MiSTEM Network

MiSTEM Advisory Council
2021 Annual Report

Required by Section 99s of Public Act 165 of 2020

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The MiSTEM Network was created to make science, technology, engineering and math (STEM) learning more equitable and accessible across the state while preparing more Michigan students for career success in our fast-changing economy. According to a recent report of long-term employment projections from the state's Bureau of Labor Market Information and Strategic Initiatives, Michigan will see over 16,000 job openings in STEM fields annually through 2028. Our work to build a talent pipeline is critical to the success of Michigan businesses, as well.

No one could have known how quickly change would be required in 2020 and how the coronavirus pandemic would exacerbate the educational inequities that already existed in education.

Even before the pandemic, the MiSTEM Network was working with administrators, educators and communities across Michigan to address inequities. COVID-19, without a doubt, has made this work more urgent and has challenged the Network to rise and showcase its unique convening power to help provide solutions.

In 2020, the MiSTEM Advisory Council was able to quickly pivot to administer grant funds improving access to STEM programs and delivering quality education in virtual formats. Moving forward in 2021-22, priorities will include finding new and better ways for addressing inequities; supporting schools, educators and students in COVID-19 recovery; elevating the need for computer science education; and helping to deliver high-quality learning opportunities.

Persisting during this pandemic required tremendous resilience among school administrators, teachers, students, families and communities. The crisis also showed how critical the entire ecosystem is to our future success. We are proud to be part of this growing ecosystem.

There is no question that we've driven progress as we've faced COVID-19 head-on. And there is significant work to be done. This report highlights some of the regional and statewide efforts that will continue to lead Michigan's STEM learning into 2022.

We are committed to accelerating STEM equity, broadening the STEM ecosystem and providing quality STEM experiences to every community in Michigan.

Sincerely,

Kerry Ebersole Singh
MiSTEM Advisory Council Chair
Director and Senior Advisor, Office of Sixty by 30,
Michigan Department of Labor and Economic Opportunity

About Us

MiSTEM Advisory Council

The MiSTEM Advisory Council is charged with setting a strategic vision for STEM in Michigan, and moving that vision to action through the MiSTEM Network. The Council consists of education, business and community leaders with the knowledge, experience and commitment to make quality, equitable STEM experiences the responsibility of our communities – and not solely our schools.

In 2016, the Council created a statewide vision for Michigan to be the world leader in innovation, talent and technology with four pillars of focus (Appendix A):

Creating a STEM Culture

Empowering STEM Teachers

Integrating Business and Education

Ensuring High-Quality STEM Experiences

Specifically, the Council is tasked with the following:

1. **Advance** a statewide strategy for delivering STEM education opportunities to all communities in Michigan
2. **Reinforce** local and regional efforts through grant programs to address inequities and strengthen the STEM ecosystem
3. **Activate** and **support** the MiSTEM Network to improve and promote innovation and collaboration in STEM education
4. **Partner** with the MiSTEM Network executive director to implement the statewide STEM strategy

Advisory Council Members

The MiSTEM Advisory Council was created in 2015 under MCL 388.1699s, and organized under the Department of Labor and Economic Opportunity per Executive Order No. 2019-13. The Council is made up of 11 voting members serving at the pleasure of the governor and four ex-officio legislators appointed from the House of Representatives and Senate.

Adam F. Zemke, Ypsilanti
President, Launch Michigan

Christian A. Velasquez, Midland
Director, Impact Analytical Inc.

Daniel Williams, Ph.D., Grand Rapids, Vice Chair
President and Chief Executive Officer, Steelcase Foundation

Gail S. Alpert, West Bloomfield
President, FIRST in Michigan

Jacqueline Huntoon, Ph.D., Houghton
Provost, Senior Vice President,
Professor of Geology, Michigan Technological University

Lee Graham, Holly
Executive Director, Operating Engineers 324 LMEC

Mary K. Bacon, Ph.D., Paris
Adjunct Professor, Ferris State University

Kerry Ebersole Singh, Chair
Director and Senior Advisor, Office of Sixty by 30, Michigan Department of Labor and Economic Opportunity

Sheila Alles, Northville
Chief Deputy Superintendent, Department of Education

Wendy A. Winston, Grand Rapids
Educator, Grand Rapids Public Schools

Vacancy

Sen. Dayna Polehanki
Sen. Dale Zorn
Rep. Padma Kuppa
Rep. Brad Paquette

MiSTEM Mission & Vision

The MiSTEM Network – which unites education, business and community partners across the state – is creating pathways for all students to consider and pursue high-wage, high-demand careers.

