STEM Entrepreneurship & Innovation Program for Students to Help Develop Ohio's Future Workforce

Popularly Known as the "*Believe in Ohio* Student STEM Innovation & Scholarship Program"

May 11, 2021

Chairman Dolan, Ranking Member Sykes, and Members of the Committee. I am here today, along with my colleague Michael Woytek, to provide testimony in support of Amendment SC2521X1 to Substitute House Bill 110**,** *"STEM Entrepreneurship and Innovation Program for Students to Help Develop Ohio's Future Workforce"*, which continues funding of what is more popularly known as the *"Believe in Ohio Student STEM Innovation and Scholarship Program"*.

My name is John Klipfell. I am Executive Director of Entrepreneurial Engagement Ohio, which is an entrepreneurial education non-profit based in Cleveland.

I am here with Michael Woytek, Executive Director of the Ohio Academy of Science. Mike and I are the Co-Directors of the Believe in Ohio program. The Ohio Academy of Science is the most qualified statewide organization with the demonstrated reach and ability to accomplish these objectives and provide continuing support for Ohio's high schools, teachers and students

The Believe in Ohio program has been a collaboration of the Ohio Academy of Science, and Entrepreneurial Engagement Ohio since 2012. The purpose of the program is to help create a "Culture of Innovation" in Ohio high schools and middle schools, and to encourage students to continue their educations and careers in Ohio by providing scholarships to Ohio colleges, universities, post-secondary career centers and vocational schools

In 2013, the State of Ohio provided $5 million in funding to develop what is today known as the Believe in Ohio program. The program was successfully launched in 2014 and thrived across Ohio through 2016. Although the program lost its state funding in 2017 as a result of state budget constraints, the program was continued in Northeast Ohio on a limited basis until state funding was restored in 2019.   This Budget Amendment continues funding for the Believe in Ohio program, which is especially important now as our state emerges from the pandemic and seeks to create jobs and rebuild our economy.

Since its beginning as a state funded program, 180 schools and 400 teachers from 52 Ohio counties have participated in Believe in Ohio's high school, regional and statewide STEM Commercialization Plan and STEM Business Plan competitions, with more than 16,000 students having developed 10,000+ STEM Commercialization & STEM Business Plans, with $1.6 million in local school, regional & state competition awards/scholarships received by Ohio students.

Also, since 2014, 55 Believe in Ohio STEM Innovation and Entrepreneurship Forums have been held on 19 Ohio college campuses, attended by more 10,000 students & teachers from 250 high schools from 60+ Ohio counties.

As outlined in the amendment, funding Believe in Ohio includes:
- A comprehensive, Google Classroom based professional development program for teachers in grades 7-12 to help them develop a "Culture of Innovation" in their schools. So far, 130 teachers from 42 Ohio counties are already completing the professional development in preparation for doing Believe in Ohio next school year.
- Collaborative mentoring programs with Ohio colleges and universities, with a special emphasis on mentoring support to underserved urban and rural schools;

- Believe in Ohio's STEM Commercialization Plan and STEM Business Plan award competitions for students in grades 7 to 12, and related Regional and State Competitions that award scholarships to Ohio colleges, universities, post-secondary career centers, and vocational schools.
- To recognize students throughout Ohio for their contributions to STEM Innovation and Entrepreneurship, Believe in Ohio's Statewide STEM Scholarship will award up to $2,500 in scholarships in each of Ohio's 99 House Districts and 33 Senate Districts to attend any Ohio college, university, post-secondary career center, or vocational school.

On behalf of the students in our state, including my grandkids, who will benefit from the Believe in Ohio program, I strongly urge you to support Amendment SC2521X1 to Substitute House Bill 110.

Hello, my name is Michael Woytek and I am the Executive Director for The Ohio Academy of Science and the Co-Director of the Believe in Ohio program. I would like to share more about the Believe in Ohio program and its role in advancing innovation, investment, and economic prosperity in Ohio.

If the purpose of education is to prepare students for life, Believe in Ohio's mission is to increase their engagement in the learning process through STEM and entrepreneurship. Through comprehensive, curriculum-based resources and instruction, we challenge students to apply what they're being taught and to solve problems and innovate solutions by developing new products or services or problem solutions with a STEM Commercialization Plan or STEM Business Plan. Believe in Ohio instills confidence and provides students with a sense of purpose and direction for planning post-secondary education and establishing career goals. It emphasizes the importance of STEM and an entrepreneurial mindset to compete in today's Innovation Economy.

