STEM2035

Evaluation Report by Chelsea BaileyShea, PhD
Owner + Principal Evaluator
Compass Evaluation + Consulting LLC

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A big thank you to all of the STEM2035 partners who helped to support this evaluation.

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Table of Contents

Introduction

17 Grants Awarded

About STEM2035

In 2018, the Ralph C. Wilson Jr. Foundation (RCWJF) awarded 17 grants to organizations providing out-of school (OST) STEM programming in Southeast Michigan (SEMI) and Western New York (WNY). The initiative was called STEM2035: Enhancing STEM Experiences to Inspire Youth (STEM2035).

The overarching goal was to support organizations in increasing the quality and creativity of out-of-school time programming, specifically, to inspire, connect, and prepare more 6th-12th graders (especially girls, black and Latino students, and economically disadvantaged students) to engage with and pursue science, technology, engineering and mathematics (STEM).

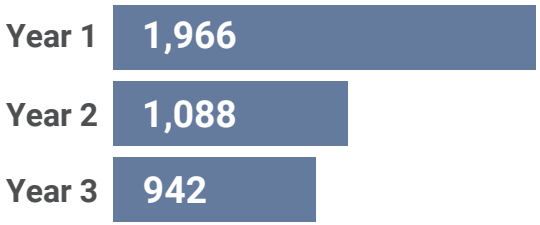
Each award up to $250,000 over 3 years

RCWJF was also interested in **learning about how to design cohort initiatives**. As part of the initiative, grantees would participate in ongoing in-person peer learning community (PLC) meetings (typically scheduled 3-4 times a year) and receive training (e.g., DoS certification), support and technical assistance from the PEAR Institute.

During Year 1, the cohort convened in the fall (2018) for an in-person kickoff retreat in Detroit (travel was required by the grantees). After that, for Years 2 and 3, they were scheduled to meet for three local, in-person meetings (SEMI grantees to convene in Detroit, WNY grantees to convene in Buffalo). Starting in March 2020 (Y2), due to the national shutdown from COVID-19, all remaining activities were moved to a virtual space and the SEMI and WNY grantees met together.

STEM2035 Timeline

Youth served by year: (3,966 total)



17 organizations participated

11 in Western NY (WNY)

6 in Southeast Michigan (SEMI)

Beginning in March 2020, additional resources were offered by PEAR to support the grantees as they worked to accommodate new programming challenges necessitated by the cessation of in person meetings with the youth they supported. This included: weekly cohort calls, virtual small group coaching, drop-in office hours, supplementary training, and ongoing check-ins and onboarding of new grantee staff to orient them to the initiative.

An additional $18,000 in funding

Towards the close of the third year of the grant, an additional $336,430 was distributed. The majority of grantees received an additional $18,000 in funding, as well were offered the opportunity to continue to engage in professional development with PEAR for a fourth year.

Overarching Questions

What did we learn about the differences in investing in organizations with varying levels of capacity to provide STEM afterschool programming?

a. Are we better off investing in individual leaders or organizations?
b. Are we better off investing in cohorts or individual programs/grantees?

What did we learn about how either of these grantmaking programs improved or impeded equity in accessing and engaging in STEM programs?

What impact did COVID-19 have on the delivery of STEM programs and how did that affect students of color?

Additional Questions

To what extent did STEM 2035:

- improve the support of under-represented youth (e.g., girls and youth of color) participating in STEM programs and pursuing STEM in post-secondary education and training, jobs, and careers?
- accelerate learning and collaboration among OST STEM providers in WNY and SEMI to drive better STEM outcomes for youth in those regions?
- support innovative ideas that better connect, inspire, and prepare 6th-12th graders for STEM in post-secondary education and training, jobs, and careers?
- improve and sustain program quality by integrating best practices to better support STEM learning experiences?

Supporting Data Sources

- PEAR survey dashboard data (i.e., DoS, CIS-S, CIS-E) from students and educators
- Ongoing discussions and interviews with STEM2035 leadership
- Grantee reports and annual programming data
- Select interviews and focus groups with grantees
- PLC survey data from grantees
- Work generated by grantees in preparation for PLCs and during participation
- Evaluator observations through PLC participation

What did we learn from using a cohort model?

STEM2035 Grantees:

had opportunities to learn best practices for OST STEM activities;

increased their knowledge of tools used to support the delivery of high-quality STEM programming;

had opportunities to explore and share innovative ideas in STEM programming;

accelerated their learning and collaboration with other participating STEM providers;

increased communication and built relationships across programs; and

learned from and collaborated with each other.

Data collected over the three years of the grant indicated valuable benefits resulting from the investment in cohorts to both program participants and the youth they serve.

Providing grantees with extended, ongoing support through the PLCs, coaching sessions, and check in meetings, facilitated new learning that individuals integrated into their programs to better support youth. In addition, the cohort model supported important relationship building and networking opportunities, provided dedicated time for knowledge and resource sharing, and offered emotional and moral support, which was particularly critical during the pandemic.

Data indicate that participation in STEM2035 accelerated learning and collaboration among participating organizations to support better STEM outcomes for youth in those regions;

Participants were exposed to and contributed to innovative ideas to connect, inspire, and prepare youth participants in STEM post-secondary education, as well as improved their program quality by utilizing resources and tools provided to them that integrate best practices in STEM learning.

Section 1: Lessons Learned from Investing in a Cohort Model

Peer Learning Communities

"[A highlight was] crying in front of the group filled with gratitude over all the shared experiences we've had and the continued connections we've built. Bringing the whole self to professional work has never felt as accepted as it does with this PLC and has shaped the way I want to show up in my work for the rest of my career."

-STEM2035 Grantee

The PLCs were valuable to grantees: they facilitated new learning, networking, knowledge and resource sharing opportunities, as well as emotional and moral support, which was particularly critical during the pandemic.

PLC activities provided grantees with new perspectives and strategies to improve their program delivery, including learning about new technology and communication strategies to further support their youth, as well as valuable community support, including ways to prioritize self-care for themselves and their staff.

Throughout the initiative, **PLC participants reported specific resources and strategies they planned to take back to their organizations** and share with colleagues. This included communication strategies, online resources, new activities, and ideas for curricular changes based on PLC workshops and their PEAR data.

"I always love the PLCs. Even after being involved for the past few years, it always still feels new and exciting. Tracy, Jamal, and Andrea (and everyone else) do a really great job making everyone feel welcome and included. There are a lot of wonderful people involved who have created such a mutually beneficial space for our organizations; it doesn't even matter that we are scattered across two states and now have gone virtual." -STEM2035 Grantee

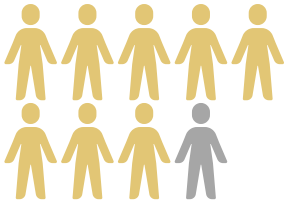
Year 3 Coaching Sessions

"[I really appreciated] the ability to talk through challenges with other providers [in the small-group coaching], working together to brainstorm solutions and share what has worked in the past and what hasn't depending on the situation."

-STEM2035 Grantee

In Year 3, beginning in December 2020 and ending June 2021, grantees were offered the opportunity to participate in five small-group coaching sessions with the PEAR consultants. Participants were not required to be individuals who regularly attended the STEM2035 PLCs. This support was not initially included in the grant offerings and was added to support organizations in managing challenges during the pandemic.

Survey data indicated that **respondents found high value in participating in the supplementary coaching sessions**. Similar to feedback they shared about the value of the PLCs, participants expressed their appreciation for the opportunity to connect with others in a setting in which they could share challenges and brainstorm and exchange ideas with other educator providers.



More than three quarters (83%) of respondents (n=9) provided an emphatic "yes" when asked if they would recommend coaching be included in future initiatives that have similar goals.

Challenges of the Cohort-model: Areas for Improvement

"[Having inconsistent participation complicated things], because [we are] trying to share ideas and it is almost like being back at square one [with people asking things like], what is DoS?"

-STEM2035 Participant

Evaluation data revealed a number of challenges of the cohort model that would be important to consider when designing future initiatives that used a similar framework.

In a cohort, having consistent participation of individuals is important.

Although the participation expectations for the organizations were communicated in documents and during the initial kick off meeting (i.e., consistent participation by individuals who had a direct connection to the implementation of the STEM proposals submitted), this was not carried through by a number of organizations.

Throughout the initiative, there was inconsistent participation by some organizations in STEM2035 activities. This intensified after March 2020, in large part due to staff turnover as a result of COVID-19.

For grantees who were consistently part of the program, inconsistent participation meant new people were frequently joining the initiative and this posed challenges to having their more advanced coaching/training needs met.

For grantees who were brand new to the cohort, inconsistent participation meant that they had missed out on all previous instruction in the program and were brand new to the STEM2035 initiative, in addition to being new to their organization. These individuals were playing catch up on all fronts.

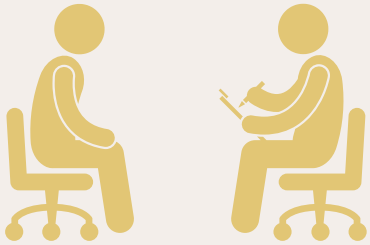
For facilitators, inconsistent participation of grantees, including frequent changes to who was attending the meetings from the organization (e.g., regular programming staff versus substitutes) and how long they had been a part of the program (e.g., 3 months or 3 years), **posed challenges to goal setting exercises and scheduling logistics.**

There were challenges to assessing how knowledge gained through the cohort programming transferred back to organizations

"It was hard to determine whether we wanted to bring everyone to the same point or move everyone closer to the point. I think we had to do this dance depending on the PLC, depending on the content, and depending on who showed up, because sometimes we would expect folks to show up and they wouldn't, and vice versa."

-STEM2035 Leadership Team Member

Although grantees provided feedback about what new learning they intended to take back to their organizations and share, there was limited, corroborated, information on what this process was and to what extent it was being adopted and implemented at the larger organizational level. In addition, there was large variation in the size of participating organizations. For some organizations, the people who attended the PLC represented the organization, whereas in others, they were part of a much larger system in which they perceived they had little power to create significant systemic change.



Interviews with select grantees revealed that **organizations themselves struggled with how to efficiently disseminate new learning** to people who remained employed, as well as before they left the organization. In addition, for some organizations, there were challenges associated with the person who wrote the proposal not being involved in the implementation of the organization's plan after it was funded, and those who were involved in the initiative not feeling they had the staffing level needed to enforce organizational changes.

Retention and inconsistency of grantees' staff posed a challenge to Dimensions of Success (DoS) onboarding and the certification process.

"If you're sending one person in to this training and you're building on this one person, this one person is then responsible to either passing off all this information well, and if they don't, you've just lost all that intellectual property and it walked out the door and the channel to which the next person could get to without having some sort of procedural in place doesn't happen because it just goes with that person."

-STEM2035 Grantee

Grantee organizations were offered the opportunity for a select number of staff to become certified as a DoS observer. The DoS observation tool examines twelve indicators of STEM program quality in out-of-school time. The observation tool includes detailed explanations of each dimension and a 4-level rubric defining a range of quality associated with the dimension. Conducting a DoS observation involves the certified individual visiting a program and taking detailed field-notes. Individuals then use the rubrics to assign ratings for each dimension that are backed up with evidence from the observation.

24 **Twenty-four individuals were fully DoS certified during the grant.**

2 Two additional people participated but did not complete certification.

6 Six of the certified people are no longer with their program.

4 Four organizations no longer have someone certified because the certified person is no longer employed there.

16 All organizations, except one, had at least one Dos certified person at some point during the grant period.

“There were programs who had never collected data, and there were other programs that felt like, "We're already doing so much data collection. You really seriously want us to do more?" There were those two extremes.”

-STEM2035 Leadership Team Member

Data collection instruments did not always align with grantees’ program design and structure.

Although PEAR has three versions of the student survey that can be administered (short, medium and long in length), for organizations that had limited time with their youth, there was a disconnect between survey implementation and barriers grantees faced due to their program design and structure, for example, implementing a 30-40 min survey in a 20-minute class.

Variation in baseline understanding of and capacity for data collection across cohort member organizations existed.

There was a large range of comfort with data collection in general, with some organizations having processes in place for collecting data prior to their participation, and others being new to the idea. This necessitated a balancing act at the trainings, as the PEAR facilitators worked to engage people with different levels of understanding, while not losing either because the content was either entirely new to them or something they understood well and spending time on it was not as valuable to them.

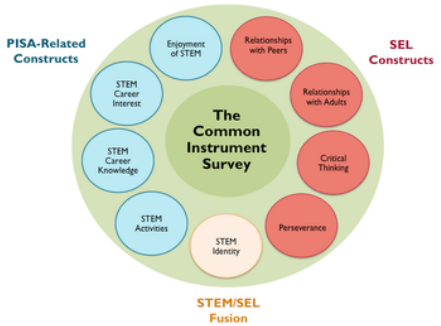
Section 2: Youth-Level Impact of Grant Program

Youth Overview (CIS-S)

The CIS-S includes a number of items that measure STEM-related attitudes and 21st-century skills.

Data Collection Details

- Grantees were invited to participate in nine rounds of youth data collection.
- The first round took place in the spring of 2019 and the final in summer 2021.
- More than half of the youth data was collected prior to the national shutdown due to the pandemic.



CIS-S Survey Details

STEM2035 youth participants were administered a survey that uses a retrospective self-change method. This method is administered once at the end of a program. Students are asked to think back to the beginning of the program and rate whether they do/feel things less or more because of the program. This survey is on a 5-pt Likert scale from *Much Less Now* to *Much More Now*.

Example: Thinking about how you feel TODAY compared to the BEGINNING of this program, please circle the number that matches how you feel about STEM.

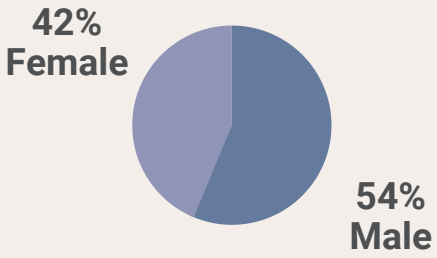
	Much less now	*Less*	*About the same*	*More*	*Much more now*
I get excited about STEM.	○	○	○	○	○

CIS-S data indicated positive trends in achieving the three desired short-term and intermediate outcomes for participating youth. Data indicated increases in: engagement in active learning experiences; interest in STEM activities, courses, and careers; and social-emotional learning through program activities.

Visit the PEAR website for more details about the CIS-S Survey.

Compared to national norm data, STEM2035 youth participants showed higher levels of positive change in all 10 of the STEM-related attitudes and 21st-century skills measured in the CIS-S.

Youth Survey Data (n=920)



All children were in grades 1 through 12.

40% were in the largest category (5-7th grades).

Age ranged from 5 to 19.

29% were in the largest category (ages 11 or 12).

What this means: when thinking about how they felt on the day they took the survey compared to the beginning of their participation in their individual programs, youth felt more positive about the specific STEM-related attitudes and 21st-century skills that were being measured.

Differences in STEM2035 youth participants and the national norm data

The greatest positive change differences between these groups were found in:

- perseverance
- STEM enjoyment
- relationships with adults, and
- STEM activities.

Looking at STEM2035 youth participant data only

Grantee programs had the **most positive impact** on students' STEM engagement, critical thinking, STEM enjoyment, perseverance and STEM career interest. STEM2035 youth reported the **least amount of growth** in STEM identity, STEM career knowledge, and participation in STEM activities.

Ways grantees used their PEAR data

Although data collection was inconsistent across the participating organizations, for those who engaged with the resource offered to them, grantees shared using their PEAR data to revise their curriculum and program priorities, to inform professional reflection and improvement for program staff, and to promote relationship building and/or dialogue about their program with key stakeholders.

STEM2035 Youth Participants Gained Important New Knowledge and Skills, and Showed Increases in Prosocial Behavior and Emotional Health.

New STEM Knowledge & Skills

Youth developed their ability to:

- comprehend and explain STEM knowledge to others (i.e., developed their STEM literacy (including numeracy) and public speaking skills);
- independently execute coding & other STEM activities (e.g., building a car, measurement, digital programming and design, gardening & small garden design, kite flying);
- engage with research and experiment with STEM knowledge and labs (e.g., sound engineering, kitchen science, 3D printing);
- retain and apply mathematics and scientific knowledge and principles to develop their own STEM projects; and
- problem-solve in STEM activities.

Gains in Prosocial Behavior & Emotional Health

Participating youth developed a greater:

- desire for volunteering and giving back to others in their community;
- interest in community building with their peers, such as through peer mentorship;
- interpersonal skills by relating to people of varied backgrounds through participating in programming activities, including leading activities within the broader community served by the organization;
- openness to collaborating with and learning from one another through teamwork; and
- confidence in self-expression and a capacity for self-awareness and self-care, including improved skills in labeling and expressing their emotions, through meditation, yoga, and other self-reflective activities.

Section 3: Program-Level Impact of Grant Program

Dimensions of Success (DoS)

Dimensions of Success (DoS) is a PEAR observation tool that measures the quality of students' STEM learning experiences in informal/out-of-school time (OST) settings. The DoS tool defines twelve evidence-based indicators, or dimensions, of quality.

The twelve DoS dimensions fall into four broad domains:

Features of Learning Environment
- Organization
- Materials
- Space Utilization

Activity Engagement
- Participation
- Purposeful Activities
- Engagement with STEM

STEM Knowledge & Practices
- STEM Content Learning
- Inquiry
- Reflection

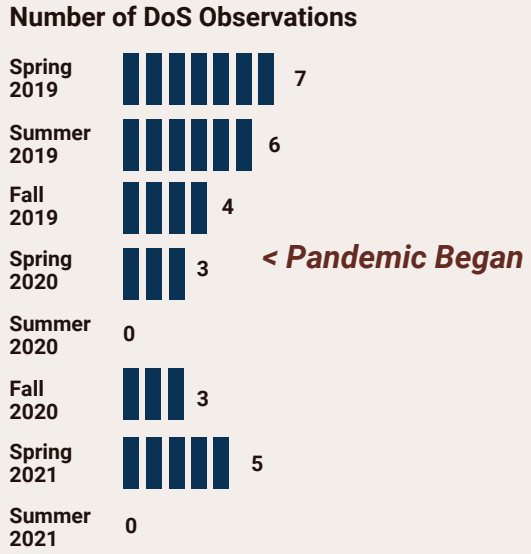
Youth Development in STEM
- Relationships
- Relevance
- Youth Voice

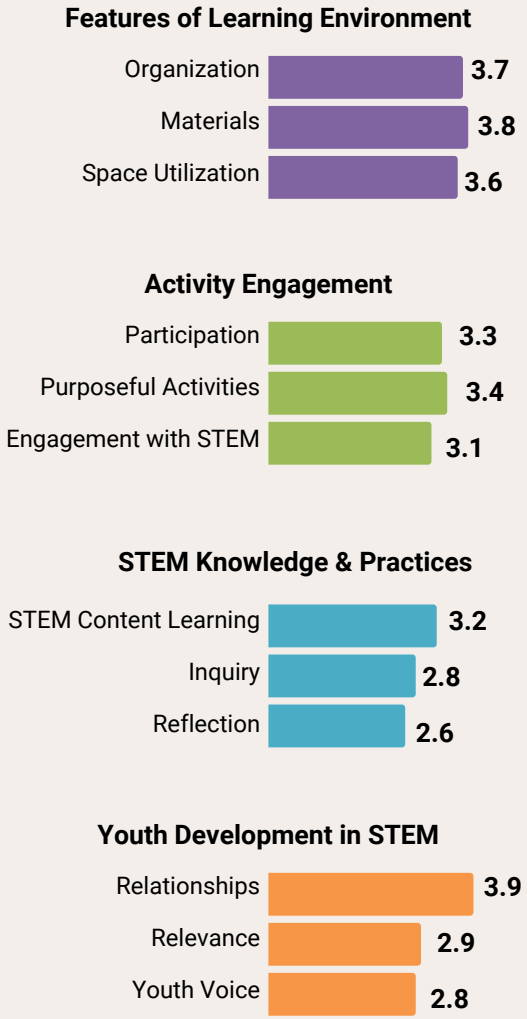
STEM2035 grantees were offered the opportunity to become certified DoS observers. Twenty-four individuals were fully DoS certified during the grant. All organizations, except one, had at least one Dos certified person at some point during the grant period.

Certified observers rate each dimension on a 4-point rubric. Ratings represent the strength of evidence for that dimension. A rating of 1 means evidence was absent, 2 means evidence was inconsistent, 3 means evidence was reasonable, and 4 means evidence was compelling. A rating of 3 or higher generally represents characteristics of high quality.

Over the course of the grant, 28 DoS observations were performed. The majority of these (n=20) were performed before the national shutdown was enacted due to the pandemic.

Observations were conducted for students in all grades (k-12), with the majority of observations being for programming offered to middle and high school students.





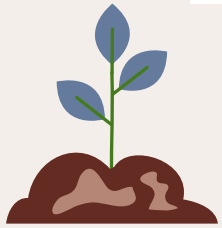
[Numbers to the right indicate the average STEM2035 DoS scores. A rating of 3 or higher generally represents characteristics of high quality.]

DoS data indicated improved program quality (e.g., the use of active learning activities, relevant and youth driven approaches, project-based learning, social-emotional learning principles)

Strengths: STEM2035 DoS Program Ratings (ratings 3.0 or higher)

- **Features of the Learning Environment** domain (organization, materials, and space utilization);
- **Activity Engagement domain** (participation, purposeful activities, and engagement with STEM);
- STEM content learning area found within the **STEM Knowledge and Practices** domain and relationships, found within the **Youth Development in STEM** domain.

Areas for Growth (ratings below 3.0)



- inquiry and reflection, found within the **STEM Knowledge and Practices** domain and
- relevance and youth voice found within the **STEM Knowledge and Practices** domain.

"After looking at our data we saw a disconnect between what we thought we were doing and what the youth reported. This led us to change our direction from career-first to activity-first conceptions for conversations."

-STEM2035 Grantee

Educator Overview (CIS-E)

24 Educators Completed the CIS-E

Four Main Areas Assessed on the CIS-E:

1. perceptions of educators' own STEM identities;
2. how comfortable, interested, confident, and capable educators felt leading STEM activities "one year ago" and "today;
3. the ease/difficulty with which educators use DoS-aligned teaching practices; and
4. the change educators perceived in their students' STEM confidence, STEM skills, and social skills.

Educator Attitudes Toward Teaching STEM Over Time

Data indicated increases in respondents' feelings of capableness, comfort and confidence leading STEM activities.

Ease of Using DoS-Aligned Practices

Respondents felt the greatest ease in using DoS-aligned teaching practices related to **activity engagement practices** and **youth development in STEM practices**.

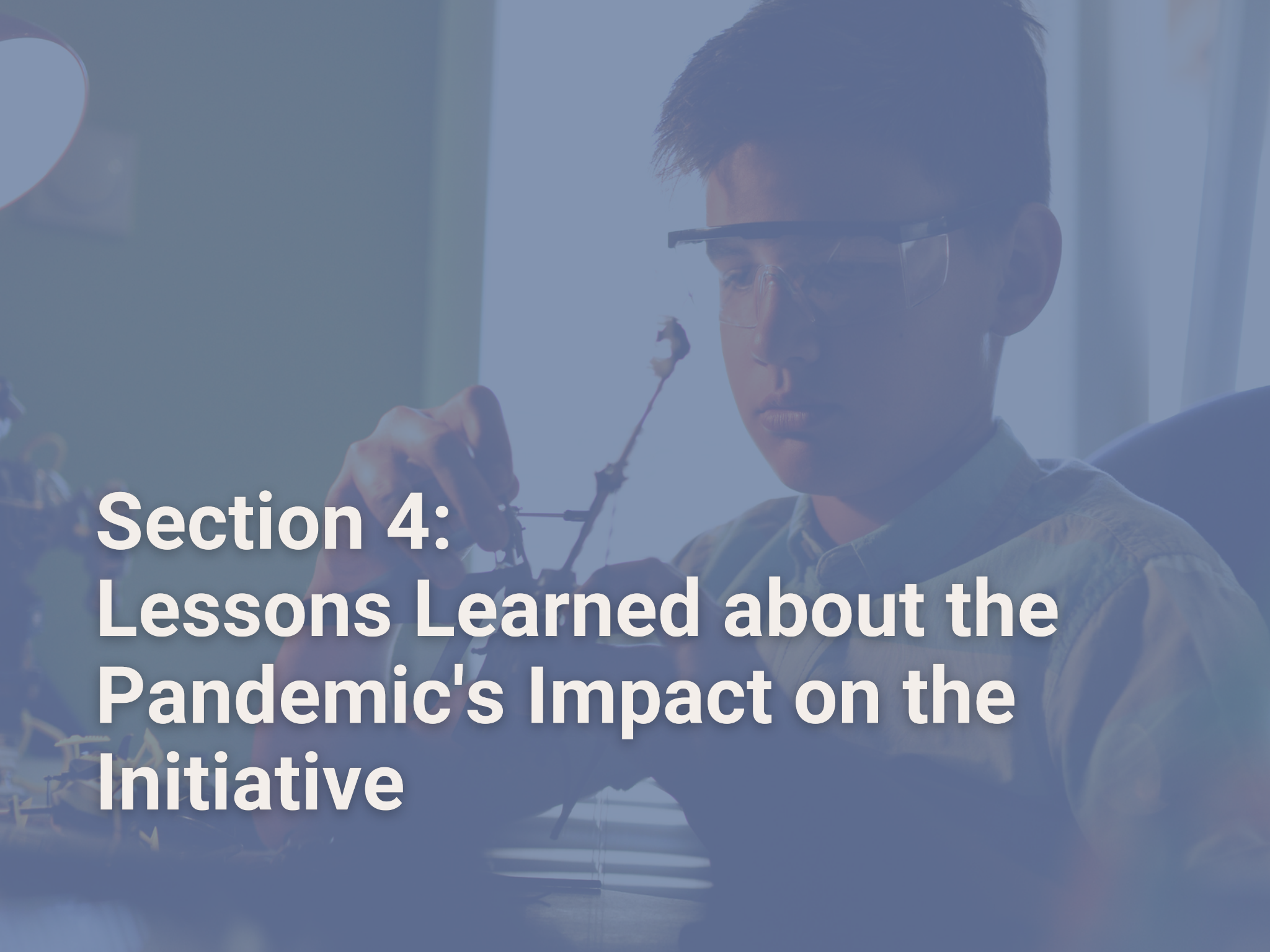
Specifically:

- choosing activities that allow for hands-on exploration of STEM content;
- supporting students to share their ideas and opinions; and
- helping students to connect STEM activities to the real world.

"Providing students opportunities to do work like real STEM professionals" was **rated the lowest on the very hard to very easy scale**.

Educators Perceived Positive Changes in Youth Participants Related to:

- confidence and skills with STEM subjects (science, technology, engineering, math and computer science);
- social skills;
- perseverance; and
- critical thinking.



Section 4: Lessons Learned about the Pandemic's Impact on the Initiative

"I agree that [COVID] has made us reflective. Focus on what we have done, not what we have not. I plan on using a number of strategies in the future...if I hadn't had the grant, I could have just canceled. This made me feel responsible. I think it pushed us."

-STEM2035 Grantee

"It would have been easy to say we'll just cancel our activities this year, and because of the grant [we] felt responsible."

-STEM2035 Grantee

The Shutdown

Beginning in March 2020, COVID-19 necessitated a transition to virtual programming for all remaining STEM2035 activities.

This resulted in considerable changes to grantees' program curriculum and manner of delivery, as well as intensified programs' staffing turnover, as many organizations struggled to adjust and stay open.

The Silver Linings of the Shutdown

There were a number of unanticipated positive outcomes from the shutdown that grantees shared. This included:

More **opportunities to focus on "youth voice and autonomy"** and "individualized instruction" which has "benefited students;"

Programs were pushed to be creative (i.e., providing youth with home science kits to be used over Zoom lessons, trying out new activities, the ability for more youth to participate given that spacing was no longer an issue, having youth use materials found around the house for exploration);

Online programming allowed a number of programs to expand their reach, as they no longer needed to worry about issues such as space restrictions or transportation. For one grantee, this meant they were able "to include more families from a larger geographic area;" and

Opportunities for programs to reflect and redirect aspects of their programming.

PLCs were helpful for sharing knowledge and resources for educational programming during the ongoing pandemic.

"Just hearing/ knowing that I am not alone in these daily struggles is very comforting. Also, I have learned to be more focused on purposeful activities through suggestions from the cohort."

-STEM2035 Grantee

"I will never forget when I started [teaching after the shutdown], and my first class was very difficult and I came to a cohort crying. I then had an entire table of support and suggestions to get me to the next class. I still think of those questions on a daily basis when I am teaching."

-STEM2035 Grantee

The professional development offered by PEAR generated camaraderie and provided emotional support to cohort members by offering them a place where they could share COVID-19 related concerns and anxieties, as well as creative ways to move forward as they adapted to new realities.

Grantees shared thinking more creatively. In addition, individuals shared that **participating in the initiative was helpful for holding organizations accountable** to continuing their out of school time activities during the shutdown.

Specific program and curricular changes organizations made during the shutdown:

- creating touring videos for youth who had moved to various parts of the country as a result of the pandemic;
- including more time for youth voice and reflection;
- creating and providing at home activities kits that they dropped off at schools for students to pick up;
- making sleds;
- developing a virtual versus in-person camp experience and creating online techniques;
- doing models instead of real object activities; and
- offering new curricular content inclusive of information and classes with a "COVID spin."

Negative impact due to COVID-19

COVID-19 and the ensuing national shutdown impacted the participating organizations and STEM2035 in a number of important ways previously discussed in this document. For the initiative, as mentioned earlier, it meant a reduction in data collection across organizations and increased inconsistency in who attended the PLCs.

Program Assessment: Challenges to Data Collection & Utilization

When the initiative moved online, data collection became optional to accommodate the reality that most programs were functioning minimally in relation to their usual programming. This meant that the PEAR data collection that was meant to help organizations understand and improve their impact was greatly reduced.

"[Data] is where I feel like COVID was a problem. We didn't have a lot of data. Some programs had no data for some [of their] sessions. Other programs had very little data. That's also the thing. If you've got 30 kids in your program, but you only ended up testing four, is that that valuable? I do think we would have pushed more heavily around the data piece had COVID not happened."

-STEM2035 Team Leadership Member

Over the three years of the initiative, 920 youth were surveyed. More than half of these youth were surveyed in the first year. In addition, there were five programs that collected no DoS observations, despite four of them having someone DoS certified. Another five programs only did one DoS observation.

The reduction of youth data collected overall impacted the ability of some organizations to use their own data to drive program changes, as well as the ability of the evaluation to make reasonable comparisons about youth participation increases from Years 1 to 3.

Conclusion: Key Takeaways & Actionable Recommendations

Cohorts v. Individual Programs

For the first year of STEM2035, another initiative called STEM19 was also funded. When reviewing the grant applications for STEM2035, RCWJF staff identified organizations that had creative and interesting proposals, but not necessarily the current infrastructure or design to meet STEM2035 requirements.

The STEM19 initiative offered smaller, one-year grants to these organizations (n=18). STEM19 grantees were given between $50,000 to $100,000 total over 12 months, virtual technical assistance from PEAR, an overview of PEAR's capacity building tools, and asked to participate in data collection.

STEM19 grantees did not participate in ongoing PLCs. STEM19 funding ran from January 2019 to January 2020.

Investing in Cohorts (STEM2035) Versus Individual Programs (STEM19)

Data used to examine both models indicated participating organizations benefited from the Foundation's support and used the opportunity to strengthen the quality of their STEM programming and improve their capacity to serve traditionally underrepresented youth.

However, data suggest that investing in the cohort model provided organizations with a stronger basis for program change and long term sustainability, through the development of relationships with other participants and the acquisition of new learning that they were able to implement and refine over the three years of the initiative.

While there are areas of improvement to consider for implementation of future cohort-based initiatives, available data presented in this report indicate that **it is valuable for the Foundation to consider funding future initiatives that use the cohort model approach.**

For Future Consideration

Data collected across the three years of the initiative provide insight into how the Foundation can develop models of collaboration and support for cohorts of nonprofit organizations. Actionable recommendations and areas for consideration when designing future similar cohort style initiatives are provided in the following pages.

Areas for Consideration

Include More Accountability Mechanisms

- Continue the implementation of PLCs and group coaching sessions;
- Establish expectations for consistent attendance, with accountability mechanisms attached for organizational non compliance, when appropriate;
- Consider using a digital process for onboarding new or returning cohort members that does not require material to be consistently repeated at group meetings, or the facilitators to repeatedly offer the same trainings.

Accountability mechanisms could include requiring the completion of specified onboarding training for cohort members who join after the kick off meeting.

To facilitate ongoing onboarding training, it could be valuable to think about delivering training through pre-recorded material (e.g., online video/s) that could be accessed by participants through the initiative's dashboard at any time. As part of complying with grant's norms and expectations, participants would need to complete the onboarding training prior to their attendance at their first PLCs/coaching session.

Data Collection

- Support ongoing data collection and utilization through accountability mechanisms to ensure programs are consistently collecting data; and
- Consider splitting cohorts into peer learning groups based on their familiarity/experience with data (e.g., no experience, some experience, extensive experience) and provide related training materials on how to grow their capacity for data collection and utilization.

Build a Cohort of Organizations with Similar Capacities and Programming Offered

- Consider building a cohort of organizations with similar levels of capacity for data collection and utilization so that the training can be more easily streamlined to support organizations with similar needs;
- When selecting organizations, consider the types of programming the participants offer, including length of time and frequency they meet with their youth. This is important to think about when selecting data collection instruments and administration methods (e.g., paper or online), to ensure alignment with grantees' program design and structure, and reduce burdens on the participants' time that take away from direct programming to youth.

Build in Mechanisms for Knowledge Dissemination

- Create mechanisms within the cohort to understand and monitor how PLC participants are sharing what they learned in the workshops and trainings with others in their organization.

Interview data with select **grantees suggest that participants would appreciate requiring some form of an educational presentation to their organization and other grantees about the knowledge gained** in PLCs/coaching sessions and from their program's participation in the initiative more broadly.

Including a final showcase event dedicated to grantees presenting the highlights of their participation to the cohort and their organization's leadership would be a way for grantees to pull together their achievements and disseminate successes, both at the initiative level, and as part of the long-term goal of developing evidence of quality STEM programming to share with the field.

Design a More User-Friendly Dashboard

- Continue to provide a site where all material is housed (e.g., PLC slides, training videos, contact information, handouts, etc.) and consider upgrading the site from a Google Drive to a more sophisticated, though simple, platform to encourage participant use and ongoing reference.

Appendices

STEM2035: Funded Organizations and Regions

Organization	Region	County	City
Buffalo Maritime Center	WNY	Erie	Buffalo
Buffalo Museum of Science, Tiff Nature Preserve	WNY	Erie	Buffalo
Herschell Carrousel Factory Museum STEM2035	WNY	Niagara	North Tonawanda
YMCA of Greater Rochester	WNY	Monroe	Rochester
Dream It. Do It. WNY (DIDI)	WNY	Chautauqua, Cattaraugus	Jamestown
Portville	WNY	Cattaraugus	Portville
MISSION: IGNITE Powered by Computers for Children	WNY	Erie	Buffalo
Westminster Economic Development Initiative (WEDI Education)	WNY	Erie	Buffalo
Wellsville Secondary School	WNY	Allegany	Wellsville
Challenger Learning Center of Lockport	WNY	Niagara	Lockport
STORY Cornell Cooperative Ext of Wyoming	WNY	Wyoming, Allegany, Chautauqua, Orleans	Warsaw
Detroit Hispanic Development Corp	SEMI	Wayne	Detroit
The Baldwin Center	SEMI	Oakland	Pontiac
Leslie Science & Nature Center	SEMI	Washtenaw	Ann Arbor
Youth Energy Squad (EcoWorks Solution)	SEMI	Wayne	Detroit
Downtown Boxing Gym Youth Program	SEMI	Wayne	Detroit
Michigan Science Center (MiSci)	SEMI	Wayne	Detroit

STEM2035 Grantees' Program Descriptions

Organization	Program Description
Detroit Hispanic Development Corporation	Detroit Hispanic Development Corporation will expand its FIRST Robotics program to include middle schoolers and provide year-round programming.
Downtown Boxing Gym	The Downtown Boxing Gym will continue to build out its STEAM Lab where youth will have structured programs and unstructured exploration time to learn about fabrication, electronics, robotics, coding, web design, and woodworking.
Leslie Science & Nature Center	The Leslie Nature Center will expand its middle school summer camps and make their programming more accessible scholarships and a partnership with the Bryant Community Center.
Michigan Science Center	The Michigan Science Center will grow its STEMinista Project in partnership with several community-based nonprofits.
The Baldwin Center	The Baldwin Center will expand its afterschool programs in partnership with GM engineers and nonprofit partner Camp Fire.
EcoWorks Solution	EcoWorks will deepen its middle and high school program that connects students with community-based, environmentally focused issues and projects.
Buffalo Maritime Center	The Buffalo Maritime Center will continue to reach more youth with its unique boat building curriculum and formalize the mentor manual to improve consistency and make growing the program even more efficient.
Buffalo Museum of Science	The Buffalo Museum of Science will relaunch its Teen STEM Initiative to engage teens and expose them to STEM careers and develop professional skills.
Challenger Learning Center of Lockport	The Challenge Learning Center in Lockport has partnered with Youth Mentoring Services and seven other nonprofit agencies that have afterschool programming to offer coordinated STEM programming based on a research-based program, Techbridge.
DIDI WNY Manufacturers Association of the Southern Tier	Dream It Do It will develop a model for afterschool STEM clubs where youth explore 3D printing, robotics, coding, and other STEM concepts and are exposed to STEM training and careers.

STEM2035 Grantees' Program Descriptions

Organization	Program Description
Herschell Carrousel Factory Museum	The Herschell Carrousel Factory Museum will expand its afterschool and weekend programming, growing its partnership with Say Yes in Buffalo and building new relationships with the North Tonawanda Youth Center and the Boys and Girls Club of the Northtowns. Programming will take advantage of access to the carrousel to teach physics concepts and mechanical music boxes to teach the basic principles of coding.
Portville Central School	Portville Schools will build out programming in its Envisioneering Center makerspace by coordinating community volunteers that can work with students afterschool.
Mission:Ignite	Mission:Ignite will start the STEM Nexus program, a virtual and in-person curriculum that will introduce youth to STEM careers, professionals, and learning experiences.
Cornell Cooperative Extension of Wyoming County	The Cornell Cooperative Extension will create four community-based STEM clubs for middle and high schoolers in which youth will explore agricultural and environmental topics.
Westminster Economic Development Initiative	WEDI will expand its middle school programming and start a high school program for immigrant youth in partnership with Mission:Ignite, the Foundry, Buffalo String Works and GObike.
YMCA of Greater Rochester	The YMCA of Greater Rochester will launch STEMestry Learning Labs which will be physical locations designed by youth and be a dedicated space for all of the Y's STEM programming.
Wellsville Central School District	The Wellsville Schools will expand their STEM afterschool programming to include FIRST Lego and Robotic, a Girls in STEM club, makers club, and agriculture.

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STEM2035 Calendars of Events

Y1 Calendar of Events	
October 2018	STEM2035 Kick off Meeting in Detroit
December 2018	DoS Overview (virtual)
January 2019	Regional PLC (SEMI and WNY)
	Spring data collection opens
April 2019	Regional PLC (SEMI and WNY)
June 2019	Regional PLC (SEMI and WNY)
July 2019	Summer data collection opens

Year 2 Calendar of Events	
September 2019	DoS Program Planning Tool Training for staff (2 offered)
	Fall data collection opens
October 2019	PLC in Buffalo
November 2019	Webinar PLC
January 2020	Fall data collection deadline
	Spring data collection opens
	Updated data dashboards shared
March 2020 (national shutdown begins)	Virtual PLC
June 2020	Spring data collection deadline
July 2020	Updated data dashboards shared
	Spring data debrief webinar
	Summer data collection opens
August 2020	Summer data collection deadline
	Fall data collection opens

STEM2035 Calendars of Events Continued

Year 3 Calendar of Events + Goals: keeping youth at the center; creativity; cooperation; listen to youth; getting out of our comfort zones; transparency and honesty in communication; sharing; flexibility; willingness to stay nimble; resources; collaboration; outward positivity; we can't be jerks about being flexible; care for our bodies both physically and mentally; it's okay to say "no"; some tasks aren't group worthy and some are; being open and unafraid to ask for help; stay encouraged	
September 2020	Fall data collection opens
	Summer data debrief webinar
October 2020	Virtual PLC
November 2020	Small group coaching sessions
January 2021	Fall data collection deadline
	Spring data collection opens
	Virtual PLC
February 2021	Small group coaching sessions
March 2021	Virtual PLC
April 2021	Small group coaching sessions
May 2021	Virtual PLC
June 2021	Small group coaching sessions
	Spring data collection deadline
July 2021	Summer data collection opens
	Updated data dashboards shared
	Spring data debrief webinar
September 2021	Summer data collection deadline
	Updated data dashboards shared
October 2021	Final Virtual PLC

Grantee' Reported Accomplishments Relative to STEM2035

Student Retention

- Retaining over 90% of our youth from the start of Spring 2020 through Summer 2020 and the shift to virtual. Youth continued to participate in meetings which morphed into sounding boards for pandemic concerns, social justice concerns, and general pop culture discussions while still paying them their stipends to assist with household finances.

Youth Accomplishments

- So many accomplishments this year. Sending two members off to college, the almost immediate switch to online programming at the start of the pandemic, bringing new members into the program during the pandemic. Hearing from our students how thankful they are to have had a space during this time to talk about their frustrations with our world, government and pandemic life.

Curriculum Development

- Designing (both graphically and code) video interactive panels for the museum space and finally bringing STEM Stops to fruition!

- Did Zoom cooking sessions with youth. Each family had to teach a cooking lesson.

  Clarification of STEM as a focus and priority for our programs.

Supporting Youth and Remaining Open During the Pandemic

- My biggest accomplishment in the last 12 months was continuing programming. Reaching over 100 youth in person and virtual. Offering them exciting and fun STEM programming.

- We were able to send home STEAM kits during quarantine and have our students participate in STEAM from home.

- Having a core group of students stick [with our program] since before the pandemic and using our STEM 2035 teams schoolyear teams to diversify our summer program.

- Offsetting/scholarship kits and programs last summer for kids in SE Michigan, so they could have some level of "camp" even during such a disrupted time.

- Last summer, despite the pandemic and a much reduced team, we were able to still serve many families with our camp-at-home program. SB (AAHOM/LSNC)

Grantee' Reported Accomplishments Relative to STEM2035

Systemic Change

- Convincing people in power that STEM belongs within the whole museum and not just in programming. Also moving conversations forward involving DEI.
- Segueing to new staff as people leave positions, without too much chaos.
- Getting a firm grasp on what our program reboot is going to look like and working towards providing a beautiful, engaging space for our students.

Creating Community

- Supporting other STEM 2035 orgs with ideas and one with tech to continue their programs.
- Working closer with the STEMinista Project and combining efforts for summer camp programming.

Expanding their Reach

- Starting up a new center in the heart of where the most need is. Opening the door more families to come in that we would have otherwise never reached.
- Managing to expand, not just continue, programming during a pandemic, with all of the restrictions, was made possible through STEM 2035 and the support of our cohort.

Actions Grantees Took/Intend to Take to Incorporate New Learning Related to DEI

Creation of New Programs

- Our organization initiated many DEI opportunities for staff (book circles, trainings, webinars) during this past year which complimented the STEM2035 work.

Prioritizing Youth Voice

- Aligning our youth voice to what they believe their story is and not limiting it to one story of how they view each other.

- Our focus has been on diversity and equity for a while (Girls and Women in Mfg) but that in itself tended to exclude others. So we have focused more on inclusion for the upcoming programs.

- We have made DEI a priority.

Expanding their Reach

- I don't remember what from the DEI training had me thinking about this, but I was considering the relative lack of diversity of our programming in consideration of the huge majority of our students being Black. We used two of our new STEM2035 teams to diversify our summer program by including Middle Asian and South Asian students for the first time since I've been with the organization.

  A priority to serve families and youth outside of our immediate geographic area. SGB (AAHOM/LSNC).

Rethinking Curriculum

- We've thought more about how to include figures of similar backgrounds to our students in our projects and allowing students of different ages to collaborate.

- Returning to focus on what is already relevant to youth in their world, then building from there to expansion into the broader world. Equity of access first.

- [We] reframed our camp orientation.

Adoption of a DEI Statement

- We've discussed and adopted a DEI Statement which will make implementing easier because folks are on the same page!

What Grantees Learned from their STEM2035 Peers

Communication Strategies

- We have learned different communication strategies, and gotten feedback on what works from others. Keeping emails very VERY short, or adding the message purpose in the subject has been helpful.

- So many things to choose from. Help in program creation, communication strategies, navigating this new virtual world.

New Strategies and Processes

- A lot. I'm thinking now about our program's newfound focus on incentivizing students to join us after school without being able to provide food.

- In the Summer Camp cohort we talked a lot about strategies for making and distributing kits of materials. These talks helped steer our programs through the uncertainty we all faced.

- I've learned to be patient in looking for results but also to be always looking for ways to improve and innovate our processes.

New Techniques and Ideas

- We have learned new techniques to improve youth voice in our programs.

- Tech-tips! Especially with COVID-19; those Tuesday chats were so helpful in the beginning.

- Just hearing/ knowing that I am not alone in these daily struggles is very comforting. Also a have learned to be more focused on purposeful activities through suggestions from the cohort.

- I have learned to think more creatively about the way we deliver programs. This cohort is full of ideas.

- Along with new strategies, I have learned to expand my focus to see the connections and possible relationships between manufacturing and our museums/other programs.

What Grantees Learned from their STEM2035 Peers Continued

Community

- I will never forget when I started and my first class was very difficult and I came to a cohort crying. I then had an entire table of support and suggestions to get me to the next class. I still think of those questions on a daily basis when I am teaching.

- General troubleshooting when it comes to challenges (program, Board, Org) has helped immensely!

- Knowing others are out there doing similar work with youth and learning from each other at PLCs for practical resources was great.

The Ralph C. Wilson, Jr. Foundation

STEM19

January 2021

Submitted by:

COMPASS
EVALUATION + CONSULTING LLC

Introduction

In spring 2019, the Ralph C. Wilson, Jr. Foundation anticipated awarding up to 20 grants to organizations providing out-of-school (OST) STEM programming in Southeast Michigan (SEMI) and Western New York (WNY). The initiative was called STEM2035. STEM2035 grantees would take part in a peer learning community (PLC), receive training and technical assistance from the PEAR Institute at Harvard, and be given up to $250,000 total over three years to support their proposals.