Established by the MiSTEM Advisory Council, the MiSTEM Network was created to make STEM learning more accessible across the state, and position more Michigan students for career success in our rapidly changing economy.

Through 16 regional hubs, we encourage learning experiences beyond the physical classroom. With innovative problem-, place- and project-based (3P) learning, students take part in real-world activities that are relevant to their lives, communities and career development.

Together, the MiSTEM Advisory Council and MiSTEM Network have set forth a guiding mission and vision, clearly defining our unique place in the Michigan STEM ecosystem and our collaborative purpose.

OUR VISION

Michigan is home to a generation of innovators who create more inclusive and prosperous businesses and communities.

OUR MISSION

Be the catalyst for equitable access and engagement in authentic STEM experiences in every community in Michigan.

Celebrating Progress

The pandemic certainly put our mission to the test – an immediate charge for the MiSTEM Network to serve as a catalyst for equitable access and engagement in authentic STEM experiences in every community in Michigan.

The MiSTEM Network helped schools and educators navigate urgent and emergent challenges through the ongoing coronavirus pandemic, provide access to innovative learning experiences beyond the classroom, and guide best practices to replicate and scale programs for other communities (full report in Appendix B).

Each of these challenges was implemented with equity at the forefront, addressing disparities throughout the system – through professional learning for MiSTEM staff and educators, learning investments for high-need demographics and underserved populations, and equity-focused strategies for developing and implementing curricula.

Navigating Education During COVID-19

Schools across Michigan tackled unprecedented challenges – having to manage not only education shifts, but mental health and trauma, as well. Rather than having individual schools or teachers address all of these issues, the MiSTEM Network collaborated with the Advisory Council Grant Consortia STEM leaders to provide access to resources for pre-K to 12 students, families, teachers and professional learning facilitators as they navigated educating during COVID-19. These resources include:

- **Cereal City Science:** New online curriculum created and training offered to teachers at no cost
- **Code.org:** Materials to support Code.org lessons for virtual and socially distanced classrooms, including class/unit/lesson modifications generated and curated by Code.org instructors and advocates
- **Great Lakes Stewardship Initiative:** Three pandemic-proof, project-based challenges for use in regions served by GLSI hubs
- **Math Recovery:** Free resources for both parents and educators to support pre-K to 5 learning at home, including links to activities, games, websites and videos
- **MI-STAR:** Created remote learning lessons and resources for students at home and initiated an online professional learning program for educators

- **Modeling in Michigan:** New instructional approaches for online learning in science that ensure engaging higher-level student thinking
- **NGSX:** Designed concept to support Michigan teachers/facilitators and created a virtual pathway to train teachers how to facilitate in a virtual setting
- **Phenomenal Science:** Sample lessons, customizable digital student notebooks and resources that facilitate greater student and teacher access and instruction

Learning Beyond the Classroom

We also mobilized the MiSTEM Network to encourage learning experiences beyond the physical classroom. Through our 16 regional hubs, we brought people and practice together to implement innovative problem-, place- and project-based (3P) learning opportunities for students to take part in real-world activities that were relevant to their lives, communities and career development. The pandemic certainly presented challenges, though there were many creative solutions and virtual strategies that will both support and inform future experiences. A sampling of these efforts included:

- **EMU Geospatial Talent Tech Consortium:** This consortium brings together representatives from business, industry, higher education, K-12 schools, ISD/RESA and MichiganWorks!. The group is focused on incorporating geospatial technology, such as geographic information systems (GIS), into high school instruction and provides:
    - Professional learning for teachers to prepare them to teach GIS courses at their schools
    - Opportunities for students to learn through GIS experiences
    - Access to workforce development organizations, local chambers and local MichiganWorks! agencies to help with career planning and connections to internship opportunities
- **Michigan Air and Space Virtual Space Camp:** This weeklong Zoom space camp helped Michigan students in grades 3-12 learn about living on Mars, drone racing, astronaut training and more. It provided kits with everything they needed to build, engineer and problem-solve right from home. Space-related teacher professional learning helped integrate in-school and out-of-school learning. The camp focused on serving underrepresented students.
- **3P in a Virtual Environment:** Educators were recruited to form a learning community in which teachers were introduced to ideas for implementing more effective online activities consistent with 3P. The group was encouraged to try out strategies, provide feedback, discuss, problem-solve and collaborate to improve virtual 3P efforts.

