



Ohio STEM Committee Meeting Minutes November 15, 2023

9:00am-12:30pm

National Inventors Hall of Fame STEM Middle School

199 South Broadway St., Akron, Ohio 44308

Committee Members Present:

Dr. Tom Schwieterman, VP of Clinical Affairs and Chief Medical Officer at Midmark Corporation, STEM Committee Chair, appointed by the Ohio State Senate

Andrew L. Aichele, Senior Director of Engagement & Education at COSI, appointed by the Governor

Dr. Julia Simmerer, Ed.D., Senior Executive Director of the Center for Teaching, Leading, and Learning, Ohio Department of Education & Workforce, Designee for the Interim Superintendent of Public Instruction

Dr. Krista Maxson, Ph.D., Associate Vice Chancellor, P-16 Initiatives, Ohio Department of Higher Education, Designee for the Chancellor of the Department of Higher Education

Committee Members Absent:

Jeff Polesovsky, Vice President of Public Policy, Columbus Partnership, appointed by the Speaker of the Ohio House of Representatives

William Ashburn, Designee for the Director of Development, Deputy Director, Governor's Office of Workforce Transformation

Ohio Department of Education & Workforce Present:

Mary Ellen Dobransky, Associate Director of Innovative Approaches to Teaching and Learning (STEM Office)

Dr. Sarah Redick, Ph.D., STEM Education Program Specialist

Jenny Russell, STEM Program Administrator 1

Ohio STEM Learning Network (OSLN) Present:

Dr. Sandra Wilder, Ph.D., STEM Relationship Manager

Others Present:

Amanda Morgan, NIHF STEM Middle School Principal

Mike Kahoe, Governor's Office of Workforce Transformation

Dan Leffingwell, Washington State Community College/Appalachian STEM Collaborative

Ellen Marrison, TIES

Christa Krohn, TIES

Jen Hinderer, Marysville STEM High School

Suzy McBrayer, St. Vincent-St. Mary High School

Ryan Pjesky, S. Vincent-St. Mary High School

Sam Crews, OSLN Akron Hub

Ohio Department of Education & Workforce Staff Recording Meeting Minutes:

Jenny Russell, STEM Program Administrator 1

Opening:

Dr. Tom Schwieterman called the meeting to order at 9:55 a.m.

Welcome and Introductions

Dr. Tom Schwieterman thanked the National Inventors Hall of Fame STEM Middle School for the tour; asked them to “please tell your student ambassadors how impressed with them we are.”

Approval of Agenda

Motion made to approve November 15 meeting agenda by Dr. Julia Simmerer, seconded by Andrew Aichele.
All votes aye; none opposed. Motion approved.

Approval of July 24 Meeting Minutes

Motion made to approve July 24, 2023 STEM Committee meeting minutes by Andrew Aichele, seconded by Dr. Krista Maxson.
All votes aye; none opposed. Motion approved.

Discussion Items:

Partnership Spotlight

Mary Ellen Dobransky introduced Dan Leffingwell, Dean of Engineering and Business at Washington State Community College; director of the Appalachian STEM Collaborative (a STEM Learning Ecosystem). She shared that he is doing amazing work for districts and schools in rural areas of Ohio.

Dan Leffingwell thanked the Committee for allowing him to present about his work. He works with 74 school districts in Appalachia (in 26 out of 32 Ohio Appalachian counties). At Washington State Community College, their InCERT Yourself program offers four pathways to high school students. They are piloting the program with high school juniors and seniors. This program came about because over 40% of high school students in Ohio are not planning to go to college or preparing for CTE careers. Dan’s work is not about increasing STEM education, but rather about increasing hope. Hope, sense of belonging, and engagement are far better indicators of student success than a school’s state report card. He said, “We do not have a skills or talent gap – we have an exposure gap” here in Ohio.