When reviewing the grant applications, Foundation staff identified organizations that had creative and interesting proposals, but not necessarily the current infrastructure or design to meet STEM2035 requirements. The STEM19 initiative offered smaller, one-year grants to these organizations. STEM19 grantees were given between $50,000 to $100,000 total over 12 months, virtual technical assistance from PEAR, an overview of PEAR's capacity building tools, and asked to participate in data collection. STEM19 funding ran from January 2019 to January 2020.

Evaluation Guiding Questions

- *To what extent was the quality of the STEM-19 OST programs strengthened through their participation in the STEM19 grant?*
- *To what extent did the STEM-19 grants improve after school organizations' capacity to serve traditionally underrepresented youth in the two metropolitan regions?*

Data sources

The data used to support the lessons learned included in this report came from a number of sources.

- Focus group summaries from Equal Measure (initial and endline)
- PEAR dashboard data
- PEAR STEM19 report
- STEM19 grant applications
- STEM19 grant reports (interim and final)
- Interviews with Foundation staff, select PEAR Institute staff and one grantee

6 ORGANIZATIONS IN ***Southeast MI***

15 ORGANIZATIONS IN ***Western NY***

20 organizations providing OST STEM programming to youth were selected. 15 served youth in Western NY and 6 served youth in Southeast MI. **One organization served youth in both regions.**

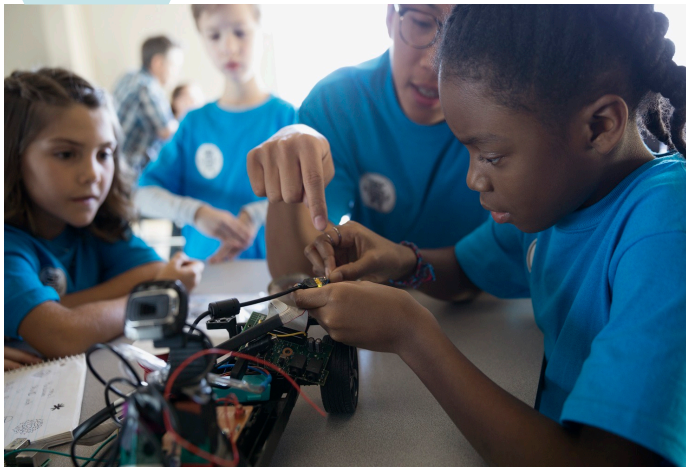
18/20 *grantees given $50,000 total*

2/20 *grantees given $100,000 total*

Initially, 20 grants were awarded. 18 grantees received $50,000 in total. 2 grantees, Salamanca City Central School District and Buffalo Academy of Science Charter School, received an additional $50,000, equaling $100,000 in total, for necessary capital costs.

Ultimately, **18 grantees** accepted funding and support over one year.

One organization, Community Action Organization of Western New York, Inc., withdrew prior to receiving any funding. Another grantee, Project Tinker, returned the funds and withdrew before the end of the initiative.



Benefits of participating in STEM19

Overall, data indicate that organizations' participation in the STEM19 initiative supported both the goals of strengthening the quality of their STEM programming and improving their capacity to serve traditionally underrepresented youth. In particular, the opportunities offered to STEM19 grantees provided them with an overview of tools and frameworks they could use to look at their work more critically and refine their current programming.

Participation allowed some organizations to **enhance the content and quality of their STEM programming** by:

- Expanding knowledge of what STEM/STEAM are—*one participant shared that prior to participation in the grant, they focused only on the "technology" aspect of STEM*
- Deepening their understanding of best practices in OST STEM programming
- Improving the quality of the content they deliver with the use of data

Participation allowed some organizations to **expand their capacity to serve youth** by:

- Expanding outreach and developing additional sites
- Increasing the number of staff and improving staff to student ratios
- Increasing the availability of OST STEM opportunities (i.e., allowing STEM programs to extend into the summer or beyond the academic year)
- Removing transportation as a barrier (while funded)
- Building partnerships with local universities and businesses to add other program offerings (e.g., robotics)

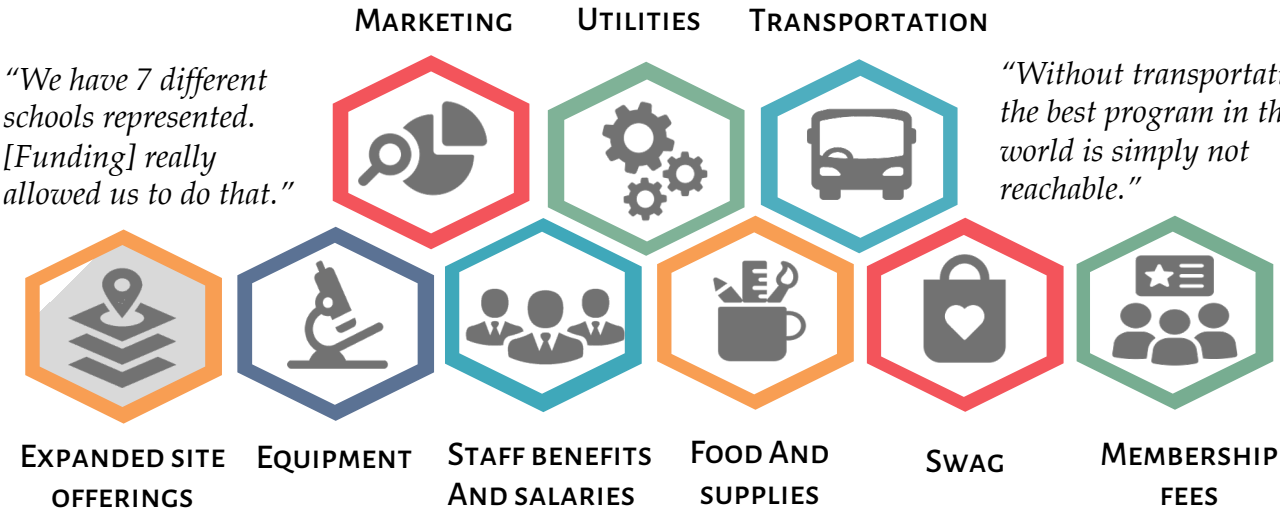
Participation supported **growth in internal capacity** (e.g., knowledge and skills sets)

For example, in a focus group, one grantee spoke about the value it brought to their organization's grant writer's skills:

> *"…The logic behind [the PEAR] approach and the way that we do our work is very aligned. And just being able to hear someone else talk about it, I think has helped [our grant writer] to sharpen his language."*

Examples of what Funding was spent on:

"We have 7 different schools represented. [Funding] really allowed us to do that."



"Without transportation the best program in the world is simply not reachable."

Benefits of Working with Pear

"About two years ago, we built out a social-emotional…supplement… And we've been, I would say not struggling, but … we're early in the process of figuring out how to richly evaluate that. So, just as a first pass, getting to be able to see what the system generated …, just being able to get a first read on all of that was really valuable."

FG participant, endline

Working with PEAR provided participants with a number of benefits. This included:

1. **Enhancing individuals' communication skills**—having a research-based, tested tool provided a common language for those exposed to it

2. **Helping organizations measure program quality** and focus programmatic improvement using data

3. **Providing participants with a framework** that helped illuminate areas of strength and areas in need of improvement

> *"I think the DoS itself and the categories that are in it helped us focus, and we're really quite pleased with the results we got for just this first year."*
>
> *FG participant, endline*

4. For those who submitted a DoS observation video, they **received concrete feedback** from PEAR experts about ways to improve their specific programming

Data Collection with PEAR Tools

Grantees were invited to participate in two rounds of data collection. The first round took place in the summer of 2019 and the second in the fall of 2019. The PEAR tools included:

- Program quality observations using the Dimensions of Success **(DoS)** tool
- Student ratings from the Common Instrument Suite for Students **(CIS-S)**
- Educator ratings from the Common Instrument Suite for Educators **(CIS-E)**

Data collection types in spring 2019 and fall 2019

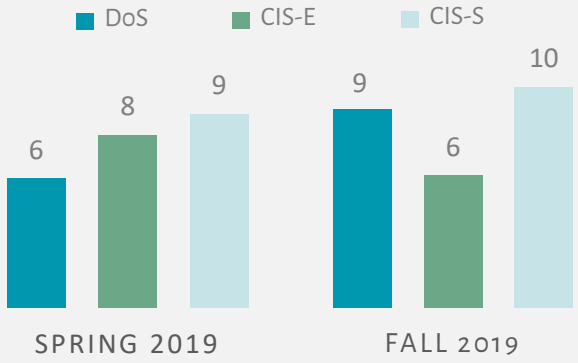


Figure 1 represents the number of organizations that participated in each data collection type in each each data collection round.

Program participation

12 out of 19 programs participated in data collection

- 3 grantees did not collect any data
- 3 collected both summer fall **CIS-E** data
- 8 collected either summer or fall **CIS-E** only
- 4 collected both summer and fall **CIS-S** data
- 11 collected summer or fall **CIS-S** only
- 3 sent in both summer and fall **DoS** observations

The main reason some programs did not participate student or educator data collection was due to their program timing not aligning with data collection timing (e.g., their program was a summer program only and data was being collected in the spring)

Participation in each data collection round

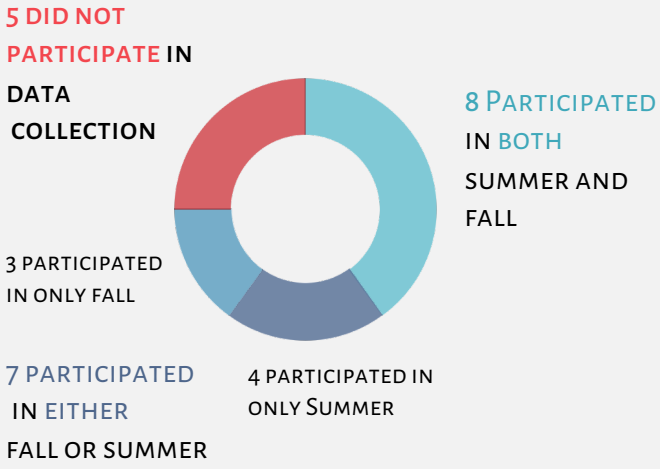


Figure 2 represents the number of organizations that participated in summer and fall, summer or fall, or no data collection rounds.

How did STEM programming impact youth?

The program theory of change had three desired short-term and intermediate outcomes for participating youth: **increase engagement in active learning experiences; increase interest in STEM activities, courses, and careers; and increase socio-emotional learning through program activities.** **CIS-S data indicated positive trends in achieving these goals.**

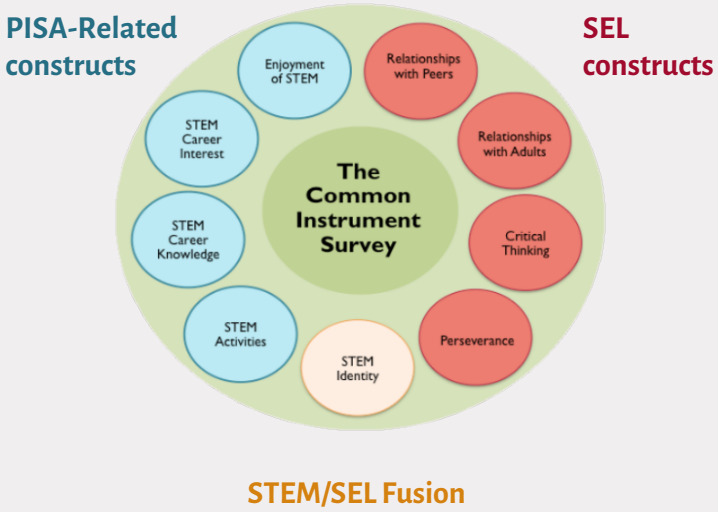
Overall, STEM19 youth data indicated that STEM programming had the **most positive impact** on **engagement in STEM** and the four **social-emotional scales** (*critical thinking, perseverance, relationships with adults and relationships with peers*). STEM19 youth reported the least amount of growth in STEM identity and participation in STEM activities. These data suggest that programs could benefit from support targeted at helping youth understand the ways in which STEM is a part of their world and everyday lives. **In comparison to a national norms sample, youth participating in STEM19 programs reported greater positive change across 7 of the 10 CIS-S scales.**

CIS-S: Interpreting the Data

The CIS-S survey uses a retrospective self-change method. The survey is administered once at the end of a program. At that time, students are asked to reflect on how much they feel they have changed over the period of programming. Specifically, students are shown a sentence and are asked to think back to the beginning of the program and rate whether they do/feel things less or more because of the program (see Figure 4 for an example).

Students represented in the summer 2019 and the fall 2019 datasets may not be the same, so these averages should not be compared against each other (see Figures 5 and 6).

Figure 3. The Common Instrument Survey

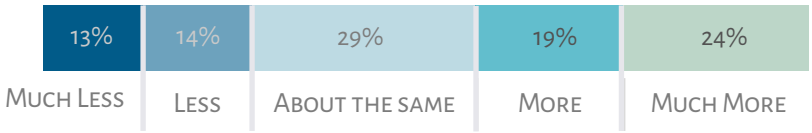


The CIS-S is a youth self-report survey that measures a variety of science, technology, engineering, and math (STEM)-related attitudes, including STEM engagement, STEM career knowledge, and STEM identity (see Figure 3). It includes items (the PISA-related constructs) that measure how knowledgeable and interested students are in obtaining science careers, how intrinsically motivated students are to be involved in science-related activities, and how much students enjoy performing and learning about science, as well as items (the SEL constructs) that assess 21st-century skills that are highly correlated with interest and achievement in science, particularly perseverance, critical thinking, and relationships with peers and adults.

CIS-S Results

Almost half of STEM19 youth respondents (43%) indicated increased **interest in having a STEM job in the future.**
(Please note, national norm comparison data were not available for this question.)

Figure 4. "I would like to have a STEM job in the future." Student responses ranged from 1 (much less) to 5 (much more).



CIS-S data indicated an increase in socio-emotional learning through program activities
STEM19 participants showed a positive change in three 21st century skills: critical thinking, relationships with peers, and relationships with adults. Across all four domains, participants scored higher, on average, in comparison to national averages.

Figure 5. % Positive change in 21st century skills compared to national norms

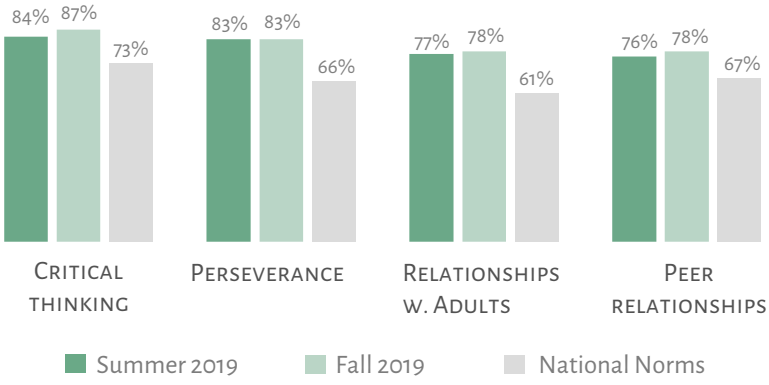
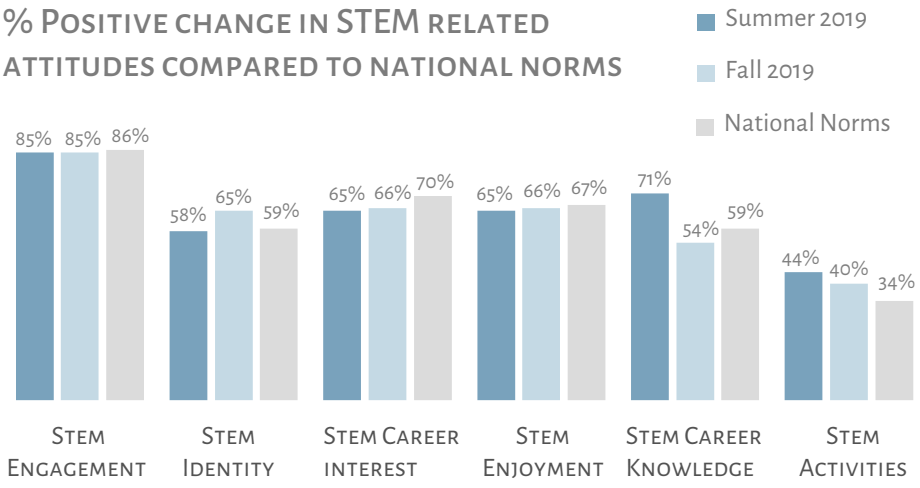


Figure 6.

% Positive change in STEM related attitudes compared to national norms



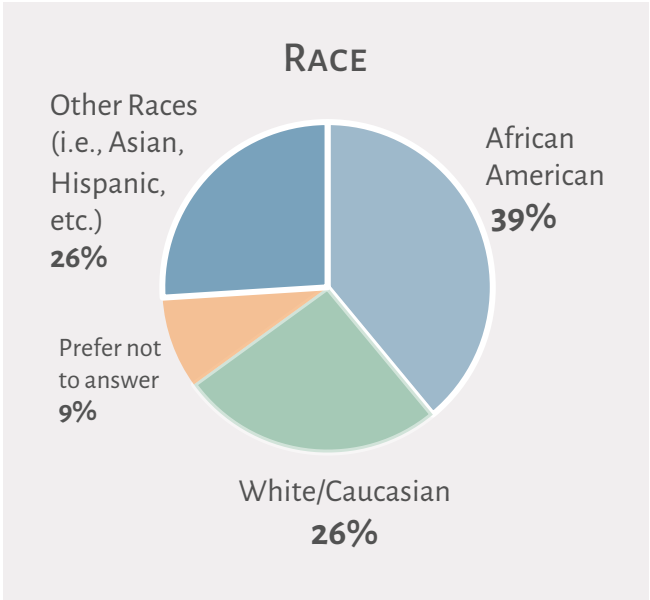
Averaging summer and fall data together, in comparison to national averages, **STEM19 youth scored higher in:** ***STEM identity, STEM career knowledge, and STEM activities.***

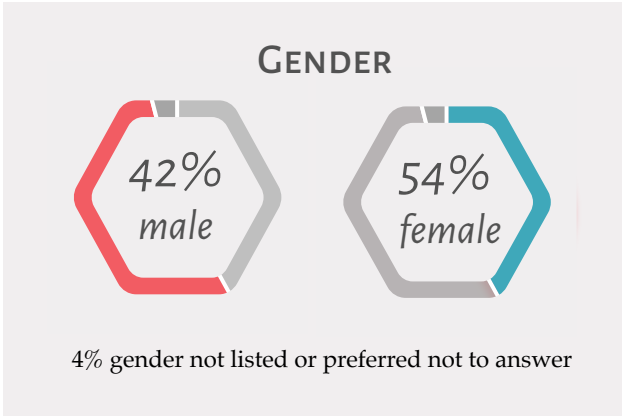
Demographics

Youth Participants

15 programs serving 647youth in grades K-12 **participated in data collection** between April 2019 and January 2020.

STEM19 youth participants were racially diverse; 65% of youth identified as being African-American, Multi-racial, Hispanic, Asian, Native-American or Alaskan Native.





Youth Who Speak a Different Language than English at Home

PEAR's data analysis indicated that for STEM19 youth who speak a language at home other than English (LOTES) (*n*=129), more positive change was reported in their interest in STEM careers (84%), knowledge of STEM careers (81%), and enjoyment of STEM (82%), in comparison to the entire sample of youth. This highlights the value of disaggregating data to examine where, if at all, differences exist between groups of learners.

Gender Differences

PEAR's data analysis also revealed differences in outcomes for STEM19 girls (*n*=343) and boys (*n*=270). When looking at interest in STEM careers and STEM identity, girls' interest in both showed a greater decrease, compared to boys'.

4 out of 5

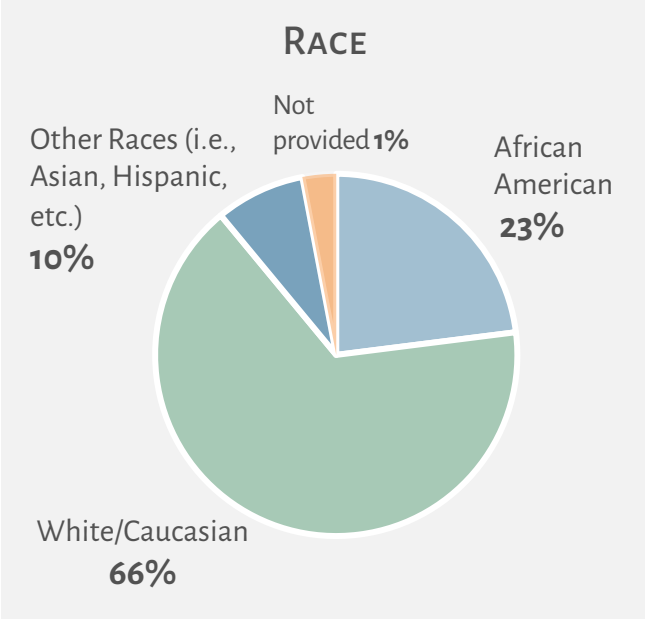
STEM19 children reported that they had been **involved** in STEM programming for **at least four to seven weeks**.

4 out 5

STEM19 youth also reported at least **one to three hours of STEM involvement per week**.

Educator Participation

49 educators from 11 programs
participated in data collection



Educator Attitudes Toward Teaching STEM Over Time

Staff respondents showed **increases in agreement across all categories** related to their comfort, confidence, capableness, and interest in leading STEM. The greatest changes were seen in regard to individuals' comfort and confidence leading STEM.

Average Rating Scores: Now VS One Year Ago

	NOW	1 YEAR AGO
1. Comfortable Leading STEM	3.3	3.0
2. Interested in Leading STEM	3.4	3.3
3. Confident in Leading STEM	3.2	2.9
4, Capable of Leading STEM	3.3	3.1

Training/Experience/Leading STEM

78% of educators had at least **one to four years of experience** leading STEM activities in out-of-school time.

78% indicated *yes* when asked if they **felt they had enough training/support** to lead STEM activities.

65% identified the role they play in their organization as **site staff**.

51% indicated they had received **less than 10 hours of PD** in the last year.

Participants were asked what kind of STEM training/support they would like to receive. The most common responses were:

- **Support for specific activities** (*e.g., engineering; computer science; connecting STEM to civics, STEM for social justice; increasing math in urban environments; promoting scientific literacy; robotics*)
- **Methods to improve teaching** (*e.g., how to break down complicated concepts; how to teach the same content to different age groups; how to keep students engaged; more ideas/training for hands on cross-curricular activities*)

Examining the 12 Dimensions of Success (DoS)

Overall, STEM19 program ratings indicated programs' **strength in all three Features of the Learning Environment domain** (*organization*, *materials*, and *space utilization*), the dimension of ***relationships*** within the Youth Development in STEM domain, and ***participation*** within the Activity Engagement domain. Areas for growth included the three areas within the STEM Knowledge and Practices domain (*STEM content learning, inquiry and reflection*), *relevance* and *youth voice* under the Youth Development in STEM domain, and *purposeful activities* and *engagement with STEM* found within the Activity Engagement domain.

Each organization that submitted a DoS recording, even those that did not meet the criteria to be scored, was contacted by PEAR to discuss their submission and provided feedback on the strengths, as well as suggestions for improving the quality of the dimensions that needed improvement.

STEM19: Average Rate of DoS by Dimension

* = Averages above 3.0 indicate compelling evidence of quality

Features of the Learning Environment	Activity Engagement	STEM Knowledges and Practices	Youth Development in STEM
Organization 3.6*	Participation 3.3*	STEM Content Learning 2.2	Relationships 3.6*
Materials 3.6*	Purposeful Activities 2.9	Inquiry 2.2	Relevance 2.4
Space Utilization 3.6*	Engagement with STEM 2.6	Reflection 2.3	Youth Voice 2.4

Lessons Learned

Timing is Important

Not all grantees were able to fully participate in data collection.

Some programs could not participate in data collection because the timing of their programming did not align with the timing of data collection rounds. (e.g., a summer only program unable to participate in data collection in the fall and spring).

- Out of 19 programs, only 3 collected both summer and fall CIS-E data; 4 collected both summer and fall CIS-S data; 3 sent in both summer and fall DoS observation videos

- For those who were only able to collect data once, this did not allow them to see if change had occurred through the capacity building efforts

Many of the grantees already had their curriculum set and were executing it when the capacity building activities began.

Organizations could build their capacity through participation, though due to the timing, it was not always possible to integrate changes during the funding period or document if they were occurring.

Program Differences

Due to differences in organizations' programming stages and designs, not all of the technical assistance provided was of equal value or relevance.

STEM19 grantees varied in relation to target population, size, scale, capacity, region, programmatic approach, and stage of programmatic development.

Use of the PEAR instruments was not appropriate for all of the grantees due to their specific programming.

- Grantees who provided short exposure one-off STEM experiences, or those who did not have the same students participate from activity to activity were unable to take full advantage of PEAR tools tools due to the nature of their programming.
- Some organizations provide STEM kits to youth—DoS observations are not appropriate or possible for activities such as this.

Use of the PEAR instruments was not appropriate for all of the grantees due to where they were in their programmatic development.

- Some organizations were early in their program design and felt overwhelmed with the training provided by PEAR.

"I think also, for the webinars, they're so focused, right? So, throughout the webinar, it's talking about this very focused thing. And there's not necessarily that much back and forth in terms of just troubleshooting and just talking."

–FG participant, endline

"I think it took a webinar, at least one webinar, for PEAR to realize. Wait a minute, these guys are still trying to ramp up. And now we're talking about the evaluation process and all of that. And was almost a little cultural shock because I get what you're doing in terms of the DoS...but we are still trying to make sense of how our curriculum is going to be developed."

–FG participant, endline

Lessons Learned Continued

- There was **no mechanism for knowing if or how knowledge gains or increased capacity were shared** throughout the organization (i.e., beyond those who participated directly).

- Grantees were allowed to use the money for whatever they needed. Some hired new staff to expand their programs or paid for critical transportation costs. It was **unclear how sustainability would be addressed once the funds were depleted**.

"Creating a space to have an actual check-in with the folks at the Foundation at some point during the cohort or during the cohort experience and talk about "how's this going?" Like what does the follow-up look like from here? And then at least having some sort of path or direction around follow-on funding to continue to build upon the learning would be super, super."

FG participant, endline

Final Thoughts + Considerations for Future Initiatives

Review of the data indicate that within the funding period, the overarching goals of the STEM19 grant were met, specifically that the quality of the programming the participating organizations provided was strengthened through their involvement, allowing them to better serve the diverse youth with whom they work. What is less clear, is the extent to which these improvements will be sustained or shared within the organization to allow for new learning to become part of individuals' regular practices.

The following considerations are provided for when thinking about future initiatives:

Individuals are interested in connecting with other people and organizations to support their own work and build community. Creating a mechanism for organizations to build and sustain their network would support ongoing connections beyond the life of the grant and support the development of communities of learning and practice.

If the goal is for grantees to utilize specific data collection tools or technical assistance, the type of programming they offer is an important factor (e.g., academic year, summer, sustained participation, one-offs, etc.) to consider in conjunction with the tools they will use.

Having a sense at the outset about the specific capacity building needs of participating organizations would help providers design targeted, meaningful and relevant opportunities, as well as allow for the provision of differentiation, where appropriate and possible.

To examine potential change:

- the timing of the initiative and when opportunities are being offered is important for data collection efforts.

- future initiatives could consider grouping organizations together that offer like types of programming, such as those who do academic year versus those who offer summer programs.

- a longer-term investment is recommended so that organizations can establish a baseline and then examine if they see changes over time. If longer term investment is not possible, for a one-year model, going deep into the DoS framework and quality improvement tools is recommended. This is something individuals could be introduced to and use for future program planning purposes.

If long term change is the goal, sustainability needs to be addressed—adding capacity building around external grant resources or grant writing capacity building could be considered.

STEM 2035: Southeast Michigan and Western New York Out-of-school (OST) STEM Request for Proposals (RFP): FULL PROPOSALS

Increase the quality and creativity of out-of-school time programming in Southeast Michigan and Western New York to inspire, connect, and prepare more 6th-12th graders (especially girls, black and Latino students, and economically disadvantaged students) to engage with and pursue STEM.

SUMMARY

The Ralph C. Wilson Jr. Foundation is building something to last for decades to come, and it's not our Foundation. The Foundation is a spend-down with 16 years before it closes in 2035; these years will hold the most rapid advances in science, technology, engineering, and mathematics in history. Given our complex and changing world, we will need to ensure that our future leaders are critical thinkers and problem-solvers that can meet our modern challenges, through 2035 and beyond. Learning in science, technology, engineering and math—the subjects called "STEM"— cultivate experience with experimenting and checking assumptions against evidence, which helps make everyone a better problem-solver. Additionally, STEM learning hones relevant, real-life observation and analysis skills for young people. The kinds of projects that kids encounter in OST STEM programs also help them build teamwork and communication skills. These are the kinds of skills that our fast-changing modern society needs.

The Foundation received a large number of funding requests for STEM programs. Through *STEM 2035*, the Foundation is looking to invest in STEM afterschool and summer programs that reduce barriers for youth that are under-represented in STEM fields. The purpose of this RFP is to identify programs that are inspiring and preparing girls, minorities, and disadvantaged youth to pursue STEM in their post-secondary training and education, jobs, and careers. We recognize there are many OST STEM programs throughout our focus regions of Western New York and Southeast Michigan. Following our value of *Innovation*, this RFP specifically seeks programs that are ready and willing to try something new or make substantial improvements that spark engagement and interest, build confidence, and create pathways in STEM for 6th to 12th graders. Selected grantees will comprise a peer learning community called *STEM 2035*.

Up to twenty awards are anticipated, with eight to ten grant awards in each region. We are looking for geographic diversity (urban, suburban, rural) across both regions, as well as programmatic and organizational diversity (size, scope, partnerships, type of program). Grants will be up to $250,000 over three years (cumulative, not per year). Emphasizing the Foundation's values of *Teamwork* and *Outcomes*, grantees will also be part of the *STEM 2035* peer learning community, where they will receive training and technical assistance, try new evaluation tools and quality improvement strategies, collaborate, and learn together.

The grantee selection process will take place in two parts. Your organization has been selected as a finalist and is invited to submit a full application. **Full applications are due June 15th**. Grantees are expected to be notified of the awards by early August 2018.

The Ralph C. Wilson, Jr. Foundation has partnered with Community Connections of New York for project management and fiduciary support, the PEAR Institute at Harvard for technical assistance and training for grantees, and Equal Measure for the evaluation of the investment portfolio.

ABOUT *STEM 2035*

The desired outcomes for the *STEM 2035* initiative include:

- *Increase the number* of under-represented youth (e.g., girls and youth of color) in STEM programs and pursuing STEM in post-secondary education and training, jobs, and careers.
- *Accelerate learning and collaboration* among OST STEM providers in Western New York and Southeast Michigan to drive better STEM outcomes for youth in those regions.
- *Support innovative ideas* that better connect, inspire, and prepare 6th-12th graders for STEM in post-secondary education and training, jobs, and careers.
- *Improve and sustain* program quality by integrating best practices to better support STEM learning experiences.

For the purposes of this RFP, we define OST STEM as programs that focus on science, technology, engineering, and math and occur after the end of the school day, on weekends, and during the summer. OST STEM programs stand out as a link between the Foundation's focus on children and youth and workforce development. OST STEM programs provide prime learning environments to incubate curiosity, teamwork and problem solving and nurture science, math, technical, and engineering abilities without the pressure of traditional schoolwork. It is a time when kids can dive deep into their projects and interests, explore what *they* are passionate about, and learn about pathways in the STEM workforce of the future.

School districts that operate OST STEM programs may apply. However, we are excluding STEM efforts that are part of K-12 school systems or curriculum (meaning STEM programming that occurs within the regular school day), such as teacher professional development or projects that are a part of K-12 instruction during regular school hours. Although your OST program may connect with formal STEM learning, your proposed OST activities should operate independently of in-school learning, and grant funds for your project should only be invested in OST activities.

We understand the importance of creativity in STEM fields. As such, this definition of STEM includes STEAM programs that integrate arts into their STEM work, so long that art is not the sole or primary focus.

Peer Learning Community

The organizations selected to be part of the *STEM 2035* cohort will participate in a peer learning community. Participation in the peer learning community will require the capacity and commitment to trying new evaluation tools and quality improvement strategies, collaborating, and learning as a group. The PEAR Institute at Harvard and McLean's Dimensions of Success (DoS) defines key aspects of a quality STEM learning experience and will serve as the backbone for the suite of tools and professional development to improve program quality.[1] Up to two staff members from each organization will need to participate consistently in the learning cohort. These individuals should have a direct connection to the

[1] https://www.thepearinstitute.org/dimensions-of-success

implementation of your STEM proposal. The organization's executive director or appropriate executive may be asked to participate and will be expected to cooperate.

During the first 12 months, the cohort will convene in the fall for an in-person kickoff retreat in Detroit and will meet for three local, in-person meetings (Southeast Michigan grantees to convene in Detroit, Western New York grantees to convene in Buffalo). The subsequent two years of STEM 2035 will have similar meeting schedules. Travel to Southeast Michigan or Western New York will be required. Grantees may be expected to participate in additional virtual meetings.

STEM 2035 Partners & Roles

STEM 2035 is funded by the Ralph C. Wilson, Jr. Foundation.

CCNY is the initiative's fiduciary and will be responsible for managing the RFP and the project management details of the cohort.

The PEAR Institute at Harvard and McLean is a subject-matter expert in OST STEM programming, assessment and linkages between STEM and 21st century/SEL skills, and will provide training, technical assistance, program assessments, and support for grantees in the cohort.

Equal Measure is the cohort evaluator. Note, Equal Measure will not evaluate individual programs but rather focus on the collective progress of the programs and the initiative itself. Participants will be expected to provide Equal Measure with data and make staff available to engage with Equal Measure (e.g., program staff interviews and program observations).

About Community Connections of New York (CCNY)
CCNY, Inc. is a nonprofit management services organization that partners with community-based organizations, behavioral health agencies, and government agencies to provide training, evaluation, quality improvement, and innovative tools to improve the lives of people in the communities our clients serve. http://www.comconnectionsny.org/

About PEAR
The PEAR Institute, a joint initiative of Harvard University and McLean Hospital, is dedicated to "the whole child; the whole day; the whole year." PEAR continuously integrates research, theory, and practice for lasting connections between youth development, school reform, and mental health. PEAR creates and fosters evidence-based innovations so that increasingly "young people can learn, dream, and thrive." PEAR was founded in 1999 by Gil. G. Noam, Ph.D., Ed.D. (Habil), a nationally recognized developmental psychologist. PEAR's programs and projects are being implemented across the US and internationally, in schools, OST programs, youth-serving organizations, and university settings. https://www.thepearinstitute.org/

About Equal Measure
Headquartered in Philadelphia, PA, Equal Measure elevates insights that help shape powerful investments and fuel sustainable social change. For more than 30 years, we have worked with a wide range of clients, including private and community foundations, national and regional nonprofits, and government organizations. Equal Measure helps its clients achieve maximum reach and impact by combining insights from mixed-method, interdisciplinary approaches, grounded in the practicalities and reality of social change. Through its work, Equal Measure engages as thought partners to its clients,

working together to solve today's most pressing and wide-ranging social challenges from educational and health disparities to systemic barriers to opportunity. http://www.equalmeasure.org/

Ralph C. Wilson Jr. Foundation
The Ralph C. Wilson, Jr. Foundation is a grantmaking organization dedicated primarily to sustained investment in the quality of life of the people of Southeast Michigan and Western New York. The two areas reflect Ralph C. Wilson, Jr.'s devotion to his hometown of Detroit and greater Buffalo, home of his Buffalo Bills franchise. Prior to his passing in 2014, Mr. Wilson requested that a significant share of his estate be used to continue a life-long generosity of spirit by funding the foundation that bears his name. The Foundation has a grantmaking capacity of $1.2 billion over a 20-year period, which expires January 8, 2035. This structure is consistent with Mr. Wilson's desire for the foundation's impact to be immediate, substantial, measurable, and overseen by those who knew him best.

The Foundation began its grantmaking in 2015 and has four core funding areas: children and youth; young adults and working-class families; caregivers; and livable communities. Within each, the Foundation looks to leverage the good work already underway and collaborate for greater impact. Within the children and youth focus area, the Foundation is looking to invest in opportunities that help to strengthen young minds and bodies with early childhood initiatives, sports and youth development programs, and afterschool programs. http://www.ralphcwilsonjrfoundation.org/

Questions?
Please submit any questions via *STEM@ccnyinc.org*. Emails will be addressed within 3 business days.

Invitation to Full Proposal

Deadline: Friday June 15th, 2018 at 5:00 p.m. EST

Applications will be acknowledged via email within 24 hours of receipt.
If you do not receive an email within 24 hours, contact CCNY at (716)741-0109.

To submit your full application for STEM 2035, please include the following items and submit to STEM@ccnyinc.org as attached documents by June 15, 2018.
Late applications will not be accepted.

1. **Full Application *(PLEASE ATTACH AS WORD DOCUMENT)***: Cooperation in using a 12 point font, one inch margins and an honoring a 7 page limit is appreciated. Links to information that can enhance the full proposal may be embedded in the responses but there no guarantees they will be read entirely. Please do this thoughtfully.

   The document should include the following information:

   Organization Information – In a cover letter signed by the top executive and board chair include:

   a) Organization name, mission, service area, number of employees, year founded, list of current STEM program(s) and number of youth served annually by each.
   b) Confirm contact person phone number and email address.

   Proposal Narrative

   a) STEM 2035 is a three-year initiative. It is not expected that applicants can or should submit a detailed plan for the full three years. Projects will need to adapt and change as learning occurs and the environment changes. Please keep this in mind when responding to the following:
      - Who are the *new* youth in grades 6-12 you anticipate serving? Include projected numbers by year, where they live, what you believe will attract them to and retain them in your program.
      - What hours, days, and time of year do you anticipate for program operation? When is the anticipated start date for new program operations assuming a grant award date of August 30th?
      - Describe your recruitment strategies to involve more girls, minorities, and disadvantaged youth? What parts of the strategy do you have past success in using? What parts of the strategy are new? For these parts of the recruitment strategy which are you most confident about and why? Which are the riskiest and why?
      - Describe in detail the proposed STEM activities. What prompted selecting these? Which are you the most confident in and why? Which are the riskiest and why? Provide an anticipated timeline. Explain the rationale for the timeline including key milestones and potential challenges to meeting milestones.

b) We are interested in programs that are ready and willing to try something new or make substantial improvements that spark engagement and interest, build confidence, and create pathways to STEM jobs and careers. Describe how the proposal achieves these objectives. Include existing or desired relationships with employers, post-secondary training and or colleges and universities that program participants would seek out after high-school graduation.

c) Describe the staff that will be part of this program including who will be in charge of operating the program on a day-to-day basis and whether the staff assigned to this project will be newly hired or are currently part of your staff. For proposed new staff position(s) include a complete job description in your organization's standard format and anticipated timeline for hiring. How will your organization effectively participate in STEM 2035 and launch the program prior to these position(s) coming on board?

d) The Peer Learning Community (see page 2) is designed for both program directors/instructional leaders and lead facilitators/teachers. We define program directors/instructional leaders as individuals that can influence curriculum, communicate the high level priorities of the organization during convenings, convey messages and share lessons learned across the organization, and support staff with implementation of best practices. We define lead facilitators/teachers as individuals that are actively involved with the project and who can ensure that convenings are relevant and practical for the folks on the ground implementing programs. The convenings will include time for a hands-on activity for organizational planning related to the STEM programs and we expect two (2) members from each organization to consistently participate in the learning community.

   Please describe the individual(s) who will represent your organization in the learning community. Include their current role, background information, and what they expect to contribute and take away from the learning community experience. Please note that the organization's top executive will be asked to participate in a limited capacity and is expected to cooperate.

2. Attachments: Attachments do not count towards the 7-page limit. Please refrain from providing additional attachments as they will not be reviewed.

b) Organization Board of Directors List
c) If there are partnerships that are key to the proposal, please include corresponding Letter(s) of Support or MOU(s) detailing their role, responsibilities and where they are critical to meeting milestones described in the timeline narrative.
d) 3-Year Program Budget broken down by Year 1, Year 2, Year 3 and project total for the STEM program, in Excel format.
   - Total amount may remain the same as in the LOI or change slightly.
   - Please include enough details to reflect how much is attributed to different types of cost, such as staffing, consultants, supplies/equipment, travel (including travel for the Peer Learning Community convenings), indirect costs (not to exceed 10% of project budget), etc.

- Ensure there is enough budget to cover travel for 2 staff to travel to the Peer Learning Community convenings (e.g. hotel, flights, gas, or other costs to attend such as substitute teachers). As of now, we expect the schedule to be as follows: (*may change over the three years depending on feedback from cohort*)
    a. **Year 1:** October 2018 everyone meets in Detroit for 2 days; January, April, July 2019 Western New York organizations meet in Buffalo for 1 day and Southeast Michigan organizations meet in Detroit for 1 day.
    b. **Year 2:** October 2019 everyone meets in Buffalo for 1 day; January, April, July 2020 Western New York organizations meet in Buffalo for 1 day and Southeast Michigan organizations meet in Detroit for 1 day.
    c. **Year 3:** October 2020 everyone meets in Detroit for 1 day; January, April, July 2021 Western New York organizations meet in Buffalo for 1 day and Southeast Michigan organizations meet in Detroit for 1 day.
- If relevant, include other sources of revenue or funding for this specific project.
- Include a budget narrative for each line item or group of line items as appropriate. For years two and three include in the narrative the expenses that may change based on progress and or what's learned in the first year.

3. **Site Visit:** We may reach out to schedule a site visit during the weeks of July 9th and 16th. We will be as flexible as possible to accommodate your program's schedule without delaying the grant awards.

Submit to STEM@ccnyinc.org as attached documents by Friday June 15th, 2018 at 5:00 p.m. EST.

Applications will be acknowledged via email within 24 hours of receipt.
If you do not receive an email within 24 hours, contact CCNY at (716) 741-0109.

Late applications will not be accepted.

2020–2021 PEAR STEM2035 IDEAL Workshop
End-of-Workshop Reflections • 10/28/2020

A connection I'm making is in language and how folks newer to IDEA work need the language to connect it to their lived experience and then connect it to other frameworks

It gives me so much pleasure knowing that there are groups of people, like IDEAL, all around the country having these conversations. People let single stories control their lives. I have always tried to break that cycle. Today's training/presentation gave me some more of the language I need to help me push this IDEA (see what I did there) across to others both at work and in life.

I am thinking about how communication breaks down when things are implicit, and how in collaborative work we can help each other succeed through practicing explicit statements about expectations and focus.

I took away a whole bunch of tools that I can use directly with my youth when we meet virtually. I am looking forward to using dyads, talking "sticks", talking tokens, and virtual word waterfalls. I have students who will talk and talk and talk and talk and then students who only say a few words. I think some of these tools that IDEAL used with our group will work wonders with my teens.

I really appreciated the breakout rooms.

Listen, listen, listen!!!! I do need to listen more and let people complete their thoughts. It is so important. Also, encourage students to do the same.

[I have a greater understanding of] Perspective and bias and how it affects my understanding of people and situations.

I can more readily identify areas of misunderstanding as possible 1-sided stories, and invite more perspectives that may help round out a solution.

I would say I have a greater consciousness of communication behavior impacts on groups and single stories. Single stories especially and being more aware of source / sources when allowing myself to form mental associations with people and places I have yet to experience first hand.

Stories clash and contradict one another. How do we deal with this?

The danger of a single story is something that I've been thinking about but had difficulty articulating until today. It has helped me think of ways to highlight the importance of finding the complete story and not settle for the one perspective often given to us.

Part of our role is to tell history, but we need to make more of a conscious effort to ask the question, "What history are we telling and what history needs to be told?" In addition, working with students and mentors, it's important to realize that each of us comes with a story we've heard about each other. It's up to us to be reminded of that and to remind people of that in order to try to understand each other better.

[Connections I'm making between my learning today and my work] The way that the stories that occupy my head may get in the way of my ability to connect with another, to meet them where they are, to understand who they are as opposed to who I anticipate them to be.

Thinking about the birdcage analogy of oppression through my conversation with [another participant] on the single story, and my reflections on being offered opportunities to escape my metaphoric bird cage throughout my life, which many don't have

[A connection I'm making is] That I have experienced more single stories than what I initially thought.

[I am confused/struggling with] Looking past a single story of someone or something when that is all that you are given.

The connections that I've made today is to ensure that kids understand that a story has several parts. Be open to learning more than 1 single part. Don't allow others to put you in a box based off their 1 story.

I understand that people see things in different lenses and although that's okay, it's not okay to allow the lenses to be a single story.

This is something that I think about a lot and today only made my feelings more concrete. The thing being that although all of my students geographically are from the same neighborhood, a part of the city that is always talked down upon as being violent and drug riddled etc.(due to segregation and whole bunch of other stuff), that the location you live in does not define who you are or what you can become. And I know a lot of people look down at people from these neighborhoods like we are all living in some feudal era caste system.

I need to do more work myself on identifying and challenging the single stories that I still hold. Now that I have the framework, I need to put in the time.

I have a deeper appreciation for the fact that experiences matter. If we do not open ourselves up to—and sometimes force ourselves into—new experiences, we will never have a complete understanding. Our single stories will never be challenged.

It is challenging to get those who don't see/understand privilege to understand their position of privilege.

How can I help those with privilege use it to improve conditions for others (which will in turn improve their condition as well)?

With the current state of this country I have been engaging in many conversations around privilege and otherness. I really appreciated the example Nils shared about left vs. right handedness. His example helped me to think about the issue in a way I never have before.

My students have such a different reality and truth than I do, and than each staff member in our program does. Wondering how I can push them to see this and see it for everyone they interact with.

I think the biggest challenge for me right now is finding a way to connect with folks who have such polarizing viewpoints from my own. I always try to have an open mind and not only listen to others perspectives, but to also try to see where their perspectives are coming from. I have a very hard time doing this, or feeling the need to show that sort of respect to someone who I know refuses to do the same.