Bringing STEM to Life in Other Communities

These efforts have inspired the development of "STEM Playbooks" to provide a road map for school districts that want to provide innovative learning experiences that encourage students to participate in real-world activities that are relevant to their lives, communities and career development.

The playbooks provide implementation tools, resources and real-world case studies that bring STEM to life with topics such as:

- **How to get started in place-based education** – guidance for helping students across the K-12 spectrum take part in real-world activities that are connected to student achievement, academic outcomes, whole-child outcomes, career exploration and a school's curricular goals.
- **A vision for computer science in schools** – a road map to a district vision that addresses issues of urgency and equity. By incorporating computer science education, schools provide skills to equip students to navigate new and emerging innovations.
- **Youth-led participatory action research (YPAR)** – examples of projects that school districts can replicate that train youth to design and conduct research projects based on the questions and concerns they have about their schools or communities.

The playbook development process has been a co-constructed opportunity with higher education institutions and researchers that has gained national and international attention. Over the past year, opportunities such as the P-3 STEM Policy Academy facilitated by the Education Commission of the States has become available to us because of outside interest in our playbook development. This work continues to bring opportunities for impact in the global STEM education community.

Advancing Computer Science Education

Michigan views computer science (CS) education as a path to "develop foundational computer science skills to solve problems and be constructive citizens" (Michigan Department of Education, 2019).

In 2019-20, the MDE convened computer science education stakeholders who identified access to CS learning opportunities as critical to student success as well as meeting the increasingly higher demand for jobs in this viable industry.

During 2020-21, the MiSTEM Network collaborated with state agencies and multiple organizations to increase access to programming and elevate the need for CS education by:

- Funding support for CS professional learning and Code.org professional learning for K-12 education
- Providing workshops to help districts create a CS vision for K-12 education
- Managing the development of cybersecurity resources to be shared with school districts through the SecureMI initiative
- Launching the first annual CS Leadership Summit
- Developing tools and resources for district implementation

This is just the beginning of what we expect to do as a collaborative team advocating for more robust computer science policies and programs that better prepare Michigan students.

Building on Best Practices With Nationwide Ecosystem

Finally, the **STEM Learning Ecosystem's Community of Practice** selected the MiSTEM Network to join its global movement of leaders devoted to ensuring that STEM education is a priority for all in their communities, with an emphasis on the equity envisioned to support a world-class STEM education.

The 89 communities selected from across the world have demonstrated cross-sector collaborations to deliver rigorous, effective pre-K to 16 instruction in STEM learning.

This nationwide ecosystem will continue to help the MiSTEM Network drive improvements in programming and collaboration to enhance learning experiences beyond the classroom.

Priorities: 2021-22

The very basis of STEM is about acquiring knowledge and skills through solving real-world problems. While COVID-19 disrupted education for an entire generation of young people, it also helped us build new skills and challenged us all to think differently about education.

As we look toward the future, there are many ways the MiSTEM Network can help restart, recover and reimagine prosperity for Michigan through STEM.

The MiSTEM Advisory Council has established three priorities that will move Michigan forward in 2021-22. We will:

1. **Strengthen the MiSTEM Network** to address disparities and inspire new, dynamic ways of learning in and out of the classroom.
2. **Contribute to the COVID-19** response, helping educators and students transition and reimagine diverse learning environments.
3. **Elevate the need for computer science** and provide access to programming, which will help an entire pipeline of students find achievement and success in high-demand, high-wage careers of tomorrow.

Priority 1: Strengthen the Network

The MiSTEM Network has built a strong foundation and infrastructure to engage partners across the state that are invested in students, STEM education and workforce development.