The work started in Dan’s school district in 2014; three folks went to work for Educational Service Centers in 2022 to try to replicate that district’s success. Districts and schools think STEM education is expensive and they don’t have the resources for it. Dan is spreading the word that support and guidance from partners is available for free or at a very low cost. There will be four Appalachian STEM Collaborative meetings this academic year. The main ESCs that the Collaborative is working with are Ohio Valley, Muskingum Valley, and Eastern Ohio. Dan feels that Ohio needs to focus on workforce development and STEM education is the way to do that.

Policy Updates

Dr. Sarah Redick reviewed the Growth Plan/Corrective Action Plan process for STEM schools. This was talked about at previous STEM Committee meetings, so this is not new information, just a refresher.

There are five steps in the process:

1. STEM Committee votes to put a school on Corrective Action Plan (language used in statute)/Growth Plan (preferred name because it sounds less punitive).
2. Within three months of vote, the Department of Education and Workforce (DEW) and the Ohio STEM Learning Network (OSLN) meet with school to create Growth Plan.
3. Progress monitoring through quarterly meetings with school, DEW, and OSLN.
4. School submits application by uploading artifacts to SlideRoom for attributes identified in Growth Plan. Site visits scheduled as needed.
5. Within twelve months of initial Growth Plan meeting, STEM Committee votes to revoke designation or approve additional five years.

Dr. Tom Schweiterman said that this program has been going for 7-9 years, and it's so important that we maintain the quality of STEM designation. There was no provision for redesignation when we started. We want to think in terms of resource deployment instead of punitive action for schools on growth plans – we want to keep and retain advanced STEM in schools. We need to convey positive intent and make sure that the perception is taken the right way now that more schools are going on growth plans.

Mary Ellen Dobransky emphasized that part of STEM education is being in the iterative design process. Our goal is to come alongside and support STEM schools; we have to go with statute language (that calls the plan a corrective action plan), but it's about growth and support.

Dr. Sarah Redick went over the revised Growth Plan Template. It's been modified slightly since the Committee last saw it; it's now more focused on supporting schools, reformatted (with spaces to include areas of growth identified and supports we can provide to schools). The Growth Plan Template is to get schools working with us to set SMART goals and develop action plans to reach them.

Motion made to approve revised Growth Plan Template for STEM schools made by Dr. Krista Maxson and seconded by Andrew Aichele.

All votes aye; none opposed; motion approved.

Schools Updates

Mary Ellen Dobransky spoke about schools who initially submitted applications for redesignation, then changed their minds and declined to go through the quality monitoring process (there are five). [The quality monitoring process is for all schools seeking redesignation.]

There was a bit of a lengthy discussion about this at the last Committee meeting. DEW sent letters to schools with assurances to be signed and covered everything the Committee wanted to include in those documents. The Department has received assurances from Mad River Middle School and Stebbins High School and will be scheduling exit interviews. Phone calls have been made to the other three schools and we will be following up with email messages. We want to make sure that everyone in the school/district is aware that this is happening. Those schools' designations will be revoked in May.

Dr. Krista Maxson told Mary Ellen that she appreciates all the work she's put into this. Dr. Tom Schwieterman asked if there is a follow-up to make sure those schools are following everything they agreed to in the assurances with regard to nomenclature. Mary Ellen confirmed that that will be part of the exit interview process.

Mary Ellen Dobransky updated the Committee on Marysville STEM High School. They are not officially designated as an Early College high school by the Ohio Department of Higher Education (ODHE). They have submitted their application and a Memorandum of Understanding to ODHE but they have not been approved yet. One of the options DEW's lawyers gave for Marysville is for them to use a disclaimer stating that they are not officially designated on their school sign, website, social media, etc., and Marysville has chosen that option. Dr. Tom Schwieterman asked Dr. Krista Maxson what she thinks since this is her bailiwick. Dr. Maxson said ODHE cannot say that the school is out of compliance, and they want to make sure the Early College designation process doesn't impact their STEM redesignation process.