What is challenging still is how to make sure we are hearing/learning all of the truths, when we may not know other ones exist. I'm thinking about how the scientist continued to believe his knowing of the moon was right. Also thinking about how to balance knowing different truths/experiences with science facts. Science is not absolute but some things are actual facts and not beliefs (eg the earth is round) but also recognizing that some may experience it differently.

Understanding that everyone is coming from a different place is vital to educating and leading. In the short time we have with youth, how can we gather enough information to try to address diversities.

Urging my colleagues to move away from that "scientist" mindset of this is what we know because this is how things have always been done to embracing other perspectives and ideas.

Confirms that combining SEL and STEM opens the "thinking doors" necessary for growth.

I feel I have a deeper understanding of the persistent trouble of talking outside of the explicit conversation. Being directed back to the question at hand was helpful. Empirical knowledge is experiential knowledge, and is true. Experiences are true.

People have different opinions that often stem from their experiences

I really enjoyed "I Know the Moon" and I feel like it applies so strongly to the interactions between my students who are all so unique, regardless of their similar backgrounds. I think that many people don't really think about the fact that our experiences shape us and our perception of the outside world. It's really important, vital even, to bear that in mind, always, and not just when interacting with different people.

Reminder to always remember and honor that everyone has and comes from a different experience that impacts their perception.

I really identify with the first two questions under the Leadership in Complex Systems. I've been trying to be very cognizant of how we can transform our programs to be more accessible and equitable. How that is achieved in an non-profit/COVID-19/furloughed employees world is something that I have to be vocal about, especially when every penny counts.

How we can work to make intimate experiences accessible. It might not have been a major intended outcome, but this really struck me for thinking about how we can adapt programs and experiences to meet people where they are at. Also that STEM belief systems can contribute to systems of oppression, but we can work towards STEM bridging the gap to alleviate the strain of oppression.

I don't even know the right questions to ask. It would be interesting to see a recommended reading list (articles - i.e. short reads, books - i.e. long reads) to continue pulling this thread, picking this scab.

Names for the Day

Insightful! • Energized • Lots of sitting • Reflective • interesting The PLC session when it was sunny • expansive • Enlightening! Thank you! • Defining moments of life that's more than 1 single story • Affirmation • Opening • Wily Provocateur • Thought provoking • Curiosity particularly piqued • Scattered • Successful • Timshel, a Hebrew word meaning "Thou mayest" • Abolish Single Stories • Useful • My moon, my self • relieving

Discussion Prompts

O: What stands out to you in what you just read?

R: How would you answer these questions today?

What do you still find confusing? What would help?

How has your understanding changed or evolved?

What connections are you making between what we did yesterday and your work?

EQUAL MEASURE | FINDING PROMISE FUELING CHANGE

To:	Malia Xie, Avery Eenigenburg, Amber Slichta, Gil Noam, Rebecca Katherine Brown, Andrea Minor, Heidi Milch
From:	Ray McGhee, Kimberly Braxton, Tia Burroughs, Eve Weiss
Date:	March 6, 2018
Re:	*STEM 2035* Management Team Kick-off Meeting

This memo summarizes the launch meeting held at Community Connections of New York (CCNY) on February 22, 2018. The purpose of this meeting was to discuss components of implementation and evaluation of the *STEM 2035* Initiative. Project staff from The Ralph C. Wilson, Jr. Foundation (Wilson), CCNY, the PEAR Institute (PEAR), and Equal Measure (EqM) discussed the following:

- Purpose and key goals of the initiative
- Expectations for success
- Roles and responsibilities of each partner organization
- Norms and expectations for the partnership
- The request for proposals

This memo summarizes discussion, decisions, and next steps for these agenda items.

Purpose and Key Goals of *STEM 2035*

- The purpose of *STEM 2035* is to invest in out-of-school time (OST) STEM programs in southeast Michigan and western New York that seek to increase the involvement of young women and minorities in grades 6-12.
- The Wilson Foundation is interested in programs that connect STEM to the 21st century workforce. It is especially interested in programs that understand the STEM workforce and that help prepare students to pursue two-year postsecondary programs, including STEM-related certifications, after high school.
- Wilson is interested in learning about how to design cohort initiatives, and emphasized that the management team should be flexible to change if we find that our initial plans are not working. It also seeks grantee input in the development of the initiative.
- Though the initiative partners will review each application individually, we will also select them based on how well they fit together as a cohort. It is important that programs in the cohort learn from and support each other, and are excited to participate in the Community of Practice (CoP).
- Funded programs should feature innovative practices and aim to do something that differentiates them from other STEM programs.

Expectations for Success

Before diving deeper into each partner's responsibilities, each organization shared what they would consider markers of success for the initiative. We provide of synthesis of the contributions of this brainstorming activity in the Appendix. These expectations for change will form that basis of the initiative's theory of change (ToC), which EqM will develop. The ToC is a working document that presents a vision for initiative implementation and factors in context as well as assumptions. It will serve as the primary analytic framework for the evaluation and can provide guidance for the Community of Practice.

Roles and Responsibilities

We spent a large portion of the meeting discussing roles and responsibilities. Each partner shared background information about their organization and their responsibilities as stated in their proposals. The conversation provided more clarity about responsibilities by identifying instances where roles overlapped as well as how our roles complemented each other's work. Each partner organization specified their responsibilities with the initiative:

PEAR

- Lead the design of the Community of Practice with input from EqM.
- Test for program quality using the Dimensions of Success (DOS) framework. PEAR will train EqM and the program staff on how to use this framework and observation tool.
- Use data formatively, and modify instruments and systems as needed.

EqM

- Lead the mixed-methods portfolio evaluation of *STEM 2035*. The evaluation will incorporate data collection at all levels of expected change, as outlined in the theory of change.
- Support the design and implementation of the Community of Practice.
- Develop the theory of change and evaluation plan during the planning phase.

CCNY

- Launch and manage the RFP process.
- Perform fiscal management duties, including grants management for the OST programs as well as EqM and PEAR.
- Discharge administrative duties, including development of a project calendar, scheduling monthly calls for partners, communications to programs, and coordinating logistics for CoP activities.

Wilson

- Advise CCNY in RFP process and cohort selection.
- Attend CoP meetings.
- Conduct periodic check-ins with leadership at partner organizations.

Norms and Expectations for the Partnership

We discussed expectations for how our partnership will work throughout the meeting. In general, we established that we want to work together to decrease redundancy in data collection, report findings from data analysis in a timely manner, and establish regular communication among ourselves. Key points include:

- EqM and PEAR will discuss planned data sources and collection activities, which EqM will outline in the evaluation plan.
- EqM and PEAR may share data and, in some instances, data collection responsibilities (particularly related to use of the DoS).
- Timely feedback of analyzed data will be important for the needs of the CoP. Feedback from the cohort will be gathered regularly and used to modify technical assistance delivery and curriculum.
- We will meet monthly via conference call. EqM, PEAR, and CCNY will take turns facilitating the monthly project call. Malia and Avery will join the calls periodically.

Request for Proposals

- Avery and Malia will use ideas and suggestions generated during the meeting to update the RFP.
- Each partner organization should review and provide feedback about the RFP.
- Wilson/CCNY hope to invite 30 organizations to submit a full proposal.
- The RFP will include the CoP events schedule.
- Wilson will work with the Martin Group, a communications firm, to announce the RFP to the public.

Next Steps

EqM

- Begin developing the theory of change and solicit feedback from the management team.
- Share Western New York Mentoring Collective CoP design outline with PEAR
- Contact PEAR to schedule a call about data collection.
- Update proposal scope of work to reflect any changes in activities and/or responsibilities.

PEAR

- Will send 11-state study completed in partnership with the Mott Foundation to the management team.
- Update proposal scope of work to reflect any changes in activities and/or responsibilities.

CCNY

- Andrea will provide a website for management team and a website for the RFP.
- Set up monthly calls among PEAR, EqM, and CCNY.

All

- Provide feedback on the RFP.
- Provide outreach recommendations for RFP dissemination.

Appendix: Emerging Expectations for Success

Overarching goal: Improve the quality and creativity of out-of-school time programming in southeast Michigan and western New York to inspire more 6th-12th graders (especially girls, black and Latino students, and economically disadvantaged students) to engage with and pursue STEM.

Youth Level
• Increase engagement in active learning experiences • Increase interest in STEM activities, courses, and careers, including STEM identity trajectory • Increase understanding of STEM concepts • Increase socio-emotional learning through program activities
Program Level
• Increase utilization of best practice models • Improve program quality (e.g., use active learning activities, relevant and youth-driven approaches, project-based learning, socio-emotional learning principles) • Experiment with innovative STEM programming • Increase the number of underrepresented youth (e.g., girls, black and Latino students, economically disadvantaged students) participating in STEM programming • Increase participation of families in STEM programming • Improve utilization of formative data to assess programming through adoption of the Dimensions of Success (DoS) framework • Increase capacity to sustain quality programming, despite leadership and staff transitions • Integrate community of practice learning and collaboration opportunities with program practices • Link STEM programming to local employer needs (including careers that may not require four-year degrees)
Community of Practice Level
• Increase communication and build relationships across program leadership and staff, prompting long-term connections • Facilitate learning and collaboration across programs • Connect evidence to professional development, program quality improvement, and student and facilitator outcomes • Identify common barriers (i.e., micro and macro) that hinder students' STEM engagement and persistence but also levers/strategies to reduce these barriers • Support leadership development in STEM program delivery
Foundation Level
• Increase understanding of how to fund and support cohorts of nonprofit organizations • Develop a model of collaboration for nonprofit cohorts • Guide programs and organizations toward becoming competitive for RCWJF and other funding • Develop evidence of quality STEM programming to share with the field

Working list of contextual factors and assumptions

Contextual Factors
• High transience of program staff in OST programs is common. • Facilitators/instructors bring different levels of skill in leading inquiry-based and project-based learning. • Geography of school settings (i.e., rural, suburban, and urban) influences OST program management by nonprofits versus schools. • STEM program engagement and partnership with local industry depends on the type and number of relevant employers in the regions.

Assumptions
• The organizations will want to collaborate and will see the value of the community of practice. • Three years is long enough to achieve the overarching goal of the initiative. • Inspiring more 6th-12th graders (especially girls, black and Latino students, and economically disadvantaged students) will be within the realm of influence of the selected OST programs. • Innovative programming is compatible with efforts to deepen program quality. • Programs will have the capacity, or build the capacity, to use formative data to improve program quality. • Program leaders and staff will be motivated to increase the engagement of girls, black and Latino students, and economically disadvantaged students in STEM programming. • Selected programs will demonstrate complementary strengths, enhancing the potential for cross-program learning. • Regarding thought leadership, lessons from this initiative will be valuable to the field.

EQUAL MEASURE | FINDING PROMISE FUELING CHANGE

To: Wilson STEM 2035 Management Team

From: Equal Measure

Date: November 12, 2018

Re: Key take-aways from the first Practice Learning Community Meeting

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This document summarizes high-level themes and observations from the first Peer Learning Community (PLC) meeting of the STEM 2035 Cohort on October 3-4, 2018, at Henry Ford Conference Center in Dearborn, MI. The goals for this three-hour meeting were to 1) Provide an opportunity for participants in the PLC to meet and begin to create a sense of community among cohort members; 2) Explore each program's needs and find commonalities; 3) Outline the needs, goals, and expectations of the PLC; 4) Provide an overview of expectations and what it means to be a "cohort"; 5) Review the quality framework for the upcoming years; and 6) Discuss the role of data collection and data use. This memo lists key takeaways and questions for the initiative partners to consider, as well as next steps. See Appendix A for end-of-session survey results.

Key Takeaways

1. Overall Impressions

Following the PLC meeting, initiative partners met to debrief their impressions of the meeting. Observations from this conversation are included throughout this memo, along with observations EqM staff collected during the meeting itself and findings from the end of session survey. Overall impressions of the PLC meeting were very positive, with some learnings and suggestions for future meetings collected as well. Specifically, initiative partners were impressed by the enthusiasm of the participants, their engagement with the meeting activities, and their clearly expressed excitement to meet each other and learn from each other. The Wilson Foundation's STEM 2035 funding initiative and related activities such as the PLC, created a great opportunity for program providers like themselves, for their students, and for the field. Participants felt taken seriously, and yet the atmosphere of the PLC was one of excitement and hope, infused with humor. The meeting itself flowed well, there was a good mix of program types and experience – including significant expertise -- in the group.

The activities and engagements across the two days were viewed as successful. The four lead teams presented themselves as very collaborative and supportive of each other, which set the stage for a positive climate. There was a good balance between activity types such as presentation/lecture mode, small groups, and pair share. Maintaining small group work kept learning participant-led, and participants were open to mixing among other groups, encouraging cross-regional groupings. Group cohesion was able to be fostered through circle time, which turned out to be a great ritual to create connectedness and foster open sharing and honest reflection at the start and end of each day.

In this image, Jamaal Williams from the PEAR Institute engages PLC participants in a group activity.

2. Formal and informal team building activities helped to establish a sense of community among participants, who left eager to stay in touch and strengthen relationships with each other.

There were many team building activities, designed and/or led by PEAR and Wilson staff, that helped foster a sense of community among the participants and allowed for a great deal of organic relationship building. These activities were designed to address the first goal of the PLC meeting: to provide opportunity for participants in the PLC to meet and begin to create a sense of community among cohort members. Examples of these activities are as follows:

On day one, PEAR staff led an introductory exercise where participants stood in a circle and shared what part of STEM (science, technology, engineering or math) they most identified with and why. Many of the participants connected their preferred area to a larger life picture; they made comments such as "math explains everything" and "science explains how the world works." EqM staff observed participants affirming each other's comments by smiling and making eye contact. Gil Noam, Director of the PEAR Institute, commented that we must challenge the idea that STEM is not connected to the human spirit; this idea resonated with participants, as staff noticed them nodding their heads and sharing stories that were in line with his sentiment. This exercise helped participants begin to bond as colleagues over shared feelings about the importance of STEM. Later that evening, participants had the opportunity to connect more informally, as they toured the Henry Ford Museum, enjoyed hors d'oeuvres, sarsaparilla root beer, and rides on a model T replica car, and shared dinner and dessert at Greenfield Village, a fascinating park dotted with original, relocated homes of some of America's most well-known innovators and pioneers of STEM, such as Thomas Edison and the Wright Brothers.

On the morning of day two, participants were led through another opening circle exercise with the guiding question, "What are you hungry to receive before the end of the meeting?" Common answers were community, collaboration, mechanisms for keeping in touch, and ideas for programming in STEM. One participant said, "People here are doing cool things, we want to do cool things too." Throughout the day, participants suggested ways to stay connected in between formal meetings, including Twitter and an online group such as Slack; Andrea Minor of CCNY was able to direct participants to the website she had already created for document exchange. One participant even created a Google map that marked addresses of all PLC members, providing everyone with a visual display of the programs' proximate locations. Participants also stated they want more opportunities to connect with each other in person, and more opportunities for programs in the two regions to come together for professional development.

Results from the end-of-session survey showed that 97% (n= 30) of participants agreed that there is value in being a member of the PLC[1]. 100% agreed that they were able to make connections with other PLC members over the two days[2].

Key Questions/Considerations:

- How can initiative partners help to further forge connection and communication across the cohort?
- Would it be useful and appropriate for the initiative partners to track this communication for evaluation purposes? If so, how much of this "collaboration" does the management team want to track, and by which methods?
- Participants expressed a desire to connect across the two regions, especially in person. Can the management team find ways to support this, keeping in mind the reality of budgetary constraints?

3. The Mind Mapping activity allowed participants to identify common needs and areas for improvement and confirmed that participants want to hear from programs that are strong in the areas in which they need improvement.

On day one, EqM led participants through a mind mapping activity. The goal of this session was to foster programmatic thinking and begin to identify where program needs and strengths align across the PLC. During the session, participants were asked to think, individually and in groups, about four questions:

1. What types of STEM does their program offer?
2. What aspects of their program is working well?
3. What areas would they like to see growth?
4. How do they envision the PLC helping them to achieve that desired growth?

Participants were then asked to write individual answers on sticky notes with assigned colors for each question and place the sticky notes on designated poster paper around the room. When putting their answers on the poster board, participants were instructed to group like answers together, so that they could begin to see themes, commonalities and differences. Afterwards, EqM staff continued to group the answers based on common themes,

In this image, one of the PLC participants proactively displays the four mind mapping topics on her laptop, color-coded!

[1] See Chart 1 in Appendix A for details.
[2] See Chart 2 in Appendix A for more details

and PEAR staff gave a summary of the answers to participants after lunch. EqM staff also took the post-it notes back to their office to count each answer and create categories by theme.

The bar charts below depict responses to two questions “What is working well?” (in Figure 1) and, “What do programs need?” (in Figure 2)

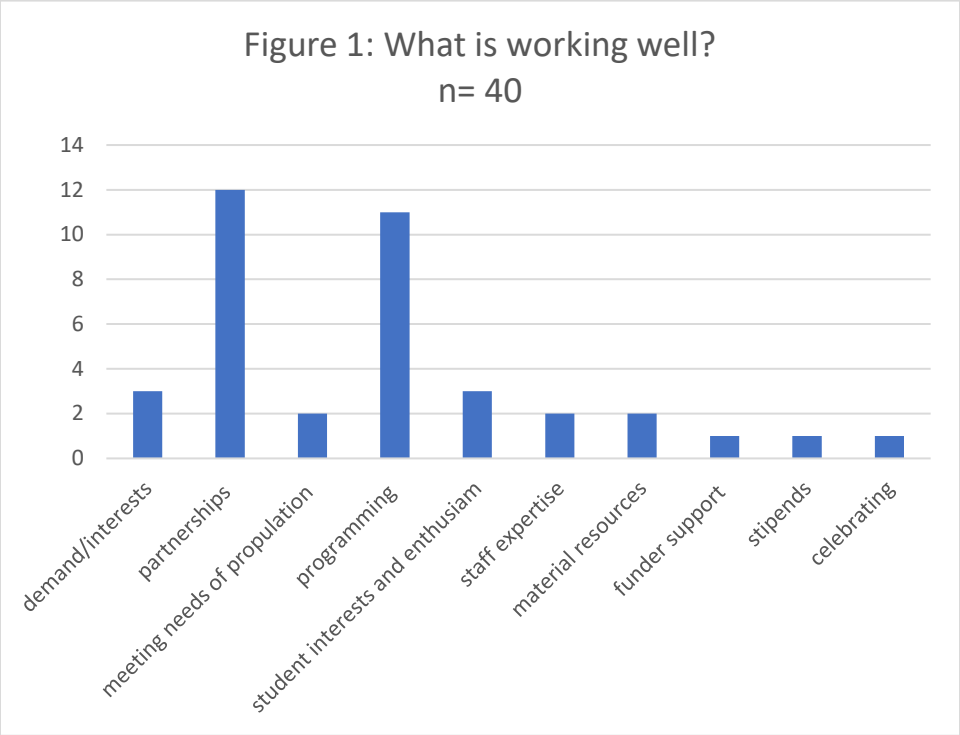


Figure 1: Most respondents indicated that partnerships and programming are working well.

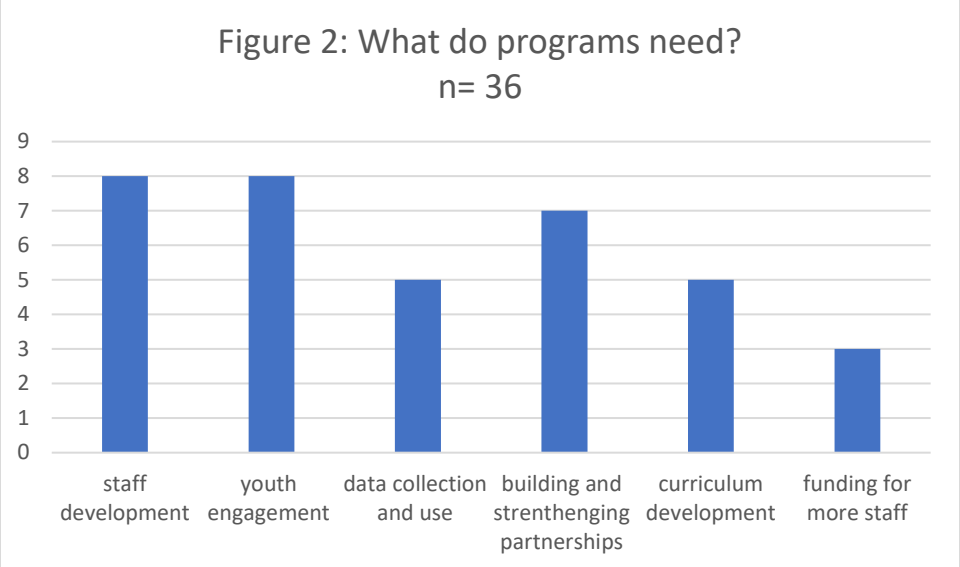


Figure 2: Programs indicated a need for support for staff development, youth engagement, building and strengthening partnerships. and other areas.

This mapping exercise revealed areas of strength and growth across the programs, and it was interesting to observe that while some programs felt strong in a particular area, there were other programs that felt weak in that same area. For example, one post-it noted that parental involvement was going well for their program, and in another, grantees listed parental involvement as an area for growth. Similarly, some programs stated that they were successful in including student voice, while others struggled with youth engagement.

EqM staff used these observations to reinforce the purpose of the learning community – that through the cohort model, grantees who have had success in a certain area can share tips with those who desire to improve. The PLC offers opportunity for discovery and connection, and it was clear that participants could see the value such a community could bring for their programs, their students, and for their own professional growth.

Post session survey results revealed that 71% of participants (n=22) left understand of the cohort's strengths, and 81% (n=25) left with an understanding for the cohort's areas for improvement. During the reflection meeting after the PLC, initiative partners observed that session facilitators should, in the future, simplify exercises such as mind mapping, as there was some logistic confusion at the start of the activity that facilitators were able to resolve with further instruction. We determined that it will work best to have the same facilitator introduce, explain, and conduct a particular activity, in order to streamline communication.

Key Questions/Considerations

- Are the grantees' needs and areas for improvement in line with the goals of the initiative?
- How can the management team address issues of equity? This topic was not often raised as program goal or focus, but it is an overall goal of the initiative.
- How can we engage programs with certain strengths while providing best practices in the same areas that are weaknesses for others? The management team should consider how to balance the differing and sometimes contrasting needs of programs, including the range of maturity across the programs.
- How do we balance the participants desire to learn from one another with the fact that PEAR is the authority on best practices? The management team needs to strike a balance between the cohort's desire to learn from each other and PEAR's role as TA provider.

4. Program staff are eager to use data but may need coaching on how to do so. End-of-session survey data indicated 97% of participants (n=30) understand the importance of data for decision making. However, when asked about their current data use, the majority of participants said they currently do not survey staff or students. As shown in Figure 2, data collection and use was indicated as an area for growth by participants during the mind mapping exercise.

During the PLC segments introducing the role of evaluation and the use of the Dimensions of Success (DoS) indicator, participants raised several questions about data. Once they learned about DoS and how findings can be tracked to national data averages for STEM programs, they were eager to learn how they could use the tool to measure the success of their programs and also determine where their program would rank on a national scale. They were also interested in training their program staff to use and understand use the DoS tool, including data analysis and interpretation. They saw the value in using the data not only for program improvement, but also as a key form of communicating programmatic and financial needs to policy makers and potential funders.

Key Questions/Considerations:

- What is the cohort's current capacity for data use?
- How are programs collecting and using other data to inform their programming?
- Participants indicated a desire to observe each other's programs using the DoS framework. Is there any concern with having programs observe each other using the DoS framework? Even though participants seem open to sharing, are there any possible issues/pitfalls to this option?

5. The introduction of the Clover Model, Qualtrics, and the DoS framework began to shape a common language that grantees can use when thinking about how to strengthen their programs. The Clover model, introduced during this first PLC, gave participants a framework for thinking about how to use STEM programming in a way that meets youth's various development needs. PEAR Institute facilitators described the Clover Model to participants and explained how the each of the four components of the Clover framework connect to the 12 components of the DoS framework. As the PEAR Institute commented during the post-PLC reflection session, connecting DoS to the prior day's learning was good for scaffolding and consistency.

During this Day 2 Clover Model segment, participants watched a video that modeled an activity that displayed different opportunities for learning through the Clover framework. Following the video, the PLC participated in a lively discussion about the merits and detriments of how the Clover model was used in this particular educational setting. For example, participants noted when activities in the video allowed for the children to voice their needs and when they did not; whether the children were given the freedom to bring in their own ideas or if they were constrained by the instructor's guidelines; and whether they activity was structured in a way that was inclusive of all students regardless of personality type or diverse learning needs. The video sparked debate about indicators of quality STEM instruction. During Day 2, the PEAR Institute also introduced the Qualtrics dashboard. While there was some later reflection that the presentation could have been conducted at a slower pace and include more group interaction, participants appeared very interested in the tool and were able to see how Qualtrics will support data visualization and reporting.

Overall, the Clover Model and Qualtrics overviews were well-received, and participants were heard using Clover language throughout the rest of their time together. Participants saw the merit in these methodologies and were eager to take the language of Clover, the power of Qualtrics, and the DoS framework back to their programs.

Key Questions/Considerations:

- Which programs are already using Socio-emotional learning models, such as Clover, or similar frameworks in their practice?
- Does the management team have a sense of whether the participants understood that DOS is not a punitive framework? We should remember to continue to frame the work from strengths-based perspective.

6. Participants identified new outcomes to be included in an updated STEM 2035 Theory of Change. During the evaluation segment, EqM introduced their role as cohort-level evaluator and then facilitated a discussion and review of the outcomes included in the STEM 2035 Theory of Change. This segment served the dual purpose of 1) introducing the TOC as a strategy and evaluation tool, and 2) eliciting feedback from the community on the current document in order to update it with stakeholder perspectives. As was commented in the post-PLC reflection session among initiative partners, participants appeared to appreciate going deeper into the evaluative arm of the project.

Participants were asked to consider if the outcomes shared were in line with the changes they expect to emerge from their programs and the cohort. The participants gave the following feedback:

Additional Outcomes:

- Increase in sustainability and funding among programs
- Increase in knowledge sharing/best practices among programs
- Improved program and STEM knowledge among volunteers
- Increased participation of youth in STEM activities
- Identification of individual and systemic barriers that hinder student participation
- Improved connection of evidence to practice

Suggestion for change:

Include clear definitions of the words “engagements,” “barriers,” and “interest,” since these words can mean different things in different settings. For example, engagement can mean “meeting” and it can refer to “teacher engagement” or “student engagement.”

Key Questions/Considerations:

- Which of the suggested outcomes do the initiative partners agree should be added to the Theory of Change?
- How do we further define “engagement” and “interest?” How can we be sure our assumptions for what constitute engagement and interest are in accord with grantees definition of these terms? What methods should the PLC use to ensure a common language?
- How will we address participants’ expectation for other outcomes that the initiative partners do not believe are an intended outcome?
- Is there a need for further technical assistance if programs want to develop individual logic models or theories of change?

Next Steps

In addition to addressing the key questions and considerations listed above, the following next steps were identified by the management team:

- Make relevant slides and handouts used during the PLC meeting available to participants
- Have PLC participants complete the DoS self-assessment tool prior to the January cohort meeting.
- Of note: Not everyone will get DoS training, but those who want it can get it.
- Use telephone interviews with program staff to delve further into the value of the PLC and their needs around data use.
- Solicit ideas from participants as to how to best include volunteers and other staff for relevant PLC meetings or training sessions
- Consider ways that programs that use best practices can be highlighted and connected with programs that would like to grow in a same area.

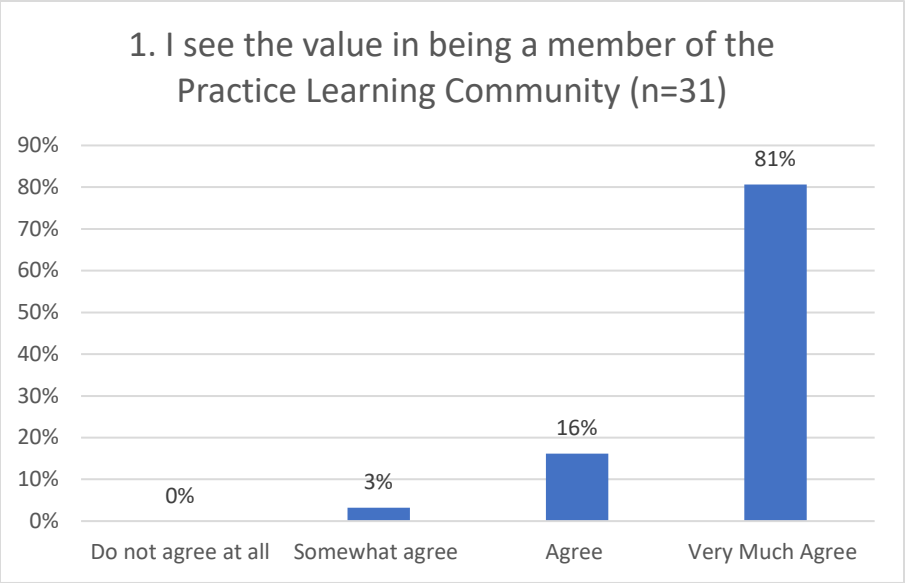
Suggestions:

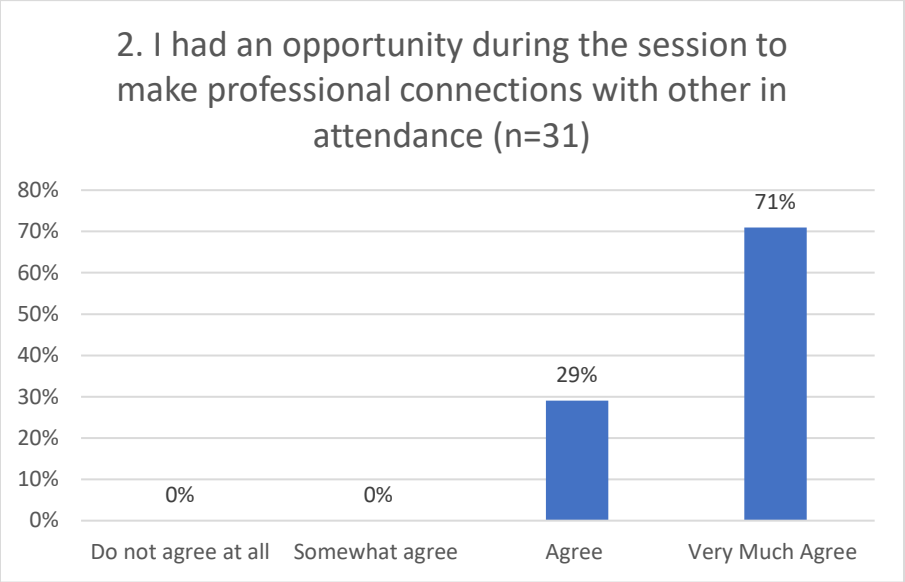
- Before the PLC begins, convene a facilitator's circle so all content deliverers understand the flow of the day and the transitions
- During the PLC, spending some time discussing what types of systems would be the most accessible for participants as a PLC. For example, guiding questions might include: What's the best way to share best practices? How could we organize information for you?
- Be prepared with very tangible next steps at the close of the PLC meeting, including a printed sheet with clear next steps
- It is important to stay in touch frequently with PLC members to harness the enthusiasm and keep them engaged in between PLC meetings

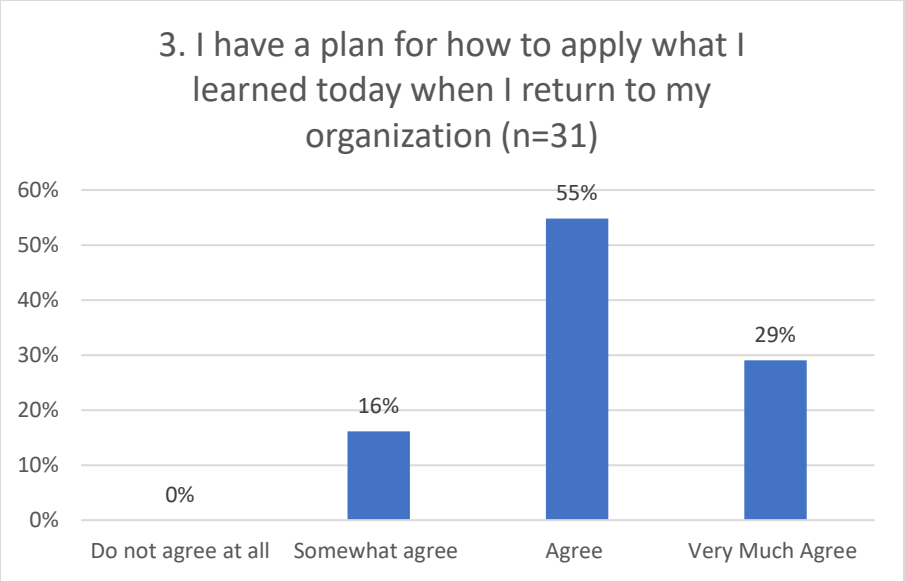
Closing

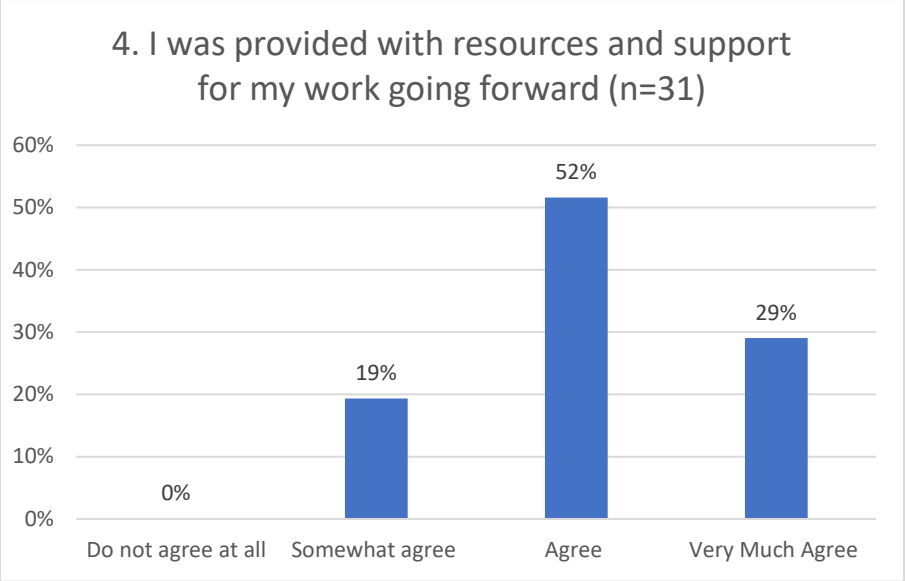
Overall, the participants were energetic, enthusiastic, and excited to be members of the peer learning community. The presentations and activities by PEAR included enough individual and group work to keep the participants engaged and encouraged them to think about how their own programming fits into best practice frameworks. The two-day session was well-organized and included the appropriate amount of time to introduce the initiative and the agenda content. The participants were eager to collect data on their programs and use it to improve youth program outcomes. Participants expressed a deep desire to connect with each other, and it will be important for the management team to think about opportunities to foster this connection. It will also be important for the management team to think of how to be clear about STEM 2035 expected outcomes, including how the programs will maintain an emphasis on diversity, equity, and inclusion to inform their work. These and other reflections will inform our joint planning moving forward.

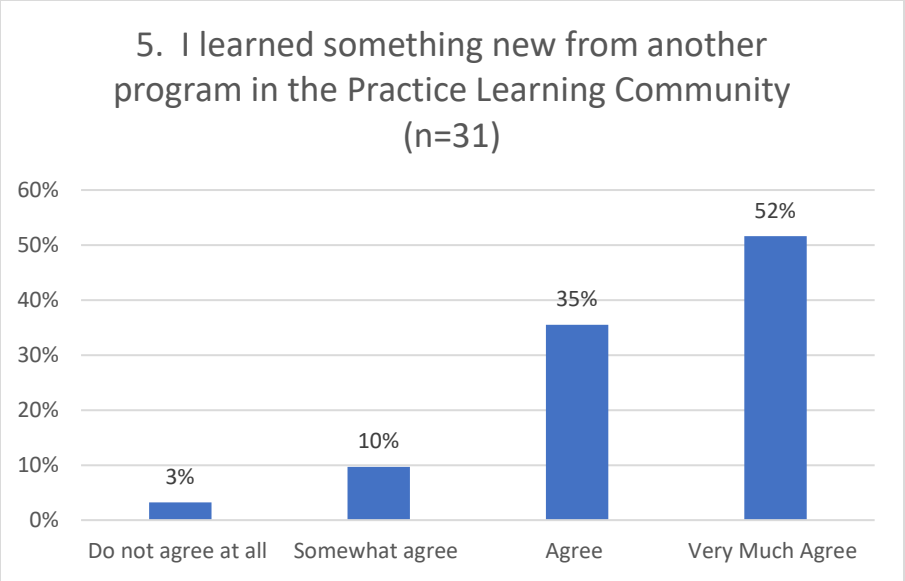
Appendix A: End of Session Survey Results

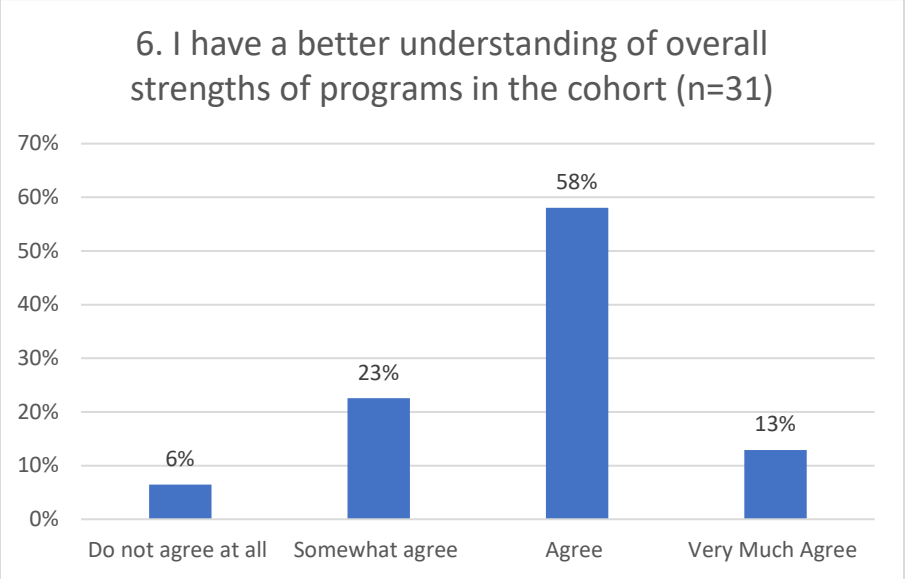


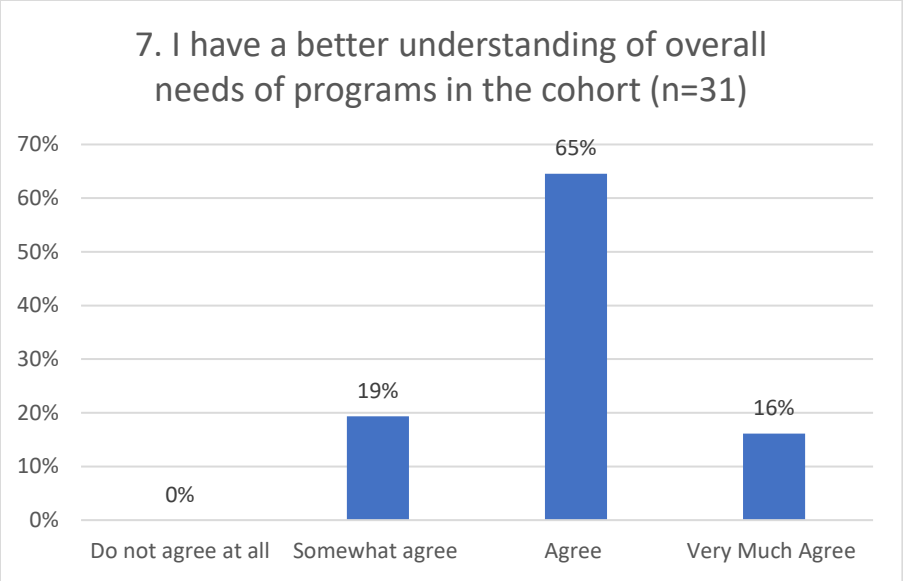


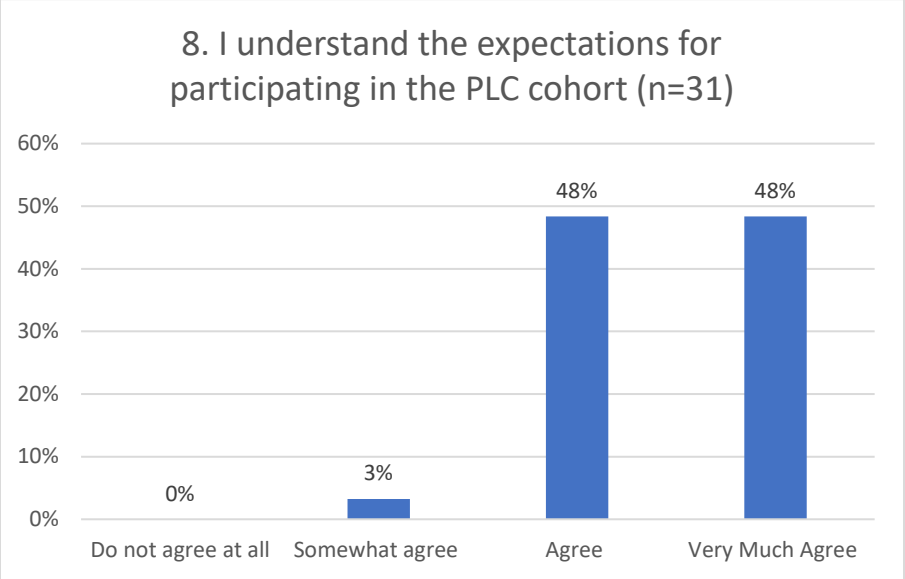

3. I have a plan for how to apply what I learned today when I return to my organization (n=31)
60%
50%
40%
30%
20%
10%
0%
0%
16%
55%
29%
Do not agree at all
Somewhat agree
Agree
Very Much Agree

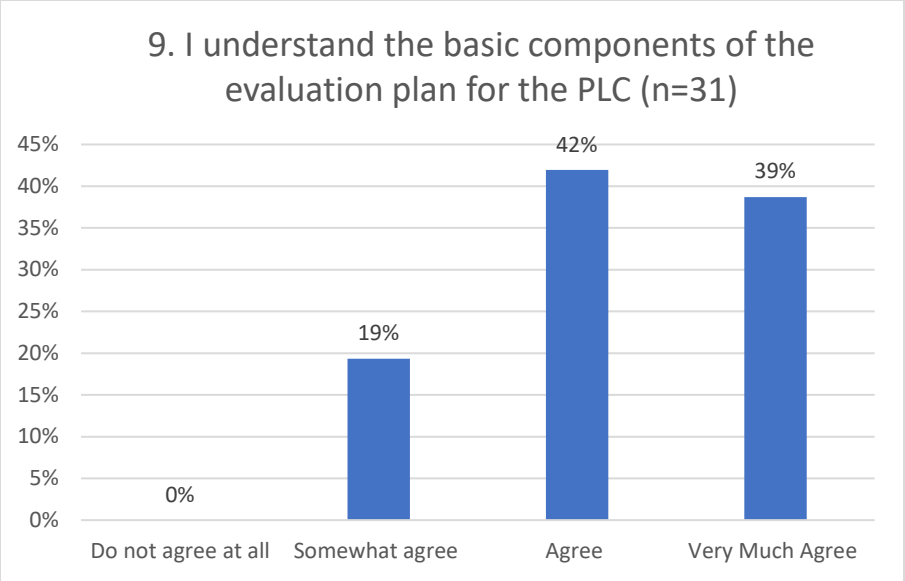

4. I was provided with resources and support for my work going forward (n=31)
60%
50%
40%
30%
20%
10%
0%
0%
19%
52%
29%
Do not agree at all
Somewhat agree
Agree
Very Much Agree

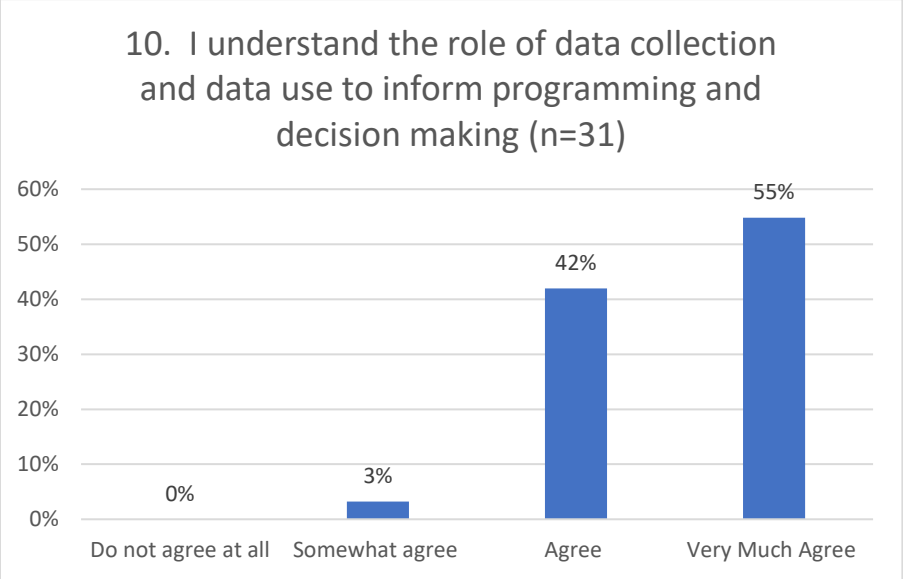

5. I learned something new from another program in the Practice Learning Community (n=31)
60%
50%
40%
30%
20%
10%
0%
3%
10%
35%
52%
Do not agree at all
Somewhat agree
Agree
Very Much Agree


6. I have a better understanding of overall strengths of programs in the cohort (n=31)
70%
60%
50%
40%
30%
20%
10%
0%
6%
23%
58%
13%
Do not agree at all
Somewhat agree
Agree
Very Much Agree


7. I have a better understanding of overall needs of programs in the cohort (n=31)
70%
60%
50%
40%
30%
20%
10%
0%
0%
19%
65%
16%
Do not agree at all
Somewhat agree
Agree
Very Much Agree


8. I understand the expectations for participating in the PLC cohort (n=31)
60%
50%
40%
30%
20%
10%
0%
0%
3%
48%
48%
Do not agree at all
Somewhat agree
Agree
Very Much Agree


9. I understand the basic components of the evaluation plan for the PLC (n=31)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
0%
19%
42%
39%
Do not agree at all
Somewhat agree
Agree
Very Much Agree


10. I understand the role of data collection and data use to inform programming and decision making (n=31)
60%
50%
40%
30%
20%
10%
0%
0%
3%
42%
55%
Do not agree at all
Somewhat agree
Agree
Very Much Agree

Interview Results and Next Steps

EQUAL MEASURE

FINDING PROMISE
FUELING CHANGE

Introductions

- Interviews took place between Dec-Feb
- Purpose of interviews: collect baseline data on programs and PLC implementation
- Participants were mostly Program Directors; some other PLC participants
- 1 hour in length
- Two EqM staff per interview; notes and recordings
- 20 question interview protocol
  - Peer Learning Community
  - Program Strengths, Areas for Improvement, & Data Use
  - Programming and Student Outcomes
  - DEI
  - DoS and Clover Model
  - Hopes for PLC

Learning Goals

- Guidance on how to improve staff and volunteer PD
- Opportunity to learn from other organizations
- Challenges
- Connections to other organizations/possible partnerships
- Best practices
- Resources and tools
- Deeper understanding of DoS framework and how to use it to improve program

Program Strengths

Grantees identified strengths as:

- Atmosphere/learning environment
- Community connection and involvement *
- Partnerships
- Program content and curriculum*
- Student driven learning*
- Variety in programing
- Creative staff

Areas for Improvement

- STEM content and Innovation
- Student Inquiry
- STEM knowledge of staff (no STEM background)
- Participation (recruitment and attendance)
- Evaluation and Data Use
- DEI/Access for underrepresented youth

Student Levels Outcomes

- Career pathing
  - Links to employers or professionals through STEM skills trade fairs, quest speakers, connecting content to careers
  - Increased interest trade school or college
- Increased Socio Emotional Development
  - Leadership
  - Confidence
  - Perseverance
- Increase STEM knowledge
- Increased knowledge in general (reading, writing, math, english)

"The more we teach kids STEM, the more we teach them entrepreneurship, the more likely they are going to stay in their home community, because they see options in front of them to support themselves and their families without leaving."