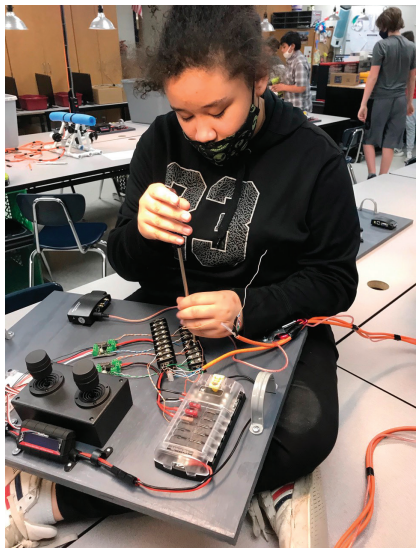
In 2020, the Council distributed $3.05 million in grant funds, increasing access to programs in robotics, engineering and bioscience, computer science and coding. The grant process ensured that all communities and students had access to funding for STEM education. Nearly 190,000 students and 4,000 teachers were impacted throughout this challenging year by these dedicated investments (full report in Appendix C).

In 2021, we will continue to strengthen this network of collaborators through our ongoing commitment to equity and equitable access to enhanced learning for all. This will include:

- **Addressing disparities across the system.** The 2020-21 year saw the beginning of a more focused effort toward building and measuring diversity, equity and inclusion progress in STEM. The MiSTEM Network will continue to

take steps to fund STEM education in all communities across the state to ensure that all students have access to high-quality learning. Specifically, we will:

- Gather data at the ISD/school level to understand needs and gaps to inform grant direction
- Focus grant investments toward audiences and geographic areas of highest need
- Increase diversity and build organizational capacity through educator training and professional learning
- Expand outreach to those underrepresented in STEM careers to expand inclusivity and a sense of belonging
- Compile and analyze data to understand MiSTEM impact on STEM interest, persistence and achievement among all populations
- Monitor annual progress toward growing equity and equitable access in STEM programming



- **Continuing the development of problem-, place- and project-based (3P) learning.** Never before has the importance of flexibility in meeting the changing needs of students and communities been more evident. In 2020, the world discovered that, with the power of technology, we are not limited by static learning models or confined by physical location. Educators were creative problem-solvers, leveraging online learning tools to supplement teaching – leaning into family and community resources to become partners in education. Since 2019, the MiSTEM Network has been the catalyst for the integration of schools, educators and community partners and the design of connected learning opportunities that bridge classroom to career. In 2021-22, the MiSTEM Network is uniquely positioned to help continue to move to more active and dynamic learning models that mirror the experiences students will have in the real-world work environment. Through the MiSTEM Council grants, we will advocate for more robust cross-disciplinary learning opportunities that deepen teacher and student STEM engagement through community collaboration. These programs have made a measurable impact on student literacy and can make a positive difference in the state's literacy achievement.

- **Inspiring learning through community partnerships.** Families, community partners, businesses and others contribute the rich contexts for problem-, place-

and project-based learning. And there are many models of already successful programs that naturally connect the out-of-school learning spaces to the formal education spaces that provide for cross-disciplinary exploration. The MiSTEM Network will continue to work with school districts and educators to design and expand learning models that intentionally connect classrooms to careers. We will provide professional learning opportunities to empower educators. We will work on the foundational playbooks to help communities create, implement and scale programs for their unique needs and capabilities. And we will inspire collaborative learning through community partnerships in every region of the state.

Priority 2: Contribute to the COVID-19 Response

As highlighted in our 2020 progress report, the MiSTEM Network has contributed significantly to the state's COVID-19 response. MiSTEM regional and state teams have been valuable partners in helping schools and educators transition to hybrid/virtual learning as well as adapting programs and services to continue connected learning outside the classroom.

While there is still much to learn from these experiences, the MiSTEM Network has begun to identify key components and actions that will guide future planning for both recovery and reimagining new systems of learning.

In 2021-22, we are committed to supporting schools, educators and students in COVID-19 recovery and in rethinking new models of instruction to continue progress in 3P learning. We will:

- **Allow grantees to be responsive while focusing on essential/resilient careers.** There is still uncertainty in the coming months as Michigan navigates the return to school. The MiSTEM Network will continue to work with grant recipients to be responsive to the education needs of their schools and communities. We have learned a lot, pulling together partners – using the power of our network – to help educators with new ways of teaching. We have also experienced firsthand how critical essential and resilient careers are to keeping Michigan moving – along with the jobs and training that will continue to move us through and past this pandemic. We will provide the space to allow our grantees to be nimble and adaptive to both the immediate needs of our community and the future needs of our state.