Motion made to remove Marysville STEM High School from their Corrective Action Plan made by Dr. Tom Schwieterman, seconded by Dr. Julia Simmerer.

All votes aye; none opposed. Motion approved.

Dr. Sarah Redick gave a quick update on the current STEM redesignation cycle. Schools have until December 31, 2023 to complete their applications for redesignation and quality monitoring. Site visits to these schools need to be completed by April 2024 and they are all scheduled. There are 26 schools that need to undergo quality monitoring this year.

Dr. Tom Schwieterman is concerned with the load of 26 schools for such a small team (the Department's Office of Innovative Approaches to Teaching and Learning – the STEM office – has only two staff members who can visit schools). Dr. Tom said that the STEM Committee wants to make a statement that we need more resources to complete the work. We may have reached the tenable limit on what the team can do.

STEM & STEAM School Designation Recommendations (OSLN)

Dr. Sandra Wilder spoke about NIHF STEM Middle School.

She said that when we think about STEM schools, we always go to culture. She wished the Committee members could have been at school at eight this morning when this great hall [where the STEM Committee meeting is being held] is filled with all students and all teachers and all leaders – they start every day by committing to their culture. They recite their Learners' Pledge and their Teachers' Pledge. NIHF STEM Middle School is an exemplar model STEM school. It was one of the earliest schools to be STEM designated (in 2008). The way they leverage partnerships is not just through shared space and expertise. There is not a single Problem-Based Learning (PBL) project in this school that doesn't leverage partners.

She went on to say that on their site visit they saw something amazing that they don't typically talk about in these meetings. They observed a physical education class. The lesson the teacher gave was an exemplar model of design thinking; they used design thinking with true fidelity along with core content in physical education.

The Ohio STEM Learning Network recommends National Inventors Hall of Fame STEM Middle School for an additional five years of STEM school designation.

Motion to approve an additional five years of STEM school designation for National Inventors Hall of Fame STEM MS made by Dr. Krista Maxson, Dr. Tom Schwieterman seconded.
All votes aye; none opposed. Motion approved.

Dr. Sandra Wilder spoke about Summit Road STEM Elementary School.

She started by saying that in order to really grasp how strong this school is, the Committee needs a little bit of background – until this year Summit Road was a school of choice, but now they're a neighborhood school. They also went from half-day kindergarten to full day and changed from a K-4 school to a K-5 school. This year, 75% of their students are new to their school. On their site visit, they couldn't tell! If they didn't know this information from Summit's application, on the site visit they would have never guessed all those students weren't there all along.

Summit has strong leadership and teachers who are empowered to do the work. They started this school year working on PBL across every grade level. They are focused on the individual child's culture, not just school culture. Design thinking is not what they do but who they are.

The Ohio STEM Learning Network recommends Summit Road STEM Elementary School for an additional five years of STEM school designation.

Motion to approve Summit Road STEM Elementary School for an additional five years of STEM school designation made by Dr. Tom Schwieterman, seconded by Andrew Aichele.
All votes aye; none opposed. Motion approved.

Dr. Sandra Wilder spoke about Marysville STEM High School.

She said, “In the interest of full transparency, I want the Committee to know that I did not go on their site visit but had conversations with colleagues who did.” Marysville STEM High School has three amazing things going for it – leadership, opportunities, and absolutely authentic learning for students. The school provides supports for teachers so they can do the work. The way the school leverages their partners is absolutely amazing. Each student has the opportunity to earn an associate’s degree. The school anchors students in college prep and career pathways. Of course, there are some areas of growth (we always push our STEM schools, we are always working to making them better), but they are working on them.

The Ohio STEM Learning Network recommends Marysville STEM High School for an additional five years of STEM school designation.

Motion to approve Marysville STEM High School for an additional five years of STEM school designation made by Andrew Aichele., seconded by Dr. Tom Schwieterman.

All votes aye; none opposed. Motion approved.

Dr. Sandra Wilder spoke about St. Vincent-St. Mary High School.