DOS and CLOVER Frameworks

- Grantees are excited about the DoS and Clover Frameworks

"The rubric itself is helpful; it gives us a standard to follow."

"I like in the Clover Model how it addressed kids' different learning styles. We need to ponder more about how to put that in to the program."

"DoS framework is so detailed and helpful for staff – most useful in planning of curriculum and training of staff."

- Grantees want tangible ways to incorporate practices that will improve their DoS scores

Data Use and Aspirations

- All programs collect data in some capacity – ranges from attendance, to youth testimonials, to parents and family surveys.
- Grantees hope to not only increase the amount of data they collect, but to also use the data more effectively.

> ***"We want to use data to speak to people to justify our existence and tell why this program is important."***

- Grantees hope to get guidance on how to collect data on youths' socio-emotional skills, and if the program might support improvements in these skills.
- Grantees may need guidance as to how to incorporate DoS into their overall data collection and use plans.

Implications and Next Steps

- DEI Interest
- Opportunities for grantees to share their strengths with each other
- Staff and volunteer training opportunities (non-PLC participants)
- Help with implementing tools and resources (e.g., incorporate DoS into their overall data collection and use plans)

Next Steps

- Written memo on interview findings
- April PLC (attendance and observation)
- April Team Meeting: debrief PLC and review evaluation plan

STEM 2035 Initiative

Ralph C. Wilson, Jr. Foundation & Community Connections of New York

Report from The PEAR Institute, McLean Hospital

May 2019

The PEAR Institute at McLean Hospital has been gratified to participate in the STEM 2035 initiative. Our collaboration with the Ralph C. Wilson, Jr. Foundation, Community Connections of New York (CCNY) and Equal Measure brings a level of commitment and thoughtful planning to this multi-city project that PEAR hopes to carry forward through several more years of STEM 2035 in New York, Michigan and beyond.

The STEM 2035 initiative was designed to create a community of afterschool program leaders in Western New York and Southern Michigan. After a careful selection process, the Wilson Foundation is investing in each participating program over the three-year project. Programs have been invited to come together in a learning and skill acquisition process which will foster data-oriented quality improvement, including observations of each program to assess quality, outcomes measurement for staff and students, and training for program leadership and staff.

Overall goals for the first year included:

1. Create the foundation of a partnership, including strong relationships, shared goals, and clear outcomes.
2. Establish theory of change model and project outcomes.
3. Introduce programs to the tools and begin to train them in administration of tools and interpretation of results.

To achieve these goals required a focus on team-building and collaboration among CCNY, Equal Measure, The PEAR Institute and the Wilson Foundation. The planning process incorporated the results of needs assessment/evaluation of the participating programs. Year 1 activities are outlined below, as well as plans set so far for Year 2, which will be shaped by the cohort with consideration of results from initial data collection. Year 1 was a very productive period of foundational work and cohort-building, creating the strong base on which we will build Years 2 and 3. The next year of work will include several rounds of data collection on youth outcomes and program quality. PEAR will use the results to empower participating programs as they plan individually for improvement, and to inform the cohort-level goals for training and professional development. The cohort model builds sustainable communities of practice designed for maximum impact and improved youth outcomes well beyond the 3-year period of training and support.

Activities Completed

At the outset of the collaboration beginning April 2018, The PEAR Institute worked with Equal Measure and CCNY on a theory of change model and outcomes measure table to serve as foundation for the STEM 2035 initiative, which were incorporated into Equal Measure's project evaluation plan. In this beginning phase, PEAR developed an outline of content to be covered with the cohort over the next two years and provided feedback on the LOIs received from potential cohort participants.

Ongoing planning meetings were held monthly with CCNY, Equal Measure, PEAR, and the Wilson Foundation, with additional sessions in September to plan the October kickoff. In preparation for that in-person meeting, PEAR developed a detailed outline of the two-day kickoff, including presentation materials, participant activities and handouts.

In December 2018, PEAR provided training on the Dimensions of Success (DoS) rubric for program quality with an overview of the DoS Self-Assessment Tool. The Self-Assessment Tool was distributed to participating grantees and PEAR created links for grantees to enter their data through PEAR's online portal.

PEAR provided full days of in-person training to each cohort (January 28th in Buffalo, NY and January 29th in Detroit, MI). These trainings included reviews of the DoS self-assessment data collected by participants, and training focused on increasing and improving the "Reflection" aspect of activities. Reflection is one of the lower-scoring dimensions for OST programs nationally and was scored lowest by this cohort on the DoS Self-assessment.

In mid-March PEAR facilitated two hour-long video calls with cohort members to collect participant input and feedback on the professional learning community (PLC) meetings. PEAR also coordinated and participated in two hour-long video calls run by PLC members on special topics selected by the PLC.

A "Program Info survey" was created by PEAR to gather the information necessary for coordination of survey administration and data collection. PEAR also created links to collect Common Instrument student survey data and DoS observation data. A demonstration version of the data dashboard was created to allow PLC members to experience the CI student survey and see how the resulting data would look in a dashboard.

As of March 2019, 20 participants from PLC programs have participated in the two-day DoS observer certification trainings and more are scheduled.

Status of Current Activities

Cohort training is ongoing – in April PEAR provided full-day cohort trainings in Lockport, NY and Detroit, MI. In these sessions participants learned to use the DoS Program Planning Tool in support of high-quality STEM activities, with explicit guidance on sharing this knowledge back to their staff. The training included discussion about partnership types, with focus on the most productive methods of collaboration. As with all PEAR trainings, an experiential activity was included.

PEAR has also shared templates and materials with CCNY to coordinate data collection. STEM2035 programs will use PEAR's tools including the Common Instrument (CI) survey to measure youth interest in STEM and the Dimensions of Success (DoS) observation tool to measure program quality. In May, PEAR will conduct a webinar for the STEM 2035 cohort to review the data collection process, providing guidance for collecting student survey data and submitting of DoS information, as observation scores or videos for virtual observation. Data collection will be coordinated by CCNY and PEAR has shared techniques and sample communications based on experience with similar cohorts.

Monthly planning meetings with PEAR, Equal Measure and CCNY have occurred throughout the initiative, which ensures all activities, communications and evaluation efforts are coordinated.

Timeline

Spring 2019: first round of data collection, with follow-up "Data Debrief" webinar in July
May 2019: data collection webinar
June 2019: PLC meeting focused on strengthening ties within the cohort
Summer 2019: second round of data collection, with follow-up "Data Debrief" webinar in September/October

Activities in Year 2 will focus on goals set collectively by the cohort, and the creation of individualized action plans based on results of Year 1 data collection. PEAR will provide professional development and support to help the cohort achieve these goals (as well as continued data collection) through year 2.

Evaluation & Results

Evaluation of The STEM 2035 project is conducted by Equal Measure, an active partner in the planning and ongoing work.

EQUAL MEASURE | FINDING PROMISE FUELING CHANGE

To: Ralph C Wilson Jr Foundation (RCWJRF), PEAR Institute, and Community Connections New York (CCNY)

From: Equal Measure (EqM)

Date: October 25, 2019

RE: STEM 2035: October 2019 PLC observations and survey results

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This memo captures observations from the STEM 2035 Peer Learning Community (PLC) meeting that took place October 1-2, 2019 in Buffalo NY. Using a semi structured protocol, EqM staff documented sessions, speakers and interactions that took place among participants. **Section 1** discusses findings related to outcomes from the STEM 2035 Theory of investment (TOC) and results from the end of session survey.[1] **Section 2** provides next steps and discussion questions to support coalitions in implementing their stated goals and the leadership team's partnership as it enters Year 2.

We offer this memo both as documentation of progress as well as in the spirit of continued improvement to support the STEM 2035 cohort towards the goal of diversifying youth participation in high quality STEM programming.

Section 1

Outcome: Increase the number of underrepresented youth (e.g., girls, black and Latino students, economically disadvantaged students) participating in STEM programming

Recruiting and retaining underrepresented youth and providing them with culturally responsive services continues to be an important outcome for programs. In response to interest from PLC members to learn more about culturally responsive practices, project leadership invited Dr. Calvin Mackie, President and Founder of STEM NOLA, to serve as the keynote speaker for October's PLC. Dr. Mackie encouraged participants to think about DEI as it relates to their program and set the stage for future diversity and

> "Instead of telling youth to get an education that only positions them to ask employers 'How much do you pay?' we should give them STEM skills so that they can tell people "This is how much I charge."
>
> - Dr Calvin Mackie, STEM NOLA

[1] See Appendix A for post-session survey results.

equity work in the cohort. He offered high level best practices for retaining minority students, such as making STEM content socially and culturally relevant and reinforcing socio-emotional skills such as perseverance among students. Dr. Mackie asked participants to discuss their program's biggest challenge around diversity and then brainstorm solutions with the people at their tables. A group of participants from Buffalo discovered they had similar challenges with transportation vouchers for students in their programs. They exchanged contact information and planned to work together to create an advocacy plan for allowing students with travel vouchers to use them for return trips home after their program. This keynote will be followed by continued professional development in Year 2 around integrating principles of diversity, equity, and inclusion into programming and ways of working.

80% of session survey respondents reported that the talk inspired them to think about DEI and how it relates to their programs. Written feedback described Dr. Mackie's talk as "inspirational." One respondent wrote, "if we are really going down the road of DEI, we need to have the really hard conversations about privilege, oppression, power, etc." Survey respondents stated they want to learn more about DEI terminology. Below is a list of goals participants shared on the feedback survey:

Strategy	Activity
Consider the diversity of program staff and volunteers.	• Build a representative staff. • Bring in diverse role models. • Improve staff and volunteer recruitment so that they are more diverse.
Conduct community outreach that leverages existing community strengths and resources.	• Reach out to and work with different community-based organizations. • Find locations and times that allow better parent engagement.
Connect student's culture to learning; utilize student's voice and feedback.	• Learn more about what's important to students and better understand their experiences. • Build relationships and make connections with students from culturally diverse backgrounds. • Study and apply other models.
Target outreach to specific groups.	• Increase Latinx student representation.

Action/Implications: Create a plan for Year 2 PLC programming on diversity, equity, and inclusion. Tailor DEI workshop to PLC needs by sharing strategies and proposed activities with selected facilitator.

Outcome: Increase communication and build relationships across program leadership and staff, prompting long-term connections

Informal networking and team building activities set the tone for building strong connections among the cohort. The STEM 2035 leadership team designed the meeting to include several opportunities to network and build connections. Dr Mackie's presentation was followed by a cocktail hour and dinner. The next day, participants also had the opportunity to network over breakfast and lunch.

Team building activities were used to help participants connect and relate to each other. Day two of the meeting began with an opening circle exercise, which creates an intimate atmosphere that gets folks

ready to share throughout the day. This is a tactic that PEAR uses at every PLC meeting, and it provides consistency from meeting to meeting.

During the meeting, PEAR staff facilitated two activities among participants to foster connection through shared experience and empathy for students from underrepresented backgrounds by illuminating challenges that they face when considering STEM careers.

Action/Implications: Continue to encourage formal and informal connections between PLC members in between in-person sessions. Recent encouragement to observe each other's programs using DoS supports that goal. Hold webinars that include break-out groups and other forms of information sharing. Consider hosting "coffee and conversations" to discuss findings from various activities. PLC participants can replicate modeled "connector" activities in their STEM programs.

100% of session survey respondents reported that they made at least one connection with a participant from another organization. 94% of session survey respondents reported being excited or very excited for year 2!

Outcome: Improve utilization of formative data to assess programming through adoption of the Dimensions of Success (DoS)

Grantees left with the understanding of the importance of using "living" data. PEAR's goal for the data session was to build participants confidence in understanding data and how to use it. Participants logged into their Qualtrics accounts and viewed the data for the cohort. They were asked to interpret the data, in order to make sure they understood how to read it. Viewing the data in real time emphasized PEAR's message that data should be viewed regularly and used for program improvement.

81% of session survey respondents left the meeting with an improved understanding of how to use data for program improvement. 94% of session survey respondents reported leaving the meeting with resources and support for their work.

Outcome: Improve program quality (e.g., use active learning activities, relevant and youth-driven approaches, project-based learning, socio-emotional learning principles)

While the focus on Year 1 was building relationships and introducing the cohort to DOS, year two brings program, student, and cohort-level outcomes into focus. While previous meetings centered on building relationships in the cohort and introducing them to DOS and Clover, this meeting challenged participants to think about outcomes. The results from the student outcomes survey sparked discussion on where the cohort should focus its efforts. For example, results from the common reporting instrument showed that 20% of students did not report a change in STEM identity. PEAR leadership posed several questions for the group: Should program leads focus their energy on increasing the number of students that have a STEM identity or instead focus on strengthening programming for students overall?

EqM's presentation also challenged participants to begin thinking about outcomes.[2] The presentation highlighted the importance of student demographic data collection, as it will help the cohort know if it is increasing its reach to students from underrepresented backgrounds. EqM also asked participants write

[2] See Appendix B for list of participants' stories/outcomes.

down a sentence or two about the story they want to be able to tell at the end of the grant and collected the stories on chart paper. *EqM will share an analysis of these stories in a subsequent memo*.

PEAR staff asked participants to write down "Rocket goals" for Year 2. These goals were written on puzzle pieces that create a 3-D rocket and will be displayed at future PLC meetings.[3]

Action/Implications: Knowing the programs' individual goals will help the leadership team plan sessions that are useful and engaging. By collecting program goals, the leadership team also has the opportunity to look for common goals and encourage collaborative work across the cohort.

97% of session survey respondents reported that they left the meeting with a draft of program goals for Year 2 of the grant.

Section 2: Questions for Consideration

We offer a list of questions to generate discussion for the STEM 2035 leadership team.

1. **Do participants have enough support for collecting data from students?** A participant mentioned that it was challenging to get her students to complete surveys, because many of her students are "neurodiverse" which makes it difficult for them to focus and complete the survey. Also, EqM wants to increase grantee's participation in the student demographic collection. It could be beneficial for PEAR and EqM to develop guiding documents or tips for data collection.
2. **What are key considerations when designing our next DEI session?** Though 80% of respondents said that Dr. Mackie's talk inspired them in thinking about DEI in their organizations, 20% of respondents gave a neutral rating. This leaves room for other ways to engage the group's thinking about DEI goals. Respondents also expressed the desire to engage with students in a culturally competent way. As the leadership team has discussed, a workshop-based approach with group-based activities, led by leaders in the field (e.g., RaceForward; Frontline Solutions) would be a positive strategy for the next session.
3. **How can we better highlight individual grantee organization strengths?** Some grantees had higher DOS scores than others. It could be beneficial to do a brief spotlight on organizations that are doing well in certain areas. This will also position organizations as resources for each other after the grant has ended.
4. **Heading into Year 2, how can the leadership team strengthen its partnership approach?** As we develop plans for Year 2 and beyond, we are at an appropriate point to take stock of our leadership team approach and consider how to thoughtfully review and establish norms for going forward. The main goals of our partnership are to support the goals of the Wilson Foundation, create an atmosphere for positive learning and support for the grantees, and present technical assistance and evaluation with a united approach. Some tested tactics include collaboratively developing working agreements and learning objectives for the partnership that we can all commit to as a team.

[3] See Appendix C for list of participant's Year 2 goals.

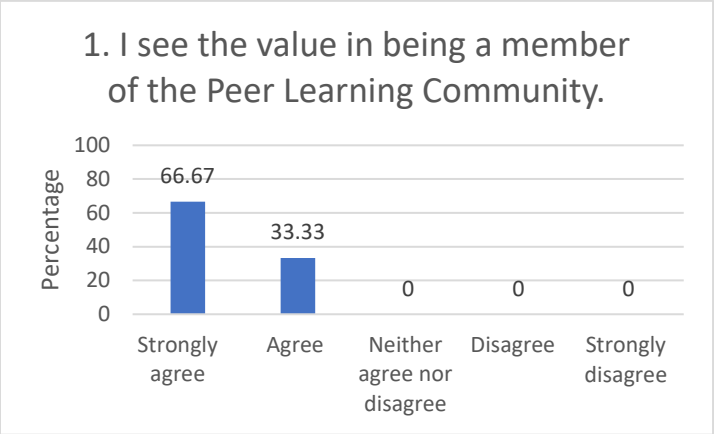
Appendix A: Post Session Survey Results

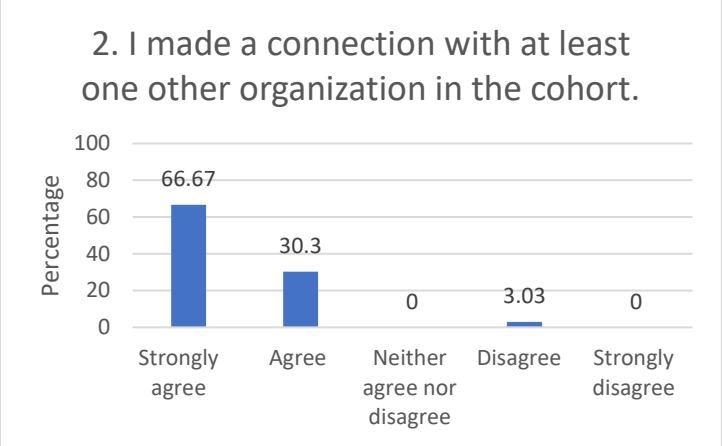
Total number of people who answered the survey: 33

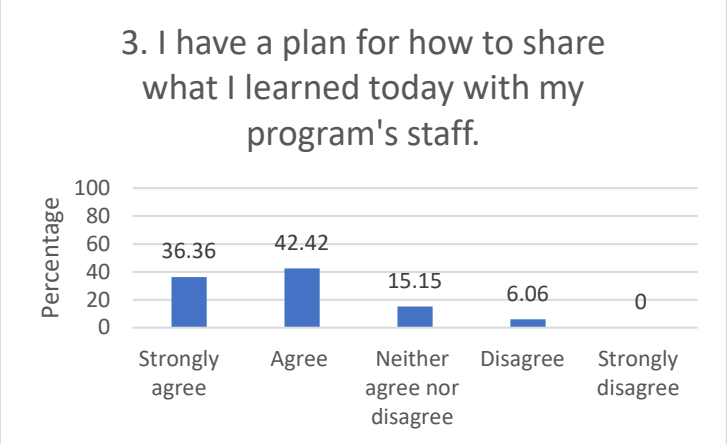
In general, the ratings are high for all items; even for the least agreed item, there are still more than two thirds of participants selected “agree” or “very much agree”.

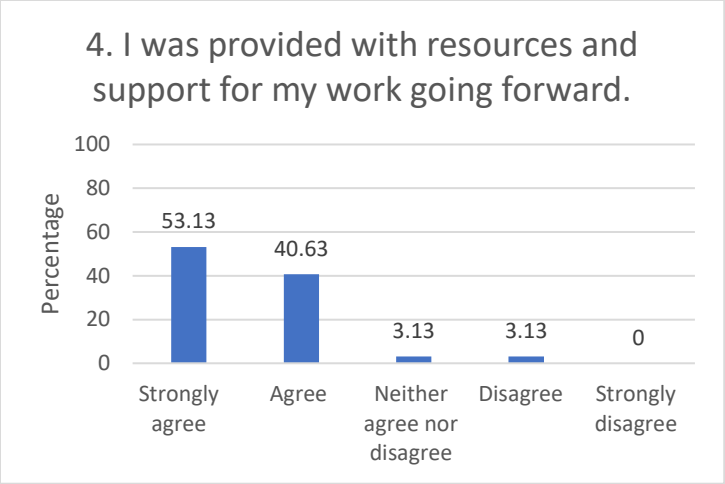
Takeaways	Question	% of agree or very much agree	N	Note
All of the participants see value in being a member of PLC and understand the expectations for Year Two.	1. I see the value in being a member of the Peer Learning Community.	100	33	higher than June PLC (82.76%)
	11. I understand the expectations around data collection and PLC participation for Year Two	100	33	
The vast majority (more than 90%) of participants made a connection with other organizations, drafted program goals for Year Two, understand how to use data, felt excited about Year Two, and felt they were provided with resources and support for the work.	2. I made a connection with at least one other organization in the cohort.	96.97	33	same as June PLC (96.56%)
	10. I drafted a list of my program's goals for Year Two of the grant.	96.88	32	
	9. I understand how to use program data to identify my program's strengths and areas for growth.	93.94	33	
	13. When I think about participating in year two of STEM 2035, I am: Excited or Very Excited	93.94	33	
	4. I was provided with resources and support for my work going forward.	93.76	32	Much higher than June PLC (79.31%)
Eighty percent of the participants left the meeting with a deeper understanding of data and DEI.	8. I am leaving this meeting with a deeper understanding how data can be used for program improvement.	81.82	33	More respondents agreed (54.55%) than strongly agreed (27.27%)
	5. Dr. Calvin Mackie's talk inspired me to think about diversity, equity, inclusion (DEI) and how they relate to my program.	80.65	31	2 people indicated that this should be N/A for them since they were not there.
The majority of participants (almost 80%) have a plan for how to share what they learned.	3. I have a plan for how to share what I learned today with my program's staff.	78.78	33	Slightly lower than June PLC(81.48%)
two thirds of the programs send the same people to PLC meetings.	14. In general, my program sends the same people to the PLC meetings.	67.75	31	1 strongly disagree

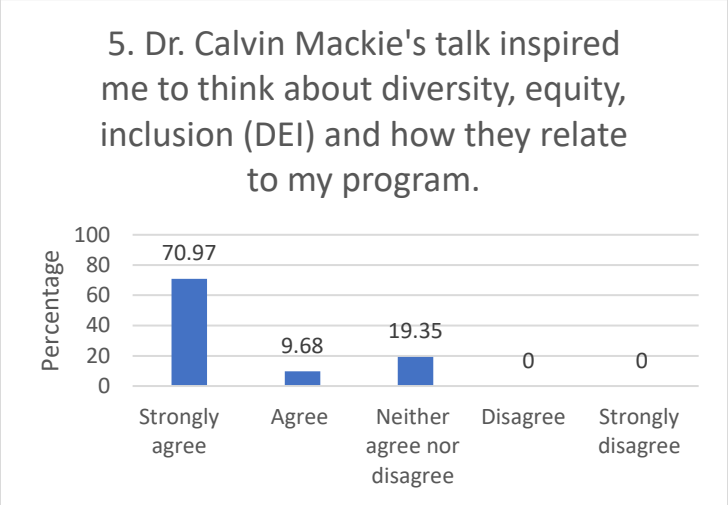
Charts:

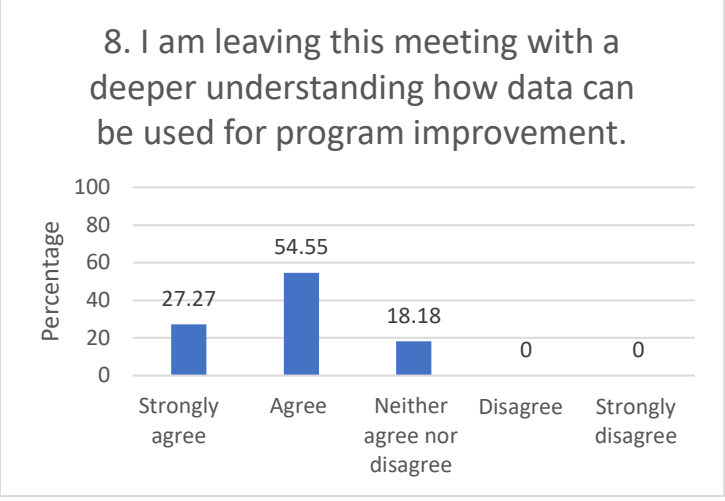

1. I see the value in being a member of the Peer Learning Community.
Percentage
100
80
60
40
20
0
66.67
33.33
0
0
0
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree

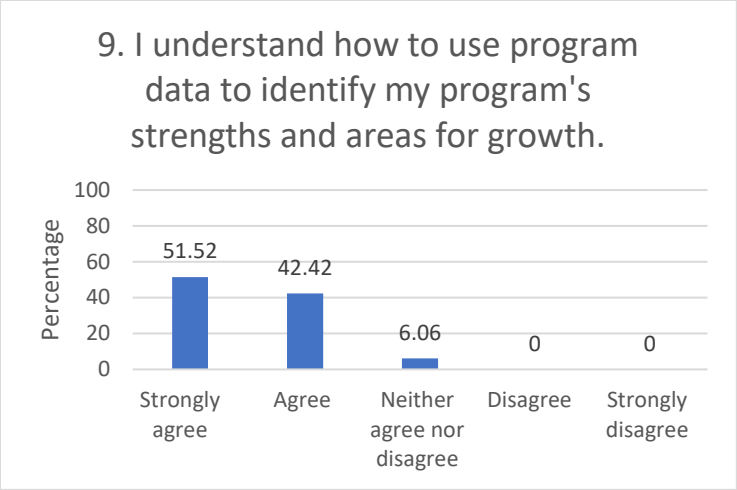

2. I made a connection with at least one other organization in the cohort.
Percentage
100
80
60
40
20
0
66.67
30.3
0
3.03
0
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree

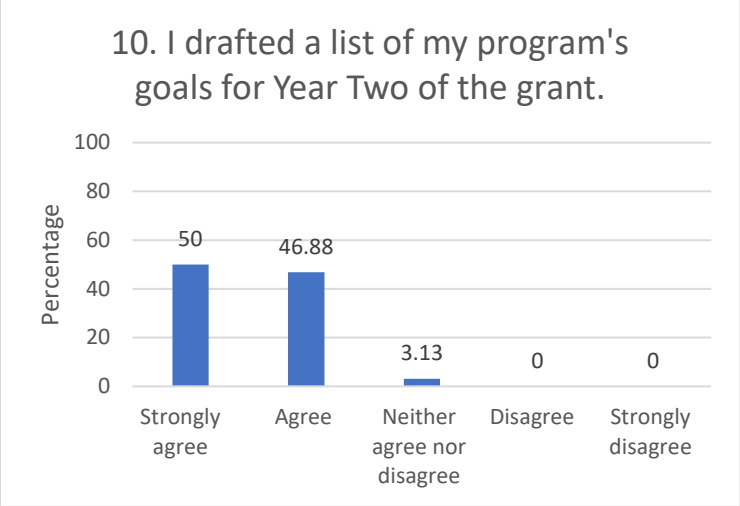

3. I have a plan for how to share what I learned today with my program's staff.
Percentage
100
80
60
40
20
0
36.36
42.42
15.15
6.06
0
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree

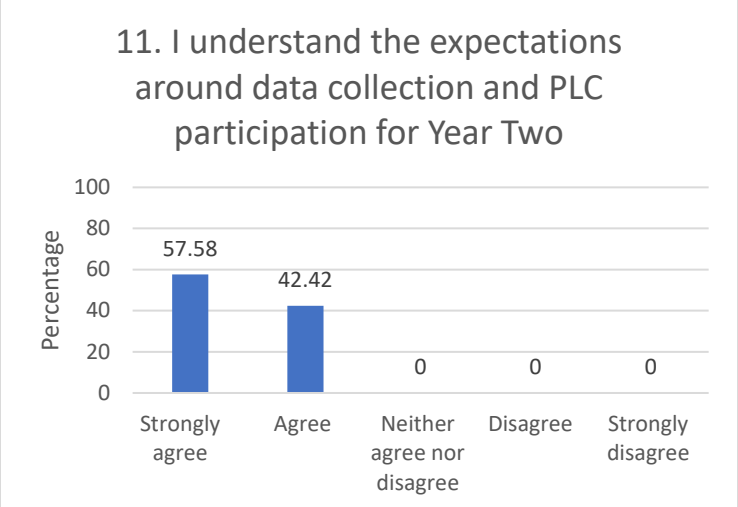

4. I was provided with resources and support for my work going forward.
Percentage
100
80
60
40
20
0
53.13
40.63
3.13
3.13
0
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree

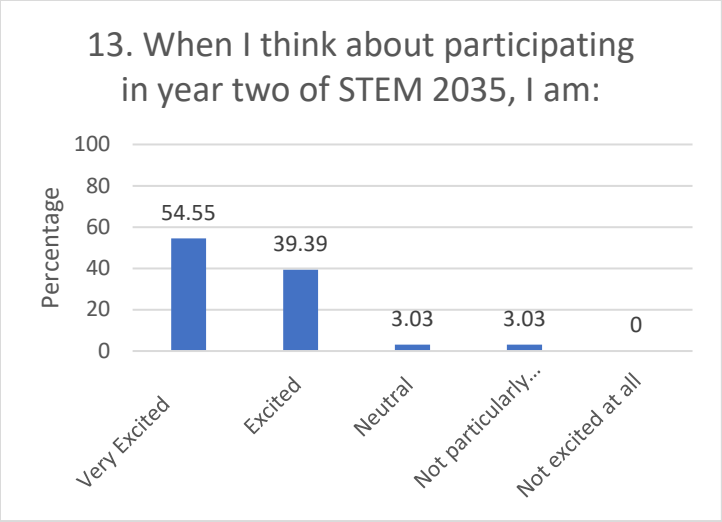

5. Dr. Calvin Mackie's talk inspired me to think about diversity, equity, inclusion (DEI) and how they relate to my program.
Percentage
100
80
60
40
20
0
70.97
9.68
19.35
0
0
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree

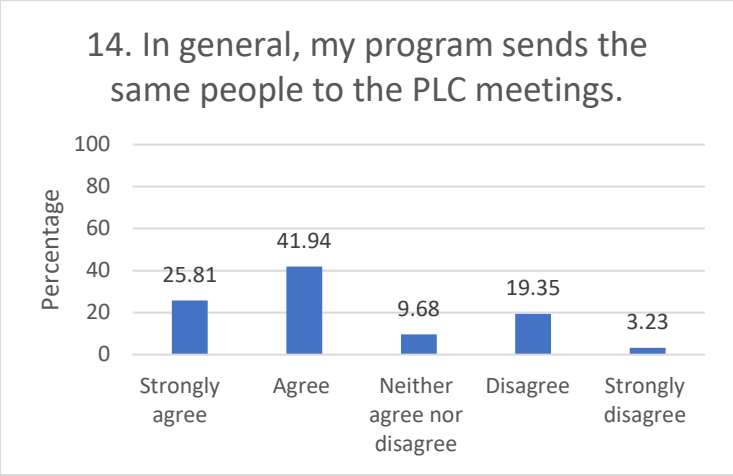

8. I am leaving this meeting with a deeper understanding how data can be used for program improvement.
Percentage
100
80
60
40
20
0
27.27
54.55
18.18
0
0
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree


9. I understand how to use program data to identify my program's strengths and areas for growth.
Percentage
100
80
60
40
20
0
51.52
42.42
6.06
0
0
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree


10. I drafted a list of my program's goals for Year Two of the grant.
Percentage
100
80
60
40
20
0
50
46.88
3.13
0
0
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree


11. I understand the expectations around data collection and PLC participation for Year Two
Percentage
100
80
60
40
20
0
57.58
42.42
0
0
0
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree


13. When I think about participating in year two of STEM 2035, I am:
Percentage
100
80
60
40
20
0
54.55
39.39
3.03
3.03
0
Very Excited
Excited
Neutral
Not particularly...
Not excited at all


14. In general, my program sends the same people to the PLC meetings.
Percentage
100
80
60
40
20
0
25.81
41.94
9.68
19.35
3.23
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree

Appendix B: Participants desired outcomes collected by EqM

What is the story you would like to be able to tell once the grant is over?

STEM Ecosystem and community

We sought to elevate the goals, future, and financial mobility of our city and its surrounding areas through STEM education and developing STEM practices in our youth.

Would like to see a story of diverse organizations flourishing in a STEM ecosystem

I am hoping to tell an accurate story that reflects the great impact young Detroiters are having on their community's resilience, health, and overall well being

Collaboration with community organizations with similar goals.

I hope to tell the story of how an incentive-based program expanded youths' worldview and personal connection with community and environment.

Impact on local community trend towards selling themselves and skills – NOT in leaving the are for jobs.

DEI and Underserved Access

The first launch cohort (H.S.) will graduate!

DEI focus of the initiative has been transformational to our larger organization Because we have funding to support it, we've been about to make more inroads in this important areas.

That we were able to create a successful model for creating accessible programming for youth with different backgrounds, in a way that generates positive community within our program.

Encouraged us to focus on disadvantaged and minorities. Able to reach students who would otherwise slip through the cracks.

Especially our girls want to go into the STEM field

That more kids from diverse backgrounds gained confidence in STEM related subjects, and were able to experiment with things that interested them and built their own sense of self.

That more kids from diverse backgrounds are inspired to pursue STEM professions.

I hope to tell the story about how some of my inner-city children were able to overcome how their school teachers label them. To tell the story that they made their dreams come true.

Improved STEM Knowledge

I hope to reflect on the grant two years from now and see that the tech and makerspace programs have grown and that students are excited about learning.

Students have an opportunity to stay after school everyday to explore robotics or their own interests.

That an organization of five staff members were and are a9 and programs continue) influencing and encouraging youth to explore STE(A)M and themselves. Opportunities, connection, encouragement and tools for youth.

Students see themselves as STEM practitioners and recognize the value of using STEM tools to better understand and solve important issues in their community.

Have students come out with the knowledge and understanding of STEM.

Our students will no longer be intimidated by STEM

Having a high retention od youth with consistency they are able to gain more and practice skills that become second nature to them. Transparency and intentionality of program will allow youth to be invested and feel a sense of ownership in STEM programming.

That I was able to fuel a kid (or even community) in finding a passion that he/she would not have been exposed to.

Using Data

We are more efficient and effective program because we were deliberatively collecting information and reflecting on it.

That we see data to support "knowing every child" and support quality relevance and an official commitment

PLC, Network, and Partnerships

PLCs/Communities of Practice are the innovation labs for youth programming.

I hope to tell the story of how this PLC goes vs the foundation to keep my program going even after the grant

The STEMinista Project.

- Built a robust collaborative
- Hosted partner conferences
- Disseminated DOS
- Established partner sited for the project
- Project counterparts have multiple opportunities across the region for STEM engagement.

Continue to interact with WNY Venues and groups.

STEM Pipeline and Careers

That we have brought experiential STEM learning (with a very hand-on emphasis) to rural communities that otherwise would not have the opportunity. That graduates from those schools are choosing post-secondary education (credit or non-credit) and/or pursuing careers in STEM fields at higher than historical rates. Also, that they are having fun.

That X number of WNY youth were interested in agricultural careers as a result of the program.

Students gained necessary tools to further succeed in their education careers.

Get kids out into the surrounding community to see careers in action.

Launch students will be pursuing STEM-based careers.

Get kids into the STEM and STEAM career pipelines, attend multiple years.

Best Practices

Change in practice to be more intentional about quality of STEM programming.

Best practices from other regions professional organizations to follow on OST, SEL and STEM.

We will be able to have some tools to predict outcomes.

Will have succeeded in getting our positive practices into a transferable form

Utilize resources such as DOS and Clover to improve aspects of the program.

Improved programming; improved opportunities/experiences for students; deeper understanding of best practices.

Increased program capacity

I hope the administration at my place of work sees the value in keeping a program like mine going.

Have developed clear strategies for moving forward

SEL and wellbeing

Improved local affect – people happy with life in home/neighborhood.

That the initiative made a difference and played a role in changing the trajectory of kids' lives.

Parents being proud of what their children accomplished.

Kids like STEM! SEL/STEM gives kids a change to practice SEL skills a realistic (academic)setting.

The story that I want to tell is that I made a difference. Made an impact and changed the mid of someone.

I gave hope to a community that severely needs it.

The story of growth. Students growing emotionally and in STEM. Program growing in qualitative quantity.

Improved students with meaningful STEM engagement experiences.

A student ready and eager to conquer youth adulthood with our support. A students teaching other students what they have learned. A student growing and developing into a great citizen.

I want to tell people how students were able to build relationships and useful skills for the future Also, how we made STEM something students can recognize and understand in their everyday tasks/encounters.

I hope to tell a story of students who made their own life-changing revelations and developed empowered senses of self and community.

What help do you need?

Feedback regarding our progress and if we are lacking data.

Providing tools and support that helps us understand how students are seeing themselves in relation to STEM and what they think STEM can and should be used for.

Create evaluation methods that capture the story/stories of change.

We could use continual info regarding tools and timelines.

Using data-driven results to define/redefine the project's scope, work, methods, etc.

I am hoping PEAR can help us identify the parameters for measurement required to help us represent our story quantitatively.

More staff and organizational training in STEM models and practices.

Can help with continued support.

Appendix C: Participants Year Two "Rocket Goals" collected from PEAR

Program	Goal
Buffalo Museum of Science	Have meet-ups with other Buffalo Programs Youth
Buffalo Maritime Center	We want to have/invite at least one other partner in the cohort complete a DoS observation in the fall & Spring
YMCA of Rochester	Solid meaningful Partnerships
Michigan Science Center (STEMinista project)	Develop a deeper (supper time?) relationship with DHDC
WEDI	Collaborate with other organizations for field trips and to learn about STEM careers (e.g. mission ignite - Americorps, science museum)
Herschell Carrousel Factory Museum	North Tonawanda Youth Rec Center n- Youth Voice and Relevance specific and survey (HCFM STEM2035 club (sub program)
CLC Lockport	Field trips to cohort sites during relevant times in our program
Downtown Boxing Gym	Work with PLC to increase STEM content experiences within lessons
Youth Energy Squad	Hands-on STEM engagement (Michigan Science Center, Leslie etc)/Summer program representation (DHDC)/ Getting other orgs to collect our data/ Collecting another programs data, use it as opportunity to learn hands-on activities etc.
Wellseville	Connecting the dots on what STEAM means
LSNC & AAHOM	Ideas for Resources on project-based learning
Baldwin	Learning the successes of the other programs
Portville	Bringing local STEM practitioners in to mentor and advise students
DIDI	Collaborate with other organizations for DoS Observations
Cornell Cooperative extention	Co-evaluate with neighboring programs
Detroit Hispanic Development Corp (DHDC)	Complete 2 DoS for 2020/Pre plan staff that needs training in PEAR/DoS and admiste3r surveys and program quality support/Robust STEM program
Mission Ignite	Collaborate with YMCA on Youth Voice/create youth advisory board

Report: PEAR Data Collection and Analysis for STEM2035

Introduction

The PEAR Institute team at Harvard and McLean is excited to present key findings from our data collected by the STEM 2035 grantees between April 2019 and January 2020. STEM 2035 takes a cohort-based approach to promoting positive STEM outcomes for youth and supporting learning and collaboration among OST STEM providers. Key aims of the initiative include improving and sustaining program quality to better support STEM learning experiences and increasing the number of under-represented youth in STEM programs and pursuing STEM education and careers.

Many grantees are clearly embracing the data collection tools available including the Common Instrument Suite-Student (CIS-S) survey and the Dimension of Success (DoS) Observation Tool. They are also supported through various trainings and webinars. With 21 STEM2035 program staff certified in DoS this year and ten more in process (see Appendix A), staff are able to conduct DoS observations of their own programs and others', promoting collaboration within the cohort and supporting the key aim of increasing and sustaining program quality. As described below, results from the cohort yield exciting findings, including that STEM2035 programs exceeded national trends in STEM program quality for 10 of 12 DoS dimensions. Additionally, findings from the first three rounds of youth survey data collection show positive change in STEM-related attitudes and 21st century skills, especially in youth interest and engagement in STEM and STEM careers. In line with what we see nationally, growth areas include Relevance, Reflection, and Youth Voice of the program quality dimensions. Results also highlight the importance of supporting all youth, especially those traditionally underrepresented in STEM, in building STEM identity as the percentage of positive change was lower for STEM identity for some groups.

The PEAR Institute team greatly looks forward to continuing data collection efforts to inform the cohort's progress and effectiveness in achieving the outlined goals. Note that the results presented in this memo are intended to complement, but not to repeat, information provided in PEAR's STEM Data Dashboard (see Appendix B for a PDF version). We would be happy to review and discuss the data further as well as receive suggestions for supporting data collection and continuous improvement efforts going forward.

Two appendices will be attached:

- A: PDF of Qualtrics aggregate dashboard of all data collected through January 3rd, 2020
- B: List of STEM2035 Certified DoS Observers

Please cite report:

Meisels, H., Lewis-Warner, K., Callahan, T., Allen, P. J., & Noam, G. G. (2020). *PEAR Data Collection and Analysis for STEM2035.* Belmont, MA: The PEAR Institute: Partnerships in Education and Resilience.

Section One: STEM 2035 Cohort Participation

Who is participating in the cohort?

- The STEM 2035 cohort is comprised of 17 OST STEM programs based in Western New York (n = 11) and Southeast Michigan (n = 6).

What tools and trainings did PEAR provide to programs?

- ***Data Creating Tools:*** Programs participated in three rounds of data collection during 2019, and results are based on two different data sources.
  (1) Program quality observations using the Dimensions of Success (DoS) tool
  (2) Student ratings from the Common Instrument Suite-Student (CIS-S) survey
- ***Training/Webinar Opportunities***: Trainings grounded in the DoS framework and webinars aimed at supporting the collection and usage of data were made available to participating programs.
  (1) **DoS Certification Training (Available monthly for cohort)**: This comprehensive two-day training provides trainees with a nuanced understanding of the DoS framework and observation tool. Offered via live webinar, this training along with calibration and feedback support, was made available to staff from all participating programs.
  (2) **The DoS Program Planning Tool (PPT) Training (September 12 & 24, 2019)**: This 3-hour training provides an overview of the DoS Framework to help trainees develop an understanding of each of the 12 indicators of program quality and introduces them to the Program Planning Tool (PPT) that helps them utilize the DoS Framework when planning quality STEM activities. During this training, participants also have opportunities to practice using the PPT with popular STEM curriculum. Two PPT trainings were offered to the cohort in September 2019.
  (3) **Relevance Module Training (November 19, 2019)**: This training focused on promoting youth connection to content to support deeper learning and lifting up a dimension that tends to score lower among STEM programs, including STEM2035 programs.
  (4) **Webinar PLC (November 19, 2019)**: Following the Relevance training, STEM 2035 programs participated in a 1.5-hour PLC via zoom where participants discussed recent successes and challenges in their programs.
  (5) **Data Collection Office Hours:** Informal virtual meetings were held four times in 2019 (March 14/15, June 5, July 18 and Oct 23) to provide programs with opportunities to connect with the PEAR team and ask questions related to data collection.
  (6) **Data Debrief Sessions (July 22nd & October 2nd, 2019 and January 24th, 2020):** Upon completion of each data collection round, programs were invited to attend informative data review sessions to explore the interactive data dashboards, reflect on findings, and discuss next steps in the data collection process. The October data review session took place at the in-person PLC in Buffalo.

How did programs make use of PEAR's tools?

Table 1. Program participation in data collection and trainings (2019).

Program Name	*Spring 2019*[1]	*Summer 2019*	*Fall 2019*
Baldwin Center	CIS-S		DoS
Buffalo Maritime Center	CIS-S/DoS		DoS
Buffalo Museum of Science		CIS-S/DoS	
Challenger Center	CIS-S/DoS	CIS-S	CIS-S/DoS
Cornell Cooperative Extension			
Detroit Hispanic Development Corp			
Downtown Boxing Gym Youth Program	CIS-S/DoS	CIS-S	CIS-S
Dream It Do It WNY (DIDI)	CIS-S		
Ecoworks, Youth Energy Squad	CIS-S/DoS		
Herschell Carrousel Factory Museum		CIS-S/DoS	CIS-S
Michigan Science Center		CIS-S	
MISSION: IGNITE Powered by Computers For Children	CIS-S/DoS	CIS-S/DoS	
Portville Central School District	CIS-S	DoS	
The YMCA of Greater Rochester		CIS-S	CIS-S
Unity in Learning- Leslie Science & Nature Center and Ann Arbor Hands-On Museum		CI/DoS	
Wellsville Secondary School	CIS-S		
Westminster Economic Development Initiative, Inc		CIS-S	DoS
Programs Using CIS-S	9	9	4
Programs Using DoS	5	5	4
Total # of Programs	**9**	**10**	**7**

[1]Two of the STEM 2035 programs took advantage of the option to submit video recordings of STEM activities, which DoS observers at PEAR scored and submitted for data collection.

