Designation on High School Diploma STEM, Work Ready or Other
Please Oppose SB 169 and SB 170 STEM Diploma
Melanie Kurdys Comments to Committee

I am here in opposition to SB 169 and 170. I am speaking for myself, but I am a co-founder of STOP Common Core in Michigan and the Right to Learn Initiative which advocates for a robust system of public and private education in Michigan that uses evidence-based practices and engages children, parents and teachers for real learning. I oppose these bills for four main reasons:

- It is unwise to create a "class system" in Michigan which is not supportive of all students. Having a STEM diploma creates a "better" path, leaving the students not on this path to believe they are on the "failure track". A high school diploma should carry the full credibility of a robust education for all graduates regardless of their preferences of study. This is especially important as we consider renewing our commitment to Career Technical Education as a respected alternative course of study.

- All specific course information is already provided on high school transcripts. Colleges and universities currently use high school transcripts to determine the coursework and student achievement in their determination for entering freshman. In this manner, employers determine the courses appropriate to preparation for their field.

- Michigan Department of Education should not control diploma designations and course requirements. Control of the diploma designation becomes a politically driven process based on Common Core and Next Generation Science Standards rather than an educationally sound process controlled locally by teachers, parents, community members and employers.

- The alternate pathway designation begins in 7th grade, limiting a student's ability to change their mind. 7th graders are typically 13 or 14 years old, perhaps aware of their personal preferences, but not ready to make career defining decisions.

We have heard the purpose of this designation was to make an easily referenced, recognizable and credible designation that a student has a certain level of math and science preparation. The credibility of a certification is built on years of evidence that the certification is robust and clear evidence exists that the certification actually brings strong job performance.

Let's consider some examples. A CPA, Certified Public Accountant, is a well-recognized certification with a high degree of credibility. We all know this certification carries a strong education base as well as years of practical experience under the guidance of experienced professionals.

> The score represents the candidate's overall performance on the identified (14 hour) examination. Scores are reported on a numeric scale of 0 to 99, with 75 as the passing score. The scale does not represent "percent correct." A score of 75 indicates examination performance that reflects a level of knowledge and skill required for the protection of the public.

A Certified Welder similarly has high industry credibility:

> A well-trained A.S.W.E.T. (Associate of Science in Welding Engineering Technology) can take and pass the CWI Certified Welding Inspector) test the first time, with high scores.

Unfortunately, in Michigan, a Teaching Certificate has lost some of its credibility. We have learned from Michigan's Teacher of the Year that to earn a Michigan Teaching Certificate, college students are not taught a comprehensive way to teach children reading or math. They are not taught how the education *system* works. They are not taught the historically successful methods of teaching, including the Trivium of Classical Education. In effect, a person with a Michigan Teaching Certificate is arguably not prepared to do the job we consider most important, teach our kids to read and do basic math.

For years, Michigan public schools have graduated many students well-prepared for careers in Math & Science without a STEM Diploma designation. By offering robust courses in math including Algebra1- Geometry-Algebra2- Trig-Pre-Calc-Statistics, and in science, including Biology-Chemistry-Physics, students could learn what they needed to know to be successful.

I am sure many of you share my experience. My husband and I both graduated from Michigan public schools. My husband earned his Chemical Engineering degree and I earned my Math degree from University of Michigan without remedial education. My children also graduated from Michigan public schools, but required some help from Sylvan learning before graduating from University of Michigan with degrees in English, Economics and Mechanical Engineering. Unfortunately, with the many changes in public education made in an effort to improve outcomes for those least served, we are unwittingly breaking the system that worked for many.

With the introduction of Common Core, integrated math courses, integrated science courses, International Baccalaureate math & science and Next Generation Science Standards, the traditional courses are being turned on their head or not even offered. There is no evidence these new courses based on these new standards deserve a STEM designation. In other words, you are not using a scientific process to make this certification! How ironic!

People who homeschool their children and private schools in Michigan are still able to make certain their children learn these rigorous courses. But if the certification requires courses aligned to these different models, what will be the impact? Degrees that look less rigorous or home and private schools compelled to comply with this unproven strategy.

There are four very important reasons why you should not support SB 169 and SB 170:

- High school diplomas should not create a class system in Michigan
- High school transcripts already carry the information needed for career and college
- Politics should not direct and control a certificate designation
- Children should be allowed to grow, experiment and change their minds!

MORE ON THE HISTORY OF ACT AND TRADITIONAL STEM EDUCATION

Before Common Core, the ACT math and science scores were the premier acknowledgement of a student's achievement in high school and readiness for college courses. Through years of use, the ACT developed strong confirmation that a student scoring a 22 in math and 23 in science…

> The Benchmarks are scores on the ACT subject-area tests that represent the level of achievement required for students to have a 50% chance of obtaining a B or higher or about a 75% chance of obtaining a C or higher in corresponding credit-bearing first-year college courses
> http://www.act.org/solutions/college-career-readiness/college-readiness-benchmarks/

Students who took a high school series of robust "Biology-Chemistry-Physics" and "Algebra 1-Geometry-Algebra 2-Trig (or pre-calc)- Plus 1" had the highest success rate in achieving these scores. Universities used the ACT scores as part of their entrance requirements. For example, University of Michigan required a 26 ACT Math score whereas Western Michigan University used a 20 ACT math score. Michigan students who attended Michigan Math & Science Centers easily achieved these scores.

The introduction of Common Core standards and Next Generation Science Standards (NGSS) and the impact on the course content have dramatically changed, and continue to change, what public schools now offer. Many schools moved to physics first, teaching a conceptual non-math physics course to freshman. Many schools offer integrated science and integrated math which have no empirical evidence of adequately preparing students for robust STEM careers. International Baccalaureate Math and Science programs are much less rigorous than the pre-common core AP math and science courses, but are encouraged as college ready coursework.

The ACT is being revised to accommodate the Common Core – NGSS standards and will then lose all credibility as a predictive assessment for student success in credit bearing college courses. And universities are being pressured into redefining what has been traditional remedial course work into credit bearing coursework. This will increase the number of years required to get robust degrees, such as engineering or pre-med, increasing the cost and resulting debt burden for students.

The education system is systematically being realigned in a dramatic way to an unproven model which will not prepare students to be engaged citizens ready for real life.

MORE ON NEXT GENERATIONS SCIENCE STANDARDS

Fordham review of the standards:

"Having carefully reviewed the standards, however, using substantially the same criteria as we previously applied to state science standards—criteria that focus primarily on the content, rigor, and clarity of K–12 expectations for this key subject—our considered judgment is that NGSS deserves a C.

Michigan also received a C, so why would we waste the effort to change to this? Massachusetts received an A-, clearly superior. Why not change to better standards?

http://edexcellence.net/publications/final-evaluation-of-NGSS.html

COMMENTS FROM OTHER SOURCES:

"I spent some time in the middle school area and was disappointed with the lack of academic rigor, the insufficient range of topics for three years of learning, and the paucity of quantitative investigations indicated. So, I went on to the high school topics hoping for something better. As a chemist, the first thing I looked for was chemistry. There's so no such topic. " Larry Keller, Science Education
http://etcjournal.com/2013/01/22/next-generation-science-standards-fall-flat/

"New standards recommend teaching man-made global warming in all science classes. Some textbook publishers to incorporate curriculum immediately. "

By Katherine Bagley, InsideClimate News Mar 4, 2013
http://insideclimatenews.org/news/20130304/next-generation-science-standards-man-made-climate-change-consensus-global-warming-skeptics-heartland-institute