She shared, “I want to start out by noting that originally this law for redesignation didn’t exist and it’s only in its second year, so we expect to see schools that need more supports.” St. Vincent-St. Mary is the only private STEM School Equivalent-designated high school in Ohio. They are seeking STEAM school equivalent designation this time around. (If schools don’t earn STEAM designation, they’re still considered for STEM designation.)

St. Vincent-St. Mary High School values academic excellence. Students come first and content second. Teachers are well-versed in content. They have a strong culture; we spoke to students and learned that they have a sense of belonging, feel included, feel like part of something, and feel that their voices are not only heard but amplified.

St. Vincent-St. Mary has had a significant turnover in leadership over the past few years. They are missing some important qualities for STEM education. They need to demonstrate authentic, interdisciplinary learning, bring partners in, and have their students engage in real-life problems. We see buds of this at St. Vincent-St. Mary. We see serious STEM potential in three of their courses but it is not a schoolwide practice. Most classes are content-focused but not interdisciplinary or problem-focused. Staff is more than able to implement this but they need more focused staff development. The school needs to leverage partners more; they had a career day with lots of partners present, but it was only a one-day experience. They need to bring partners into classrooms and build upon what they started at the career day. She said, “OSLN and DEW want to work with St. Vincent-St. Mary and bring their practices up to where they were when they were first designated.”

Some representatives from St. Vincent-St. Mary who attended the meeting addressed the Committee. Ryan Pjesky is the STEM coordinator and this is his first year at the school. He said that he feels supported and is hopeful – he has a meeting with the school’s Academic Committee (made up of board members and teachers) tomorrow to discuss STEM. He told the Committee that he is glad the school, OSLN, and DEW can work together as a team.

Suzy McBrayer is the co-chair of the Academic Committee and a new school board member. In the past few years St. Vincent-St. Mary has had a new president, principal, and vice principal. Over 50% of current teachers were hired in the last five years. Suzy has a middle-school background. Their board is not like a public school board – they are involved at a higher level – but she is hopeful that the board will get even more involved. She shared that she is looking forward to working with Sarah Redick and OSLN to come up with a plan to peel away the layers like an onion and get back to basics. She said that the school has had “a little bit of an identity crisis over the last couple of years.”

Dr. Tom Schwieterman told Ryan and Suzy that “The STEM Committee has your back and will support you.” He knows there is different political pressure for them as a private school.

The Ohio STEM Learning Network does not yet recommend St. Vincent-St. Mary High School for an additional five years of STEM school equivalent designation nor five years of STEAM school equivalent designation. They recommend that St. Vincent-St. Mary High School be placed on a corrective action plan.

Motion made to place St. Vincent-St. Mary High School on a corrective action plan made by Dr. Tom Schwieterman, seconded by Andy Aichele.

All votes aye; none opposed. Motion approved.

Dr. Sandra Wilder spoke about Hughes STEM High School.

She started off by saying, “We are recommending that Hughes STEM High School is placed on a growth plan.” Hughes STEM was one of the first five schools to receive STEM designation in Ohio when the program started. It’s a large urban high school in Cincinnati Public Schools. The vision of Hughes STEM High School is to be the premier STEM/career tech high school in Southwest Ohio that values teacher leadership at its core, strategically utilizes its partnerships, and implements high-quality STEM project-based learning for all. Sandra said that while they are meeting the first part of their vision, focused on career tech education, they are not yet making high-quality STEM PBL available to all students.

Hughes STEM High School has had turnover in their leadership. They’ve done an excellent job in creating career pathways (they have five, and they are all STEM) and making sure they are bringing relevant experiences to students through career tech. But they are missing some STEM elements. Their STEM focus is isolated to those five career pathways; there is no schoolwide expectation to implement PBL and design thinking. Sandra said, “We have a significant amount of work to support Hughes in bringing back practices they originally had when they were first designated.”

