

How Might Different Schools Respond to the Legislation.

This legislation reflects the language from *120B.15 GIFTED AND TALENTED STUDENTS PROGRAMS* of the Education Omnibus bill from 2017. It includes language on Policy and on Finance. This current effort, like previous efforts requires districts to identify gifted students, to program for gifted students and to provide professional development for all teachers surrounding the nature and needs of gifted students. The language of this bill impacts all students, including the gifted students.

This legislation addresses issues of Equity, Equality and Economics. The population is changing. Next school year nearly half of our students, K-12, will be students of color. We know that the majority of those students come from households at the lowest quartile of family income. *“As more and more districts scramble to respond to the new needs presented by these recent changes in student demographics — with efforts like building up English language learner services, creating a more inclusive school environment, and diversifying their teacher workforce — the appetite among educators and school administrators for resources and best practices has continued to grow. Mounting pressure to tackle the state’s persistent achievement gap is no longer confined to the Twin Cities.” Five Education stories in 2018 that signal a growing appetite for change. MN Post, 12/28/18.*

We know that the achievement gap has been resistant to other interventions and Minnesota’s schools have been unable to close that gap. *“Fifteen years later, MN schools are more segregated, and achievement gap has barely budged. Minnesota now has more than 200 schools where students of color make up 90 percent or more of the enrollment, state data shows” Pioneer Press, 8/21/17.*

If we do not change what we are doing, schools will continue to face the criticism of parents, communities and the press. This legislation offers a response to that challenge in the form of an innovation in our schools. Instead of spending resources on simply teaching students, K-12, what to know, our energies would also be directed to teaching them how to think, to reason, to measure, to compare, contrast and to judge. And this will take time. *School improvement efforts can benefit individuals’ earnings and balance state budgets, says Hanushek. “As the skills of today’s students improve, the skills of tomorrow’s workers advance. Realizing these gains does require a sustained commitment on the part of a state’s political leaders. But if we are to achieve prolonged economic growth in our nation, we have no choice but to strengthen the skills of all our people.”*

The Workplace is changing. Automation is replacing the low level, repetitive jobs many of these families rely upon. We need a better, prepared workforce. *“Jobs that require only a high school degree are most in danger. Take cashiers and tollbooth operators, for example. These jobs don’t require much human analysis so are easier for machines to handle. Some tollbooth operators have already been replaced by automated systems such as E-Zaps, which is used in 16 states.” Meanwhile, as many as 7.5 million retail jobs are at risk of automation in the next decade, according to a study from financial services firm Cornerstone Capital Group. Between tax revenue attached to earnings and the tax revenue from other spending on necessities, as well as, luxuries, government revenue will negatively impacted. That negative impact will affect government spending on infrastructure, social services, medical services, and **education**.*

If we truly want to better prepare our students for this changing workplace, have a positive impact on tax revenue, take actions to narrow the achievement gap and provide a world class education for students over the next decades, we need to change what we are doing today. It will take a sustained and focused effort. The elements of this legislation, if implemented with fidelity, will provide that response.

Identification: The language of this legislation requires all schools to embrace Universal Screening. Universal screening is an ongoing process that employs multiple tools and student performances to determine placement in gifted programs. Students of color, disabled students, students not typically found in gifted programs would rise up in those ongoing assessments or performances. Unlike previous practice, universal screening looks to students' strengths and finds ways for students to demonstrate their talents. Unlike previous practice, it begins early on in a child's school experience. There exists ample evidence supporting this practice that points to its inclusiveness in bringing more students of color onto the gifted roster.

Programming: The language of this legislation with its \$39 PPU, provides ample resources for districts to provide a rich option of programming in the form of an Enrichment Room, in the elementary and middle school levels in which gifted kids explore a variety of rich complex topics guided by facilitators skilled in working with gifted students. At the high school level it might be a proactive counseling experience that matches the nature of many gifted students. The research supporting social emotional learning points to a positive impact on student achievement. Or a district might embrace the Cluster Model or the Total School Cluster Model as a programming option at the elementary and middle school level. Both programs, requiring ongoing professional development, have provided strong evidence of its positive impact on student achievement.