- Many programs embraced data collection tools with nearly 60% of programs collecting data during the spring and summer collection periods in 2019 and more than half of programs attending additional DoS trainings outside of the PLCs and DoS Observer Certification.

- 15 out of 17 programs submitted CIS-S surveys and 11 of 17 programs submitted DoS observations across the three collection periods. PEAR staff conducted follow-up calls with the two programs who had not yet collected data to discuss any challenges they encountered and determine how PEAR can best support them through the data collection process going forward.
- As indicated in Table 1, the number of programs collecting data was lower this fall. This is likely due to the fact that the majority of programming goes through the school year (spring) or is focused in the summer. We expect counts to significantly increase for spring and summer 2020 collection periods and have been promoting continued data collection efforts through bi-weekly communications sent out to programs and through webinars and PLCs.

Section Two: Summary of Key Findings

How did STEM programming impact youth?

Between April 2019 and January 2020, 464 youth participated in data collection (54.9% male, 41.6% female, 3.5% gender not listed/ "prefer not to answer"). Supportive of the goals of the cohort, the sample of participating youth was diverse and included youth who are typically underrepresented in STEM, with 39% identifying as African-American/Black, 28% as White/Caucasian, and 24% as other races (e.g. Asian, Latino/Hispanic, Multi-Race). 9% of youth preferred not to share their race/ethnicity. The sample was composed of middle school youth (46.9%) and included youth in elementary school (19.8%) and in high school (33.3%).

- Overall, CIS-S results reveal that students reported the most positive change in STEM Engagement (84%), Perseverance and Critical Thinking (79%), and STEM Career Interest (77%) as a result of participating in STEM programming (see Figure 1).
- In comparison to a PEAR's national norms sample, youth participating in STEM 2035 programs report greater positive change across nine of the ten CIS-S scales.
- Although more than three-quarters of youth reported increased career interest in STEM, 36% of youth demonstrated either no change or negative change in their STEM Identity (See Appendix A for corresponding figures).

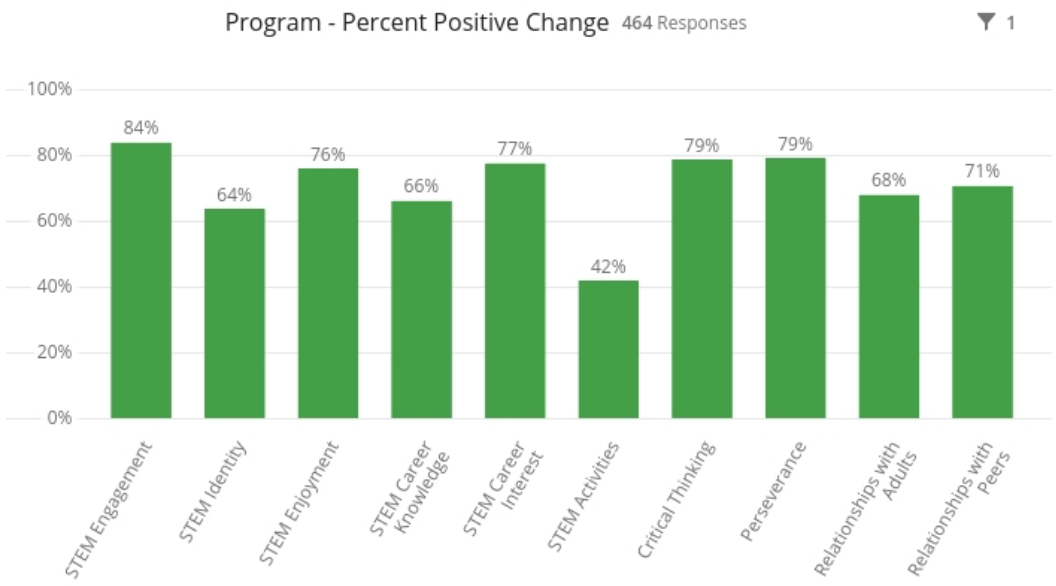


Figure 1. Shows percent positive change in STEM-related attitudes and 21st century skills.

Are programs engaging underrepresented groups in STEM?

As increasing representation in STEM and building a diverse STEM workforce is central to the cohort goals, analyses were conducted using data collected in the spring and summer of 2019 to examine STEM-related youth outcomes by race/ethnicity. It is important to note that analysis focused on two race/ethnicity groups (White, Caucasian and African American, Black) as they were the only groups with a large enough sample size. It is great to see that over 50% of youth in both race/ethnicity groups reported positive change across five of the six scales (see Figure 2). STEM Activities measures how much youth are engaging in STEM outside of programming to gather information on the presence of STEM in youth's everyday lives/activities. In line with what we've seen nationally, and as indicated below, STEM activities scored the lowest across White/Caucasian, African-American/Black, and all other youth.

- When exploring youth data broken out by race/ethnicity, African-American/Black youth reported the greatest positive change in STEM Enjoyment and STEM Career Interest.
- White/Caucasian youth reported greater positive change in STEM Engagement, STEM Identity, STEM Career Knowledge, and STEM Activities.
- These findings highlight the importance of using data to guide programs in promoting positive STEM learning experiences for all youth.

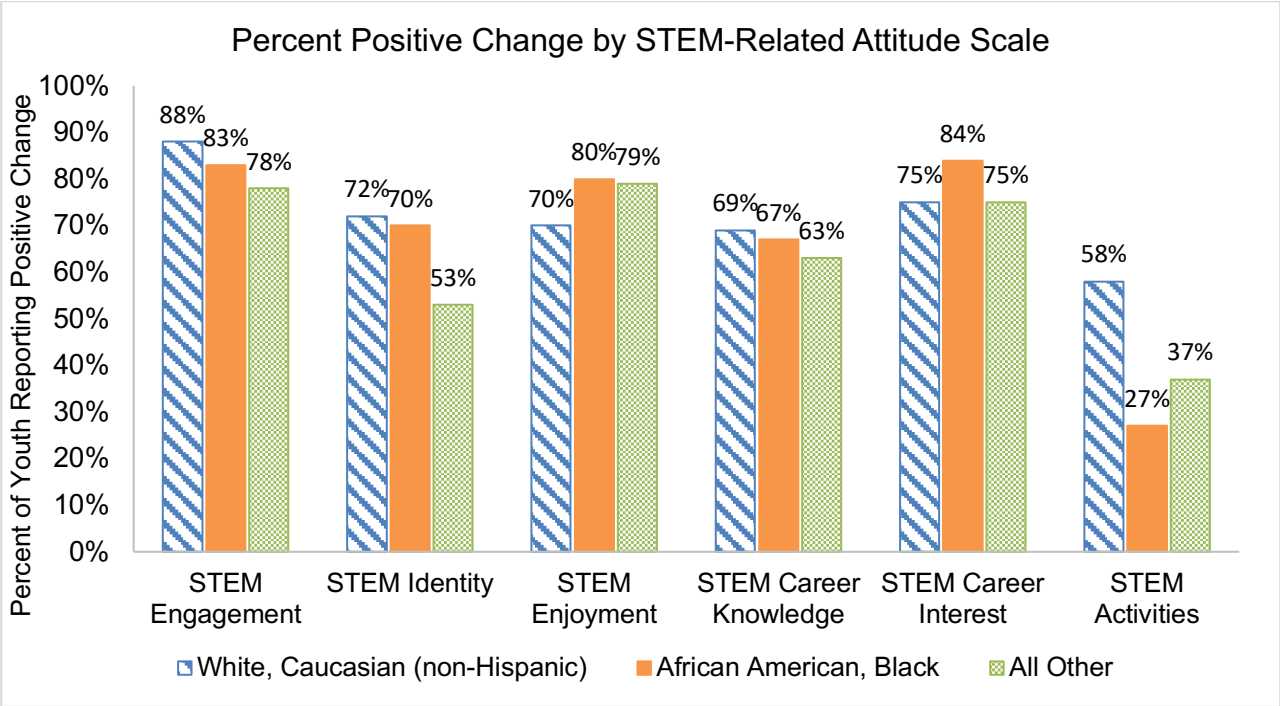


Figure 2. Positive change in STEM-related attitudes for youth separated by race.

What levels of quality were observed for programs?

A total of 17 observations were performed by individuals certified in DoS across 11 programs (see Appendix B for a list of certified observers by program). For a particular STEM activity, each of the 12 DoS dimensions are rated on a scale from one (evidence absent) to four (compelling evidence), with higher scores reflecting higher levels of quality. The graph (Figure 3) includes a line at 3.0, which is the benchmark for quality according to DoS standards. We are pleased to report that on average, STEM activities demonstrated reasonable to compelling evidence of quality across 8 of the 12 dimensions (66.7%).

- Specifically, on average, programs who submitted DoS observations (n = 11) demonstrated reasonable to compelling evidence of quality in the Features of the Learning Environment (Organization, Materials and Space Utilization) and Activity Engagement (Participation, Purposeful Activities and Engagement with STEM) domains and in the Relationships dimension of the Youth Development Domain.
- Areas for growth are focused in the STEM Knowledge & Practices Domain and the Relevance and Youth Voice dimensions of the Youth Development domain. The patterns of quality observed in the STEM 2035 cohort were consistent with those observed in national trends, as seen in the "double-dip" of the graph included above. We look forward to supporting these areas of quality that programs traditionally find challenging through continued training opportunities and conversations around quality.

- Observed STEM 2035 programs exceeded national trends in program quality across 10 of 12 dimensions, supportive of the cohort's aim to provide high quality STEM learning experiences for youth.

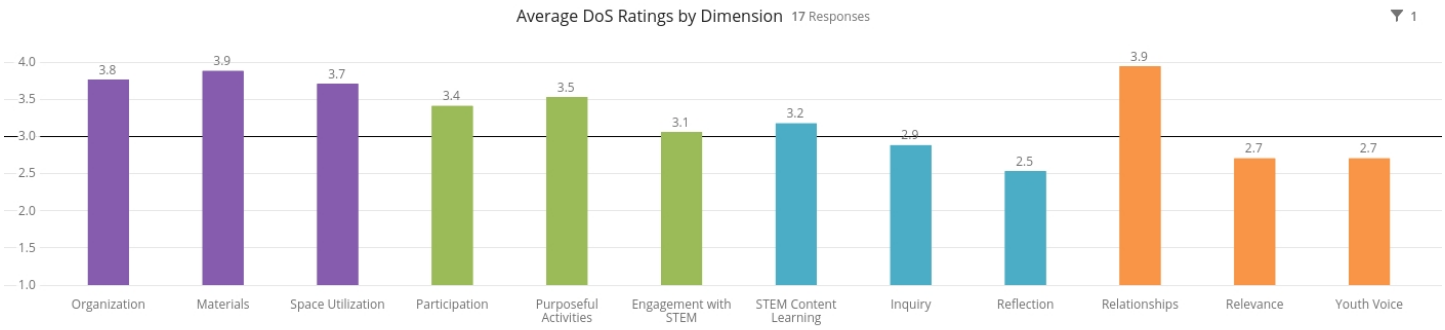


Figure 3. Average DoS ratings by dimension.

Conclusion

The data provide a wealth of information for programs as they enter Year Two of the cohort. The findings suggest that the STEM 2035 cohort is moving towards achieving the goals outlined at the outset of the memo, especially those aimed at inspiring youth interest in STEM careers and promoting quality STEM learning experiences. In support of promoting quality STEM learning, Section One highlights the great resources that many programs are taking advantage of, including various DoS trainings, webinar convenings, and data collection tools. As summarized in Section Two, the data reflect that improvement areas of program quality include Reflection, Relevance, and Youth Voice. Previous research suggests a linkage between program quality and youth outcomes, and we believe investing in lifting up these aspects of program quality will help to build STEM identity among youth (Allen et al., 2019). Therefore, the data highlight an opportunity for programs to support youth in connecting to STEM content and to seeing STEM as relevant to their identities.

We are excited to provide continued support around collecting and using data to guide continuous improvement and progress towards the cohort's goals. As programs become more accustomed to data collection, it is important that consistent participation and collection of data be emphasized to support program's continuous improvement and to assess change in programs over time. As next steps, the PEAR team and CCNY are tasking programs with creating their own data collection outlines to help programs plan proactively for data collection and gather helpful information we will use to support programs. Now that 14 of 17 programs have at least one certified observer, we will continue to encourage programs to observe their own activities and those of other programs. This enables programs to measure progress as they work to use their strengths to lift up identified areas for growth. The PEAR team is also committed to supporting the goal of engaging underrepresented youth in STEM and will use the data reported here to guide important conversations at upcoming PLCs. We hope that these distilled findings provide helpful information to guide next steps for the cohort in Year Two and Year Three.

EQUAL MEASURE | FINDING PROMISE FUELING CHANGE

To: Wilson STEM19 Leadership Team (Ralph C. Wilson Jr. Foundation, The PEAR Institute, Community Connections of New York (CCNY)

From: Equal Measure

Date: February 14, 2020

Re: Findings from STEM19 August Focus Groups

Introduction

In spring 2019, the Ralph C. Wilson Jr Foundation provided funding for the STEM19 Initiative, a secondary grant associated with Wilson Foundation's STEM 2035 initiative. This grant program provides 12 months of technical assistance and capacity building support for SEMI/WNY STEM providers that are not funded under the STEM 2035 initiative. Technical assistance for this cohort is only provided virtually, with no in-person meetings.

As the evaluation and learning partner for STEM19, Equal Measure conducted two virtual focus groups among STEM19 grantee— one for the Western New York (WNY) regional grantees, and one for the Southeastern Michigan (SEMI) regional grantees. This memo presents aggregate results and themes observed during the focus groups conducted by Equal Measure in August 2019 and observation of the Data Dashboard Webinar hosted by PEAR Institute in January 2020; data analysis is aligned with the Theory of Change. Evaluation questions focused on the organizations' project goals and experiences as a part of the initiative, including the virtual technical assistance, webinars, and cohort participation. (See appendix for focus group protocol and participants.)

Findings from the Focus Group

Common Themes

Participants described goals for the STEM19 initiative, what they have been gaining, and what they hope to continue to gain from this work. All participants had a shared understanding that this work aimed to increase access and opportunities for underrepresented youth in STEM, particularly students of color. They shared a common programmatic goal of wanting to give more opportunities, experiences and resources to underrepresented youth that might not otherwise get them.

Participants found the cohort model to be a strength of the initiative and hope for more collaboration and communication between programs. Programs shared that a highlight of this initiative is working together in a cohort model. One participant reported that the cohort is a feature that "most other grants don't have," and it is a great value add. Participants value connecting with each other, and having colleagues to talk to, share ideas, and support one another: *"we have a group that I am able to network with that I wasn't aware of."* A participant explained that knowing other grantees are in geographic proximity fosters a sense of camaraderie. One program participant noted that in addition to connecting with STEM19 grantees, they have benefited from connections with STEM2035 participants, too.

One participant expressed that the frequency with which they've met other cohort members is fewer than expected: *"I don't think we've had a ton of collaborative time and that could be one of the learnings that can help enhance the program moving forward."* One participant noted that, "we have to do a better job getting ourselves together," sharing that building a cohort is for the "long game." A participant noted that strengthening connections between grantees can help to enhance the learning environment. "With the cohort, it would be nice to find what other folks are doing and be able to glean and grow from their experience. And, also, from the [initiative] leadership to ensure we are on task

and where they feel we should be." Several participants were optimistic that these connections could be made in a virtual forum.

Several STEM19 participants have increased their program capacity to serve youth. One participant explained that the STEM19 grant allowed their program to increase the number of recruitment sites. *"I think we have seven different schools represented and the grant really allowed us to do that."* For some organizations, STEM19 funding allowed them to increase the number of program staff and serve more girls with a lower ratio. Another program has increased their runtime, from only serving through the school year, to adding an out-of-school time, summer component. Another program reported they have begun to build partnerships with local universities and businesses and added new components to their programs, like year-long robotics programs. A participant shared that this grant increased their capacity by removing transportation as a barrier by allowing the program to facilitate school-to-program-to-home transportation for those in need. *"Without transportation the best program in the world is simply not reachable."*

Through STEM19, programs have developed the content and quality of STEM programming. Some participants report that their participation in STEM19 has been useful for improving their STEM programming by expanding knowledge of what STEM/STEAM are, and how they can learn best practices and deliver quality content to students. One participant shared that prior to participation in the grant, they focused only on the "technology" aspect of STEM. Involvement in STEM19 expanded their definition of STEM and ensures that their program participants have a more comprehensive STEM/STEAM experience. Participants shared how useful it has been to learn from PEAR about the DoS system, including the webinars. They also shared appreciation for receiving tools and resources to build their programming: *"It's not that our programming was bad, but we learned about some capacity issues that we need to address… This should give us the tools we need to get there. We're seeing some structural things that we might have missed otherwise."*

Other participants, however, explained that their program design limited the applicability of the grant content. A program that has flexibility in scheduling, unpredictable attendance, and varying lengths of interaction with participants struggled to ensure that there is adequate time and structure to accommodate dimensions of success like reflection and wrap ups. The partner explained that because their goal is to reach as many participants as possible and expose them to STEM, the STEM19 content, goals, and evaluation was a misfit: *"I can't really use their system because I don't know who shows up, I don't have a start time, I don't have an end time."* A second participant critiqued that because the content of STEM19 webinars focused on the evaluation of programs rather than program planning, some of the content was too advanced for their use.

STEM19 grantees reported new approaches to evaluation as a result of involvement in the initiative. One participant noted that a valuable aspect of the initiative is to get "credentialing from experts", which they found to be useful validation that they are heading in the right direction with their programming. *"Looking at the research structure that's put in place by PEAR Institute and then compare that back with we're doing already…Anytime you have a chance to reassess or reevaluate the way that you are evaluating your program is really valuable. That was a big plus for us."* STEM19, according to one participant, gave the grantees tools to carry out evaluation—which other grant opportunities do not do. *"[PEAR] does not expect us to get all 4s, either… They give us room to grow. They don't want everything perfect."*

One participant reported that use of the evaluation tools and surveys for students and instructors was user-friendly. A second participant experienced difficulties understanding processes and instructions from the tools because the language used was "too dense." This participant also had trouble creating an environment to enable the prescribed use of the PEAR videos around youth.

Many positive student outcomes have been reported through STEM19 engagement, including improved 21st century skills and improved STEM interest. Programs shared increases in student outcomes, particularly around socio-emotional learning (SEL) and increased STEM engagement. Participants shared that SEL is very important and they have seen improvements in leadership skills, confidence, and decision-making, particularly with the girls involved in their programming. Participants reported an increase in excitement, engagement, participation, and investment in the new work- with reports that students are very engaged in the new STEM activities. One participant observed that *"pretty much every time I have students turned teachers"* that work with their peers to explain STEM concepts and lead demonstrations. Better behavior was also reported. Some students improved classroom behavior to ensure they can participate in STEM activities and field trips. Programs have reported a desire to continue building excitement and engagement, while showing the significance of STEM in everyday life.

Timing of activities and grant requirements posed a challenge for some grantees. One challenge program participants shared was around starting up aspects of programming within a one-year grant period. Updating curriculum or ordering special equipment, for some, took months and limited implementation time within the 12-month grant. For one participant, the timing of activities within the grant period was further complicated by programming session cycles. Sometimes, requests for documentation from PEAR sometimes came after a program activity had ended and could not be reproduced. A participant suggested that arranging grant activities based on programming schedule is something that could be improved. *"Organizing across the range of timeframes that our programs are happening during the window of the grant could be room for some improvement in the future."*

Implications

Grantees were excited about the funding opportunity. They identified ways in which their work and programming have begun to improve and looked forward to continuing to grow. Implementation of the DOS framework, though not perceived as applicable to all grantees, was applauded for being comprehensive—including 21st century skills and providing complementary evaluation tools— and supporting grantees to reflect on multiple aspects of programming and evaluation.

Participants suggested several changes that might support their experience in future collaborative activities. These included: creating more opportunities to connect as a cohort, simplifying instructions with the use of checklist, ensuring flexibility of evaluation tools around diverse program structures and program timelines, and prioritizing program planning before evaluation as opportunities to improve the initiative.

Focus group participants expressed interest in collaboratively discussing several topics during future webinars/convenings:

- Networking for 1) funding ideas, and 2) building capacity for STEM programming
- Improving the SEL component – a continual challenge and would benefit from best practices
- Opportunities to meet about future collaboration, around what's working for everybody and potential opportunities to collaborate on activities such as field trips
- Sharing high quality solutions to programmatic issues

Observation of the Data Dashboard Webinar

On January 14, 2020, the PEAR Institute reviewed the Data Dashboard with the STEM 19 cohort. The Data Dashboard included data collected in summer and fall of 2019 from three sources: 647 youth surveys, 49 educator surveys, and 18 program observations from DoS observer tool. On the Dashboard, each STEM 19 cohort member can view its own program's data, cohort-level data, and national data on various DoS-indicators. The filtering function allows members to disaggregate their data as needed. Some of the data collected from these three tools corroborate the data from the focus group, while some presented a new wrinkle to the focus group data.

Quantitative Data

The quantitative data from youth surveys, educator surveys, and DoS observer tool showed that positive changes occurred in social emotional learning (SEL) areas, including stronger social skills in critical thinking, relationships with adults and peers, and perseverance. This is in line with the findings from the focus group that the cohort is showing growth and strength in youth development and in 21st century skill development. However, the dashboard data showed that programs reported negative changes in STEM activities, STEM knowledge, STEM careers, and STEM identity indicators which were not present in the focus group data.

Webinar participants reflected on potential causes for these data trends and began formulating next steps. One participant reflected that their fall instructors are more seasoned than the summer instructors and wondered how the varying experience level of instructors might affect students' progress in STEM knowledge. Thinking about STEM careers, one participant spoke about their desire to bring in a wider range of STEM professionals, including IT and lab professionals, to interact with their students. In reflecting on the need to improve STEM identity, another participant spoke about wanting to reach out to local college faculty.

Implications

There is an overall optimism around programmatic improvements and collaborative support. The Data Dashboard provides an in-depth look at the cohort members' progress in each programmatic component, from a more diverse set of perspectives from students, educators, and outside programs. The Dashboard can be a useful tool for each cohort member to reflect on its strengths and weaknesses that can be used to develop internal capacity and individualized action steps for further improvement.

Both the quantitative data on the Data Dashboard and the qualitative data collected from focus groups show positive changes among the STEM19 cohort in the area of youth development, including SEL. However, the qualitative/focus group data did not echo the same results as quantitative findings, that STEM knowledge, careers, and identity are low-performing areas. One potential explanation is that the focus group questions did not directly probe for quality of programming on STEM knowledge, careers, and identity. Another potential explanation for the divergent data is that focus group participants were not comfortable volunteering to share their low-performing areas in a group setting. To further explore this at future data collection points (even at the STEM19 EndLine focus groups), an evaluator might consider adjusting the focus group protocols to probe the different components of the program and student outcomes. It is also important to note that focus group data were collected before all grantees had engaged in quantitative data collection; some were just beginning the process of implementing programmatic changes. An evaluator should also pay particular attention to changes in organizational strategies and activities following the lessons learned from the Data Dashboard review.

Appendix

Participants

Western New York Focus Group
Belle Center
Buffalo Academy of Science CS
Willie Hutch Jones After School Program

South-eastern Michigan Focus Group
YMCA of Metropolitan Detroit
Operation Refuge
Camp INSPIRE
St. Suzanne Cody Rouge Community Resource Center
Learn Fresh Education Co.

Mid-Point Focus Group Protocol – August 2019

Introduction:
Thank you for joining us for this virtual focus group. As you are aware, the purpose of this focus group is your experience as you've received *virtual* technical assistance through webinars in your cohort with other STEM programs that serve youth. We hope to learn to what extent this method of providing technical assistance virtually is helpful and effective. We'd like to understand whether virtual TA can improve your program's capacity to deliver high quality programming and produce positive outcomes for program staff and youth participants. Our focus is at the cohort level – we are not monitoring or evaluating individual grantees.

[EqM team introduces themselves and their roles.] Equal Measure is a learning partner in this work with Wilson Foundation and the PEAR Institute. Our job is to take the feedback we hear from you today, as well as any suggestions for improvement, and deliver it to the Wilson Foundation and the PEAR Institute. This session will be recorded, but the recording will only be used to supplement our own notes and will not be shared with PEAR or Wilson.

Any questions?

Icebreaker: Each participant shares their name and how they became interested in STEM.
Questions:

1. What initially led your program to become involved in the *STEM19?*

2. What do you understand to be the goal or goals of the STEM19 grant?
    a. Do these goals align with your own program's goals?

3. What are you hoping to get out your experience with the grant?

4. What have you learned so far during your experience in STEM19?

5. How do you envision using the information you/your program is learning through this grant? (Probe what have you learned thus far that is useful/relevant?)

6. How do you think the grant will help improve the program's impact on youth? (Probe for: changes in youth participation, socio-emotional learning, behavior, interest in STEM) If so, how?

7. Did the grant help your program identify your capacity building needs?

8. Looking forward, what types of additional support would be helpful to meet your program's needs?

9. Have you faced any challenges in terms of participating in the virtual TA, for example, the webinars?

If time/necessary:

10. Tell me about the typical TA session. (Probe: Can you understand the presenter's main points? Is there time for you to ask questions if you don't understand? Do you get to hear from any other grantees?) Is there anything you would change about the sessions?

EQUAL MEASURE | FINDING PROMISE FUELING CHANGE

To: Ralph C. Wilson Jr. Foundation

From: Equal Measure

Date: April 15th, 2020

Re: Findings from STEM19 Endline Focus Groups

Introduction

In spring 2019, the Ralph C. Wilson Jr Foundation provided funding for the STEM19 Initiative, a secondary grant associated with Wilson Foundation's STEM 2035 initiative. This grant program provides 12 months of technical assistance and capacity building support for SEMI/WNY STEM providers that are not funded under the STEM 2035 initiative. Technical assistance for this cohort is only provided virtually, with no in-person meetings.

As the evaluation and learning partner for STEM19, Equal Measure conducted four virtual focus groups among STEM19 grantees, once in August 2019 (baseline data collection) and again in March 2020. The groups were split by region: Western New York (WNY) regional grantees and Southeastern Michigan (SEMI) regional grantees. Of note, we had a low response rate for the two March 2020 endline focus groups, owing to factors that may have included stress experienced by nonprofits and education systems due to the unfolding COVID-19 pandemic. (See appendix for focus group protocol and participants.) Across the two March focus groups, four organizations were represented. The data, therefore, present useful case studies to understand some experiences of the initiative rather than a sample representative of the entire cohort.

This memo presents aggregate results and themes observed during the focus groups conducted by Equal Measure in March 2020. Evaluation questions focused on the organizations' project goals and experiences as a part of the initiative, including the virtual technical assistance, webinars, and cohort participation. The memo explores the following questions:

- To what extent can this support improve the readiness for grantees to deliver quality programming and produce positive outcomes for program staff and youth participants?
- How can lessons learned from this approach provide insight to the impact resulting from supporting programmatic activities?
- Is there evidence for progress made from August 2019 to March 2020, as well as common themes? Comparisons between the two sets of focus groups are in purple.
- Are there comparative outcomes between STEM 2035 and STEM19, that can help explain whether critical outcomes can be produced through a less in-depth, more virtual experience?

Findings are presented in two sections exploring the following high-level areas:

A. Program Impacts

B. Insights on Approach

Key Findings

During the focus group, participants reflected on their goals for the STEM19 initiative, their experience receiving technical assistance (TA), the grant's impact on programming, and their impressions of the STEM19 network. Focus group participants explained that they originally hoped to participate in STEM2035 but were happy to receive support through STEM19. Participants presented a range of impressions of virtual TA and connections to other STEM19 grantees.

A. Participation in the STEM19 initiative, including receiving targeted technical assistance, supported participants' readiness to design, assess, and deliver quality STEM programming.

> *"Having that additional layer of being able to see and get those resources rather than having to just go on Google Search and find 32 different ones. And just hearing from an entity that's already well versed and really well recognized around the world in terms of doing this sort of research is just so much more helpful than us trying to come up with our own versions of things.*

The PEAR Institute's DoS framework supported reflection on and improvement of program design by developing a shared language and knowledge of quality STEM programming concepts. Having a research-based, tested tool that provides a common language and measures of program quality helped to drive individual programmatic improvement. Focus group participants reflected this, explaining that using the DoS framework shed light on areas of strengths and areas in need of improvement. One participant explained, "*I think the DoS itself and the categories that are in it helped us focus, and we're really quite pleased with the results we got for just this first year."* All focus group participants agreed that working with PEAR was beneficial. One participant shared, "it's just really increased our capacity."

> *"About two years ago, we built out a social-emotional…supplement… And we've been, I would say not struggling, but … we're early in the process of figuring out how to richly evaluate that. So, just as a first pass, getting to be able to see what the system generated …, just being able to get a first read on all of that was really valuable."*

Participants valued using DoS as an evaluative tool, assessing STEM programming and providing guidance for how to responsively shape program content. Participants explained that they had designed their programs before STEM19 began and used the grant period to formally assess what they are implementing. Participants viewed the STEM19 grant period as an opportunity for review and assessment, even more than a time for program redesign. Nevertheless, one participant explained, "*It's helping us shape the content in a way that is logical… the way that the content should be tailored to the different types of scenarios is something that has been sharpened, I would say by what [PEAR] provided.*" These reflections on the value of developing assessment capacity through STEM19 are concurrent with findings from baseline data collection.

Participants attributed increased capacity of their organization and staff to STEM19 participation, including enhanced communication and grant writing skills. During baseline data collection, some participants explained that STEM19 allowed them to grow their staff in numbers. Staff development reemerged during endline focus groups, but this time related to skill development. Two participants mentioned benefits for their grant writer/development staff. They commented that organization staff showed increased understanding and an ability to communicate the work of the organization with sharper language. One participant explained that the DoS framework provided clear language and broke down definitions of social emotional learning (SEL) and validity: "*…The logic behind [the PEAR] approach and the way that we do our work is very aligned. And just being able to hear someone else talk about it, I think has helped [our grant writer] to sharpen his language*." This progress across the course of the STEM19 grant shows how grantees have moved from using grant funds to first increase staff to then building internal capacity by growing knowledge, skillsets, and new capabilities that support staff function. Along this trajectory of organizational capacity development, the next stage could include the institutionalization of these capacity building activities.

Participants have begun to see that the improvements in program design and staff capacity are driving student outcomes. The data collection method did not facilitate assessment of student outcomes; however, participants commented on outcomes that they have begun to see. For example, one focus group participant explained, "*the connection between students and peers and students and teachers, just those interpersonal connections appear to be strengthened pretty significantly for students, which I think is a real positive for us."*

B. Focus group participants provided insights on the virtual, cohort experience of the STEM19 initiative, contributing feedback for future initiative planning.

Participants explained that the diversity of grantee capacity across the cohort led to challenges in the early integration of technical assistance efforts. Participants explained that there was a deep diversity of STEM19 cohort grantees in terms of type of programming they provide and capacity. Without an assessment of grantees or acknowledgement of this diversity, participants recalled that PEAR did not meet grantees where they were. One participant reflected, "*maybe an in-person meeting to figure out where everyone's at… The start was a little bumpy. And I don't know if there's any great resolution to that either. I mean, it's hard in general to get started when you have such a diversity of groups and activities that people are putting on. It may just always be messy*." Another participant explained that because PEAR did not meet them where they were, the early technical assistance challenged their norms. This finding is also consistent with feedback from STEM 2035 grantee interviews (2020), that DoS was sometimes challenging to adapt to programs whose students have very specific needs or programs with unique schedules or structures (e.g., summer-only programs).

> *"I think it took a webinar, at least one webinar, for PEAR to realize. Wait a minute, these guys are still trying to ramp up. And now we're talking about the evaluation process and all of that. And was almost a little cultural shock because I get what you're doing in terms of the DoS…but we are still trying to make sense of how our curriculum is going to be developed."*

Participants would have benefited from more intentionally structured peer-to-peer engagements, including in-person opportunities, that could have led to relationship building and stronger networks. During the baseline focus groups, participants anticipated that peer-to-peer engagements would be a valuable aspect of STEM19. One participant acknowledged that the ability to connect virtually was valuable: "*I think getting us on the phone with other folks in their region and you know, at least having collaborative conversation is definitely a valuable thing.*" However, the same participant explained that "*the community building aspect of it [was] maybe not as strong in terms of actualization*." The availability of in-person opportunities for peer-to-peer engagements presented to STEM19 grantees was mostly not recognized by focus group participants. While one participant reported a positive experience attending an in-person convening with STEM2035 grantees, no other participants were aware of any in-person convenings.

> *"The ability to actually connect with the organizations that are participating in this through some of the kind of virtual support that we've gotten I think has been a little bit limited, and I would have loved the opportunity to more tangibly engage with them or actually have a more dedicated face-to-face opportunity to build relationships with some of the other folks in the cohort."*

For some participants, the virtual approach of STEM19 made it more challenging to fulfill DoS-related data collection expectations, but with support they were able to succeed. Regarding data collection, several participants reported technical challenges with video observations: "*there were hiccups, no question about it."* Two participants reported that their video files were too large to be submitted as instructed and required additional support. Despite the "hiccup," the participants explained that they got the support they needed.

Participants had a varied response to technical assistance provided through webinars, with some preferring that learning style and others wanting more active engagement. Two participants explained that the webinar format was not best for their learning style. One participant explained, "*the shorter, condensed webinars aren't always the best for me to be incredibly active because I like to think and listen and observe a lot and that takes more time than just an hour*."

Another participant echoed, "*I think also, for the webinars, they're so focused, right? So throughout the webinar, it's talking about this very focused thing. And there's not necessarily that much back and forth in terms of just troubleshooting and just talking*." This experience of webinars was not shared by everyone. One participant explained that they had no issue learning via webinar. They explained, "*I'm happy taking webinars… So it's not for me at all an issue. I'm just very comfortable with that kind of stuff.*" This participant explained that they often use the chat feature during webinars to connect with other participants.

Reflections for Further Discussion

A. Program Impact

Participants expressed a desire to activate and apply learnings long term. Participants expressed excitement about the positive ways STEM19 has begun to impact their programs. One participant looked to the future, saying, "I'd be excited to see if it progresses, what it looks like in future years." Focus group findings suggest that STEM19 served as a starting place, giving grantees tools and frameworks to begin looking at their work more critically. The constraints of STEM19, especially in comparison to the longer and more in-depth engagements of STEM2035, however, did not allow space for grantees to "activate" all of the tools and systems. Some participants are hopeful that they will be able to continue to implement these tools and systems after the grant period ends: "Well, I think that's one of the reasons why we're continuing on with the PEAR model, because we see so much value in the learning that we can get from it over time."

Participants are interested in support around program sustainability. One participant discussed the importance of considering what will happen to their programming as the grant ends. While some participants explicitly spoke about the benefits of continued financial support, "we would really appreciate the opportunity to have some additional funding so that we could strengthen our STEM." This comment aligns with the trajectory of capacity building described above in Section A, describing how grantee capacity progressed across the course of STEM19. At the start of the program, grantees used funds to bring in new staff, then by grant's end they described how they were building internal capacity (e.g., knowledge, grant writing skills). Continued support could help to move grantees along this pathway to the next stage, the institutionalization of organizational capacity. Apart from funding, one participant expressed a desire for additional mentorship from and connection to the foundation. The participant described another grant program during which the funder checked in with the partner throughout the year to discuss next steps and growth beyond the grant period. This notion is important to consider as the Wilson Foundation aims to change systems and influence long-term outcomes.

> *"Creating a space to have an actual check-in with the folks at the Foundation at some point during the cohort or during the cohort experience and talk about "how's this going?" Like what does the follow-up look like from here? And then at least having some sort of path or direction around follow-on funding to continue to build upon the learning would be super, super."*

B. Insights on Approach

Participants could benefit from intentional cohort-based learning. Participants described how their organizations varied across the group of STEM19 grantees in terms of characteristics such as target population, size, scale, capacity, region, programmatic approach, and stage of programmatic development. If the initiative is extended into a second year, it is likely that grantees could deepen learning, partnering, and networking by participating in like-capacity peer-to-peer cohorts or affinity groups, even with their STEM2035 counterparts. Pairing peer organizations could support deeper programmatic connections and have implications for the development of a vibrant, networked STEM ecosystem in the sister regions of Western New York and Southeast Michigan.

Appendix

1. Participants

Western New York Focus Group
The Belle Center
The Foundry
Westfield Academy and Central School District

Southeastern Michigan Focus Group
Learn Fresh Education Company

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2. Endline Focus Group Protocol – March 2020

Introduction:
Thank you for joining us for this virtual focus group. As you are aware, the purpose of this focus group is to delve into your experience as a recipient of *virtual* technical assistance through webinars in a cohort with other STEM programs that serve youth. We hope to learn to what extent this method of providing technical assistance virtually is helpful and effective. We'd like to understand whether virtual TA improved your program's capacity to deliver high quality programming and produce positive outcomes for program staff and youth participants. Our focus is at the cohort level – we are not monitoring or evaluating individual grantees.

[EqM team introduces themselves and their roles.] Equal Measure is a learning partner in this work with Wilson Foundation and the PEAR Institute. Our job is to take high level feedback we hear from you today, as well as any suggestions for improvement, and deliver it to the Wilson Foundation and the PEAR Institute. We are looking for cohort-level themes we hear across our conversation today, not program-level data. As an EqM team, we will keep confidential all that is discussed on this call—comments will not be linked back to individual participants or their organizations. We ask that everyone on the line keep the comments that you hear today to yourself; and, if you find yourself sharing about the content of the conversation, do not refer to individual's names or their organizations. This session will be recorded, but the recording will only be used to supplement our own notes and will not be shared with PEAR or Wilson.

Any questions?

Icebreaker: In one minute or less, can each participant share their name and how they became interested in STEM.

Questions:

Goals and Structure of STEM19

1. What were the factors or circumstances that led you to seek participation in STEM19?

2. How would you describe the goal or goals of the STEM19 grant?
    a. Do these goals align with your own program's goals?

3. What were the most important features of participation in STEM19?

Impressions of Technical Assistance

4. Tell me about the typical TA session.
    a. Probe: Can you understand the presenter's main points?
    b. Is there time for you to ask questions if you don't understand?

c. Do you get to hear from any other grantees?
d. Is there anything you would change about the sessions?
e. How did the **virtual** format work for you?
f. Were any content areas especially helpful?
g. Was there anything you would have liked to learn more about?

Impact on Programming

5. Has the technical assistance you have received through this initiative impacted your programming? If so, how? (Probe: Improved instructional practices? Were there aspects of the technical assistance that have not been helpful for your programming?)

6. Has the grant affected your program's impact on youth? If so, how?
    a. Probe for changes in youth participation, socio-emotional learning, behavior, interest in STEM
7. What programmatic strengths has participation in the initiative revealed?

8. What programmatic areas of improvement has participation in the initiative revealed?

9. How, if at all, did participation in STEM19 impact the capacity of your staff?

STEM19 Network

We're also interested in understanding your connection with other programs in STEM19.

10. Have you connected and engaged with other programs in the cohort during virtual TA sessions? Why or why not?

11. Have you connected and engaged with other programs in the cohort outside of webinars? Why or why not?

Summary & Additional Support

If time permits, ask all questions. If time is short, ask only the starred questions**.**

12. Are there any benefits or challenges of participation in STEM19 that we have not spoken about yet that you think are important for us to know?

13. *Was there any support you could have benefited from but did not receive?

14. If you were leading STEM19 or a similar initiative in the future, what changes would you make to increase the likelihood of positive outcomes for programs and youth?

15. *If you were given the opportunity to continue in STEM19 beyond this year, would you continue the project?

STEM 2035 Initiative: Year 2

Ralph C. Wilson, Jr. Foundation & Community Connections of New York

Report from The PEAR Institute, McLean Hospital

May 2020

The PEAR Institute at McLean Hospital has been gratified to participate in the STEM 2035 initiative for a second year. Our collaboration with the Ralph C. Wilson, Jr. Foundation, Community Connections of New York (CCNY) and Equal Measure brings a level of commitment and thoughtful planning to this multi-city project that PEAR hopes to carry forward through a third year of serving the STEM 2035 initiative.

The STEM 2035 initiative was designed to build a community of afterschool program leaders in Western New York and Southern Michigan. The Wilson Foundation is investing in each participating program over the three-year project. Programs have been invited to come together in a learning and skill acquisition process which will foster data-oriented quality improvement, including observations of each program to assess quality, outcomes measurement for staff and students, and training for program leadership and staff.

Overall goals for the second year included:

1. Continue to center the project in the shared goals of the partnership, with clear outcomes.
2. Provide content and training for programs in a cohort setting, with additional support as needed.
3. Train programs in administration of tools and interpretation of results and collect data.

The planning process incorporated the results of needs assessment/evaluation of the participating programs and was conducted in partnership between CCNY, Equal Measure, The PEAR Institute and the Wilson Foundation. Year 2 activities were shaped by feedback from the cohort with consideration of results from initial data collection. Year 2 was designed to include several rounds of data collection on youth outcomes and program quality. PEAR will use the results to empower participating programs as they plan individually for improvement, and to inform the cohort-level goals for training and professional development. The cohort model builds sustainable communities of practice designed for maximum impact and improved youth outcomes well beyond the 3-year period of training and support.

Activities Completed

Peer Learning Community Trainings & Webinars: These Peer Learning Community (PLC) sessions were designed and conducted to bring together STEM2035 cohort members for professional development, community building and opportunities for learning and collaborating among cohort members.

The April 2019 PLC provided one full day of in-person training to each cohort (April 3, 2019 in Buffalo and April 4, 2019 in Detroit). This session introduced the DoS Program Planning tool and gave cohort members an opportunity to practice using the DoS framework for planning quality STEM activities. Participants also got to experience the Common Instrument Suite survey as preview for administering it to youth in their programs. Time was also spent doing a community building activity and thinking about types of partnerships.

The June session (June 24, 2019 in Buffalo and June 25, 2019 in Detroit) was conducted in person, one full day for each location. This PLC spent time reflecting back on learnings from the first year of the STEM2035 work and thinking ahead to goals for year two. Time was also spent on connecting self-care activities to the Clover development model. The activities could be taken back by participants to their staff and youth.

On September 12 & 24, 2019 PEAR provided training webinars to each cohort in use of the DoS Program Planning Tool (PPT). This 3-hour training provided an overview of the DoS Framework to help trainees develop an understanding of each of the 12 indicators of program quality and introduced them to the Program Planning Tool (PPT) that helps them utilize the DoS Framework when planning quality STEM activities. It was open to all staff at STEM2035 programs

A two-day joint session was held in Buffalo on October 1-2, 2019. This was kicked off by a keynote speaker, Dr. Calvin Mackie. He spoke about the importance of diversity and equity in STEM. On the second day the cohort participated in several cross-regional team-building activities that they could bring back to their programs. Time was then spent reviewing the cohorts' aggregate data and giving programs time to do a deep dive into their data and use it to inform goals for year two. The PLC wrapped up with programs drafting goals for year two.

A joint webinar was held on November 19, 2019 to train participants in the area of Relevance. This training focused on promoting youth connection to content to support deeper learning and lifting up a dimension that tends to score lower among STEM programs, including STEM2035 programs. This PLC was held via webinar. The first three hours was an interactive training specifically on increasing the quality of the DoS dimension "Relevance." The second part was an opportunity for programs to check in and share progress on their work and discuss challenges together.

Full-day PLC sessions were provided in March. The regional PLC in Buffalo was conducted in person on March 4, 2020 and the Detroit PLC on March 11, 2020 was conducted virtually via Zoom because of Covid19 pandemic travel restrictions. The focus of this PLC was to dive deeper into thinking about equity in STEM programming and giving participants a chance to explore artifacts related to the two DoS dimensions of Reflection and Relevance as a way to reinforce what quality in STEM programming looks like for both of those dimensions, which typically score low. Participants also broke into groups to discuss and collaborate on issues specific to their programming. It allowed time for programs to learn from each other and begin to collaborate in more specific ways.

Data Collection and Reporting: PEAR has provided ongoing support for data collection as well as data reporting and interpretation.

Informal virtual meetings ("data collection office hours") were held four times in 2019 (March 14/15, June 5, July 18 and October 23) to provide programs with opportunities to connect with the PEAR team and ask questions related to data collection.

Programs collected data from youth using the Common Instrument Suite (CIS) via PEAR's survey platform, in three rounds. PEAR provided results data and analysis via interactive Qualtrics Dashboard distributed to cohort members (July 15 and September 13, 2019 and January 3, 2020).

Upon completion of each data collection round, programs were invited to attend informative data review sessions (held July 22nd & October 2nd, 2019 and January 24th, 2020) to explore the interactive data dashboards, reflect on findings, and discuss next steps in the data collection process. The October data review session took place at the in-person joint PLC in Buffalo.

PEAR also created a summary data report for funders of data collected from April 2019 to January 2020.

Status of Current Activities

Since the beginning of the Covid19 pandemic (March 24, 2020 to present) PEAR has provided optional weekly check-in calls for cohort members, to promote cohort cohesion and create a space for mutual support, as well as guidance on any content or data questions.

Data collection is ongoing. The current window for data collection is January 2020 thru June 2020. Although the Covid19 Pandemic has prevented many programs from collecting data during this period, PEAR will report out on the data that was collected prior to the pandemic.

Monthly planning meetings with PEAR, Equal Measure and CCNY have occurred throughout the initiative, which ensures all activities, communications and evaluation efforts are coordinated.

PEAR continues to meet with CCNY as needed to plan activities and support the STEM 2035 initiative. PEAR also creates communications around data collection and PLC content for cohort which are sent to CCNY for distribution.

Observer certification training in the Dimensions of Success (DoS) tool have been provided to cohort members throughout the project. To date 24 people from STEM2035 programs have become DoS certified. An additional 13 have participated in training but not yet completed certification.

The final PLC training for this year will be provided in May 2020, via webinar due to ongoing travel restrictions. The session will focus on applying DoS and Clover to virtual to virtual learning best practices, along with more "unconference time" for programs to self-select topics and groups for discussion/collaboration.

Year 3 activities will kick off with a PLC session in October 2020 with additional sessions expected in winter 2020 and May/June of 2021.

Timeline

May 2020: Final PLC meeting of Year 2

Summer 2020: data collection for programs that are open, with follow-up "Data Debrief" webinar in September/October.

October 2020: PLC training

Winter 2020: PLC training/conference

May 2021: PLC training/conference

Activities in Year 3 will focus on goals set collectively by the cohort, and the creation of individualized action plans based on data findings. PEAR will provide professional development and support to help the cohort achieve these goals (as well as continued data collection).