- **Collaborate, particularly through research-practice partnerships (RPPs), to provide tools to support diverse environments where students are learning.** The MiSTEM Network has developed valuable partnerships across the STEM ecosystem to design and study new models of learning – which was critical to our ability to adapt to the diverse environments where students were learning during COVID-19. Ideas and practices were shifted in each of the many spaces and ways that learning occurred – classrooms, out-of-school programs, designed informal settings, in everyday family activities and through community engagement. We recognize the need to capture what has been learned throughout the pandemic. The research-practice partnerships with our higher education institutions will allow us to formally capture emergent practices that have the potential to propel our students' success.

Priority 3: Elevate Computer Science

According to Michigan's Hot 50 job outlook through 2028, there are **5,000 annual projected job openings for computer science positions.** But there is a significant gap between new jobs and graduates. Sixty-seven percent of all new jobs in STEM are in computing while only 11% of STEM bachelor's degrees are in computer science. Furthermore, the research shows that students who take computer science are more likely to attend college. We have to do a better job of driving engagement in our increasingly technology-based society and preparing our future workforce for the high-demand jobs of tomorrow.

Michigan adopted computer science standards in May 2019. Despite having these standards, **only 37% of Michigan high schools offer computer science courses,** which ranks us 43rd in the nation for access. Districts have reported that their difficulties in implementing the computer science standards are due to **low teacher content expertise** and **limited resources** for focusing on making computer science a priority.

In 2021-22, the MiSTEM Advisory Council's priority is to ensure that:

- We work to elevate the necessity for 21st-century students and citizens to develop critical computational literacies found in our state's math, science and computer science standards.
- We have established supports and structures for educators to develop their capacities to deliver high-quality computer science experiences for all students, regardless of geographic location, gender, race or background.

To do this, the MiSTEM Advisory Council will continue to elevate computer science in Michigan by:

- **Awarding grant funds to support computer science.** Computer science is relatively new compared with other content areas, and districts are in need of resources, support and funding to implement the standards. It is vital that state leadership provides support for CS professional learning, CS community development and statewide collaboration to develop our next generation of talent.

  Our recommendation for the 2021 academic year is to:

  - Provide dedicated funding support for computer science professional learning through accomplished STEMworks programs (Code.org, Bootstrap, etc.).
  - Continue to provide funding support for other STEMworks programs with the encouragement of integrating computer science into their disciplines.
  - Provide funding for the creation, support and expansion of computer science community development through the Computer Science Professional Learning Network.

- **Collaborating with partners to systematically increase access to computer science.** As part of building up the structure of supports, school districts will receive funding to enact a computer science vision and plan. Through a partnership with the Michigan Department of Education, approximately 160 districts will develop a computer science vision and plan to implement the computer science standards annually.

  In 2021, the MiSTEM Network recommends the following actions:

  - Support SCRIPT workshop (Strategic CSforALL Planning Tool for School Districts), in collaboration with MDE, to provide districts with a computer science vision.
  - Contribute input toward a state strategic plan for statewide computer science implementation.
  - Develop local, state and national partnerships with education organizations, state agencies and businesses to support computer science implementation.
  - Co-develop, with MDE, computer science playbook chapters, tools and resources to support district implementation.

These actions will be critical first steps toward advancing computer science standards in Michigan and ensuring that all students have access to high-quality computer science experiences.

Our Commitment

COVID-19 is certain to have a lasting impact on our education system. The pandemic required a whole ecosystem to innovate in an incredibly short period of time. It forced schools to tackle disparities and adopt new modes of teaching. It motivated educators to seek out unconventional partners and resources, and it encouraged students and families to consider new methods of learning and creating spaces.

There are many insights we will take from this to inform and adapt best practices for the new realities. We will be well positioned to respond to shifting demands and we will continue to provide much-needed support to Michigan schools, educators, students, families and communities.

MiSTEM maintains its vision for Michigan as a home to innovators who create more inclusive and prosperous businesses and communities. In the short term, that means:

- **Supporting students** as they return full time to the classroom setting, so that learning is accelerated.
- **Empowering and rejuvenating educators** who have spent more than a year on the front lines of education upheaval. They deserve a committed network of support as they identify where their students and families are in their educational trajectories while developing new, creative ways to revise programming and fine-tune areas of need.

