Written Testimony before the
House Committee on Education
on

HB 2292
Development and establishment of K-12 curriculum standards.

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Chairman Highland, Members of the Committee;

Thank you for the opportunity to comment on **HB 2292**. I am providing written testimony today on behalf of KATM (Kansas Association of Teachers of Mathematics) in opposition of this bill on three grounds. First, the College and Career Ready Standards, also known as the Common Core, or the Kansas College and Career Ready Standards, were created with input from Kansas teachers. Second, these standards have been implanted for multiple years now and it has proven to be very successful in promoting critical thinkers, who have a deeper understanding of mathematics. Finally, Kansas students are developing valuable skills because these standards are not just teaching math, but also teaching them to think, reason, and persevere better than those of the last decade.

Created with a Kansas Influence

Just as your committee has heard for several years now, the College and Career Ready Standards were created with input from people in Kansas. We have had multiple board members from KATM serve on the Math Standards Review Committee. Some of these committee members have also testified to your committee in the last couple of years in regards to their involvement in providing input to insure that the standards they recommended to the Kansas State Board of Education would be the right choice for Kansas students. At no time was the review committee "required" to recommend these standards if they didn't feel it was in the best interest of Kansas children. These committee members were teachers with extensive expertise in mathematics education. It is vitally important for teachers to have a voice in the adoption of standards as they have been trained in math education. Experts in the field of education should be sought out and heard when making decisions about their area of expertise. We talk to doctors about our health, financial advisors about our money, and we should talk to teachers about what we should teach our children. Kansas teachers were consulted and heard not only in the development of the Common Core Standards, but also in the recommendation of these standards to the Kansas State Board of Education.

Implementation of Content Standards

As a reminder, many districts started the process of implementing the standards as early as 2010. In 2015, students all over Kansas have benefited from these standards and are proving to be much more

successful in mathematics because they are required to think, reason, and persevere better than the students of the last decade. Since many students have been working with these standards for almost 5 years now, they have a much better conceptual understanding of how numbers work together. They are much stronger with their mental math skills and are much better problem solvers. These skills applied to the concepts of mathematics will produce productive citizens for Kansas. Teachers are noticing significant differences in their students' ability in computation skills as well as their applications of those computation skills in expressions, equations, the number system, ratios, proportionality, geometry, statistics, and probability

Legislation to reset curriculum and instruction would be difficult due to the fact that we aren't teaching different concepts, but we are just teaching them with a more purposeful and thorough approach and in some cases at a different grade level. Teachers have found more effective ways to teach their curriculum thanks to the new standards. If **HB 2292** would be passed, it would be asking teachers to go back 5 years and teach with much less effective teaching methods for the same content. We taught fractions in the old standards and we are still teaching fractions with the standards adopted in 2010. The timeline, methods, and strategies have changed to meet the most current research on how students learn mathematics.

Math content standards have been embedded into Kansas classrooms since the early 1990's when NCTM published their version of national standards for mathematics. Each state reviewed those standards and adapted them to create State Standards for mathematics. A similar process took place before the adoption of the KCCRS standards in 2010. Mathematicians and math educators developed standards and then passed them down to the states for review. Kansas educators have been implementing versions of these standards since the 1990's. The difference between those standards and the ones we are currently implementing is there is a focus on conceptual understanding first before we give kids rules to remember or numbers to memorize. There is a balance between understanding, procedure, and fluency throughout K-12.

Implementation on Math Practice Standards

Another difference in the standards is the inclusion of the 8 Mathematical Practice Standards. These standards help teach students to think, reason, and persevere when applying math concepts.

- MP1 – Make sense of problems and persevere in solving them.
- MP2 – Reason abstractly and quantitatively.
- MP3 – Construct viable arguments and critique the reasoning of others.
- MP4 – Model with mathematics.
- MP5 – Use appropriate tools strategically.
- MP6 – Attend to precision.
- MP7 – Look for and make use of structure.
- MP8 – Look for and express regularity in repeated reasoning.

Through the last 5 years students have found success because math teachers have not only taught the content standards but also focused on the math practices as well. Our Kansas students are learning to think through problems and not give up at the first sight of adversity. They are taught to reason abstractly and quantitatively. They critique the reason of others and practice error analysis. They make

models to better understand the math problems. They use appropriate tools to solve the problems. They attend to precision and determine to what level they need to be accurate. Do they estimate or is an exact answer needed? They also are asked to use precise math language. They look for patterns and apply those patterns to solve problems. Finally they look for patterns over time. All of these 8 mathematical practices combined with the content standards set Kansas students up for success far past their K-12, college, and or career. These are standards we want for Kansas students.

Conclusion

KATM opposes **HB 2292** because 1.) Kansas teachers helped review the standards, provided feedback to the authors, and recommended these standards for adoption to our Kansas State Board of Education. 2.) Teachers all over the nation are able to network, share resources, and share approaches to teach students with the most effective math strategies because we all have a common goal and have been so for 5 years. Due to the success we have seen with our students, if this bill were to pass, I am confident that the new standards required to be developed in 2017 would be very similar to what we are currently using today. Kansas teachers are excited about teaching math and are much more knowledgeable about how to teach math at a level needed for students to understand why the math works instead of just teaching the rules and asking them to memorize numbers thanks to the adoption of these standards in 2010. 3.) These standards are producing students that are ready to enter college, technical colleges, or careers more so than ever before with reasoning skills and the ability to persevere. More importantly, students are feeling successful. They finally understand math and want to learn more. Parents are amazed at what their kids can do and understand compared to their own experiences, as well as the understanding of their older siblings. My own fourth grader can divide four and five digit numbers by two numbers all in his head due to his increased number sense thanks to the conceptual understanding and math models used to teach that concept. I taught many 7th graders for years that couldn't solve a problem like this in their heads nor would they even attempt the problem. For these reasons, KATM asks that you vote in opposition of this bill and not let it out of committee.

Thank you for your consideration.

Respectfully submitted,

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