and the Common Core.* San Francisco: Jossey-Bass.

31 Schmidt, William et. al. 1997. *Many Visions, Many Aims: A Cross-National Investigation of Curricular Intentions in School Mathematics.* Norwell, MA: Kluwer Academic Publishers.

32 Ainsworth, Larry. 2003. *Power Standards: Identifying the Standards that Matter Most.* Englewood, CO: Lead & Learn Press.

33 Schmidt, Willam H. and Richard T. Houang. 2007. "Lack of Focus in Mathematics Curriculum: Symptom or Cause?" In *Lessons Learned: What International Assessments Tell Us About Achievement,* edited by Tom Loveless. Washington, DC: Brookings Institution.

34 Brown Center on Education Policy. 2014. *How Well Are American Students Learning?* Washington, DC: Brookings Institution.

35 Handel, Michael J. 2016. "What do people do at work?" *Journal of Labour Market Research.*

36 Conley, David. 2014. *College, Careers, and the Common Core.* San Francisco: Jossey-Bass.

37 Minnesota State CareerWISE in Education. 2012. *Employers Speak: Minnesota Workforce Needs.* Saint Paul, MN: Minnesota Chamber of Commerce, MnSCU, and MN DEED.

38 See New Hampshire's Work-Study Practices, Maine's Guiding Principles, and IowaCORE.

39 See Minnesota graduation requirements at: http://education.state.mn.us/MDE/dse/gradreq/

40 MARSS is the a state data reporting system used to capture student demographic and enrollment information, which is used in calculating funding for schools.

41 MN Statutes 2016, Sections 120B.30 to 120B.36

42 For a review of the literature, see: David, Jane L. 2011. "Research Says: High Stakes Testing Narrows Curriculum." *Educational Leadership*, Vol. 68, Num. 6.

43 Moses, Michele and Michael Nanna. 2007. "Testing Culture and the Persistence of High Stakes Testing Reforms". *Education and Culture*, Vol. 23, Num. 1.

44 Minnesota State CareerWISE in Education. 2012. *Employers Speak: Minnesota Workforce Needs.* Saint Paul, MN: Minnesota Chamber of Commerce, MnSCU, and MN DEED.

45 Ibid.

46 Darling-Hammond, Linda. 2017. *Developing and Measuring Higher Order Skills: Models for State Performance Assessment Systems.* Palo Alto, CA: Learning Policy Institute.

47 Newton, Paul. 2007. *Techniques for monitoring the comparability of examination standards.* London: Qualifcations; Curriculum Authority. & Measured Progress. 2009. *Commonwealth Accountability Testing System: 2010-11 Technical Report.*

48 New Hampshire Department of Education. 2012. *ESEA Flexibility Waiver Concept Paper.* Concord, NH: Author; New Hampshire Department of Education. 2014. *Performance Assessment of Competency Education: An Accountability Pilot Proposal to the U.S. Department of Education.* Concord, NH: Author.

49 Office of the Legislative Auditor. 2017. *Standardized Student Testing: 2017 Evaluation Report.* Saint Paul, MN: Author.

50 Twelve states plan to use the ACT or SAT as their test for high school accountability. Their departments of education have determined sufficient standards alignment, to merit its use. See: http://www.edweek.org/ew/section/multimedia/states-require-students-take-sat-or-act.html

51 PDK/Gallup. 2015. *Poll of the Public's Attitude Toward the Public School*s. Washington, DC: Gallup.

52 GreatSchools.org research presented at the 2015 Philanthropy Roundtable conference.

53 One of the new requirements under ESSA is that states include a new "fifth indicator" in their report cards and in their state accountability systems, beyond the traditional measures of academic proficiency, growth, graduation rates, and ELL performance.

54 MN Statutes 2016, Section 122A.18, Subd. 10

55 Standards for all licensure subject area categories are defined in MN Rules 2016, Chapter 8710, as authorized by MN Statutes 2016, Sections 122A.09 and 122A.18.

56 MN Rules 2016, Part 8710.4825

57 Minnesota House of Representatives Fiscal Analysis Department. 2016. *Financing Education in Minnesota 2016-17.* Saint Paul, MN: Author.

58 Ibid.

59 MN Statutes 2016, Section 124D.09

60 More about approval of these special programs in Subsystem A recommendation A8, above.

61 See: https://www.educationevolving.org/districts/innovation-zones-2017-law

62 Rogers, Everett. 2003. *Diffusion of Innovations.* New York: Simon & Schuster, Inc.