Acceleration: Grade level is a social construct for convenience and ignores developmental difference and readiness. *Stop wasting money teaching millions of students content they already know. Plucker, Makel, Rambo-Hernandez, Matthews and Peters; (9, 19, 16), Fordham Foundation*

Maybe part of the issue is boredom: "A 2013 Gallup poll of 500,000 students in grades five through 12 found that nearly eight in 10 elementary students were "engaged" with school, that is, attentive, inquisitive, and generally optimistic. By high school, the number dropped to four in 10. A 2015 follow-up study found that less than a third of 11th-graders felt engaged. When Gallup asked teens in 2004 to select the top three words that describe how they feel in school from a list of 14 adjectives, "bored" was chosen most often, by half of the students. "Tired" was second, at 42 percent. Only 2 percent said they were never bored. The evidence suggests that, on a daily basis, the vast majority of teenagers seriously contemplate banging their heads against their desks." *Jason, Z. (2017). Bored out of their minds. Winter, 2017 (ed/Winter- 2017 Harvard Graduate School of Education.*

Professional Development: This legislation would require all teachers, K-12, to be taught how to teach all students, K-12, the skills of critical and creative thinking, problem solving and inquiry learning, and how to work collaboratively. The evidence supporting these skills, if taught with fidelity, all point to a positive impact on student achievement.

When examining previous legislation the “Must” language in Policy turned to, “May” in the finance section. This legislation says a district “**Must**” spend the \$39 PPU, not only on gifted programming, but on preparing teachers to teach all students those important 21st century skills.

Mandate: We know less than a third of the 350 school districts spend the \$13 PPU dedicated for gifted programming. Currently, without a mandate, the other 230 districts in the state do not offer gifted programs. While we recognize the financial challenges many districts face each year, we believe the increased funding, from \$13 to \$39, will free up district dollars to cover other operating expenses and address the needs of all students, K-12. A mandate would empower parents to argue in support of gifted programming.

We know school districts across the state are petitioning their voters for additional tax revenue to carry needed repairs, building replacements, transportation and programming. But those efforts often fail. We need to think differently.

Funding: How might that look in different sized districts? Strong gifted programming exists from a line from St. Cloud to Rochester. Competitive programming exists in the SW metro, while in the NW metro programs are meager or non-existent. Because of a strong tax base and larger school populations the possibility of gifted programming is stronger than outstate. But, even here problems exist. One district, with current the \$13 PPU is seeking dollars in a levy request from their public, citing a need to have those dollars, in part, for gifted programming. In another districts students are identified, but programming is offered through community education and parents have to pay for their kids to participate in academic programs that are usually a part of a well funded gifted program. Another district promotes their gifted program but parents report nothing is happening their kids’ classrooms to challenge their gifted children. But with \$39 PPU, a school district with 3500 students would have \$136,000 to underwrite staffing and programming. A smaller district with 800 students might partner with another neighboring district with 1300 students, might share staffing needs and programming needs with the \$82,000 to run an effective program, by sharing staff development costs, and academic competition costs. A larger district, like St. Paul with 38,000 students would have \$1.4 M to carry out the legislation.

Impact of Student Achievement: Inquiry and PBL

Inquiry learning if taught with fidelity would include choice in learning and a focus on strength-based learning, taping students’ strengths rather than their deficits. Current efforts embraced by Superintendents and principals, along with support from the MDE advocate for Innovation and personalization in classrooms across the state. Both these skills tap those targets.