Dr. Tom Schwieterman asked, “Will we accept every school not recommended for designation for a growth plan?” Is it feasible for all schools to be able to get back on track within a year?

Mary Ellen Dobransky replied that she has seen schools do this. They were able to get there (including large urban schools). She said that once schools get into groups that support them, “I think we have the potential to see tremendous growth.” In both of the meetings we [DEW and OLSN] had with Hughes STEM, they understood that we are holding seats for them in our programs, those supports are there, and we are working with them.

Dr. Sandra Wilder mentioned that they haven’t engaged with our opportunities before because they have concentrated on other things. They have no overall concept of “this is who we are as Hughes STEM.” Their teachers are good teachers, and we can offer professional development opportunities for leadership.

Andrew Aichele asked if with significant turnover in leadership is there also significant turnover in teachers. He wondered how many of their original staff with experience in the initial designation are still there. Dr. Sandra Wilder said that she is not sure.

Dr. Tom Schwieterman emphasized that we don’t want to lose schools in “STEM desert” areas and there are not a lot of designated STEM schools in Southwest Ohio. Dr. Sandra Wilder confirmed that we don’t want to lose our trailblazers.

Dr. Julia Simmerer asked if Hughes STEM is an official career tech school. Would they be eligible for distinction as a CTE STEM Program of Excellence? Mary Ellen Dobransky replied that they would be eligible and that she and Kelly Gaier Evans of OSLN are “keeping that in our back pocket.”

Dr. Sandra Wilder shared that we want to connect Hughes STEM with a similar school that has overcome the same obstacles.

The Ohio STEM Learning Network does not yet recommend Hughes STEM High School for an additional five years of STEM school designation. They recommend that Hughes STEM High School be placed on a corrective action plan.

Motion made to place Hughes STEM High School on a corrective action plan made by Dr. Krista Maxson, seconded by Dr. Tom Schweiterman.

All votes aye; none opposed. Motion approved.

Dr. Tom Schwieterman reiterated that for any help the school needs, “We will leverage everything the STEM Committee’s got.”

Timeline for Next Cycle of Redesignation (schools that were initially designated in 2018)

Dr. Sarah Redick shared that for schools that were initially designated in 2018, the application of evidence will be open from June to December 2024. DEW and OSLN will start site visits in fall 2024; they need to be completed by Spring 2025. Ten schools will be undergoing quality monitoring in this cycle.

Dr. Sandra Wilder emphasized that so far we have 36 schools that need to undergo quality monitoring, and we are only a third of the way into our first round of redesignation.

Andrew Aichele is concerned about capacity. So is Dr. Tom Schwieterman; he would like to discuss with the right people more resources for the DEW STEM office (Office of Innovative Approaches to Teaching and Learning).

Update on Schools That Completed Intent to Apply Form

Dr. Sarah Redick and Dr. Sandra Wilder said that we have received Intent to Apply (for initial STEM or STEAM designation) forms from 13 schools. A few more schools have contacted them without submitting the form. They have met with most all of these schools. Dr. Sandra Wilder reminded the Committee that filling out the Intent to Apply form is not a formal requirement for schools seeking designation (it’s just a way for us to connect with them before the process starts).

Partnership Updates

Department of Education and Workforce Updates

Mary Ellen Dobransky talked about STEM Regional Convenings around Ohio. Since our statewide STEM convening last spring at COSI, DEW has been holding regional convenings because regions are so vastly different throughout the state.

These are some of the challenges our participants have identified:

- Opportunities for STEM education are inequitable and students face obstacles to STEM learning.
- There is a lack of communication and understanding across sectors, preventing a cohesive vision and collaboration. (Mary Ellen mentioned that industry partners say they don’t know how to talk to schools.)
- Schools need more time and funding to develop STEM/STEAM programming.
- STEM education is subject to various interpretations and implementation. (Mary Ellen said that people are asking if STEM is just an acronym, or if it refers to Problem-Based Learning and interdisciplinary study.)
- The STEM workforce in Ohio is inadequately prepared/jobs are unfilled.