Believe in Ohio has developed innovative training and professional development for Ohio's teachers and has redesigned curriculum and instruction that can be delivered in any learning environment. These resources, along with the support of regional STEM advocates, are available to every Ohio classroom, including an emphasis on serving isolated rural and urban districts. Additionally, the proposed funding will develop a mentorship network for these students.

Students are provided the opportunity to compete for scholarships to Ohio colleges and universities on the basis of their innovative ideas. The Believe in Ohio STEM Innovation Scholarship program recognizes students from each Ohio House (99) and Senate District (33). The Believe in Ohio program also serves as springboard for important legacy programs and initiatives of the Department of Higher Education including Higher Ed's Choose Ohio First scholarship program.

This spring more than 100 students will compete for more than $300,000 in scholarships to attend Ohio's colleges and universities in Believe in Ohio's Regional and State Competition where they will be presenting some incredible projects. They include development of an advanced photonic integrated circuit that can revolutionize computational power, a multipurpose shelter to aid in humanitarian relief efforts, a cohesive AI process device to detect bacteria in water supplies, and one incredible agriscience and sustainability project to improve environmental impact that you will hear about shortly.

Believe in Ohio creates a pipeline of entrepreneurial minded STEM talent to address jobs that don't even exist or industry's that have yet to be developed.

Believe in Ohio builds a pathway to Ohio college STEM degrees and meet the needs of industry to grow Ohio's Innovation Economy.

To help ensure the future prosperity of our state, I strongly encourage you to support Amendment SC2521X1 to Substitute House Bill 110.

Supplement to John Klipfell & Michael Woytek Written Testimony to Senate Finance Committee

Teacher Comments About the Believe in Ohio Program After Completing Teacher Professional Development May 2021

David Callahan, West Geauga HS, Geauga County
The number one reason: implementation of *Believe in Ohio* will enhance students' skills in research, creative thinking, and problem- solving. It provides students with an authentic project. The *Believe in Ohio* milepost framework gives the students a chance to be entrepreneurs and empowers the students to think critically and take initiative. It gives the students a beginning working knowledge of what it takes to take an idea and develop it into a product that customers want to buy or solve a problem.

Amber Graham, Gallia County Local Schools, Gallia County
An excellent way to encourage students to pursue STEM fields that are now the foundation of our economy and source of solutions to the world's complex problems. This competition offers students not only a way to enhance their knowledge in these fields, but to learn to apply that knowledge to address issues in the real-world and investigate potential areas of interest for their higher education.

Alexander McDaniel, Glenoak HS, Stark County
Through this program, students are able to be creative and choose something that they are actually passionate about. They will do the research, the planning, and the problem-solving for this idea and in doing so, they will be building skills that are so beneficial in their future schooling and career. They won't be able to just say "oh this might work". They need solid evidence and proof that their plan actually could be successful.

Brian Stier, Dublin City Schools, Emerald Campus, Franklin County
Believe in Ohio gives relevance to studying the STEM subjects. This program encourages students to look for innovative ideas to today's issues through STEM topics.

Victoria McCamon, Quaker Digital, Tuscarawas County
Believe in Ohio focuses on the benefits of STEM research and innovation/inventions in our everyday world. Many people, children and adults, take new inventions for granted and do not think twice about where or how a product was created. Having students complete the project not only gives them the freedom to create something of their very own but encourages them to think about how new products are created and come to market.

Sharon Lynch, Holy Trinity, Lorain County
Students really need to think creatively to come up with solutions to problems. In general, I don't think students are used to thinking this way, so it will require a shift in the way they view the world.
Students are learning how to communicate clearly and concisely. They are learning to have confidence in their abilities.

Jackie Perry, Collins Career Center, Lawrence County
Overall, the thought process is broadened, and it makes the students more of an asset in the community they live in. They are rounding out their foundations now and shaping their future thought processes for life. Not only does STEM and *Believe in Ohio* serve its own purpose it also serves the students' mental health capacity in rational thinking and problem solving.