Inquiry-based teaching is a pedagogical approach that invites students to explore academic content by posing, investigating, and answering questions. Also known as problem-based teaching or simply as ‘inquiry,’ this approach puts students’ questions at the center of the curriculum, and places just as much value on the component skills of research as it does on knowledge and understanding of content. An inquiry-based curriculum develops and validates ‘habits of mind’ that characterize a life-long learner: It teaches students to pose difficult questions and fosters the desire and skills to acquire knowledge about the world. An inquiry-based curriculum can increase student achievement and narrow the gap between high- and low-achieving students. *Kahle, J. B., J. Meece, and K. Scantlebury. 2000. Urban African-American middle school science students: Does standards-based teaching make a difference? Journal of Research in Science Teaching 37 (9):1019-1041.*

A study involving over 1400 students found that inquiry-based approaches in middle and high school language arts classrooms allow both low- and high-achieving students to make academic

gains. Applebee, Arthur N., Judith A. Langer, Martin Nystrand and Adam Gamoran. 2003. *Discussion-Based Approaches to Developing Understanding: Classroom Instruction and Student Performance in Middle and High School English.* *American Educational Research Journal* 40 (3): 685-730.

When used in place of a textbook approach, an inquiry-based approach yielded significantly higher achievement for high school students with special needs. Scruggs, T. E. and M.A. Mastropieri. 1993. *Reading versus doing: The relative effects of textbook based and inquiry-oriented approaches to science learning in special education classrooms.* *Journal of Special Education* 27 (1):1-15.

A guided inquiry, which should be the start of teaching students the inquiry process, relies on the teacher as a facilitator guiding students through the process as they gain confidence as an inquirer. That critical guidance assures teacher/facilitator that their students will find success. More importantly, completed inquiries should be shared with other inquirers and teacher facilitators to nurture the inquirer through effective rubric feedback and for others in the classroom to learn from the inquirer. In that case, everyone is learning all the time. Practiced teacher/facilitators can tease out standards met in the process and keep track of learning through the lens of content standards. With credit for Prior Learning in place in classrooms across the state, students would be moving through the learning more rapidly and demonstrating mastery of the standards. Even young students can be engaged in inquiries with support of the teacher/facilitator. A practiced facilitator reported that while scaffolding is needed for 6-7 year olds in their initial experiences, they produce reports rather than expert level inquiries. But over time they grow in their capacity to reach that expert level through ongoing efforts, feedback and seeing what others have been capable of doing.

High school and middle school staff could set a “Genius Hour” each week to support students in their pursuits of inquiries or problem-based learning. A high school or a middle school could reorganize into multi-disciplinary teams to provide support to students in the inquiry pursuits. Their expertise would be the lens to assess a student performance and provide feedback from that discipline’s perspective. Regardless of the district size, teachers will have concerns about meeting standards across disciplines. Keeping in mind that the legislation would require teachers to be taught how to teach the skills of inquiry and problem based learning. Both those skills embed critical and creative thinking in the processes and they tend to be trans-disciplinary in nature. Both inquiry learning and problem-based learning, taught with fidelity, would tap the standards in a variety of disciplines. Over a single school, students engaged in those skills, would be learning across many content areas not ordinarily taught, while sharing their learning with other students who are providing feedback to the inquirer and gaining new understandings and experiencing standards across disciplines.

If effective recording keeping is in place and in the teachers’ hands, the teachers could be identifying standards met or mastered during the students’ learning. *Schoolology*, a learning management system many districts already employ, provides hand held access, for the teacher/facilitator, to collect student performance data on an ongoing basis. There exist other programs of a similar nature. This record keeping would track how students are growing in their capacity to meet and exceed standard in all disciplines. With Credit for Prior Learning in place, some students would be mastering credits and a more rapid pace on the pathway to high school graduation.