These are some of the opportunities our participants have identified:

- Foster an inclusive approach to STEM education through authentic, learner-centered experiences. (Mary Ellen said that we see an opportunity to offer apprenticeships in STEM education to pre-service teachers.)
- Coordinate regional efforts to support collaboration among sectors.

- Build awareness of the resources offered by DEW, OSLN, and STEM Learning Ecosystems. (Mary Ellen emphasized that there are so many resources out there – OSLN hubs, museums, higher education – we just need to be sure schools know about them.)
- Align preparation of the future STEM workforce to local initiatives and industry needs.
- Create sustainable cross-sector initiatives through shared resources, funding, and policy support. (Mary Ellen said that we really believe at the Department that STEM is important and we need industry partners to work with schools; a rising tide lifts all boats.)

Andrew Aichele asked if at a future STEM Committee meeting members could get a full overview of the reorganization of the Department of Education into the Department of Education and Workforce. Dr. Julia Simmerer replied, absolutely, that won't be a problem. She noted that Steve Dackin has been appointed head of the Department by the governor and will be going through Ohio Senate confirmation around the first week of December.

Dr. Tom Schwieterman asked if the head of the K-12 division would be sort of like the superintendent of instruction. Dr. Julia Simmerer answered no, that position still exists and the State Board of Education still exists, it's just serving mainly as a licensing board now.

The last regional convening this year, the Southern Ohio Convening, was held in Chesapeake, way down south on the Ohio River, in October. Mary Ellen Dobransky presented some of the takeaways:

- Generational poverty impacts business and industry by influencing who participates in STEM career pathways. (Mary Ellen noted that Dan Leffingwell spoke to that in his presentation this morning when he talked about hope.)
- Stakeholders are seeking focused solutions to local issues due to the uneven distribution of regional resources over a large geographic area. (Mary Ellen emphasized that we see this uneven distribution a lot in Appalachia.)
- Industry stakeholders want alignment between workforce needs and STEM education from K-12 partners. (Mary Ellen asked how we facilitate that conversation and said that is our next call to action for Southern Ohio Convening participants.)

Dr. Tom Schwieterman mentioned the concept of “speed dating” provided at these convenings; it's a chance for a school representative and an industry representative to sit down together for a few minutes and discuss what the company wants from schools, and what the school wants from companies.

Andrew Aichele pointed out that partnerships across sectors are expectations now – but teachers are not taught how to work that way, so we need to provide professional development on this topic. He wonders how we integrate working in partnerships into the system.

Dr. Julia Simmerer asked, “How do we build on what already exists, and how do we prepare educators to talk about workforce needs?”

Dr. Krista Maxson told the Committee that Teacher Bootcamp funding just got released from the state. Michael Kahoe from the Governor's Office of Workforce Transformation confirmed that the application round is open now and closes on December 8 – the funding is for institutions of higher education to provide “bootcamp” experiences to teachers; over 2-3 weeks, teachers will visit companies and learn about industries in their regions. Dr. Tom Schwieterman wonders how we encourage industry to be a part of that.

Michael Kahoe replied that it's a really popular practice in Northeast Ohio (where Ashland University is dominating the space). Teachers can potentially earn CE and graduate credit from the university. The Office of Workforce Transformation would like to see other areas of the state get involved – Michael is happy to talk to Dr. Tom about

getting companies in his area engaged in this work. Both public school and private school teachers are eligible to participate in the bootcamps.

Dr. Tom Schwieterman said that the main industry in his area of the state (Darke County) is thought to be mostly manufacturing, but that's not necessarily true. People are not aware of what the companies in the backyard do.

Andrew Aichele feels it's great if people know about industry partnerships, but how do educators and companies actually do the work in partnerships? He believes the STEM Committee should increase access to these opportunities.