Evaluation & Results

Evaluation of the STEM 2035 project is conducted by Equal Measure, an active partner in the planning and ongoing work.

Report: PEAR Data Collection and Analysis for STEM2035

Introduction

The PEAR Institute team at Harvard and McLean is excited to present key findings from our data collected by the STEM 2035 grantees between April 2019 and January 2020. STEM 2035 takes a cohort-based approach to promoting positive STEM outcomes for youth and supporting learning and collaboration among OST STEM providers. Key aims of the initiative include improving and sustaining program quality to better support STEM learning experiences and increasing the number of under-represented youth in STEM programs and pursuing STEM education and careers.

Many grantees are clearly embracing the data collection tools available including the Common Instrument Suite-Student (CIS-S) survey and the Dimension of Success (DoS) Observation Tool. They are also supported through various trainings and webinars. With 21 STEM2035 program staff certified in DoS this year and ten more in process (see Appendix A), staff are able to conduct DoS observations of their own programs and others', promoting collaboration within the cohort and supporting the key aim of increasing and sustaining program quality. As described below, results from the cohort yield exciting findings, including that STEM2035 programs exceeded national trends in STEM program quality for 10 of 12 DoS dimensions. Additionally, findings from the first three rounds of youth survey data collection show positive change in STEM-related attitudes and 21st century skills, especially in youth interest and engagement in STEM and STEM careers. In line with what we see nationally, growth areas include Relevance, Reflection, and Youth Voice of the program quality dimensions. Results also highlight the importance of supporting all youth, especially those traditionally underrepresented in STEM, in building STEM identity as the percentage of positive change was lower for STEM identity for some groups.

The PEAR Institute team greatly looks forward to continuing data collection efforts to inform the cohort's progress and effectiveness in achieving the outlined goals. Note that the results presented in this memo are intended to complement, but not to repeat, information provided in PEAR's STEM Data Dashboard (see Appendix B for a PDF version). We would be happy to review and discuss the data further as well as receive suggestions for supporting data collection and continuous improvement efforts going forward.

Two appendices will be attached:

- A: PDF of Qualtrics aggregate dashboard of all data collected through January 3rd, 2020
- B: List of STEM2035 Certified DoS Observers

Please cite report:

Meisels, H., Lewis-Warner, K., Callahan, T., Allen, P. J., & Noam, G. G. (2020). *PEAR Data Collection and Analysis for STEM2035.* Belmont, MA: The PEAR Institute: Partnerships in Education and Resilience.

Section One: STEM 2035 Cohort Participation

Who is participating in the cohort?

- The STEM 2035 cohort is comprised of 17 OST STEM programs based in Western New York (n = 11) and Southeast Michigan (n = 6).

What tools and trainings did PEAR provide to programs?

- ***Data Creating Tools:*** Programs participated in three rounds of data collection during 2019, and results are based on two different data sources.
  (1) Program quality observations using the Dimensions of Success (DoS) tool
  (2) Student ratings from the Common Instrument Suite-Student (CIS-S) survey
- ***Training/Webinar Opportunities***: Trainings grounded in the DoS framework and webinars aimed at supporting the collection and usage of data were made available to participating programs.
  (1) **DoS Certification Training (Available monthly for cohort)**: This comprehensive two-day training provides trainees with a nuanced understanding of the DoS framework and observation tool. Offered via live webinar, this training along with calibration and feedback support, was made available to staff from all participating programs.
  (2) **The DoS Program Planning Tool (PPT) Training (September 12 & 24, 2019)**: This 3-hour training provides an overview of the DoS Framework to help trainees develop an understanding of each of the 12 indicators of program quality and introduces them to the Program Planning Tool (PPT) that helps them utilize the DoS Framework when planning quality STEM activities. During this training, participants also have opportunities to practice using the PPT with popular STEM curriculum. Two PPT trainings were offered to the cohort in September 2019.
  (3) **Relevance Module Training (November 19, 2019)**: This training focused on promoting youth connection to content to support deeper learning and lifting up a dimension that tends to score lower among STEM programs, including STEM2035 programs.
  (4) **Webinar PLC (November 19, 2019)**: Following the Relevance training, STEM 2035 programs participated in a 1.5-hour PLC via zoom where participants discussed recent successes and challenges in their programs.
  (5) **Data Collection Office Hours:** Informal virtual meetings were held four times in 2019 (March 14/15, June 5, July 18 and Oct 23) to provide programs with opportunities to connect with the PEAR team and ask questions related to data collection.
  (6) **Data Debrief Sessions (July 22nd & October 2nd, 2019 and January 24th, 2020):** Upon completion of each data collection round, programs were invited to attend informative data review sessions to explore the interactive data dashboards, reflect on findings, and discuss next steps in the data collection process. The October data review session took place at the in-person PLC in Buffalo.

How did programs make use of PEAR's tools?

Table 1. Program participation in data collection and trainings (2019).

Program Name	*Spring 2019*[1]	*Summer 2019*	*Fall 2019*
Baldwin Center	CIS-S		DoS
Buffalo Maritime Center	CIS-S/DoS		DoS
Buffalo Museum of Science		CIS-S/DoS	
Challenger Center	CIS-S/DoS	CIS-S	CIS-S/DoS
Cornell Cooperative Extension			
Detroit Hispanic Development Corp			
Downtown Boxing Gym Youth Program	CIS-S/DoS	CIS-S	CIS-S
Dream It Do It WNY (DIDI)	CIS-S		
Ecoworks, Youth Energy Squad	CIS-S/DoS		
Herschell Carrousel Factory Museum		CIS-S/DoS	CIS-S
Michigan Science Center		CIS-S	
MISSION: IGNITE Powered by Computers For Children	CIS-S/DoS	CIS-S/DoS	
Portville Central School District	CIS-S	DoS	
The YMCA of Greater Rochester		CIS-S	CIS-S
Unity in Learning- Leslie Science & Nature Center and Ann Arbor Hands-On Museum		CI/DoS	
Wellsville Secondary School	CIS-S		
Westminster Economic Development Initiative, Inc		CIS-S	DoS
Programs Using CIS-S	9	9	4
Programs Using DoS	5	5	4
Total # of Programs	**9**	**10**	**7**

[1]Two of the STEM 2035 programs took advantage of the option to submit video recordings of STEM activities, which DoS observers at PEAR scored and submitted for data collection.

- Many programs embraced data collection tools with nearly 60% of programs collecting data during the spring and summer collection periods in 2019 and more than half of programs attending additional DoS trainings outside of the PLCs and DoS Observer Certification.

- 15 out of 17 programs submitted CIS-S surveys and 11 of 17 programs submitted DoS observations across the three collection periods. PEAR staff conducted follow-up calls with the two programs who had not yet collected data to discuss any challenges they encountered and determine how PEAR can best support them through the data collection process going forward.
- As indicated in Table 1, the number of programs collecting data was lower this fall. This is likely due to the fact that the majority of programming goes through the school year (spring) or is focused in the summer. We expect counts to significantly increase for spring and summer 2020 collection periods and have been promoting continued data collection efforts through bi-weekly communications sent out to programs and through webinars and PLCs.

Section Two: Summary of Key Findings

How did STEM programming impact youth?

Between April 2019 and January 2020, 464 youth participated in data collection (54.9% male, 41.6% female, 3.5% gender not listed/ "prefer not to answer"). Supportive of the goals of the cohort, the sample of participating youth was diverse and included youth who are typically underrepresented in STEM, with 39% identifying as African-American/Black, 28% as White/Caucasian, and 24% as other races (e.g. Asian, Latino/Hispanic, Multi-Race). 9% of youth preferred not to share their race/ethnicity. The sample was composed of middle school youth (46.9%) and included youth in elementary school (19.8%) and in high school (33.3%).

- Overall, CIS-S results reveal that students reported the most positive change in STEM Engagement (84%), Perseverance and Critical Thinking (79%), and STEM Career Interest (77%) as a result of participating in STEM programming (see Figure 1).
- In comparison to a PEAR's national norms sample, youth participating in STEM 2035 programs report greater positive change across nine of the ten CIS-S scales.
- Although more than three-quarters of youth reported increased career interest in STEM, 36% of youth demonstrated either no change or negative change in their STEM Identity (See Appendix A for corresponding figures).

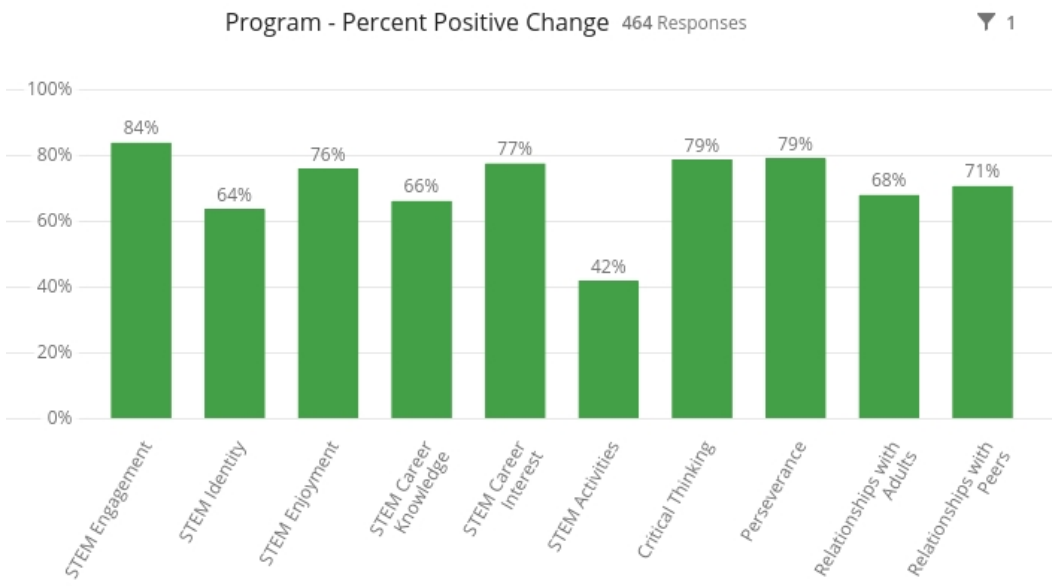


Figure 1. Shows percent positive change in STEM-related attitudes and 21st century skills.

Are programs engaging underrepresented groups in STEM?

As increasing representation in STEM and building a diverse STEM workforce is central to the cohort goals, analyses were conducted using data collected in the spring and summer of 2019 to examine STEM-related youth outcomes by race/ethnicity. It is important to note that analysis focused on two race/ethnicity groups (White, Caucasian and African American, Black) as they were the only groups with a large enough sample size. It is great to see that over 50% of youth in both race/ethnicity groups reported positive change across five of the six scales (see Figure 2). STEM Activities measures how much youth are engaging in STEM outside of programming to gather information on the presence of STEM in youth's everyday lives/activities. In line with what we've seen nationally, and as indicated below, STEM activities scored the lowest across White/Caucasian, African-American/Black, and all other youth.

- When exploring youth data broken out by race/ethnicity, African-American/Black youth reported the greatest positive change in STEM Enjoyment and STEM Career Interest.
- White/Caucasian youth reported greater positive change in STEM Engagement, STEM Identity, STEM Career Knowledge, and STEM Activities.
- These findings highlight the importance of using data to guide programs in promoting positive STEM learning experiences for all youth.

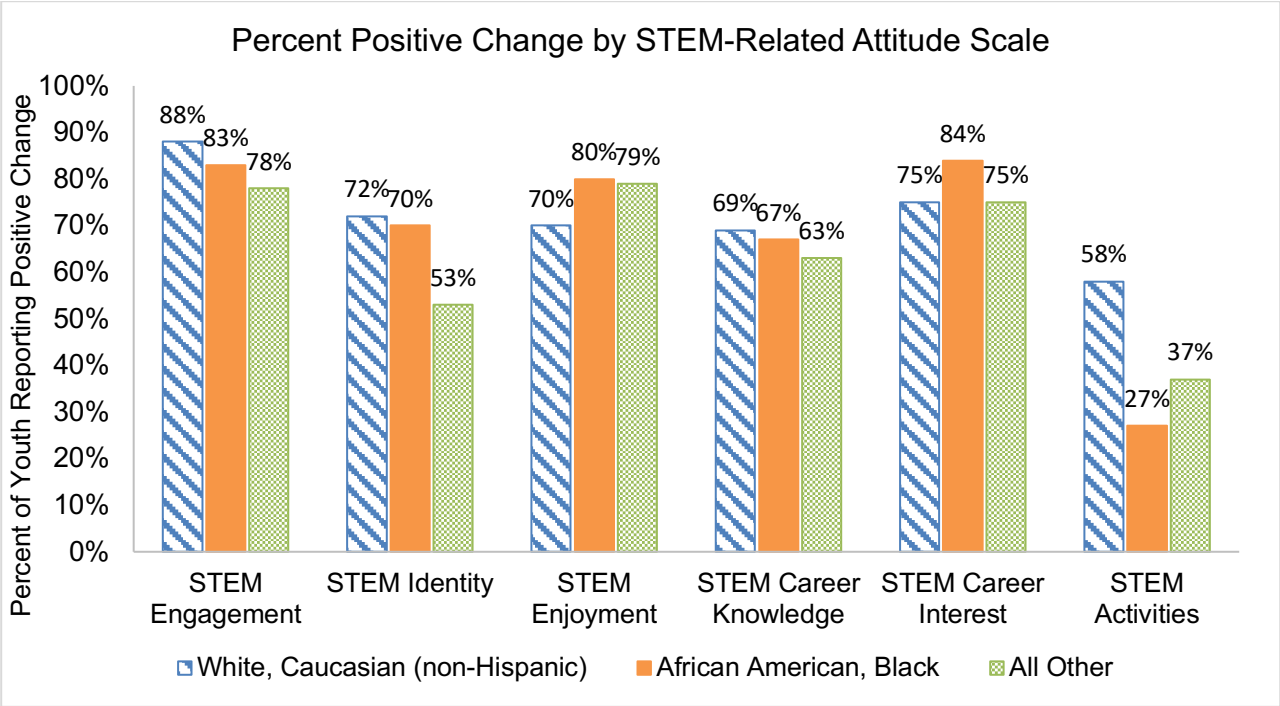


Figure 2. Positive change in STEM-related attitudes for youth separated by race.

What levels of quality were observed for programs?

A total of 17 observations were performed by individuals certified in DoS across 11 programs (see Appendix B for a list of certified observers by program). For a particular STEM activity, each of the 12 DoS dimensions are rated on a scale from one (evidence absent) to four (compelling evidence), with higher scores reflecting higher levels of quality. The graph (Figure 3) includes a line at 3.0, which is the benchmark for quality according to DoS standards. We are pleased to report that on average, STEM activities demonstrated reasonable to compelling evidence of quality across 8 of the 12 dimensions (66.7%).

- Specifically, on average, programs who submitted DoS observations (n = 11) demonstrated reasonable to compelling evidence of quality in the Features of the Learning Environment (Organization, Materials and Space Utilization) and Activity Engagement (Participation, Purposeful Activities and Engagement with STEM) domains and in the Relationships dimension of the Youth Development Domain.
- Areas for growth are focused in the STEM Knowledge & Practices Domain and the Relevance and Youth Voice dimensions of the Youth Development domain. The patterns of quality observed in the STEM 2035 cohort were consistent with those observed in national trends, as seen in the "double-dip" of the graph included above. We look forward to supporting these areas of quality that programs traditionally find challenging through continued training opportunities and conversations around quality.

- Observed STEM 2035 programs exceeded national trends in program quality across 10 of 12 dimensions, supportive of the cohort's aim to provide high quality STEM learning experiences for youth.

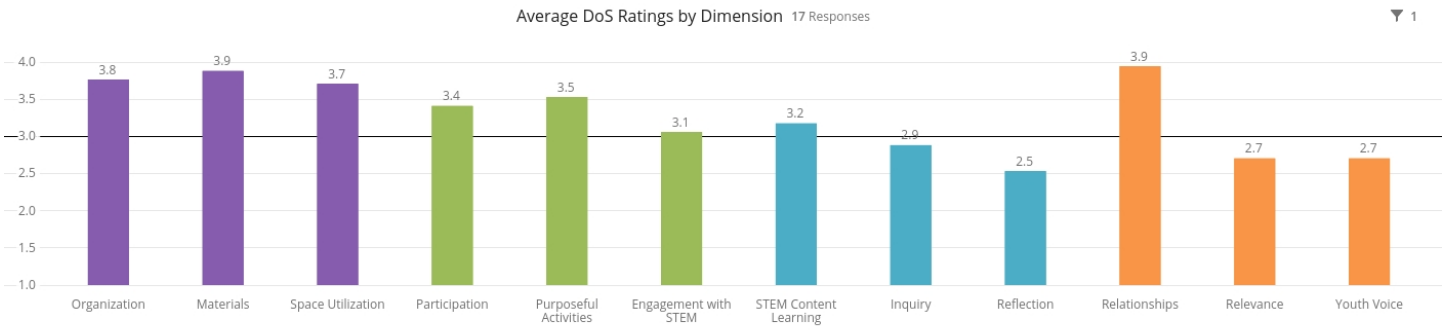


Figure 3. Average DoS ratings by dimension.

Conclusion

The data provide a wealth of information for programs as they enter Year Two of the cohort. The findings suggest that the STEM 2035 cohort is moving towards achieving the goals outlined at the outset of the memo, especially those aimed at inspiring youth interest in STEM careers and promoting quality STEM learning experiences. In support of promoting quality STEM learning, Section One highlights the great resources that many programs are taking advantage of, including various DoS trainings, webinar convenings, and data collection tools. As summarized in Section Two, the data reflect that improvement areas of program quality include Reflection, Relevance, and Youth Voice. Previous research suggests a linkage between program quality and youth outcomes, and we believe investing in lifting up these aspects of program quality will help to build STEM identity among youth (Allen et al., 2019). Therefore, the data highlight an opportunity for programs to support youth in connecting to STEM content and to seeing STEM as relevant to their identities.

We are excited to provide continued support around collecting and using data to guide continuous improvement and progress towards the cohort's goals. As programs become more accustomed to data collection, it is important that consistent participation and collection of data be emphasized to support program's continuous improvement and to assess change in programs over time. As next steps, the PEAR team and CCNY are tasking programs with creating their own data collection outlines to help programs plan proactively for data collection and gather helpful information we will use to support programs. Now that 14 of 17 programs have at least one certified observer, we will continue to encourage programs to observe their own activities and those of other programs. This enables programs to measure progress as they work to use their strengths to lift up identified areas for growth. The PEAR team is also committed to supporting the goal of engaging underrepresented youth in STEM and will use the data reported here to guide important conversations at upcoming PLCs. We hope that these distilled findings provide helpful information to guide next steps for the cohort in Year Two and Year Three.

Appendix

STEM 2035 Theory of Change – Section 1

Inputs/Resources	Activities	Outputs
Staffing: • Initiative partner personnel, including the expertise and capacity of personnel from PEAR Institute, Community Connections New York, Equal Measure, and the Ralph C. Wilson, Jr. Foundation • Program personnel, including the expertise and capacity of personnel from the mentoring programs and organizations, including executive and program/frontline staff **Funding:** • Out-of-school time (OST) STEM grants for programs in Western New York and Southeast Michigan **Knowledge and Planning Resources:** • Dimensions of Success (DoS) formative assessment and program observation tool • CoP schedule and meeting spaces • CoP content that is delivered/shared with programs at and in between meetings • Evaluation plan	**PEAR Institute:** • Community of Practice (CoP) convenings (in person and webinars) to carry out the learning agenda and provide professional development to program personnel • Guidance with Dimensions of Success formative assessment practice and quality improvement • DoS training provided to Equal Measure and programs • Use of formative data generated from DoS application **Equal Measure:** • Mixed-methods portfolio evaluation activities, including data collection, analysis, and reporting that informs mid-course corrections and continuous improvement as well as facilitation of reflection sessions among initiative partners **CCNY:** • Management of the RFP and grants processes, including fiscal grant management • Administration, including development of a project calendar, scheduling monthly calls for partners, communications to programs, coordinating logistics for CoP activities, and supporting data collection activities **Programs** • Participation in and application of CoP convenings and resources • Implementation of proposals (e.g., partnerships with local higher education institutions, libraries, museums, science organizations, etc.) • Participation in the evaluation **Other:** • Monthly management team meetings to reflect on progress, troubleshoot, plan the CoP, etc.	**Community of Practice:** • Opportunities for organizations to connect and increase social capital • Opportunities for organization staff and CoP participants to learn best practices for OST STEM • Adoption of the DoS framework • Program resources to increase the number of underrepresented youth in STEM, accelerate learning and collaboration among OST STEM providers, support innovative ideas in STEM programming, and improve and sustain program quality. **Evaluation:** • Finalized theory of change for *STEM 2035* • Collective understanding of initiative successes and challenges and what it takes to achieve the ultimate goal of the initiative **Programs** • Increased knowledge and tool availability for delivering high-quality STEM programming • Staff as well as student and family awareness of program participation in STEM 2035 and what the initiative is about **Other:** • Coordination and collaboration among the initiative partners

STEM 2035 Theory of Change – Section 2

Youth	Program	Community of Practice
Through participation in high-quality OST STEM programming, youth will:	**Improve program practices:**	**Support network development among programs:**

Youth	Program	Community of Practice
• Increase engagement in active learning experiences • Increase interest in STEM activities, courses, and careers, including STEM identity trajectory • Increase socio-emotional learning through program activities *Short-term and intermediate changes*	• Integrate Community of Practice learning and collaboration opportunities with program practices • Experiment with innovative STEM programming[6] • Increase utilization of best practice models • Improve program quality (e.g., use active learning activities, relevant and youth-driven approaches, project-based learning, socio-emotional learning principles) • Improve utilization of formative data to assess programming through adoption of the Dimensions of Success (DoS) framework • Increase capacity to sustain quality programming, despite leadership and staff transitions • Link STEM programming to local employer needs (including careers that may not require four-year degrees) *Short-term and intermediate changes* **Improve program outcomes:** • Increase the number of underrepresented youth (e.g., girls, black and Latino students, economically disadvantaged students) participating in STEM programming *Intermediate and long-term changes*	• Increase communication and build relationships across program leadership and staff, prompting long-term connections • Facilitate learning and collaboration across programs *Short-term, intermediate, and long-term changes* **Build capacity of programs to deliver high-quality OST STEM student experiences:** • Connect evidence of changed practices to program quality improvement and to student and facilitator outcomes • Identify individual and systemic barriers that hinder students' STEM engagement and persistence but also levers/strategies to reduce these barriers • Support leadership development in STEM program delivery *Intermediate and long-term changes*

STEM 2035 Theory of Change – Section 2

Foundation

[6] "Innovative" is defined as trying something new or making substantial improvements that spark engagement and interest, build confidence, and create pathways in STEM for 6th to 12th graders.

Through insights from the evaluation and reflection with initiative partners, the Foundation will:

- Increase understanding of how to fund and support cohorts of nonprofit organizations
- Develop a model of collaboration for nonprofit cohorts
- Guide programs and organizations toward becoming competitive for RCWJF and diversify funding, supporting program sustainability
- Develop evidence of quality STEM programming to share with the field

***STEM 2035* Theory of Change – Section 3**

End Goal

Increase the quality and creativity of out-of-school time programming in Southeast Michigan and Western New York to inspire, connect, and prepare more 6th-12th graders (especially girls, black and Latino students, and economically disadvantaged students) to engage with and pursue STEM.

STEM 2035 Theory of Change – Section 4

Contextual Factors	Assumptions
The programs function in the larger economic, social, and political environments of their communities and in the OST STEM field. • High transience of program staff in OST programs is common. • Staff characteristics—Facilitators/instructors bring different levels of skill in	The theory of change is based on the following premises, or assumptions: • The organizations will want to collaborate and will see the value of the Community of Practice. • Three years is long enough to achieve the overarching goal of the initiative.

leading inquiry-based and project-based learning.
• School/program context and characteristics:
  o Geography of school settings (i.e., rural, suburban, and urban) influences OST program management by nonprofits versus schools.
  o Extent to which school, including leadership and teachers, partners with the program
  o Different programmatic STEM focus areas
  o Different geographic focus areas and student populations
  o Length and history of programming
  o Funding sources
• STEM program engagement and partnership with local industry depends on the type and number of relevant employers in the regions.
• The programs do not have a history of collaboration.
• Systemic barriers exist that hinder the engagement of underrepresented students in STEM pathways (e.g., school quality, lack of role models, sexual and racial discrimination).
	• Inspiring more 6th-12th graders (especially girls, black and Latino students, and economically disadvantaged students) will be within the realm of influence of the selected OST programs.
	• Current programming is not engaging and effective enough for underrepresented students. Programming needs to be more relevant and impactful.
	• Innovative programming is compatible with efforts to deepen program quality. Innovation can support quality improvement.
	• Programs will have the capacity, or build the capacity, to use formative data to improve program quality.
	• Program leaders and staff will be motivated to increase the engagement of girls, black and Latino students, and economically disadvantaged students in STEM programming.
	• Programming designed to target students will have the added benefit of increasing engagement of families in STEM programming.
	• Selected programs will demonstrate complementary strengths, enhancing the potential for cross-program learning.
	• Regarding thought leadership, lessons from this initiative will be valuable to the field.

STEM 2035 Program and Youth-Level Data Collection

Updated: 6/1/18

This document outlines data collection activities at the program and youth levels that will occur over the course of the STEM 2035 initiative. This data collection plan assumes that approximately 16 programs will be selected as grantees across the Buffalo and Detroit regions. Equal Measure, the evaluation and learning partner, and the PEAR Institute, the content expert and community of practice lead, have jointly developed this plan to articulate data requests and to clarify their organization roles. Equal Measure and PEAR will engage in data sharing to help them fulfill their respective roles on the project. Programs will need to fully commit to complying with data requests to maximize benefit and contribution to the community of practice and the evaluation.[7] Community Connections of New York will communicate with the programs about data collection schedules, and help coordinate activities, as needed.

[7] Programs will need to incorporate student participation in the evaluation activities as part of their parent consent forms at the beginning of the school year or summer program.

The Ralph C. Wilson, Jr. Foundation

STEM2035

Professional Learning Community Survey Results

January 26, 2021

Facilitated by:

pear

January 26, 2021 PLC Agenda

- Welcome and Opening Circle
- Update from Ralph C. Wilson Foundation
- Fun Community Building Activity
- Review guiding questions for centering grantees' work in DEI
- Capturing cohort work through year 2: Jamboard exercise
- Youth Voice in STEM: Snap Debate
- Fall data dashboard review (*not enough time, to be addressed during office hours*)
- Closing Circle

DEI Breakout Groups: three breakout rooms were created as a space for people to review and talk about the guiding questions compiled at the October 2020 PLC for centering work around DEI. People could choose the group to join which best reflected their needs/work situation.

Group Share Outs

Organizational management group: individuals shared about trying to navigate the idea space from the lens of working with board members and funders—finding the fine line between people who are helping to keep the doors open and the organization's responsibility to the community. They discussed the challenge of navigating those spaces in this time and figuring out what are best practices to do that. The group did not come up with one conclusion, but recognized more work is needed.

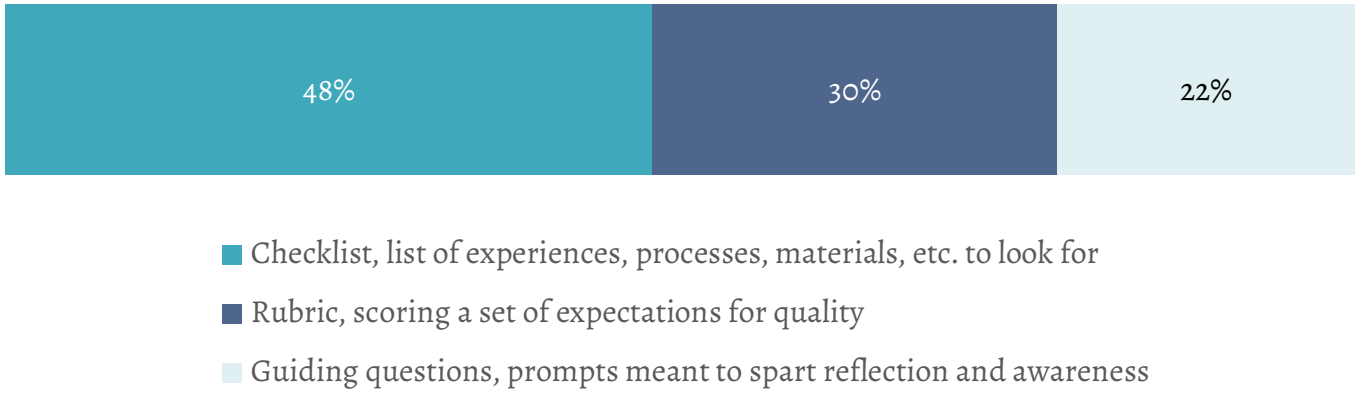
Program managers + designers group: individuals in this group talked about working to have diverse role models and allowing space and creating opportunities for people to share their experiences. They recognized that it is OK if this sharing time is built into the structure (e.g., everyday at 10am someone shares). They reflected that if you wait until it is organic, you might wait a long time. Group members noted how people talk about organic versus practiced and how often these are held as separate. They felt one can be authentic in a designed way.

Facilitators working directly with youth group: group members compared the activities they facilitate with youth to being like a comic standing on the stage and seeing how things land with your audience. Waiting to hear if you make a splash or if you disappear into the void.

DEI Toolkit: Quick group check in poll

The majority of PLC participants (48%, *n*=11) indicated a **checklist** with a list of experiences, processes, materials, etc. to look for would be the most useful DEI tool for their organization.

Question: *In what form would an equity tool be the most useful to you?*



Sharing in the Zoom chat box

There are some existing rubrics and guiding questions with other professional orgs. Are you looking to pull on some existing work? For example, Association of Science and Technology Centers (ASTC) has a cultural competency program that has run for eight years...they've got a lot of materials and may be willing to share? We are members, so not sure if I'm seeing more here than you can, but they definitely have put a lot of work in and figure out some of these elements: https://community.astc.org/ccli/home

The following pages provide a summary of survey data collected after the **January 26, 2021** STEM2035 professional learning community (**PCL**) meeting. The event was held over Zoom.

13
participants completed the survey; ***23 grantees were in attendance***

69%
of respondents agreed* they have **made connections with others they plan to sustain**

Only 1 person selected do not at all agree as a response to this question.

69%
of respondents agreed* they are **comfortable reaching out to others in the cohort**

3 people selected somewhat agree.

69%
of attendee respondents have been **a part of STEM2035 since the beginning**

2 people indicated they have been involved since Y2; 1 since Y3; and for one, they just got involved and this was their first PLC.

* % includes responses of *very much agree* and *agree*

Almost half of survey respondents (46%) indicated they only ***somewhat agree*** that they feel **clear about the work they are doing for STEM2035 during Y3.**

Question: *I feel clear about the work we are doing for STEM2035 during Y3.*

Four individuals provided additional details about their lack of clarity. Responses indicate not all of the confusion is grounded in the initiative.

New to the initiative	*I am joining this initiative just now, having missed all trainings and planning. I don't know what I don't know, but all I plan on doing is using the money to give growth opportunities to youth. Other than that, I don't know what is expected of me.*
Unsure about the overall joint initiative goals	*I know what STEM2035 work my organization is doing this year and feel confident and passionate about it. What the STEM2035 cohort is doing, the PLCs, etc., it less clear in the joint efforts and overall mission.*
Lack of clarity is within their own organization	*I'm not necessarily unsure of the work for STEM2035. The lack of clarity comes from within our own organization and how to best carry out the work that we have planned for STEM2035.*
Unclear what other programs have planned for this year	*I'm unclear still about what most other programs are doing this year!*

Respondents found **value** in the **snap debate**, **scavenger hunt** and **DEI tool** activity**.** People shared about how much they enjoy learning new activities they can use in their own programming.

Most valuable activity	***Individual feedback about which PLC activities were most valuable***
Snap debate	• All the PLC was valuable, but I love the snap debate. Learning new activities to consider virtually is impactful.
	• Snap debate was good for getting youth to express voice as well as openness to discussions. Focusing on how to bring in youth voice when microphones and cameras were off was helpful. Creating safe parameters to express ideas.
	• The snap debate topic, because I'm new to this initiative and it helped crystallize some ideas I assumed were obvious about centering youth voice, but also raised good ideas about a facilitator's role
DEI tool creation	• DEI tool creation. It was unique to be able to actually create a version of a tool to use. Ordinarily that would just be talking and trying to abstractly turn conversation and principles into action. That was cool.
	• Working through the DEI tool. 1. It was useful to look at DEI through multiple lenses: for activity, program, and organizational 2. The discussions that followed were more practical than just mindfulness.
Scavenger hunt	• Practicing new activities (scavenger hunt)
	• The implementation and discussion about scavenger hunt and other ways to have students turn their cameras on
	• The scavenger hunt was fun and interesting. I also found value in the IDEA breakout chats.
	• The virtual scavenger hunt was amazing, but I am curious to see what comes out of the DEI tool creation discussion. I cannot wait until I have some kind of checklist or rubric to refer to!
Jamboard	• The Jamboard session, It was so nice to see fellow organization responses and what has changed.

Feedback about which **activities** were **the least valuable** included comments about the length of time spent on community building, lack of clarity around the DEI tool creation, the Jamboard question activity, and the snap debate groups being too large to allow for everyone to be fully involved.

Activity	*Individual feedback about which PLC activities were least valuable*
Snap debate	• "Snap Debate" and the remaining Break-Out Groups.
	• The Snap Debate groups were too large to have full involvement from each person
Community building too long	• Community building was way too long
	• I think the community building activities. Was certainly happy to do them, but my program does really well with community building and the 2nd activity felt like overkill.
	• Perhaps the time it takes to go round the whole group for scavenger hunt, etc.
	• The extensive time spent on the icebreakers was not useful- I would have liked to get more information about implementation of STEAM programming.
DEI tool creation	• I'm not sure about the tool creation, but I had to step away during the discussion so I may have missed out.
	• The tool creation. It was unclear what I was supposed to be doing. Perhaps that would've been covered in previous trainings I wasn't a part of.
Jamboard	• The post-it responses
	• The questions from the field, only because I haven't been in the cohort from the beginning. It was hard answering some of those questions.

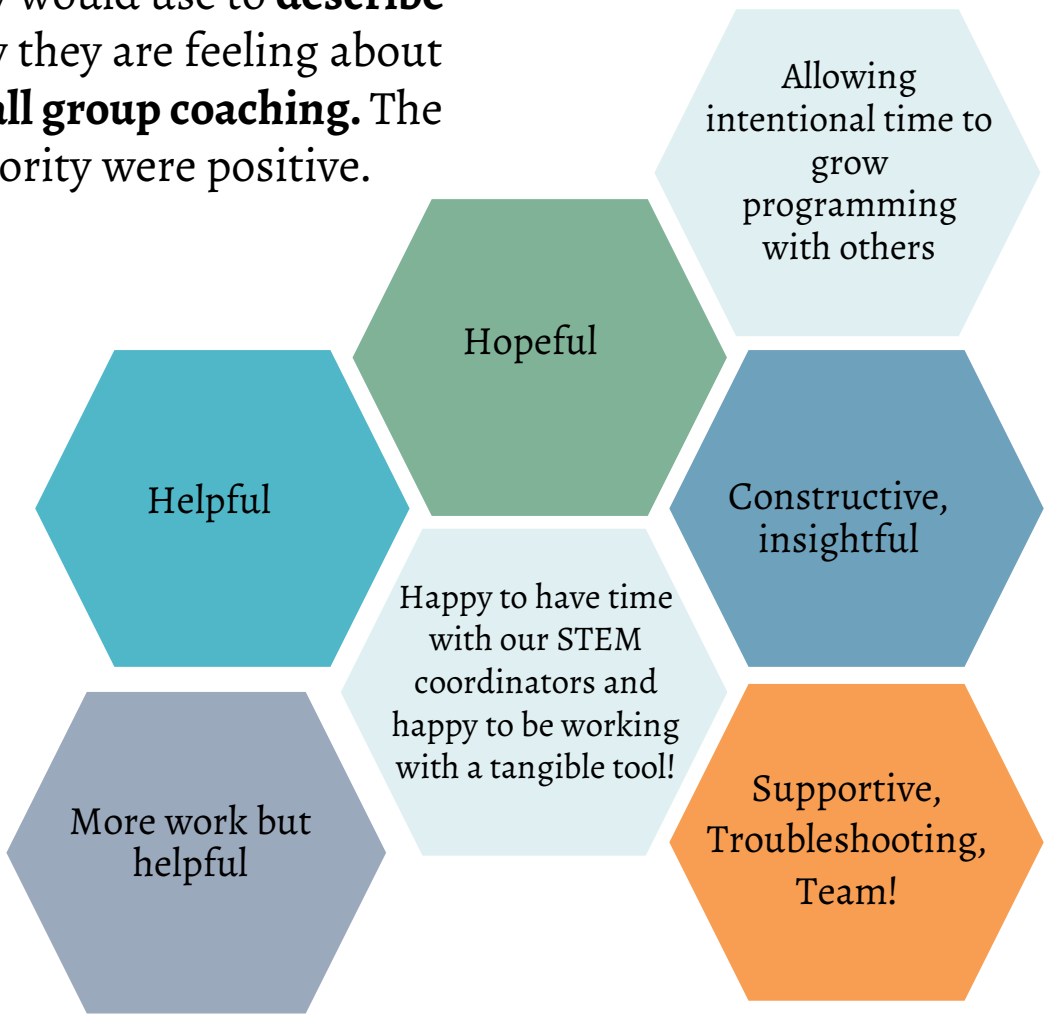
Almost half of survey respondents (46%) indicated *agree* or *very much agree* that they have a plan to **share what they learned at the PLC** with their program staff.

Question: *I have a plan for how to share what I learned today with my program's staff.*

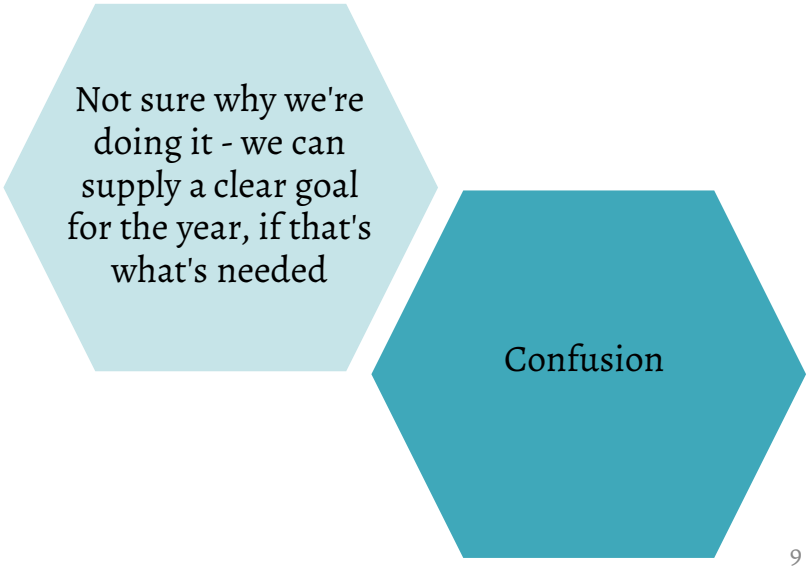
Activities people intend to share include the scavenger hunt, snap debate activity, information about the Generator Z grant, the community building activities and the DEI toolkit.

- *My program staff was involved, but together we agreed that **Jamboards**, **Scavenger Hunts**, and **Selecting Break-Out Group features** were all things we would like to incorporate.*
- *I am definitely sharing the virtual **scavenger hunt** to our educators who will be leading virtual camps.*
- ***Scavenger Hunt** and **Generator Z** grant*
- ***Scavenger hunt** and **snap debates***
- ***Scavenger hunts** for STEM related ideas or sharing.*
- *The **snap debate** and the meaningful item **scavenger hunt**.*
- *The tool for sure*
- ***Community building** [and] **DEI toolkit***
- ***Youth Voice Activities** and how they help teens keep their screen on.*

10 survey respondents provided one or two+ words they would use to **describe** how they are feeling about **small group coaching.** The majority were positive.



> *Coaching sessions may feel more beneficial if they were restructured into groups by how long they have been involved in the STEM2035 project."*



The Ralph C. Wilson Foundation

STEM2035

January 2021
Professional Learning Community
Jamboard Summary + Themes

January PLC Jamboard Summary + Themes

At the January 2021 PLC, using a Jamboard, participants were asked to share their thoughts about a number of topics, including changes they have made to their program due to COVID, lessons they have learned from STEM2035 peers, how they have used PEAR data to modify their programs, what aspects of the DEI training they have been able to incorporate into their programs, and accomplishments—big and small — they have achieved in the past year.

This document provides a summary of the themes found in individuals' responses. Participants' responses, as well as numbers, where appropriate, are included to show the prevalence of specific themes.

Jamboard Questions

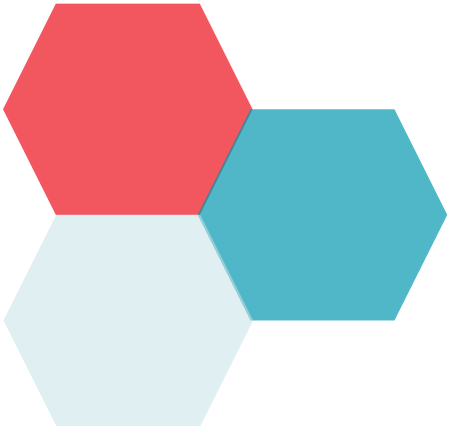
- Thinking about the training you have received through the grant, what changes have you made to your programming since the closures necessitated by COVID-19?
- One of the benefits of being part of the STEM2035 cohort is the relationships formed and the lessons you can share and learn from each other. What have you learned from your peers? (e.g., strategies, connections, advantages, resources). Include examples of when you have talked or utilized each others' services.
- In what ways have you used your PEAR data to modify your existing programming?
- During year 2, DEI training was provided and one of the goals was to create a plan for programming that incorporated diversity, equity and inclusion. What new learnings were you able to incorporate into your organization's programming as a result of this training and your individual plan?
- What has been the biggest accomplishment, relative to STEM2035, you've achieved in the last 12 months?
- Big accomplishments are great, and sometimes it is the cumulative efforts of the small ones that move us forward. What are some accomplishments you've achieved this year that might escape celebration, but you are proud of?
- Other comments/thoughts?

Jamboard question: *Thinking about the training you have received through the grant, what changes have you made to your programming since the closures necessitated by COVID-19?*

Covid-19 necessitated a transition to virtual programming, resulting in considerable changes to program curriculum and manner of delivery. Individuals shared curriculum changes they enacted, as well as both positive and negative impacts they experienced. Positive outcomes included the ability to expand the reach of some programs (e.g., include more youth) and time to reflect on and redirect aspects of programming they had been delivering pre-pandemic.

Curricular changes participants noted

- Including more time for "youth voice" and "reflection" (*n*=8)
- Providing "at home activities kit" (*n*=1)
- Developing a virtual versus in-person camp experience (*n* =1) and "figuring out online techniques; doing models instead of real object" (*n* =1)
- Offering new curricular content inclusive of "information and classes with a COVID spin" (*n* =1)
- Refocusing the purpose of the curriculum through teaching "only part of STEM, majoring on our expertise and leaving the S,E and M to others." (*n* =1)



Jamboard question: *Thinking about the training you have received through the grant, what changes have you made to your programming since the closures necessitated by COVID-19?*

Positive impact of program delivery changes due to Covid-19

- More opportunities to focus on "youth voice and autonomy" (*n*=1) and "individualized instruction" (n=1) which has "benefitted students."
- Online programming allowed one organization to expand the reach of their virtual camp "to include more families from a larger geographic area.**"** (*n* =1)
- Opportunities for programs to reflect and redirect aspects of their programming:
    - reflect on "challenges and make adaptations in many areas: STEM training, DoS observations, and participation." (*n* =1)
    - "re-direct [our program] as so much of our goal was focused on external (off site) programming. The museum has turned to focus our STEM2035 goals internally as a museum, which has been FANTASTIC as this amazing grant is coming to close, it feels like the best way to continue this dialogue with youth/visitors for generations now."(*n* =1)
    - "We have worked hard to lift up the voices of women of color in STEM (role models, facilitators, spotlight videos)." (*n* =1)

Negative impact of program delivery changes due to Covid-19

- Challenges to implementing "hands-on" component of curriculum (*n* =2)
- Challenges to teaching and student participation: "I am not taking the topics youth choose as in far depth as I was pre covid-19, due to a lack of consistency with the youth that attend on a daily basis and the time given to reflect on each topic." (*n* =1)

Jamboard question: *One of the benefits of being part of the STEM2035 cohort is the relationships formed and the lessons you can share and learn from each other. What have you learned from your peers? (e.g., strategies, connections, advantages, resources). Include examples of when you have talked or utilized each others' services.*

Grantees' shared gaining new perspectives and strategies for program delivery, including technology related benefits, learning about communication strategies, and gaining valuable community support.

STEM2035 members shared learning about communication strategies from cohort members (n=2)

- "We have learned different communication strategies and gotten feedback on what works from others. Keeping emails very VERY short, or adding the message purpose in the subject has been helpful. In the Summer Camp cohort we talked a lot about strategies for making and distributing kits of materials. These talks helped steer our programs through the uncertainty we all faced." (*n*=1)
- Another respondent named "communication strategies" as one of three benefits gained.

Individuals noted gaining technology and virtual programming benefits (n=3)

- "Tech-tips! Especially with COVID-19; those Tuesday chats were so helpful in the beginning."
- "Program creation…[and] navigating the new virtual world."
- "As a late arrival, I was first introduced to the cohort over the summer as people were brainstorming how to operate virtual summer programs. That was the most helpful and inspiring experience I've had all year!"