Impact on Student Achievement and Creative and Critical Thinking: “The study confirmed what teachers have reported. The remedies most often used to address inequities, regimented curricula and standardized testing may actually be making them worse. The more that “teaching to

the test” dominates the school day the more creative learning gets sidelined”...our inventiveness grows from our ability to absorb from the outside world and generate “what if” scenarios, extrapolating the known into the new. Everything that separates us from world from that of 10,000 years ago comes from the human brain’s everyday, lifelong neural manipulations. We take in the world and we energetically refashion it.” We create. *Creativity has become the domain of the elite. Schools can help change that.* Anthony Brandt & David Eagleman (*Education Week, April 5, 2108*)

In an examination of 142 students designed to teach students how to think creatively, E Paul Torrance concluded, “It does indeed seem possible to teach children to think creatively.” *E. Paul Torrance, Teaching for Creativity (1984).*

Impact on Student Achievement on Collaborative Efforts:

Collaborative learning is an educational approach to teaching and learning that involves groups of learners working together to solve a problem, complete a task, or create a product. Collaboration is a promising mode of human engagement that has become a twenty-first-century trend. The need to think together and work together on critical issues has increased (*Austin, J. E., 2000; Welch, M., 1998*), causing to stress on from: individual attempts to team work and from autonomy to community (*Leonard, P. E . & Leonard, L.J., 2001*).

Impact of Skills Taught on Reading and Math and Science:

Second grade students in an inquiry-focused classroom learn how inquiry enhanced learning from informational texts. *Living Inquiry: Learning From and About Informational Texts in a Second-Grade Classroom*, Maloch, B and Horsey, M. *Reading Teacher*, Mar2013, Vol. 66 Issue 6, p475-485, 11. This study examined a 10-week robotics-enhanced inquiry based learning (REIBL) program in a formal science curriculum using an experimental design in South Korea and its effects on motivation and academic achievement.. The study results showed a significant improvement ($p < .05$) in both motivation and academic achievement in the experimental group compared with the control group. There was also a positive perception among students of robotics as an inquiry-based learning tool. *Park, J. Journal of Computers in Mathematics & Science Teaching*; 2015, Vol. 34 Issue 1, p71-95, 25.

Professional Development: Once initiated, a district, through planning and support, could set aside a late summer series of days to approach this task. For 2.5 days a district could introduce the skills of Critical Thinking, Creative Thinking, Inquiry Learning, Problem Solving and Collaborative Learning in a professional development experience for their teachers.

The second half of the week teachers, could work in teams to identify where these skills are already being taught in the curriculum and looking for ways to enhance the curriculum and fill in the gaps with additional and different practice with those skills. Districts with comprehensive programming could jump right in and be rewarded with the full \$39 PPU.

But think first on implementation around the state. Another implementation strategy would be stage the implementation over a three-year period. In the first year district leaders could indicate to the state their intent. Year one, train the teachers K-12 in the strategies and receive partial funding increases. Year Two, spend PD days determining where these skills are already taught in the curriculum and add additional learning experiences focused on the skills where there are gaps in the curriculum. Another increase in funding follows. In Year Three, districts would begin implementing. Fully implemented over a three period, gifted programming might look different in different districts or different schools.

There could be other configurations. But the MDE would need to monitor compliance to the rule.

MDE Responsibilities: MDE could provide a variety of services to support this mandate. Statewide purchases of on line tests would ease some of the costs for districts. MDE would also have access to those test results for research purposes. Staff could arrange professional development experiences in different parts of the state to support districts in the efforts to provide the require PD to accomplish the goals of the legislation. MDE and MEGT, collaborating, could target PD around the state that would better prepare districts for the change. MDE could also coordinate the assessment process that would measure compliance with the legislation, including students' performance and district's compliance with the legislation. For example, if all students are being taught critical and creative thinking we would want to know its impact on student achievement. The CogAT measures growth in critical and creative thinking and other processes. If the MDE made a state wide purchase, districts could be employing this online testing service to measure the impact of their teaching and to determine both strengths and challenges in their efforts to adjust some efforts. Equally valuable, test results, from the CogAT, could be analyzed by MDE staff. Partnerships with universities might also be created to enhance analysis to provide additional understandings of the impact these skills have on student achievement.

This legislation is supported by a bipartisan group of legislators from both the House and the Senate. They, like us, believe passing this legislation is in our collective, enlightened, self interest as we move into a changing Minnesota.

Innovate Instruction, Ignite Learning.

Bill Keilty, Ed.D.