Ohio STEM Learning Network Updates

Dr. Sandra Wilder gave an overview of the OSLN Annual Report and the impact OSLN has had on educators and students this year. Sandra told the Committee members that if they haven't seen the report yet, she can get them a copy – please let her know. Kelly Gaier Evans will give an in-depth review at the February STEM Committee meeting.

OSLN was renewed by the state of Ohio for funding, \$1.5 million a year for the next two years.

In FY 2023, OSLN impacted 595 schools; 1,468 educators; and 282,329 students with its programs (all of these entities engaged with the network in some manner this year). OSLN established 13 programs for 2023-2024 to meet needs of educators through STEM professional development. This year, 151 teachers new to OSLN participated in its programs, including 115 teachers new to STEM education.

This year OSLN has really focused on making sure that everyone in the state knows that the network is for all of Ohio, not just central Ohio, where Battelle and DEW are located.

OSLN launched new programs in 3 areas:

1. Technical supports for designation
2. Supporting community needs
3. Advancing STEM for All (STEM education should not be a privilege but a right)

Dr. Sandra Wilder mentioned that Hawkins STEMM Academy is a great example of a school that didn't "get there" the first time they applied for designation, but availed themselves of the opportunities provided by DEW and OSLN and the school was later granted designation.

OSLN wants every student in Ohio to have a STEM/STEAM school within a 60 minutes' drive, but right now there are about 18 counties in Ohio without any designated STEM/STEAM schools.

Dr. Sandra Wilder spoke about the Ottawa Glandorf School District, which is in a "STEM desert" in rural northwest Ohio. In the 2022-2023 school year, three teachers were recruited into a rural STEM teacher community. This school year, those teachers joined the statewide community and five more teachers joined the rural STEM teacher community. The school is now primed to explore STEM designation and will hopefully apply over the next few years.

Dr. Sandra Wilder shared some additional measures of impact – across all measures, educators completing OSLN programs moved up the scale. OSLN is leveraging state funding with external dollars from Batelle Philanthropic, BlueForge Alliance, Code.org, the United States Department of Agriculture, and the Office of Naval Research.

Dr. Sandra Wilder asked the Committee, "What opportunities for alignment to state priorities should OSLN be exploring as we revisit our three-to-five year goals?" What should we be paying attention to?

Dr. Tom Schwieterman told the Committee that he grew up in Mercer County (a rural STEM desert county) and he believes that a lack of partnership with schools is a barrier to awareness of STEM education; he also feels that educators don't understand what STEM is besides an acronym. He then said that we are indebted as a state to the

endowment given by the Battelle Corporation, that it's appreciated and certainly not expected. He asked Dr. Sandra Wilder to thank leadership & shareholders.

Dr. Krista Maxson feels that the educator shortage is going to be a big deal in the next few years.

Andrew Aichele said that there needs to be more of a sense of partnership for schools and districts. The world's consumer space is becoming more connected and our school system needs to go along with this. He asked if we can impact the teacher shortage through the idea of expanding our community.

Dr. Tom Schwieterman thinks we should work with companies (like Goodyear here in Akron) who want to do joint projects to engage students; partnerships are not just philanthropic, and we need to tap into groups who want to work directly with students in schools.

Dr. Sandra Wilder told the Committee that Goodyear loaned the National Inventors Hall of Fame STEM Middle School an employee for a whole year when they opened and it was amazing. She also said that OSLN is very aware of the teacher shortage when it comes to computer science (Ohio currently has around 1,000 computer science teachers, and needs 8,000 or so more to meet demand). Dr. Krista Maxson shared that only 128 computer science teacher licenses were issued within the last three years – the shortage is acute.

Dr. Sandra Wilder next spoke about this year's OSLN STEM classroom grants. OSLN received 372 applications with \$1.7 million requested; OSLN was very happy for the interest in these grants, even though they were not able to award them to every applicant. They awarded 233 grants with \$1.1 million in funding. After some time, OSLN is finally seeing large numbers of rural schools applying for and receiving grants. In fact, more rural schools received grants than any other category.