Jamboard question: *One of the benefits of being part of the STEM2035 cohort is the relationships formed and the lessons you can share and learn from each other. What have you learned from your peers? (e.g., strategies, connections, advantages, resources). Include examples of when you have talked or utilized each others' services.*

STEM2035 members gained valuable community support from each other (n=3)

- "Just hearing/ knowing that I am not alone in these daily struggles is very comforting. Also, I have learned to be more focused on purposeful activities through suggestions from the cohort." (*n* =1)
- "I will never forget when I started and my first class was very difficult and I came to a cohort crying. I then had an entire table of support and suggestions to get me to the next class. I still think of those questions on a daily basis when I am teaching." (*n* =1)
- "Knowing others are out there doing similar work with youth and learning from each other at PLCs for practical resources was great." (*n* =1)"

Cohort members gained new perspectives and/or strategies for program delivery from their peers (n=6)

- "I've learned to be patient in looking for results, but also to be always looking for ways to improve and innovate our processes."
- "I have learned to think more creatively about the way we deliver programs. This cohort is full of ideas."
- "Along with new strategies, I have learned to expand my focus to see the connections and possible relationships between manufacturing and our museums/other programs."
- "General troubleshooting when it comes to challenges (program, Board, Org) has helped immensely!"
- "We have learned new techniques to improve youth voice in our programs."
- "A lot. I'm thinking now about our program's newfound focus on incentivizes students to join us after school without being able to provide food."

Jamboard question: *In what ways have you used your PEAR data to modify your existing programming?*

Grantees are using their PEAR data to revise their curriculum and program priorities (as both a motivating force and to inform changes made); to inform professional reflection and improvement for program staff; and to promote relationship building and/or dialogue about their program with key stakeholders;.

PEAR DATA IS BEING USED TO INFORM CURRICULUM DESIGN + PRIORITIES (N=3)

- "After looking at our data we saw a disconnect between what we thought we were doing and what the youth reported. This led us to change our direction from career-first to activity-first conceptions for conversations."
- "In designing our curriculum for our new cohort this year, we're paying special focus to open exploration of topics and allowing for broad inquiry into the subject."
- "PEAR data has helped with curriculum development."

PEAR DATA IS BEING USED TO INFORM PROGRAMMATIC CHANGES + REFLECTION (N=5)

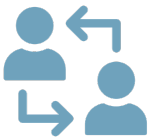
- "Our programs have transitioned from fully teacher led programs to focus on student -led inquiry."
- "...reporting/documenting successes and needs in our programs."
- "We have shifted our focus to address areas where we weren't scoring as high in DOS."
- "[Having the PEAR data has] allowed our program to address the challenges of the data with thought provoking solutions while embracing our youth growth."
- "Our program design now considers student reflection and voice more."

Jamboard question: *In what ways have you used your PEAR data to modify your existing programming?*

PEAR DATA IS BEING USED TO INFORM PROFESSIONAL REFLECTION + PROFESSIONAL DEVELOPMENT FOR PROGRAM STAFF (N=2)

- "Getting the feedback and knowing what I am lacking on helped me to put more focus on things like reflection and voice and choice."
- "I thought about PEAR questions and data they were looking for to make sure I was engaging the youth and reflecting with lessons I was teaching."

PEAR DATA IS BEING USED TO PROMOTE RELATIONSHIP BUILDING AND/OR DIALOGUE ABOUT THE PROGRAM WITH KEY STAKEHOLDERS (N=2)



- "We have shared the PEAR data with funders and board members."
- "This has turned into a great tool when discussing programs with fellow staff and board members. Both in showing how effect/ineffective a program is, but also showing why these elements (refection + youth voice) are so important."

Jamboard question: *During year 2, DEI training was provided and one of the goals was to create a plan for programming that incorporated diversity, equity and inclusion. What new learnings were you able to incorporate into your organization's programming as a result of this training and your individual plan?*

Grantees who did not already actively incorporate DEI into their programing used new learning to diversify their programs and support staff development activities, including increasing opportunities for reflection.

Participants shared using new learnings about DEI strategies to better serve families and youth (n=5)

- "We used two of our new STEM2035 teams to diversify our summer program by including Middle Asian and South Asian students for the first time since I've been with the organization."
- "We've thought more about how to include figures of similar backgrounds to our students in our projects and allowing students of different ages to collaborate"
- "Our focus has been on diversity and equity for a while (Girls and Women in Mfg) but that in itself tended to exclude others. So we have focused more on inclusion for the upcoming programs."
- "A priority to serve families and youth outside of our immediate geographic area."
- "Returning to focus on what is already relevant to youth in their world, then building from there to expansion into the broader world. Equity of access first. "

Jamboard question: *During year 2, DEI training was provided and one of the goals was to create a plan for programming that incorporated diversity, equity and inclusion. What new learnings were you able to incorporate into your organization's programming as a result of this training and your individual plan?*

DEI gains are being used to inform new staff development activities and/or reflection (n=4)

- "Our organization initiated many DEI opportunities for staff (book circles, trainings, webinars) during this past year which complimented the STEM2035 work."
- "I was able to be a part of a lot of personal development training during the pandemic so I was introduced to new ideas and thought processes. I feel this helped with programming and allowing new learning."
- "We've discussed and adopted a DEI Statement which will make implementing easier because folks are on the same page!"
- "We have made DEI a priority."

Some participants shared how DEI was already a part of their programs (n=3)

- "Our organization has always incorporated DEI in our program."
- "Because of the staff transitions with this program, I am not certain if we missed this work or felt it was already incorporated? There was a really valuable DEI training for camp staff year 1 of STEM2035, that helped us reframe our orientation for camp."
- "The training my predecessors had pushed our org into a more DEI focused direction, made us aware of where we lacked. A minor reckoning, from my perspective."

Jamboard question: *What has been the biggest accomplishment, relative to STEM2035, you've achieved in the last 12 months?*

Participants shared student related and programming successes (delivery, growth and community related), as well as personal accomplishments of which they were proud, such as developing new skills, staying positive during these trying times, and building stronger relationships with the youth they serve.

Student related and/or programming delivery successes (n=10)

- "Retaining over 90% of our youth from the start of Spring 2020 through Summer 2020 and the shift to virtual. Youth continued to participate in meetings which morphed into sounding boards for pandemic concerns, social justice concerns, and general pop culture discussions while still paying them their stipends to assist with household finances."
- "So many accomplishments this year. Sending two members off to college, the almost immediate switch to online programming at the start of the pandemic, bringing new members into the program during the pandemic. Hearing from our students how thankful they are to have had a space during this time to talk about their frustrations with our world, government and pandemic life."
- "Last summer, despite the pandemic and a much reduced team, we were able to still serve many families with our camp-at-home program."
- "We were able to send home STEAM kits during quarantine and have our students participate in STEAM from home."
- "Either 1) having a core group of students stick since before the pandemic or 2) using our STEM 2035 teams/schoolyear teams to diversify our summer program."
- "Did zoom cooking sessions with youth. Each family had to teach a cooking lesson.
- "My biggest accomplishment in the last 12 months was continuing programming. Reaching over 100 youth in person and virtual. Offering them exciting and fun STEM programming."
- "Offsetting/scholarshiping kits and programs last summer for kids in SE Michigan, so they could have some level of "camp" even during such a disrupted time."
- "Working closer with the STEMinista Project and combining efforts for summer camp programming."
- "Managing to expand, not just continue, programming during a pandemic, with all of the restrictions, was made possible through STEM 2035 and the support of our cohort."

Jamboard question: *What has been the biggest accomplishment, relative to STEM2035, you've achieved in the last 12 months?*

Cohort members shared personal accomplishments of which they were proud (n=8)

- "I applied to schools and learned how to keep myself happy through solitude. Awesome things I'm really glad about"
- "I read more fiction by Black and Indigenous authors this year than I think I've ever read before. Proud of the improvement, regret my bar was so low."
- "I have been able to maintain a positive attitude despite all the craziness and insecurity around me."
- "I've been very independent in my work and figured out a lot of holes in our programming that other people might not have seen."
- "I've become much more adept at making videos! Not academy award winning but much better - and much needed."
- "I feel accomplished of walking out of 2020 with happiness, hopefulness and positivity. I did not let Covid get me down or discourage me. Programming continued and life went on. I am proud of overcoming challenges and bumps in the road."
- Being able to build stronger and more personal relationships with the youth I serve.
- I asked for the salary ranges for job postings within our organization and shared that information with our community partner connections."

Jamboard question: *What has been the biggest accomplishment, relative to STEM2035, you've achieved in the last 12 months?*

Individuals shared pride at being able to keep their programming going, and in some cases, growing it (n=4)

- "Our organization has pivoted and increased our programming x3 by opening up as a drop in hub for synchronous learning, so we went from an afterschool program to an all day, 7am-7pm program and I am really proud of that."
- "We have been able to keep the program going even after losing all of our core staff members (chief learning officer, program manager, and program coordinator)."
- "Keeping programming going and supporting not only the youth in the program but their families too."
- "Developing programming during a global pandemic."
- "We have made great progress in the orientation of our organization around STEM."

Cohort members shared pride in building stronger community within their organizations (n=2)

- "Small stuff hmm… organizationally maybe our weekly key staff meeting returning. It's good to see everyone's faces, hear what they are working on and laugh together with silly gifs in the chat box while people are talking."
- "Our staff became more supportive towards each other and their own personal journeys"

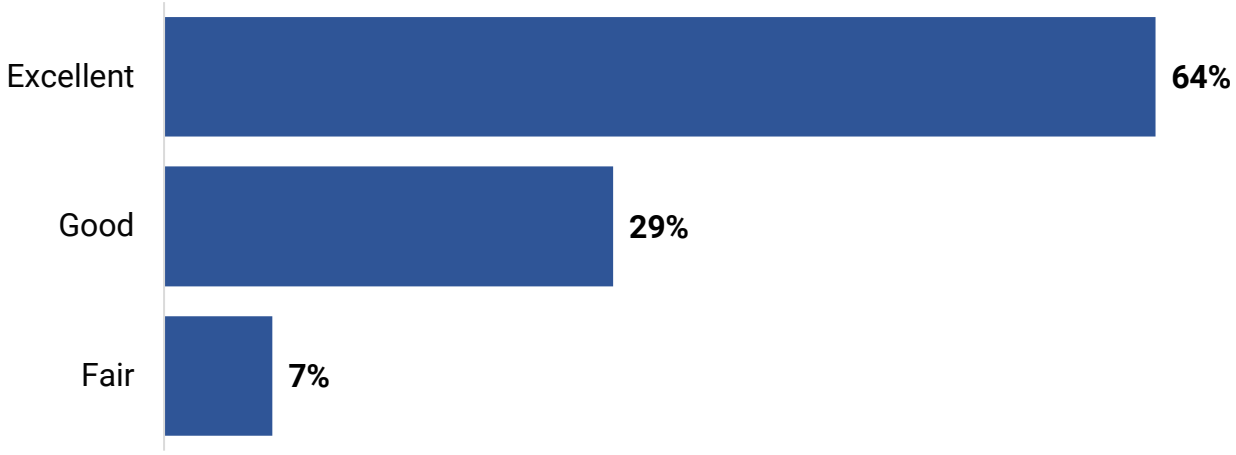
Jamboard question: *Other comments/thoughts?*

- Still trying to work out how to observe STEM activities at a great distance and fulfill the rigor of the DoS rubric
- Online learning should be suited to the platform! Don't try to translate a classroom into a zoom session. I'm not saying we should be doing math in Minecraft, but maybe we should.
- I feel disillusioned with museums as engines for social good, because the top decision-makers are fearful of making necessary change.
- It is difficult to be nimble and make drastic necessary changes when the folks on the ground (educators, managers) aren't at the helm.
- This cohort helps me to feel like I can make it through another work-day!
- Having a lot of feelings lately about the direction of the overall program. But staying positive and remembering these goals are important, and I need to stay focused on what I am doing. Not the collective masses.
- I'm having a hard time answering some of these questions. Partly because I'm relatively new to the cohort, but also feeling kind of disenfranchised based on recent interactions with colleagues. Trying to stay positive, but it's really hard at the moment. Being involved with this cohort definitely helps me to recenter!
- Hard to answer some questions as I've been disconnected from the STEM part of our work for some time with staff churn and picking up other responsibilities. Pre-COVID STEM 2035 was something I looked forward to sharpen our programs and learn from other pros in the field. Presently, during COVID many more things take attention and I miss you all .

STEM2035 PLC
October 28-29, 2020
End of Session Survey Results

Total number of survey respondents, *n*=15
Total number of attendees, *n*=28

Overall, how would you rate the IDEAL workshop?



Excellent, *n*=9; Good, *n*=4; Fair, *n*=1

Please share why you gave the rating you did

- I appreciate being reminded of the importance, value, necessity, of listening. Also, the strategies were most helpful.
- I don't always understand what the goals of these "DEI" workshops are. It felt very separated from actual youth needs, including poor youth and youth of color. Me watching a TED talk by Chimamanda Ngozi Adichie about how people make generalizations is supposed to help my program's students? I've enjoyed her novels and have nothing she shares in TED talks is bad or unhelpful, I just don't think this group needed a whole session based on the fact that people make generalizations and that these generalizations often harm. It feels like the organizations leading these workshops are really stretching it and are separated from the people their missions suggest they intend to help. It's hard for me to believe this workshop is pushing the world closer to equity, and seems like energy would be better spent elsewhere.
- I missed the dyad exercise, but valued the presentation of IDEAL intersecting lens framework, and the very useful ORID conversation tool.
- I was not there on day 1

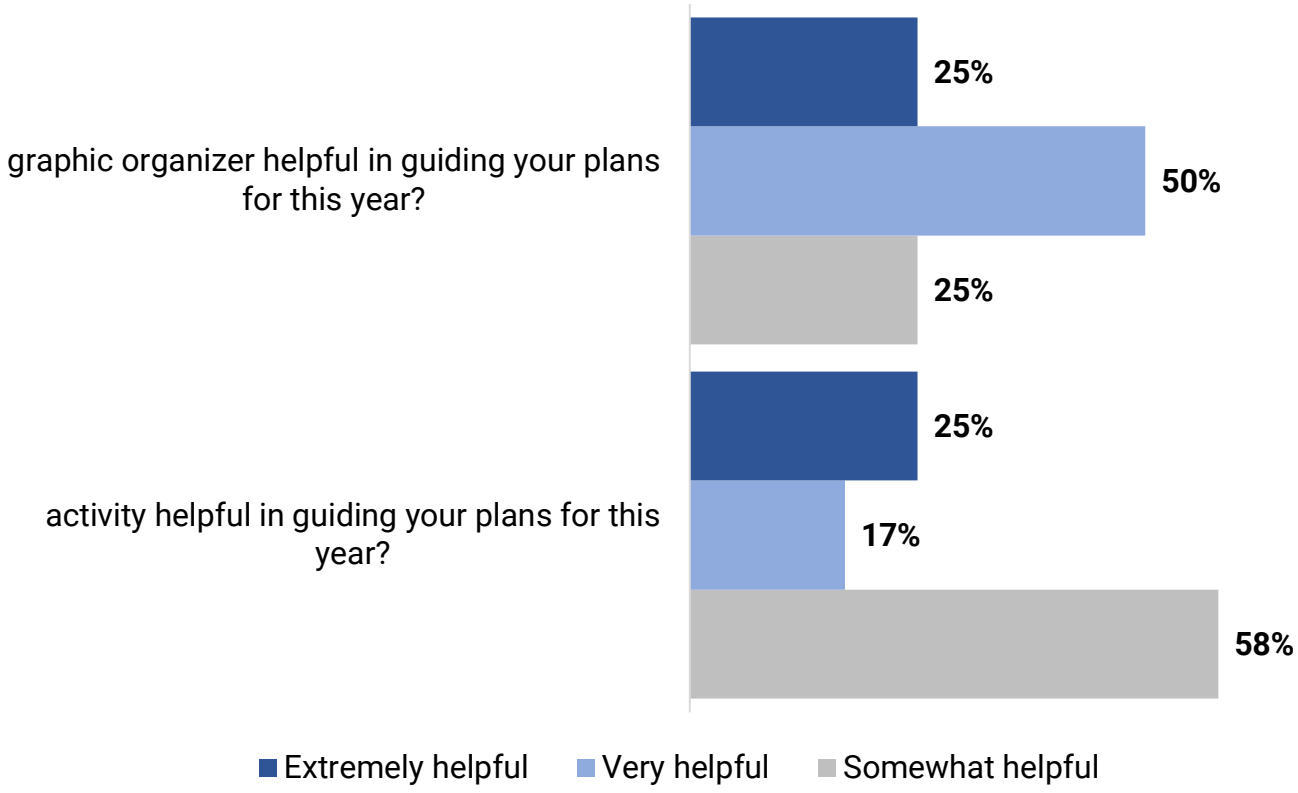
Please share why you gave the rating you did, continued

- It brought up discussions on topics that I've been thinking about for a while. Obtained some very helpful tools!
- It left me wanting more.
- It was very well planned, well executed and impactful.
- It was well structured and I got a lot out of it.
- The most engaged I've been in a Zoom conference, hands down. They did a really good job of keeping things moving quickly so people don't get bored/digitally distracted, and drove the structure and conversation in a really meaningful way.
- The small group work and large group sharing!
- Very well run. Conversation was helpful and relevant. The time flew by!
- Wasn't sure what to expect and it was very informative and brought some great awareness even to those who were educated in DEI.
- Wish I had been able to attend Day 1, internet connectivity issue

How do you plan, if at all, to use what you learned during the IDEAL workshop?

- A reminder to account for and work within the differences in our groups of students. Our teams tend to be homogenous, especially racially, but that doesn't mean all the students in them are the same, or that more can't be done to account for the differences between our teams if/when they are able to interact with each other.
- I appreciated the use of the DYAD and will try to incorporate that moving forward in some of our organization's discussions.
- I have a post-it on my monitor now that reminds me of the danger of the single story. I will put in the time to do the work to rid myself of single stories.
- I plan to introduce the ORID structure to planning meetings and recap meetings. I plan to incorporate more ideas of storytelling in our STEM content to break up single-story narratives and help instill confidence in STEM engagement.
- I plan to use simple stories and different ways of communicating as a well to introduce DEI to our volunteers, staff and students.
- I want to bring the IDEAL center to do some work with the Michigan Science Center! It was great!
- I'm going to share the video of Chimamanda Ngozi Adichie and have a discussion about it. Then share the other tools.
- maybe feel more encouraged to reach out for new ideas
- mindfulness
- Preconceptions are hard to identify, let alone put aside. I will work not to see others through a single story.
- Strategies - and listen!!
- While I would like to bring these discussions back to my organization, we are so strapped for time and stress for people to hear me (a workshop participant) speak about IDEA. However, I will continue to practice expanding the pages of each person or groups stories so that I'm not limited in my views and understandings of people.
- Would love to figure out how to use this in my staff meetings. Are there any outlines with instructions on some of the formats/structures they used?

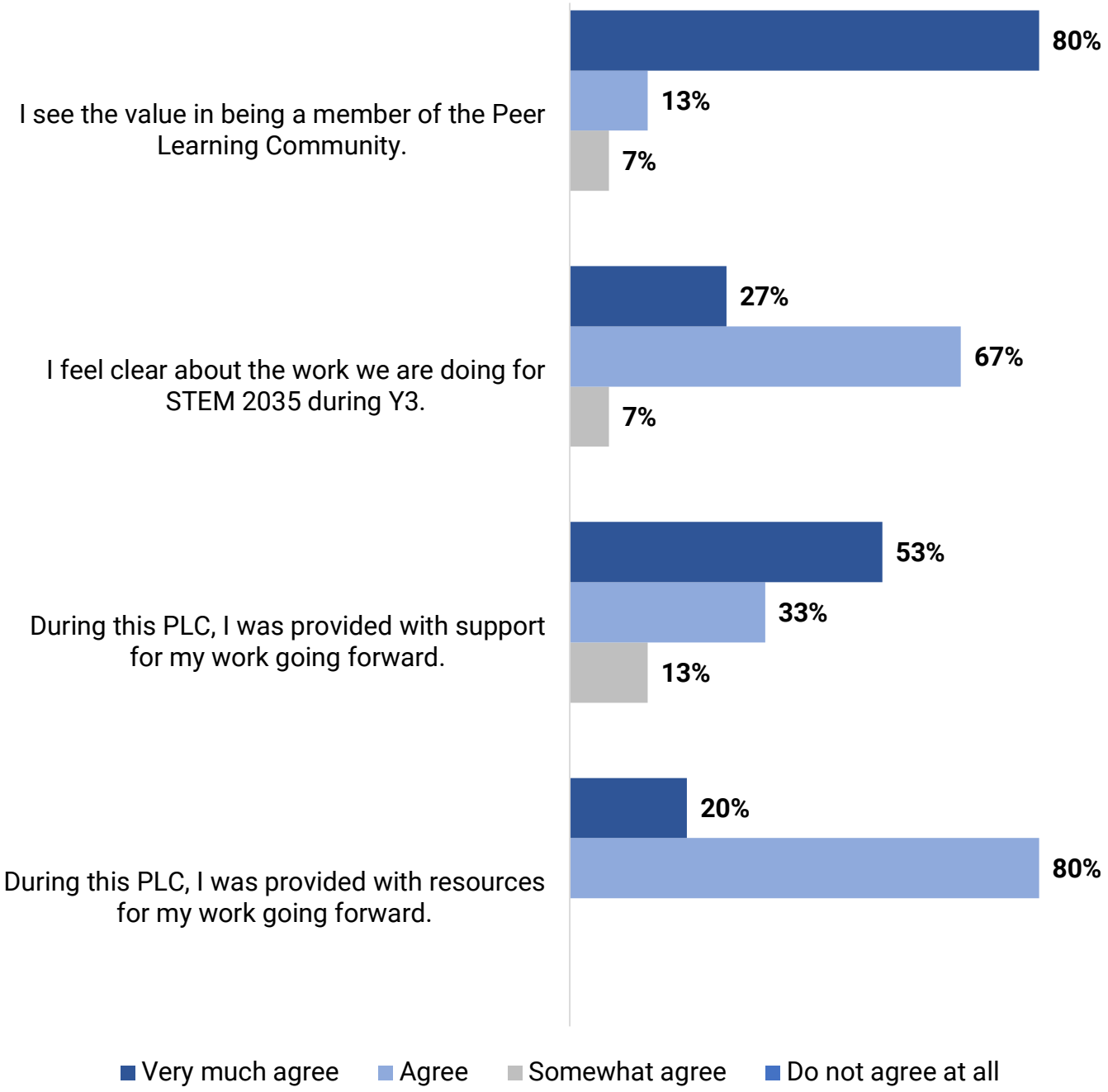
Thinking about your quality improvement plans for your program, to what extent was the "Questions to Actions"…



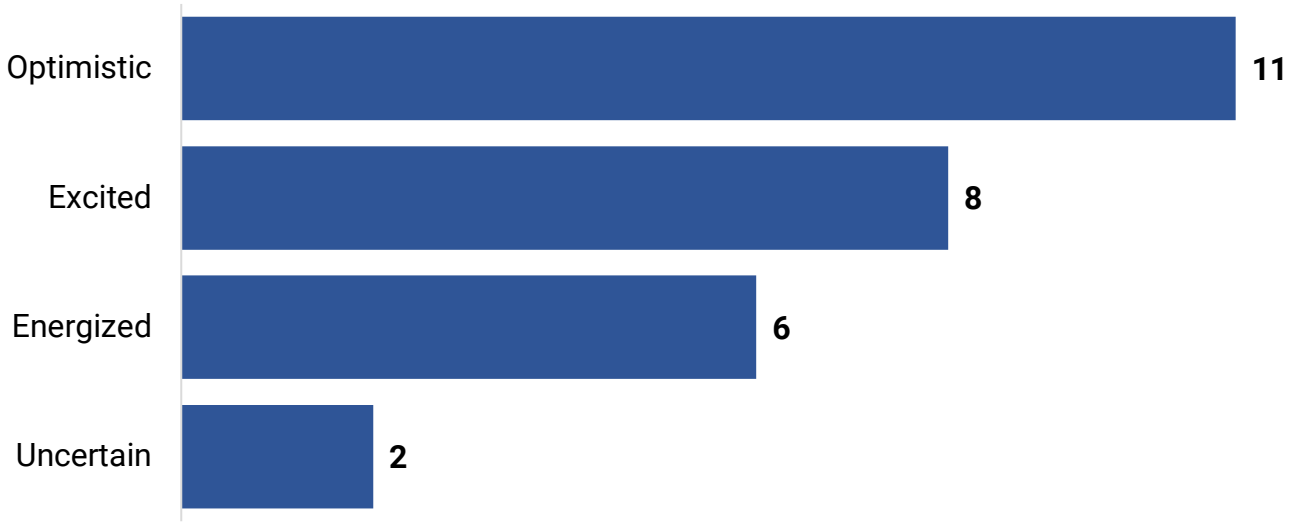
Comments

- Hard with the restrictions of COVID
- I am not sure what the Questions to Actions is. Maybe I missed this from 10:30 - 11:00 am.
- It was nice to be able to talk to my peers, but I wish we could have had more time to work on our individual organization's plans

To what extent would you agree with the following statements?

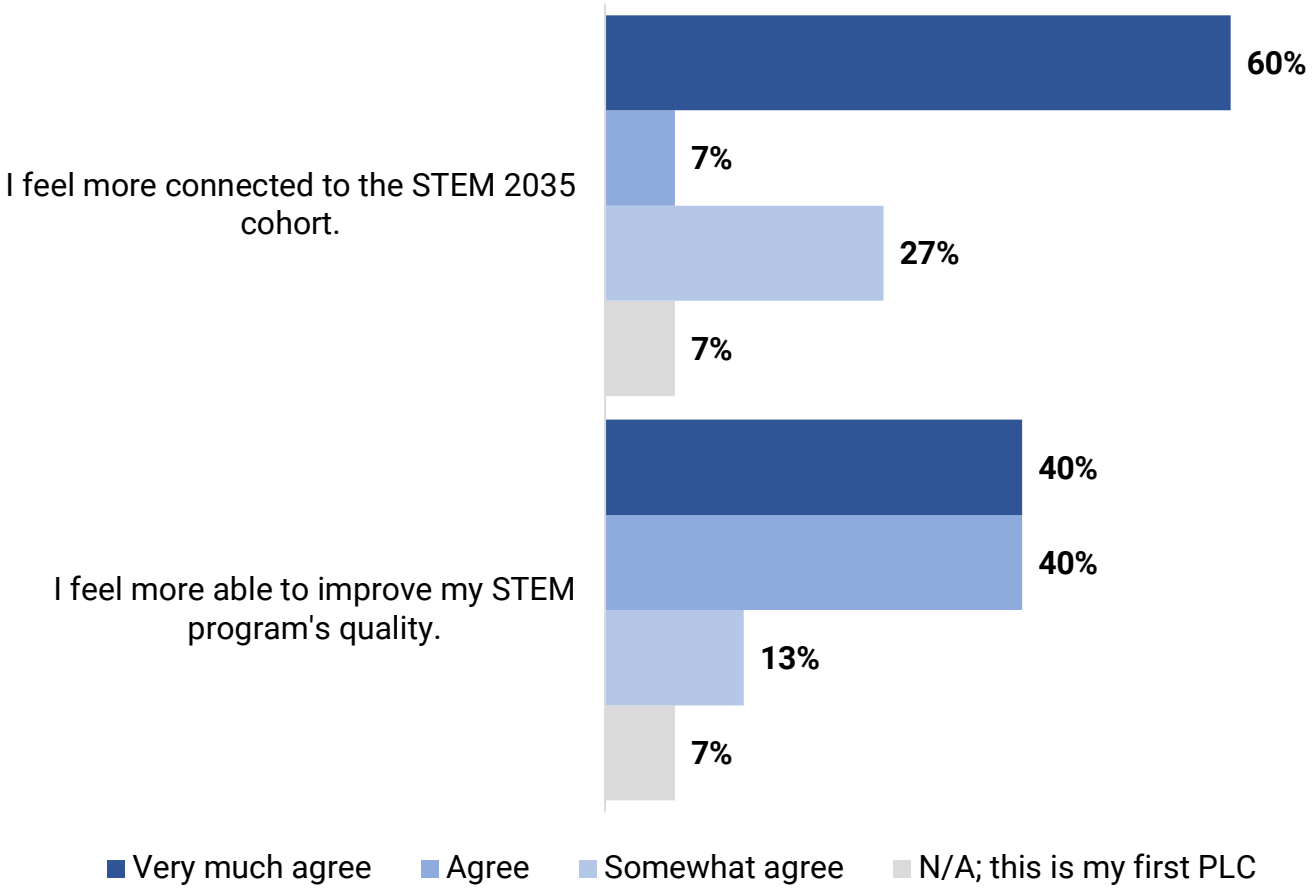


How are you feeling about the small-group coaching sessions?



Additional feelings shared: Concerned that I don't have time for them; Only uncertainty is which staff members will be joining me!; Perhaps this was day two, which I was unable to attend. I do not have enough information to make an opinion.

Thinking back on the past years, to what extent would you agree with the following statements?



Is there anything else you'd like to share with us about the PLC or STEM2035 work?

- Being part of the PLC with STEM2035 has helped me stay engaged mentally through the challenges in pandemic times. I feel so fortunate to have been able to build these bonds before we needed them, and to be provided with opportunities to come together to solve radically different issues than we first thought. SEL language and frameworks positioned our program so well to care for the changing needs of our youth during the pandemic.
- Excited to be a part of the cohort!! Looking forward to continued collaboration.
- Great meeting as usual!
- Great Work!
- I can't help but thinking the answers to question 6 would be different if we were able to have these sessions in person. Losing the in-person experience of the 3-year PLC seems like a loss to our program, as we haven't really had an opportunity like this before. I do feel like you all are making the most of what's possible now, however. Looking forward to January!
- It would be much easier to plan and execute programming if we knew whether or not there will be support for programming after this year and if so, what it will look like.
- So much of what we did in years 1 and 2 has been turned on its head... I am hopeful with the small groups that we can navigate these issues together. Thanks!

STEM2035

A RALPH C. WILSON, JR. FOUNDATION INITIATIVE

RALPH C. WILSON, JR. FOUNDATION

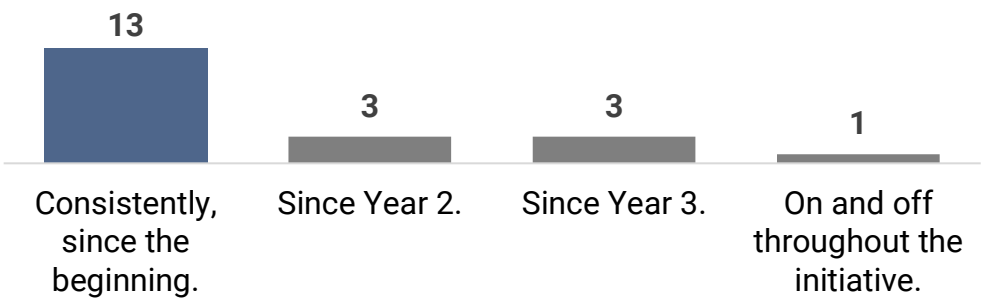
October 2021 Final PLC survey representation

Organization Name	#
Ann Arbor Hands-On Museum and Leslie Science & Nature Center	2
Baldwin Center	1
Buffalo Maritime Center	1
Buffalo Museum of Science Teen STEM Initiative	2
CCE Allegany County	1
Challenger Learning Center of Lockport	1
Cornell Cooperative Extension of Allegany County	1
Downtown Boxing Gym	2
Dream It. Do It. WNY	1
Herschell Carrousel Factory Museum	2
Michigan Science Center	1
Mission: Ignite	1
Portville Envisioneering Center (contracted evaluator)	1
WEDI	1
Wellsville CSD	1
YMCA of Greater Rochester	1
Youth Mentoring Services	2
Total	**22**

Organizations with No Survey Representation (currently)

- Detroit Hispanic Development Corporation
- Portville Central School
- EcoWorks Detroit

Length of Time Final Survey Respondents have Participated



QUESTION: Thinking about the activities over the past two days, what parts were the most valuable for you and why?

Thirteen participants responded to this question. **The Workshop: Authentic STEM practices and SEL/DEI was the most highly cited most valuable event** (*n*=7), followed by individuals citing the value they find in being with the group and sharing/brainstorming ideas.

Cohort experience/connection and being around others	• Anytime we are able to talk to other programs in small groups about their successes and needs is really helpful to me. Knowing that we are not alone. • Being able to brainstorm/plan with colleagues. • Crying in front of the group filled with gratitude over all the shared experiences we've had and the continued connections we've built. Bringing the whole self to professional work has never felt as accepted as it does with this PLC and has shaped the way I want to show up in my work for the rest of my career. • I think just being in the room with other orgs is immeasurably valuable itself. • Speaking with other educators and facilitators and hearing what works for them is always the most useful part.
Lessons Learned Activity	• Working with the team on lessons learned.
Workshop: Authentic STEM practices and SEL/DEI	• Authentic STEM practices - nice summarizing of all we have been working on. • Workshop on authentic STEM practices was helpful and a fun way to test my skills as a program designer/coordinator. I felt truly like an expert in this field while doing this as all the notes and considerations we made came so easily/naturally. • The group exercise on the first day was very helpful. • The program writing on day 1 because it was nice to brainstorm a perfect program with folx. • The hour long break out session on day 1. I liked the interaction within the group • Hands on implementing knowledge and experience gained over last 3 years w/PLC colleagues, plus the discussion was deeper and more meaningful. • Break out groups and discussion of a specific stem topic.

QUESTION: Thinking about the PLC pre-work reflection activity you were asked to complete, did you find it valuable to you and your team? Why or why not?

This refers to the reflection activity asking you to share at least one concrete example from your program of something your program did to move towards one of the four "STEM2035 Desired Outcomes," and any evidence of its impact.

No, not so Valuable Responses

- I didn't find it particularly useful personally. Just felt like I needed to provide an example, not that it was a useful reflection tool.
- It was semi-useful.
- We already conduct this yearly.
- It was hard for me to do because I just joined the program in May 2021.

YES! Valuable Responses

Opportunity to help focus their work/think about successes and look to the future	• Yes! It's always good to take the time to evaluate. It focuses our work. • Yes, it was helpful because reflection was equally important for us. • It was valuable. It allowed us to reflect on our successes and what we want to implement in the future. • Reflection and analysis are always valuable. I do this naturally very often, but to formalize and focus all these thoughts about the entire program provided some great perspective about overall success. • Yes, it helped to cement our successes front-of-mind as we move forward to create permanency in what had been a pilot program. • Focused on reflection to summarize progress made.
Forced them to look at specifics	• I think it was valuable because it forced us to look at specifics within our programming rather than just a blanket look at the programs themselves to ensure that we are meeting the desired outcomes.
General value w/out specifics	• It was valuable for me to reflect but I have not had time to share the learnings with my team. • Yes - wish it was compiled by Pear to share out in a 1-page document • Yes, it was definitely valuable. It's one thing to talk about it with others but when you have to write about it your chance to really dig deep in your thinking and needs is increased .

The Ralph C. Wilson, Jr. Foundation

STEM2035

Post-STEM2035 Survey Summary

May 2021

Survey Representation + Roles individuals play in their organization

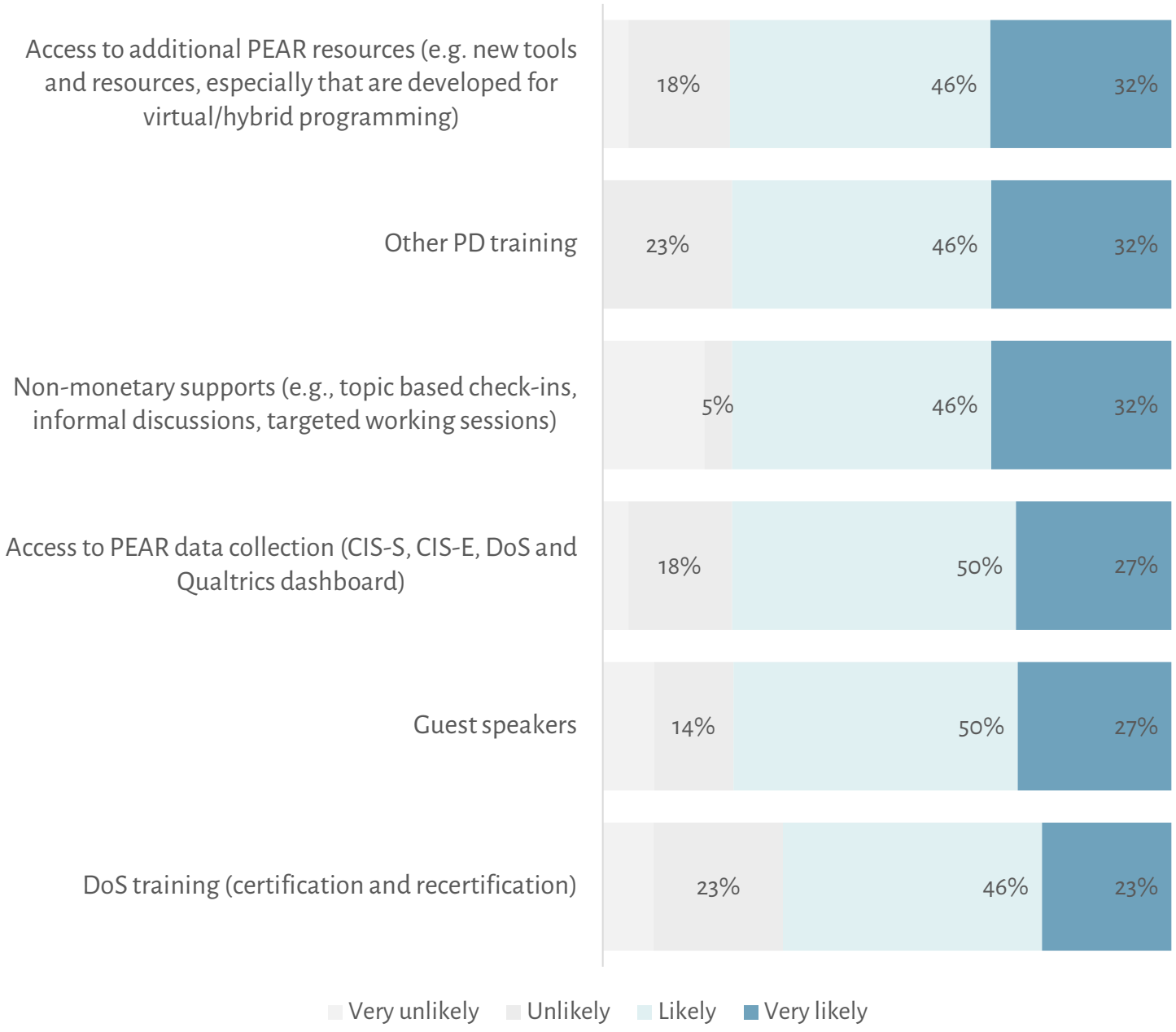
[individuals could select all that apply]

Twenty-two individuals from 15 organizations completed the postSTEM2035 survey. Half of the individuals identified their roles as *director/administrator* with two of these people also indicating they were *program leaders*. Almost half indicated they were *program leaders*, and six of those individuals indicated they also serve in the role of *educators* in their organization.

Organization	Director/ Admin.	Program Leader/ Developer	Educator/ Facilitator	STEM2035 Program Evaluator
Buffalo Maritime Center	■			
Buffalo Museum of Science		■	■	
Buffalo Museum of Science		■	■	
Challenger Learning Center, Lockport		■	■	
Cornell Cooperative Extension Allegany County	■	■		
Downtown Boxing Gym Youth Program	■			
Downtown Boxing Gym Youth Program	■			
Downtown Boxing Gym Youth Program			■	
Dream It Do It	■			
EcoWorks		■		
Herschell Carrousel Factory Museum		■	■	
Leslie Science and Nature Center		■	■	
Michigan Science Center		■		
Michigan Science Center	■			
Mission Ignite		■	■	
Mission: Ignite	■	■		
Portville Central School				
Wellsville CSD	■			
Westminster Economic Development Initiative, Inc.	■			
Ymca of greater Rochester			■	
Youth Mentoring Services	■			
Totals	11	10	8	1

Likelihood that individuals' organization or program would use various resources

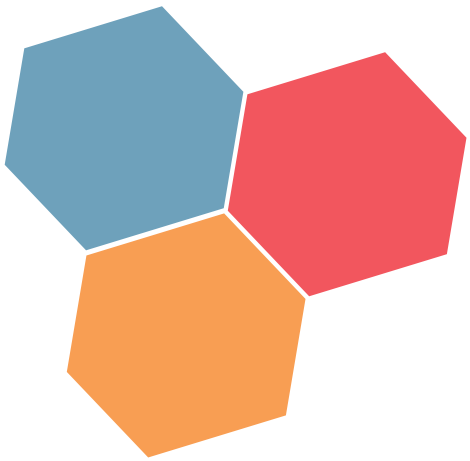
More than 75% of respondents indicated that if offered to them, they were *likely* or *very likely* to use: **additional PEAR resources, PD training, non-monetary supports** (e.g., topic-based check-ins, informal discussions, targeted working sessions)**, PEAR data collection resources** (CIS-S, CIS-E, DoS and Qualtrics dashboard) and **attend guest speaker lectures**. DoS training had the lowest selection for likelihood to use (though, if should be noted, 69% of individuals selected *likely* or *very likely* to use).



Respondents' ranking of activities in which they would be most likely to participate

Attending an annual conference/convening of STEM2035 programs was ranked #1 by the most respondents (*n*=10), followed by topic-based check- ins (*n*=7). No one selected informal discussions/checks-ins for their number one choice.

	#1	#2	#3	#4	
Annual conference/ convening of STEM2035 programs (virtual or in-person)	**10**	4	5	1	***Half of the respondents ranked an annual conference as their #1 choice, followed by topic based check –ins.***
Topic-based check-ins	**7**	6	7	0	
Working sessions to support specific program goals/activities	4	10	4	3	***Half of the respondents ranked working sessions to support specific program goals/activities as their #2 choice.***
Informal discussions/ check-ins (similar to current bi-weekly calls)	0	0	4	16	***Informal discussions/check-ins was ranked #4 by 80% of the respondents.***



For those respondents interested in a form of check-ins or working sessions, **more than half (*n*=10) indicated monthly would be the best frequency**, followed by quarterly (*n*=7). Only one individual selected bi-weekly.

PD Topics of Interest: Open-Ended Responses

DATA RELATED

- Using data to encourage funding. Tracking long-term outcomes for youth who have participated in programs. Broadening the community of practice for informal STEM providers.
- What data is most useful long-term? How to maintain focus/engagement over a multi-day program?
- Youth & Staff Development, Program Specific data collection (other ways of surveying programs) Science Center and other organizations that are strictly STEM based and have been doing intentional STEM programming before the grant provide hands on training/virtual training of their programs.

DoS RELATED

- PDs on how to incorporate each of the different DOS aspects into programming. More PDs on utilizing the DOS tool - I think it is a very useful tool for staff, even if they don't go through the training to be observers they can still learn quite a bit about it to better assist them with incorporating it into their lessons.
- Unit planning, based on the DoS framework. I now keep in mind the many elements when playing units and programs.

COMMUNITY BUILDING

- Building community/ connecting.
- Organization, priority setting, staying sane.

DEI

- DEI related training.

IDEAL CENTER

- I'm not sure what has already been covered in past years, but my favorite PD so far was the IDEAL workshop. I would love to have ongoing PDs with the Ideal Center to expand on how we can make sure our we are incorporating IDEAL standards into our programs as completely as possible, hopefully spilling out organization-wide. I got a lot out of that workshop, but I know that there is so much more to learn and do. The IDEAL Center's PD was so well done, engaging, and carefully led and it would be a treat to continue to learn from them. While I understand that this may not be able to be offered for free, I would absolutely pay out of pocket to attend another workshop with the IDEAL Center.

CURRICULUM DEVELOPMENT/TOOLS

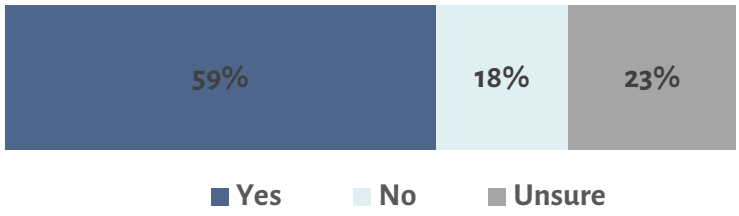
- Workshops on developing curriculum or which provide curricular resources, even just ideas from individual classes.
- New tech and engagement tools that can be used with students virtually and in person.
- The T, E, and M of STEM.

Guest speaker Ideas: open-ended responses

- Any speaker who might talk about engaging the community and outreach. But, really, any speaker with something to share would be good to hear!
- Camp directors, STEM professional who are interested in doing speaking engagements for children.
- How to keep high school students interested in after school programs. I am starting a new program next week, based on one of the Generator Z stories. We'll see how it goes!
- Impact of programs (past program participants), Accessibility online and off, Language matters in communicating intent to your audience, Indigenous representation in STEM education.
- Innovative programming
- People who are distinguished science teachers for children who share their methods.
- STEM instruction with ages 7-14 using distance learning, kits, Zoom, etc.
- Trainers and front-line STEM facilitators
- Up to date best practices regarding inclusivity and equity (i.e., how has the world changed)? What new ideas should we be aware of?
- Women and men of color in the STEM field.

Using an online platform/forum for continuing to share, support + connect with each other

Thirteen respondents (59%) out of 22 indicated they would use an online platform /forum for continuing to share, support and connect with their STEM2035 cohort members. An example might be a Google group where programs could post announcements, resources, discussion topics or questions.



Open-Ended Responses Individuals Shared About This Possibility

RESOURCES

- Would only be interested if it went beyond discussion to provide resources.
- One area to view resources as needed would be helpful.

WEEKLY DIGEST

- Would only be interested if it went beyond discussion to provide resources.
- One area to view resources as needed would be helpful.

GROUP SIZE

- Smaller google groups (like cohort sized) would be preferred. It's easier to support and engage with people you know than a large group of strangers who don't have the context of what your problem is.

SLACK

- Maybe this moves to a Slack forum?

INTEREST IN STAYING CONNECTED

- I would like to continue to have ongoing discussions with cohort members, with the possibility of being able to add colleagues to the group who may benefit from the collaboration.
- We highly support this endeavor. We would likely be active contributors, and we would love the continued support from our fellow cohort members.
- This is something I would be interested in checking periodically, with a reminder. I hope you will keep in touch.

POTENTIAL CHALLENGES

- The museum is involved with multiple grants that use this type of system and all seem relatively unsuccessful across multiple organizations.
- I think this would be EXTREMELY useful, if it is maintained.

FINAL THOUGHTS: OPEN-ENDED RESPONSES

- I am a late-comer to the grant but the non-monetary support has been refreshing. It's helpful even to just know we're not alone in this wild world of youth programming.