While contributing to the COVID-19 response, we have continued to progress toward our goals by mobilizing our committed networks of collaborators to provide real-world connections among school, the workplace and our communities. MiSTEM is dedicated to continuing efforts to move this important work forward through:

- **Investing in those populations with the greatest needs.** The pandemic widened existing disparities among marginalized student populations, especially the technology gap.
- **Connecting more students with opportunities** beyond the classroom to ensure that they are career- and college-ready.

However, collaboration is required for building a STEM ecosystem that's more inclusive and equitable.

If we are to meet the state goal of Sixty by 30 (a program designed to increase the number of working-age adults with a skill certificate or college degree from 49% today to 60% by 2030) and fill the projected shortage of qualified and skilled job seekers, Michigan must continue to transform the culture of STEM, creating sustainable pathways and high-wage, high-demand, high-skill careers for all.

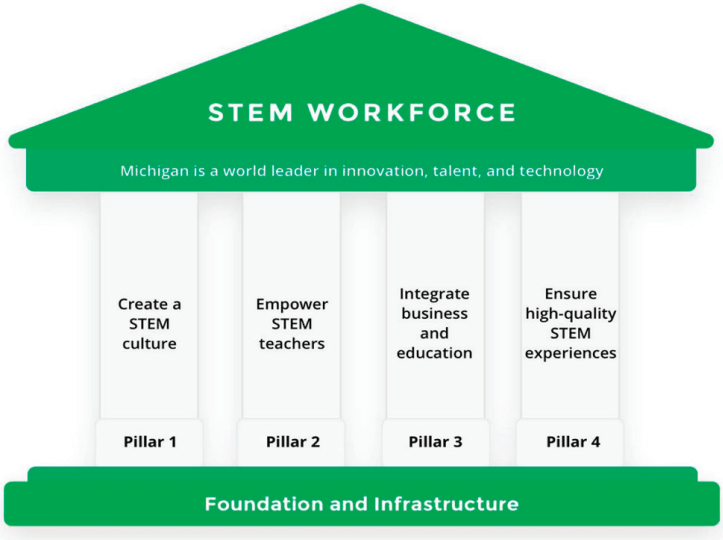
Through our collaborative efforts, the MiSTEM Advisory Council and network of partners will drive positive outcomes for all students in Michigan, for the state's future workforce, businesses and economy.

APPENDIX A:

2016 MiSTEM Network Strategic Vision

The MiSTEM Advisory Council envisions that every K-12 student in Michigan will have access and exposure to outstanding STEM programs in order to become STEM equipped. In order to do this, there must exist a cohesive approach to STEM in the state. The Council confirmed the need and priorities of the following four pillars to this approach:

1. Michigan must create a robust culture of STEM
2. The educator pipeline must be strengthened and empowered
3. Businesses and educators must be integrated
4. Michigan must ensure quality STEM experiences



MiSTEM Network 2020-21 Impact Report

The MiSTEM Network

The MiSTEM Network is working to transform the culture of STEM in Michigan – driving STEM infrastructure to prepare students for the evolving workforce.

Through 16 regional hubs across Michigan, the Network mobilizes collaborators to broaden the STEM ecosystem and embrace learning experiences beyond the physical classroom. We work to connect education, business and community partners so that every student can learn and use STEM skills to address authentic challenges in their communities.

Our vision is to be a home to a generation of innovators who create more inclusive and prosperous businesses and communities.

MiSTEM Pillars

2020-21 Impact Highlights

- Created learning opportunities through partnerships, development of 3P learning and contributing to a COVID response with additional grant funding.
- Deployed 106 events and advocacy resources to address disparities across the system.
- Completed Phase I of the 3P Playbook project with the release of three playbooks that provide implementation tools, resources and real-world case studies.
- Provided $100,000 in Playbook grants to 10 schools to encourage new and innovative approaches to STEM education using 3P learning.
- Worked to elevate computer science offerings with 46 events and activities statewide.
- Increase of 238 services reported compared with last year.

Playbooks Bring STEM To Life

PLACE-BASED EDUCATION PLAYBOOK

- This playbook was created to provide guidance and resources as schools consider "How do we get started in PBE?"
- Place-based education is rooted in the local community. Students across the K-12 spectrum take part in a variety of real-world activities that are connected to student achievement, academic outcomes, whole-child outcomes and a school's curricular goals.
- In the course of their studies, students have opportunities to develop a variety of desired social, learning and employment skills and abilities such as cooperation, teamwork, problem-solving, responsibility, communication and leadership.