Dr. Sandra Wilder said that OSLN's second annual STEM Innovation Summit will be Tuesday, June 4, 2024. Hopefully this timing will be a little easier for schools/teachers. OSLN is planning more ways for educators to engage – they can submit proposals to lead sessions, serve as reviewers for session proposals, join as exhibitors, and nominate a leader, teacher, or partner for OSLN's STEM Excellence Awards. This year's summit focus areas are directly aligned to Ohio's STEM Quality Model. She hopes that some STEM Committee members can join us at the summit. Andrew Aichele mentioned that he just returned from his industry conference (the Association of Science and Technology Centers), and the organizers didn't include DEI as a conference track, but instead made sure presenters and session leaders knew that DEI needed to be a "throughline" for every presentation at the conference.

Dr. Sandra Wilder asked the committee if there are workforce leaders that they would recommend to participate in the STEM Innovation Summit. Dr. Tom Schwieterman said that we should think about the partners with our model STEM schools, such as Goodyear here at NIHF STEM Middle School. (Sandra added that Goodyear received OSLN's partner award last year). Dr. Tom suggested that we look into who is partnering with Global Impact STEM academy. Andrew Aichele wants to be sure we are diverse in who takes part.

Partnership Updates

Mary Ellen Dobransky spoke about the upcoming STEM Committee meeting schedule. We need a location for the February meeting; we're trying to lift up schools that are doing really well and would like to involve all regions of the state.

Dr. Julia Simmerer pointed out that weather could be an issue in February.

Mary Ellen will look and see which schools are on the schedule for redesignation that could possibly host.

Public comments:

Michael Kahoe from the Governor's Office of Workforce Development attended the meeting today because William Ashburn, the new designee for the Director of Development, was out of town. Michael wanted to mention two programs for computer science in Ohio. The Computer Science Progress Program, which is part of the budget (when no opportunities are available in schools, they can work with private school teachers to earn credit). Hopefully this program will incentivize schools to offer more professional development and learning opportunities. The Teach Computer Science Program through the Department of Higher Education offers grants for teachers to earn certification in computer science. Dr. Krista Maxson added that the grant application is open now for this program.

Ellen Marrison of TIES (and a former STEM Committee member) wanted the Committee to know that the Appalachian STEM Collaborative is a TIES STEM Learning Ecosystem. She added that TIES is close to being able to announce emerging ecosystems that are coming up; the process was delayed a bit by the DEW transition. The new ecosystems are designed for regions where there are STEM deserts. Ecosystems are about partnerships and bringing partners together in their own regions. TIES works with OSLN and partners in school, industry, government, etc. to build up community. The group wants students to have connections to better jobs and STEM learning.

Christa Krohn of TIES added that one of the things they are able to do at TIES is support Appalachia beyond regions & states; for example, connecting Dan Leffingwell to leaders in Iowa and Alabama to multiply impact and bring ecosystems together to support each other (these states have similar demographics to Appalachian Ohio).

Sam Crews, director of the Akron Hub of OSLN, thanked the Committee for coming out today. He said that the fact that they made the trek out to Akron makes them feel supported.

Closing:

Dr. Tom Schwieterman closed by sharing his concerns that we're not doing enough at DEW to build staff around STEM. One of his goals is to do a little more outreach to legislators, etc. He is worried about stretching the current DEW team too thin; he is sensing that it's a lot of work for such a small team and is concerned about fatigue and overload. He said that it was important for the STEM Committee to prevent burnout scenarios.

Adjournment:

Motion to adjourn the STEM Committee meeting made by Dr. Tom Schwieterman, seconded by Andrew Aichele. All votes aye; none opposed. Motion approved.

Dr. Tom Schwieterman adjourned the meeting at 11:52 a.m.

The next STEM Committee Meeting will be held on Monday, February 12, 2024, at a location yet to be determined.