A VISION FOR COMPUTER SCIENCE IN SCHOOLS

- This playbook provides a road map to a district vision for computer science.
- A district vision for computer science also addresses issues of urgency and equity regarding CS opportunities.
- By incorporating CS education, schools provide strong computer science skills that equip students to navigate new and emerging innovations.
- Provides alignment with Michigan's computer science standards.

YOUTH-LED PARTICIPATORY ACTION

- This playbook walks through the research on youth-led participatory action (YPAR) and shares examples that school districts can replicate.
- YPAR students engage in critical dialogue, reflection and research to develop plans to address these community issues.
- YPAR is important to students as they develop deeper and more meaningful connections with their communities. When students relate to their local contexts, they begin to view these environments differently.

Moving STEM Forward in Michigan

- Place equity at the forefront of all decisions, with a focus on data and regional needs to expand access.
- Drive greater collaborations with key businesses and community organizations to increase STEM learning opportunities and funding.
- Build STEM awareness and connect STEM learning to career pathways.

MiSTEM Network

2021 Advisory Council Grant Report

Supporting Opportunities for Every Student in Michigan to Engage in STEM Programming

$3.05 MILLION GRANT FUNDS DISTRIBUTED OUT OF MORE THAN $7M IN TOTAL GRANT FUNDING

Reach of the MiSTEM Advisory Council Grant Programs in FY20

The MiSTEM Advisory Council funded 15 STEMworks programs during the 2019-20 fiscal year. Of these programs, two planned to provide services to students only, seven planned to provide services to teachers and teacher educators, and six planned programming for both students and teachers.

Teacher Participation

Ten grants provided educator **professional development** programming.

1,613 Teacher Participants

592 Schools Served

Program Spotlight

The **TEN80 STEM League** program focused on educator **professional development, curriculum implementation** in classrooms or **after-school programs**.

273 Students Impacted

9 Schools Served

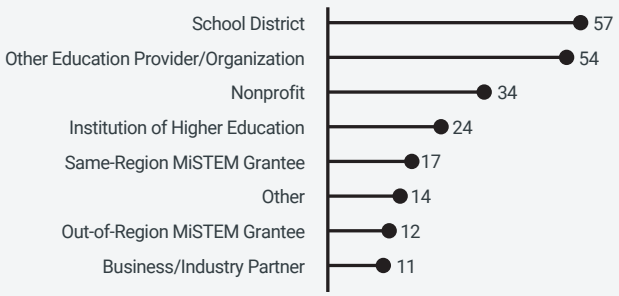
Outside Resources Obtained by Leveraging Council Grant Funds

The MiSTEM Advisory Council encourages its grantees to leverage funds received to obtain additional funding and to pursue collaborations with other organizations.

223 Total Collaborating Organizations

57 Total Funding Organizations

$1,470,139 Total Amount Received From Funding



COVID-19 Response

Schools were facing many challenges that required addressing.

- Quickly converting curriculums to virtual formats.
- Lack of provisional support for teachers to rapidly start using technology required for virtual classroom environments.

Rather than having individual teachers address those challenges, state funds were used to support all schools that have participated in grant-supported programs over the years.

616 Educational products and resources developed and distributed

167 Workshops and training to deliver remote and hybrid instructional formats

17 Teacher professional development and collaborative forums

FY2021 Grant Funding by Program

ESTIMATED IMPACT

Students 189,855 **Teachers 3,857**

TOTAL FUNDS AWARDED*
PER LEGISLATED FOCUS CATEGORIES

Robotics $74,443

Engineering or Bioscience $1,323,396

Computer Science and Coding $1,100,238

Other $1,803,548

* Total reflects more than funds available – some programs meet more than one focus area

Code.org		X		
ASU Modeling Instruction		X	X	
Math Recovery				X
NGSX			X	X
Great Lakes Stewardship Initiative				X
Mi-STAR			X	X
Cereal City Science		X	X	
Camp Invention			X	
Engineering is Elementary			X	
Phenomenal Science		X	X	
Imagine Math				X
STEM Equity Pipeline	X	X	X	X
Ten80		X	X	