- In general, having access to additional resources and documents that help to support our programs, especially when it comes to program evaluation, would be the biggest thing that I would ask for. While I don't necessarily want to monetize or make things exclusive, but if it would help to support the ongoing work and collaboration with the STEM2035 cohort I could see the potential for a yearly membership with a fee to have access to great resources and collaboration (like another workshop with the IDEAL Center). Of course, it all depends on the what the fee is and how it is determined in order to support the cohort. This was a valuable enough resource that I, and possibly other members of the cohort, could convince our institutions to pay the fee. If not, I might even consider paying out of pocket to be a member.

- Our cohort was most valuable during these times. It was great to be able to share our best practices, come up with new ideas, and discuss relevant topics. I do miss our in person get togethers. That was amazing!! Thank you again for this experience.

- PEAR and CCNY and Equal Measure have been tremendous educators for us program representatives. Modeling of positive interactions and application of data have helped me realize that the everyday interactions stack up to change within an organization and program.

- Thank you so much for your support of our program!

- These resources are very beneficial, nevertheless, we have to consider our ability to compensate staff for their time to participate, utilize and process the information and activities

- This has been a great experience for me and for our organization, and I hope it can continue!

- We are so appreciative of all the resources you have provided to us over the years. Thank you for everything, and for always checking in with us!

APPENDIX

Survey respondents + represented organizations

Name	Organization
Angela Tabb	Baldwin Center
Brian Trzeciak	Buffalo Maritime Center
Gabrielle Graham	Buffalo Museum of Science, *n*=2
Mason Cruz	
Michael Schian	Challenger Learning Center, Lockport
Laura Hunsberger	Cornell Cooperative Extension Allegany County
Nicolle Hall Johnson	Downtown Boxing Gym Youth Program, *n*=3
Katie Solomon	
Clayton Coda	
Evelyn Sabina	Dream It Do It (DIDI)
Josh Musicant	EcoWorks
Jenna Curran	Herschell Carrousel Factory Museum
Allison Lawrence	Leslie Science and Nature Center
Shannon Snideman	Michigan Science Center, *n* =2
Andrea Harp	
Kaila Frazier	Mission: Ignite, *n*=2
Ben Bissell	
Laurel Blyth Tague	Portville Central School
Caitlin Bowen	Wellsville CSD
Courtney Yonce	Westminster Economic Development Initiative, Inc. (WEDI)
Emily Earley	YMCA of Greater Rochester
Sue Capell	Youth Mentoring Services

The Ralph C. Wilson, Jr. Foundation

STEM2035

Coaching Initiative Feedback Summary

June 2021

RALPH C. WILSON, JR. FOUNDATION

pear

CCNY

COMPASS EVALUATION + CONSULTING LLC

Overarching goal of the STEM2035 initiative

To support organizations in increasing the quality and creativity of out-of-school time programming, specifically, to inspire, connect, and prepare more 6th-12th graders (especially girls, black and Latino students, and economically disadvantaged students) to engage with and pursue STEM.

Year 3 Goals

Keeping youth at the center; creativity; cooperation; listen to youth; getting out of our comfort zones; transparency and honesty in communication; sharing; flexibility; willingness to stay nimble; resources; collaboration; outward positivity; we can't be jerks about being flexible; care for our bodies both physically and mentally; it's okay to say "no"; some tasks aren't group worthy and some are; being open and unafraid to ask for help; stay encouraged.

Group Coaching

In Year 3, as part of the STEM2035 initiative, group coaching, led by PEAR consultants Tracy Callahan and Jamaal Williams, was offered to the participating organizations. Participants in the coaching initiative were not required to be individuals who regularly attended the STEM2035 PLCs.

There were five coaching groups. Forty individuals were invited to provide feedback about their experience. **Seventeen people responded** to the feedback survey (this represents a 43% response rate). *Note*: three individuals did not fully complete the survey.

This document provides a summary of individuals' feedback. **Data indicate that respondents found high value in participating in these sessions and that it supported Year 3 initiative goals**. In particular, respondents shared their appreciation for the opportunity to connect with others in a more intimate setting in which they could share challenges, brainstorm and exchange ideas with other educator providers.

BENEFITS PARTICIPANTS SHARED

12 individuals shared their thoughts about what they **found especially positive about their coaching** experience.

The most frequently referenced themes included:

- Problem solving/talking through challenges (*n* =4)
- Connecting with other educators (*n* =4)
- Idea sharing (*n*=3)
- Brainstorming solutions (*n* =2)

[see the appendices for a full list of responses]

*"[I really appreciated] the ability to **talk through challenges with other providers**, working together to brainstorm solutions and share what has worked in the past and what hasn't depending on the situation."*

—STEM2035 group coaching participant

*"[The coaching sessions were] a good venue for **sharing ideas and challenges**. The size of the group made it possible for more interaction and focus."*

—STEM2035 group coaching participant

Respondents' agreement that participating in the coaching sessions...

was valuable for connecting them with other STEM providers.

79%

provided them with concrete ideas they can put into practice to support the youth with whom they work.

71%

positively impacted their overall effectiveness in their role.

was worth their time.

64%

[see the appendices for a figure with all the data points listed]

Individuals were asked if there was **anything that could have been done differently to make their coaching experience better or more valuable to them**.

Ten individuals responded. In general, comments focused on issues specific to the participant that were unrelated to the coaching provided, such as being unable to fully participate due to having limited time to devote to the meetings. Four people provided specific feedback/suggestions. Their comments are provided below. See the appendices for a full list of responses.

"I think it would have been valuable to hear more from people on the exact things they do with students / have some curriculum / resource sharing practice."

—STEM2035 group coaching participant

"I would have liked the sessions to be focused on one organization so we can spend more time on different problems."

—STEM2035 group coaching participant

"[I wish we had] started the coaching sessions at the beginning of the grant."

—STEM2035 group coaching participant

"Maybe switch up the coaching circles after a little bit."

—STEM2035 group coaching participant

Actions individuals intend to take as a result of their participation

Nine individuals provided feedback about actions they intend to take within their own practice or organization. Their takeaways reflect Y3 STEM2035 goals (e.g., listen to youth, keeping youth at the center, care for our bodies both physically and mentally, collaboration, being open and unafraid to ask for help). Individuals' quotes in their richness and entirety are provided below.

"**Brainstorming with my team** when challenges and changes arise."

"**Connect** with other organizations, **ask for support and ideas** when needed."

"**Establish more "student-voice"** in activities/planning. Look for additional ways to collaborate with others who provide similar or complimentary programming in our community."

"One take-away is that **self-care is important** (though we could all use some help with ideas about how to do that), and the other is that **doing something that is right but that may buck the system is necessary to make real change**."

"Implement some new curriculum ideas and make sure to **include as much youth voice as possible**."

"We are working on providing stipends and other attendance incentives."

"I will take with me the knowledge that **knowing your students as individuals is much more important than specific content** when it comes to imparting knowledge."

"Sharing more background with staff on why we approach things the way we do, **helping to clarify which parts of a program are priority**, and which parts can be skipped if needed."

"Working to ensure **procedures, programs, and practices are equitable and inclusive**."

THE INCLUSION OF COACHING IN FUTURE INITIATIVES

Individuals were asked if based on their experience, they would recommend that coaching be included in future initiatives that have similar goals (e.g., initiatives focused on developing programs that support students' success).

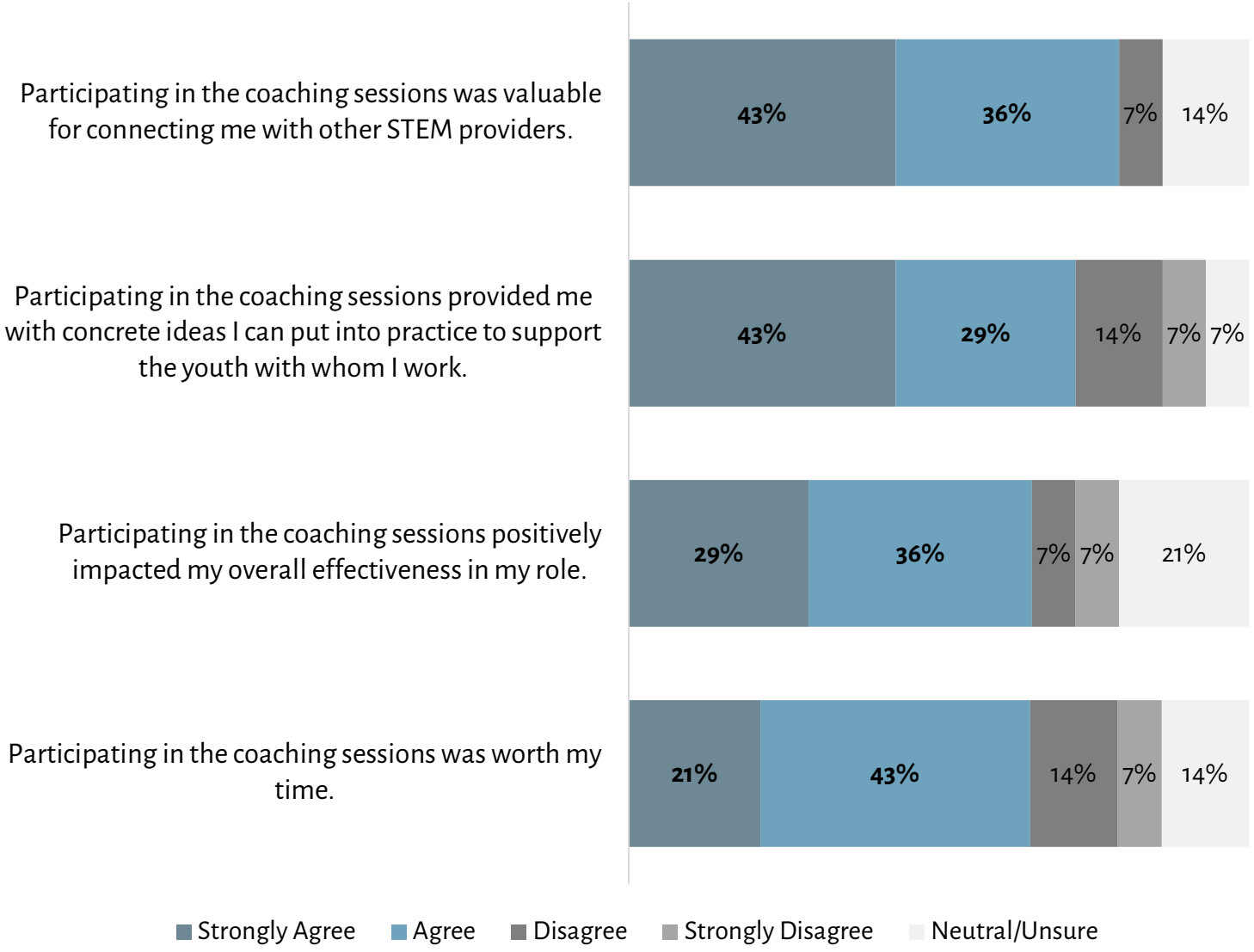
Eleven respondents shared their thoughts. Nine individuals provided **emphatic yes responses** and two provided responses that could be categorized as maybes, or yeses with caveats. Benefits the "emphatic yes" responses had included: the connections it provided to a network of resources (human and programmatic), an opportunity to brainstorm and share challenges with others while gathering ideas to address them and feeling supported [see the appendices for a full list of responses].

"Yes! By providing a casual environment to come together and share strategy and struggles, ***we are encouraged to form bonds across the informal STEM field*** *which we can turn to when we're stuck."*

—STEM2035 group coaching participant

APPENDICES:
CLOSE + OPEN-ENDED RESPONSES

Close-ended survey responses



Open-ended survey responses

What did you find especially positive about your coaching experience?

- Being able to work with peers in the same line of work.
- Brainstorming solutions to challenges with folks from other organizations with fresh eyes and fresh ideas.
- Connecting with others in the area that are offering similar programming.
- I appreciated the guided questions for discussion, allowing me to learn from my peers.
- I appreciated the problem-solving sessions, they were super helpful in my programming.
- It was a good venue for sharing ideas and challenges. The size of the group made it possible for more interaction and focus.
- It was great to chat with some of my cohort mates in a more intimate setting. It allowed for deeper conversation.
- The ability to talk through challenges with other providers, working together to brainstorm solutions and share what has worked in the past and what hasn't depending on the situation.
- The best part by far was connecting with other educators who have taught similar things.
- The coach was excellent. He did such a great job.
- The opportunities to hear from others in the cohort.
- Touch base with others.

Open-ended survey responses

Is there anything that could have been done differently to make your coaching experience better or more valuable to you?

- I don't think so. We were in transition with leadership, so I was just a temporary participant, and we had other priorities other than improving programming.
- I stepped in about mid-way when two of my colleagues left the organization. It took me a while to get "up to speed" on the program and I wish I had been able to participate from the beginning.
- I think it was well coordinated.
- I think it would have been valuable to hear more from people on the exact things they do with students / have some curriculum / resource sharing practice.
- I would have liked the sessions to be focused on one organization so we can spend more time on different problems.
- If we were asked what we wanted.
- Maybe switch up the coaching circles after a little bit.
- No
- Not at this time.
- Other than finding more time in my schedule for it, I would say, no.
- Started the coaching sessions at the beginning of the grant.
- Timing was always tricky - I'm not sure that could be helped, but I missed more than I could attend. Particularly as the pandemic downsized our staff.

Open-ended survey responses

Based on your experience, would you recommend that coaching be included in future initiatives that have similar goals (e.g., initiatives focused on developing programs that support students' success)? Please share why or why you would not recommend this type of support.

- Absolutely. The support provided through this coaching was incredibly valuable. Especially during Covid.
- I wouldn't recommend coaching per say as much as more time facilitating connections between different organizations and educators.
- if revised to meet the needs, maybe.
- Yes, because it connects you with a network of resources.
- Yes, but start sooner.
- Yes, I am a firm believing in Coaching in general. There are different forms of coaching, but it can be impactful.
- Yes, very much so. It provides attention to issues that arise and that are shared throughout our work.
- Yes! By providing a casual environment to come together and share strategy and struggles, we are encouraged to form bonds across the informal STEM field which we can turn to when we're stuck.
- Yes! It was really helpful being able to bounce ideas off of other folks. I think having the coaching circles during the pandemic could not have come at a better time.
- Yes. I found the coaching to be very helpful and meeting other organizations was incredibly valuable. The support received was phenomenal.
- Yes. I think coaching can really help team members. I think it works for people in very specific types of roles.

Open-ended survey responses

Is there anything else you'd like to tell us about your experience?

- Grateful
- I really appreciate the sense of community.
- Jamaal was an incredible facilitator.
- Nope!
- Thank you for this opportunity.
- This has been great!
- Too much socializing, not enough "meat."
- Virtual meetings are hard! I think a lot of the sessions felt unproductive but it's really difficult to make meaningful learning and sharing happen between strangers online. I appreciate the experimentation with form you all did, and my overall feeling is that I'd just like a better idea of exactly what everyone else was doing and how they do it.

The Ralph C. Wilson Foundation

STEM2035

March 30 + 31, 2021

Professional Learning Community

Survey Summaries + Themes

AGENDA

March 30 + 31, 2021

PLC Learning Objectives:

- Continue to foster connection, collaboration and support within the cohort
- Learn from each other about current practices to best support youth through high quality programming
- Begin to envision what programming will look like post STEM2035 grant and what can be done now to support that vision

Tuesday, March 30: 10AM-12PM

1. Welcome/Opening Circle
2. Community Building Activity
3. Conversations About Current Programming: Living in the Now
    a. Breakout group conversations on cohort-generated topics related to current work
    b. Share out of conversation highlights
4. DEI Tool Update
5. Some Light Housekeeping
6. Closing Circle

Wednesday, March 31: 10AM-12PM

1. Welcome/Opening Circle
2. Conversations About the Future: Thinking on What's to Come
    a. Small groups rotate through topic "stations"
    b. Gallery walk of conversation notes and debrief
3. Closing Circle

In the following pages, a summary of respondents' survey responses is provided. For a complete list of individuals' feedback, see the appendices at the end of the document.

Attendance + Survey Response Numbers

Day + time	Number of attendees‡	Number of Survey Respondents Ω
Day 1: 9-10am *(pre-PLC workshop for those newer to the project)*	3	NA
Day 1: 10-12pm	28†	23
Day 2: 10-12pm	24	21

‡ The total excludes STEM2035 leadership team members in attendance.

Ω Due to not all respondents providing feedback for all questions, reported survey response numbers may not equal the total number of survey respondents.

† This number represents the total number of STEM2035 members who logged on to the Zoom meeting at some point; not all individuals stayed on for the entirety of the meeting to complete the survey.

March PLC Day 1: Survey Summary Results

Survey Response Summary
PLC: Day 1

Thinking about the activities today (e.g., community building with STEM Scattegories, breakout group discussions on current work), what part of the PLC was the most valuable for you and why?

The majority of respondents (74%, *n*=17) indicated breakout and small group discussions were the most helpful.

Main benefits cited were:

- discussing successes and challenges of current work
- meeting and connecting with others, and
- learning new ideas and strategies from others' about how to keep programs running effectively during a pandemic *[see the appendices for a full list of individual responses]*

> *The breakout group discussions were the most valuable for me today. It is always great to bounce ideas off of the other cohort members. It is not always as is easy as it seems to connect with the cohort, so I always appreciate the time we receive to do so during these PLCs.*
>
> —PLC Day 1 participant

What part of the PLC was the least valuable for you and why?

> *I don't think I really take anything from the 30+ minutes of ice breakers. It's not unpleasant and it helps me get to know the cohort better, but I don't think that's too valuable and otherwise I really take nothing from it.*
>
> —PLC Day 1 participant

Least valuable aspects cited:

- **ice breaker** (n=6) (*respondents shared it was too long and/or not valuable*)
- length of time for **breakout room** was too long (*n*=3) or breakout room fell flat in some way (*n* =3)
- **Scattegories** (*n* =2)
- **discussions of DEI tool** provided (*n* =1) *[see the appendices for a full list of individual responses]*

Respondents frequently cited the length of time dedicated to specific activities as being too long (i.e., ice breaker, breakout rooms).

What do you plan to share with your program's staff from what you learned today?

- **New tools**
  - DEI tools (*n* =2)
  - Virtual engagement tools (e.g., Nearpod) (*n*=2)
  - Tools generally (*n* =1)
- **Mentorship related information (e.g., techniques/ideas)** (*n* =5)
- **New Ideas +/or documents from PLC/breakout room** (*n* =4)
- **Scattegories activity** (*n*= 3)
- **Virtual resources and activities (e.g., Kahoot)** (*n*=2)
  [see the appendices for a full list of individual responses]

Different virtual engagement tools such as Nearpod that was shared. Virtual background challenges to help students that may be uncomfortable with their house background.

—PLC Day 1 participant

If you are participating in the small-group coaching sessions, what is one or two words you'd use to describe how you are feeling about this activity?

Words shared about how people felt about the small group sessions were overwhelmingly positive

- **positive/optimistic/happy** (*n* =3)
- **informative/useful** (*n* =3)
- **belonging + community building** (*n* =2)
- **helpful** (*n* =2)
- **interesting/thoughtful** (*n* =2)
- **engaged** (*n* =1)
- **grateful** (*n* =1)

Are you planning on collecting youth CIS surveys by June 25th?

For those respondents who answered this question, **the majority** (*n*=11) **indicated *yes, they are planning on collecting youth CIS surveys*** by June 25, 2021.

11 respondents indicated ***yes***, they *intend to collect youth CIS surveys by June 25, 2021 .*

2 indicated ***no***, because *they are not currently running programming.*

1 indicated ***no***, because *they don't have the time and/or staffing to do it.*

1 indicated ***no***, because *it's too challenging to collect right now.*

1 indicated ***no***, because *they are unsure how and for what purpose.*

Are you planning on collecting DoS observation data over the spring sessions by June 25th? [please check all responses that apply]

10 respondents indicated ***yes***, they *intend to collect DoS observation data by June 25, 2021 .*

3 indicated ***no***, because *they don't have the time and/or staffing to do it.*

2 indicated ***no***, because *they are not currently running programming.*

1 indicated ***no***, because *it's too challenging to collect right now.*

All those doing DoS observation would have **someone from their program observe.**

Is there anything else you'd like to share with us about the PLC or STEM2035 related activities?

Final thoughts about the PLC or STEM2035 related activities included:

- Productive + inspiring networking and connections (*n* =4)
- I don't want it to end/I'm going to miss it (*n* =2)
- Burnout at this time of year (*n* =1)
- Too much emphasis on teambuilding (*n* =1)
- I wish there was another year of funding (*n* =1)
- High turnover in organizations makes it harder to build trusting relationships and makes the PLCs less effective (*n* =1) *[see the appendices for a full list of individual responses]*

I think the emphasis was far too great on the cohort teambuilding and open conversation. I feel I would take much more out of a program that was more focused on sharing specific usable resources and engagement ideas.

—PLC Day 1 participant

Anything else you'd like to share with us?

Seven individuals responded to this question. The majority (*n*=6) shared thanks for the good work being done to put together these PLCs (see the appendices for a full list of individual responses).

One person provided feedback and a suggestion about how future groups could be designed (see side quote).

Don't worry about making these "fun." It just feels like a waste of time. And also consider splitting up people into groups doing relevant work rather than random break out rooms. For example, we listened to so many people talk about their virtual engagement this year when we did almost none of that.

—PLC Day 1 participant

March PLC Day 2: Survey Summary Results

Thinking about the activities today (e.g., small group conversation station prompts about post STEM2035 programming, gallery walk and debrief of those conversations), what part of the PLC was the most valuable for you and why?

Respondents most frequently cited the breakout group conversations on cohort-generated topics related to current work as the most helpful activity (60%, *n*=12).

> *Talking with my coaching group. They have similar thoughts and we have built a relationship, so we know where each other is coming from.*
>
> —PLC Day 2 participant

Other valuable activities cited:

- gallery walk (*n*=4)
- guided meditation (*n*=2)
- small group conversation station prompts about post STEM2035 programming (*n*=1)
- community/hearing about others' experiences (*n*=1)
- all was valuable (*n*=1)

What part of the PLC was the least valuable for you and why?

Only 9 individuals provided feedback about least valuable activities . This included:

- **Breakout groups** (*n*=2) with one person commenting that they wished they could have been with others not in their coaching group

  (*it should be noted that multiple people shared in other areas of the survey how much they enjoyed being with their coaching group members, as they already had established relationships and a rapport*)

- **Ice breaker/Ice bear activity** (*n*=2)
- One individual each for: **dancing**, **gallery walk**, **guided meditation**, **reflection time was too long** and **the questions included in the activities**

What do you plan to share with your program's staff from what you learned today? [Please note that two respondents indicated all of their staff were in attendance.]

Half of the respondents (*n*=7) mentioned they would share information collected in the small group rotation "station" notes.

The discussion questions most frequently cited were **what they would want to ask funders** and talking about the vision for the future, i.e., **programming post STEM2035**.

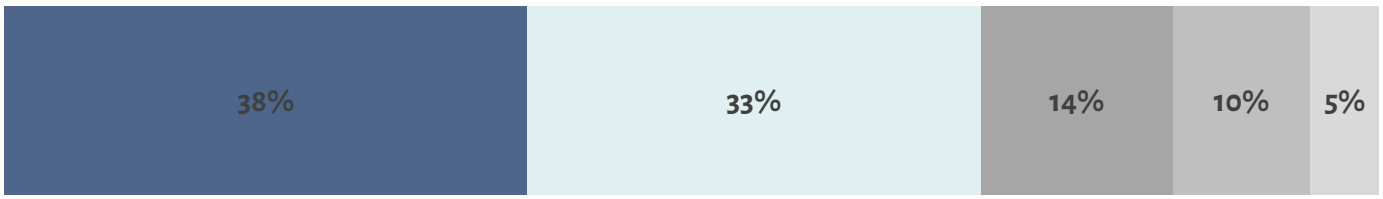
Additional learning they intend to share included:

- conversations regarding networking and collaborative opportunities (*n* =2)
- guided meditation (*n* =2)
- ice breaker (*n*=1) *[see the appendices for a full list of responses]*

> *[I'd like to share] that collectively we can try to shift the funding conversation from innovation to sustaining, that the pilot programs we have developed are strong and worth funders investments.*
>
> —PLC Day 2 participant

How helpful are the STEM2035 supports and activities (e.g., data collection, PLCs, coaching groups, optional bi-weekly cohort calls) to your current work?

71% (*n*=15) of respondents indicated the STEM2035 supports and activities are at least *often helpful and they appreciate what they can put into practice*. Only one person indicated they are *never helpful*.



- Always helpful! I put new learning into practice when planning.
- Often helpful. Not everything is relevant and I appreciate what I can put into practice.
- Sometimes helpful. About 50% of what we do helps me in my work.
- Seldom helpful. A few things are helpful, but not most.
- Never helpful. Nothing is relevant and I dread having to participate.

What topics or activities would you like to see at the next PLC in May?

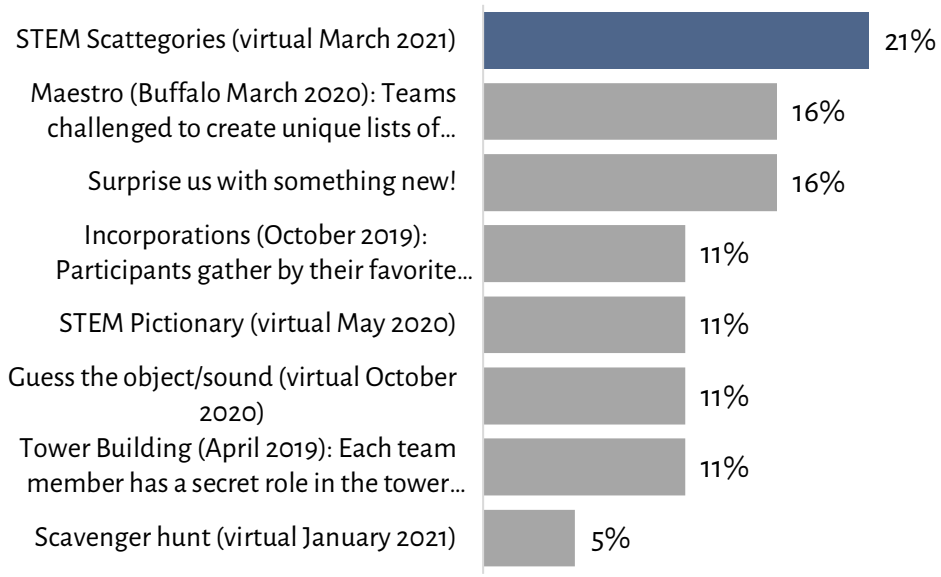
- **Guided discussions** about:
  - short- and long-term goals post STEM2035
  - how individuals can improve their programs
  - how to transition back into a sense of normalcy after COVID
  - what other funding stream options for out-of-school time exist
  - funders and problematic practices
  - how to establish an informal STEM educators network based on SEL
- **Celebrate STEM2035 accomplishments + success stories** (e.g., examples of what other STEM coordinators have accomplished and how they overcame challenges that are particularly difficult during COVID times)
- Specific **resources and/or activities**:
  - to use with students
  - for how to self-care while remaining productive
  - DEI professional development
  - ice breakers
  - sharing of tools (hybrid, virtual, in person programs)
  - an evaluation tools less complicated than DoS
- More **Scattegories** *[see the appendices for a full list of individual responses]*

We have done many "Community Building" activities both in-person and virtual. We thought it would be fun to revisit one or two for the May PLC. Which one would you most like to do again?

The highest number of respondents (21%, *n*=4) selected STEM Scattegories as the activity they would like to revisit.

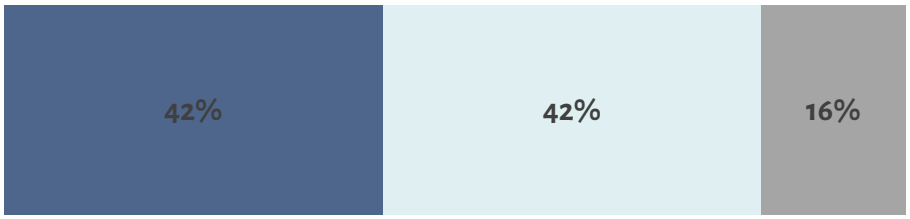
It should be noted that Maestro and "surprise us with something new" each had 3 respondents. I.e., the number of respondents who selected those options was not widely different from Scattegories.

Two people shared they would love to see more than one of these options chosen.



We are interested in understanding how COVID has impacted individual's engagement with STEM2035. Which statement best expresses your situation?

The majority of respondents (*n*=16) indicated that the situation with COVID has either *made them more engaged* or *not changed how they engage* with STEM2035 supports and activities.



- The situation with COVID has made me more engaged with STEM2035 supports and activities.
- The situation with COVID has not changed how I engage with STEM2035 supports and activities.
- The situation with COVID has made me less engaged with STEM2035 than I would have been.

Respondents were offered the opportunity to write in their own thoughts about engagement, rather than select one of the close-ended options. Individuals shared the following:

- *Due to COVID-19, I have had to take on additionally responsibilities at my museum, which has led to less time for STEM2035.*
- *Having great difficulty pinning down program staff on setting up observations, discussing surveys, etc.*
- *It has changed my need for engagement (need to check in with everyone - what do they need…), but as a director, I'm being asked to do more in every area of my job… so it has increased my need for engagement, but I don't feel I've done it well.*
- *It is not so much more or less engaged as the project took on a much different form. More engaged and connected with the cohort but feeling less connected to STEM in general.*
- *Needed to give it more attention and think outside the box regularly.*
- *The online format has made time commitments of PLC and coaching groups easier to manage.*

APPENDICES:
Open-ended Responses

PLC Day 1

Survey Response Summary PLC: Day 1

Thinking about the activities today (e.g., community building with STEM Scattegories, breakout group discussions on current work), what part of the PLC was the most valuable for you and why?

- Conversations about now, Breaking out to discuss specific areas of interest was helpful to think out loud and hear input/insight on current methods in virtual and in person tools, as well as youth voice and relevance mindfulness.
- break out discussion on current work (scattegories was fun! will do that with staff on virtual staff meeting)
- breakout discussion about what is working, what isn't - good ideas
- Breakout group discussions, for sharing what we have found valuable and how we have approached it, how it can be shared to other programs (mentoring)
- Breakout groups was a nice way to chat with people dealing with the same concerns. The scattegories was a fun way to get creative while bonding.
- Breakout groups, but not the full 30 minutes.
- Breakout room, discussing and sharing our experiences.
- community building - I wish I had more time to get to know everyone so that impromptu conversations went smoother. We're all strangers and everyone is stressed, so anything that helps us get to know each other as people is great.
- discussions on current work. it's more important than ever to get ideas for refining our work and also hearing where programs are right now for perspective
- I really appreciate the time to work with other members of the cohort on relevance and how to clearly articulate the, for lack of a better way to describe it, stuff in my head.
- Learning New Activities but the group breakout discussions are always beneficial
- Scattegories was fun. Most valuable was breakout groups.
- Seeing where my collogues are at helps me evaluate my personal progress where things are still difficult to program. giving me a bigger picture towards what we're all working towards.
- Small group discussion.
- The breakout discussions of current work, because our programming is still evolving, so we can continue to learning from each other's pivots.
- The breakout group discussions (specifically the one about in-person programs). Everyone seems to be at varying degrees of caution when it comes to the ongoing pandemic, and with states at different risk levels it's hard to assess how to move forward with bringing programs back. Having a chance to talk to some folks who have had in-person programs and hear what they have done helps me to be able to move forward with bringing back a large-scale program like summer camps.
- The breakout group discussions were the most valuable because I was able to hear other ideas of how to incorporate youth voice, but it was also valuable to hear our challenges echoed in other programs.
- The breakout group discussions were the most valuable for me today. It is always great to bounce ideas off of the other cohort members. It is not always as is easy as it seems to connect with the cohort so I always appreciate the time we receive to do so during these PLCs.

Open-ended survey responses: Day 1

Thinking about the activities today (e.g., community building with STEM Scattegories, breakout group discussions on current work), what part of the PLC was the most valuable for you and why? [continued]

- The community-building activities are always enjoyable.
- The group discussion was the most valuable as it's nice hear form people doing similar things as myself even if I don't always find it so applicable to my job.
- The Scattegories game will be a useful tool as a breaking the ice concept for youth groups
- The topics for the break out rooms were valuable

Open-ended survey responses: Day 1

OPEN-ENDED RESPONSES: What part of the PLC was the least valuable for you and why?

- Don't think we needed as much time in the breakout room for the group discussion
- Going around the room to say hello; it just takes extra time to get through everyone.
- I don't think I really take anything from the 30+ minutes of ice breakers. It's not unpleasant and it helps me get to know the cohort better but I don't think that's too valuable and otherwise I really take nothing from it.
- I feel like every part of these are always valuable, even the little games/ice breakers that we do. Even just meeting with folks from other organizations helps bring together historically siloed organizations AND organizations in different cities/states.
- I would have liked more conversations on the DEI tools provided.
- I'm a little scattered today with things going on in my personal life, so while the breakout room discussion was great, it went on a little too long for my brain today. I think it's just me personally, so don't take my word into consideration too much when planning for the next PLC.
- it was a good day
- n/a
- not applicable, really
- nothing
- Opening Circle
- Opening circle springtime made me wistful for my former home and yard. I miss having a private outdoor space.
- Scattergories - it seems there were many who don't know the game
- the break out rooms - none of us have answers so it was just a list of problems we face. It's hard to talk about our work and what we're doing for youth voice when plans change weekly. Most of us don't know what we're doing or if it's even working.
- The breakout rooms fell a little flat for me today. People seemed pretty disengaged. I can relate because I was as well. However, I tried to contribute to the conversation to keep things moving.
- The intro of everyone.
- the length of time in the breakout room hurt my soul, 30 minutes was a bit too long, however the exchange of words and experience was invaluable
- The over than 1/2 hour icebreaker
- The Scattergories game was fun, but I'm not sure when I'd use it.
- we failed to realize there were prompts and so the end of that conversation ending up being very quiet

Open-ended survey responses: Day 1

Open-ended responses: What do you plan to share with your program's staff from what you learned today?

- A few of the tools were very interesting.
- All program staff was in attendance.
- Different virtual engagement tools such as Nearpod that was shared. Virtual background challenges to help students that may be uncomfortable with their house background.
- I think it would be worth trying scattegories virtually with some of our groups!
- I will share the DEI tools with my staff and volunteers.
- I won't be sharing anything with my staff. Almost all of what we spoke about isn't relevant to their work.
- I'm going to encourage our mentors to share a story with their students.
- Idea about adding mentors along with virtual programming for children who don't have as much parental help with projects.
- I'm looking forward to connecting with other STEM 2035 members to talk about Nearpod, so I'm hoping to share some insights with them and bring back new information to my colleagues that I gather from those conversations
- I'm not really sure how much of today's session needs to be shared with our team.
- Increasingly reinforcing mentorship among peers and the zig-zag of life development.
- mentorship possibilities
- Mentorship Techniques that we talked about during the break out group.
- my program staff was here, so YEAH!!!!! otherwise I would share the tips on going back to in-person learning.
- New Virtual Activities
- Scattegories! It's a great game to help students think outside the box and build of their vocabular; but also the youth coalition would really help incorporate and channel youth voice in the programs.
- scattergories
- that there are many more avenues to explore within the STEM program and there's still a lot to do.
- The entire slides document to get them fully caught up.
- The idea of having interns go to the homes of youth who might be interested in 1:1 support.
- The ideas from the breakout.
- The virtual resources (like kahoot) and how the public might really want to engage on social media, so it's okay to change priorities and use instagram live for programs.

- yes, plan to check out a couple new things

Survey Response Summary PLC: Day 1

OPEN-ENDED RESPONSES: If you are participating in the small-group coaching sessions, what is one or two words you'd use to describe how you are feeling about this activity?

- Belonging
- Community building
- focused and helpful
- Grateful
- Helpful
- I really do appreciate the chance to connect with other institutions and share in the successes and challenges that we are all facing.
- Informative
- interesting, thoughtful
- Its engaging
- N/A
- Neutral
- no comment
- optimistic, informed
- positive
- Positive, optimistic
- Slow
- SO HELPFUL!
- Thoughtful. good to get outside perspectives.
- Useful
- welcoming

Open-ended survey responses: Day 1

OPEN-ENDED RESPONSES: Is there anything else you'd like to share with us about the PLC or STEM2035 related activities?

- Always very helpful in inspiring our program to evolve.
- I am going to miss this PLC when the grant is up! But there are already collaborations and new partnerships forming, so I am looking forward in hope.
- I don't want this to end! I hope that we can still continue to connect after all of this!
- I haven't been on the tuesday check ins so it was really nice to see everyone again
- I think the emphasis was far too great on the cohort teambuilding and open conversation. I feel I would take much more out of a program that was more focused on sharing specific usable resources and engagement ideas.
- I wish there were another year (or more) of funding
- It has been incredibly helpful, inspiring, and encouraging having these activities, be it the PLCs or the coaching sessions. Having our weekly meetings when we first went virtual was instrumental in staying motivated and optimistic when it seemed like nothing was working out.
- It is beginning to feel like many are 'tapping out', knowing this coming to an end, summer is always busy for everyone, COVID wearing us all down. At times, myself included.
- productive day, networking
- The turnover in staff for organizations makes it difficult to create trusting partnerships. This is not a fault of the PLC, or the organizations, but it has made the PLC less effective.
- This is a fantastic community of educators, and I hope we continue our relationships in some form after this year.

Open-ended survey responses: Day 1

OPEN-ENDED RESPONSES: Anything else you'd like to share with us?

- Thank you again!
- No, but thank you for all of your hard work!
- Thanks for all your efforts to put together a valuable, interactive program!
- Thank you for everything!
- Don't worry about making these "fun." It just feels like a waste of time. And also consider splitting up people into groups doing relevant work rather than random break out rooms. For example, we listened to so many people talk about their virtual engagement this year when we did almost none of that.
- I appreciate the work that goes into these. It's hard to anticipate our needs when things are changing, but you are doing good work.
- Just that you all have been doing such a great job coordinating/facilitating everything and we really appreciate you and your support :-) Being a part of this grant/PLC, I feel, has helped add so much value to our programs.

APPENDICES:
Open-ended Responses

PLC Day 2

Open-ended survey responses: Day 2

Thinking about the activities today (e.g., small group conversation station prompts about post STEM2035 programming, gallery walk and debrief of those conversations), what part of the PLC was the most valuable for you and why?

- Small group station prompts were great. I liked chatting with my cohort instead of others that I don't know very well.
- The small group conversation prompts and gallery walk for sure. It is so nice to see the way cohort members are planning on moving forward and what parts they are taking with them. On the other side of that though, I wish they groups were not our coaching groups just we were engaging with different groups.
- The gallery walk, of being able to see other peoples needs, was very helpful
- Coaching groups, for purpose of networking and future planning
- The suggested conversation prompts. They were effective tools to help guide our thinking.
- Small cohort conversation.
- Gallery walk was excellent. I thought at first that it would be better to work with other people from other groups but this allowed us to continue conversations and see what connections we could make between discussions.
- Gallery walk and sharing of common themes
- As always, I found it all very valuable. I hope we can continue to have these conversations.
- Most excellent conversations and sharing of ideas. I even had a new one myself, about looking into possible interest from local DOL, WIBs to collaborate on outreach to schools, youth, projects (e.g., 21CCLC and ESD-SVP) for more interaction on behalf of youth understanding local high-demand career options, training needed, etc. - all about STEM meeting pathways exploration
- I really enjoyed the Station conversations. I enjoyed being able to split the 50 minutes up between the various prompts. It allowed us to move on from topics where the conversations were not as robust as the others.
- Group conversations
- Going through the process of figuring out key points for our future re STEM and talking with funders about needs was very helpful.
- I think the whole thing was valuable... while we first thought "50 minutes?!" we easily had conversations about next steps, collaborative projects and reaching new audiences. I liked to read back through everyone's comments.
- I missed the first half of todays session unfortunately. From what I did attend I really enjoyed the ending meditation. It really prepared me for the rest of my day and I truly appreciated it.
- Post STEM 2035 programming conversation. Got to think critically about capitalizing on this work for future grants and got a fuller idea of what grants are like for other organizations beyond ours
- Talking with my coaching group. They have similar thoughts and we have built a relationship so we know where each other is coming from.
- As before, the most valuable part was just to hear from people doing similar things and facing similar difficulties.
- Just the actual "face to face" conversations between other coordinators, educators and directors. Our group consisted of local county workers which allowed for constructive discussions that wouldn't have happened otherwise.

Open-ended survey responses: Day 2

What part of the PLC today was the least valuable for you and why?

- All of it felt valuable today!
- Although I enjoy working with the members of my coaching circle it would have been nice to speak with some other programs that I do not get to interact with as often.
- Gallery walk, we had already looked at the other responses towards the end of our time.
- I don't think anything stood below anything else
- icebear ;)
- None - there was really only one activity and I really enjoyed it.
- Probably the meditation as I just couldn't do it.. (Sorry Jamaal)
- The breakout groups were difficult, as our group had three very new people to the PLC who had a difficulty contributing.
- The dancing. I actually love dancing, but my mind wasn't in the space for that today.
- The questions themselves seemed a bit odd and not very helpful.
- The reflection time was too long.
- Though shorter, the ice-breakers were useless to me. I also thought we devoted too much time to discussion though admittedly most the the topics were simply not relevant to me.
- time went by very fast - nothing was not valuable
- Valuable - Jamaal's visualization exercise brought me to a space of deep vulnerability and openness to care for myself, that I am worthy of support and kindness here and now. I cried (good tears). Thanks Jamaal.

Open-ended survey responses: Day 2

What do you plan to share with your program's staff from what you learned today?

- All staff involved were in attendance.
- Certainly this will be a part of a continued dialogue with my colleagues about all of our grant efforts.
- Each station's note documents
- I do not plan on sharing these things with our staff.
- I really enjoyed the guided meditation; I think my staff would like that too - they're always going and don't often take a moment to themselves to just breathe.
- Ideas about moving forward, post STEM2035
- Interaction with the fund development team
- Mindfulness activity
- Morning Circle
- my idea above
- My program staff was present, which makes this question easy...
- Nothing, there was nothing relevant to my work or any of my colleagues.
- That collectively we can try to shift the funding conversation from innovation to sustaining, that the pilot programs we have developed are strong and worth funders investments.
- the questions for funders - we're not the only ones who feel this way about unrestricted funds and funder's should take that into account.
- Through our discussions in the breakout groups we were able to plan collaborative ideas for future projects/programs.
- vision for future.
- We are going to work on a collaboration between our organizations, based on discussion we had today. It only makes sense to work together when we have a common goal.
- We will certainly continue conversations regarding networking opportunities.

Open-ended survey responses: Day 2

What topics or activities would you like to see at the next PLC in May?

- More scattergories!
- Celebrate a STEM2035 accomplishment and share of tools that everyone is currently find most beneficial now that places are in hybrid, virtual, and in person programs.
- The Future. How can we build back our momentum and are their ways to maintain and strengthen after the funding ends?
- lol, May seems so far away and so much could change between now and then.
- Small group discussion continuation.
- I like the idea of probing questions, making us think about our program and what we need to do to improve.
- Sharing how our funding conversations are going. How to establish an informal STEM educators network based on SEL.
- I really appreciate having the space to have less structured conversations - maybe with a topic/some guidance. Even just having the chance to be together and see each other in a way that's not like most of our "meetings" at this point.
- might be valuable, in terms of sustainability, for programs to know about other funding streams for out-of-school-time (OOST) - STEM, careers, entrepreneurship, and life skills associated with getting and keeping jobs are high priorities, fit right in with strengths of these STEM programs - just an awareness of other options out there
- More DEI professional development, more conversation about funders and problematic practices
- Maybe ideas for self-care while remaining productive? Seems like a lot of folks are feeling some burnout and reactions to this past year. Or talking more about the transition back into a sense of normalcy?
- Maybe an evaluation program that isn't as complicated as DoS for moving forward after the funding/reporting has ended?
- I feel like I've lost touch with the whole of the PLC. I would love to hear from each organization what their short and long terms are looking like as we move forward from this STEM 2035 cycle
- More ice breakers.
- Again, I would like to see more specific resources or activities to use with students.
- Success stories, examples of what other STEM coordinators have accomplished and how they've overcame challenges that are particularly difficult during this time of separation. We all have similar problems, but I felt a key speaker would have been very beneficial.

Open-ended survey responses: Day 2

Anything else you'd like to share with us?

- :)
- Great session today! It was nice to have Jamal back.
- I don't mean to be overly negative and I think part of why a lot of the discussion today wasn't relevant to me is because I do very little back-end and am much more focused on programming for students. Maybe it would be helpful to split into smaller sections with different agendas depending on your position within your organization.
- I liked the suggestions during the gallery walk to have special speakers/presenters as we move forward to post STEM2035.
- perseverance
- Thank you again for your continued support! Have a great day!
- Thank you!
- Thank you!

The Ralph C. Wilson, Jr. Foundation

STEM2035

May 25 + 26, 2021
Professional Learning Community
Survey Summaries

RALPH C. WILSON, JR. FOUNDATION

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COMPASS EVALUATION + CONSULTING LLC

AGENDA

May 25 + 26, 2021

PLC Learning Objectives:

- Continue to foster connection, collaboration and support within the cohort
- Learn from each other about current practices to best support youth through high quality programming
- Begin to envision what programming will look like post STEM2035 grant and what can be done now to support that vision

Day 1: Tuesday, May 25: 9AM-12PM

1. Welcome/Opening Circle
2. Review of Norms + Agreements
3. Update from Malia Xie
4. Case Study Activity + Debrief: Math for Girls
5. Reflection, Closing Circle + Survey

Day 2: Wednesday, May 26: 9AM-12PM

1. Meet on the Wonder Platform!
2. Human Bingo
3. Gallery Walk
4. Unconference + Debrief
5. Housekeeping
6. Closing Circle + Survey

Year Three Goals: *keeping youth at the center; creativity; cooperation; listen to youth; getting out of our comfort zones; transparency and honesty in communication; sharing; flexibility; willingness to stay nimble; resources; collaboration; outward positivity; we can't be jerks about being flexible; care for our bodies both physically and mentally; it's okay to say "no"; some tasks aren't group worthy and some are; being open and unafraid to ask for help; stay encouraged*

In the following pages, a summary of respondents' survey responses is provided. For a complete list of individuals' feedback, see the appendices at the end of the document.

Attendance + Survey Response Numbers

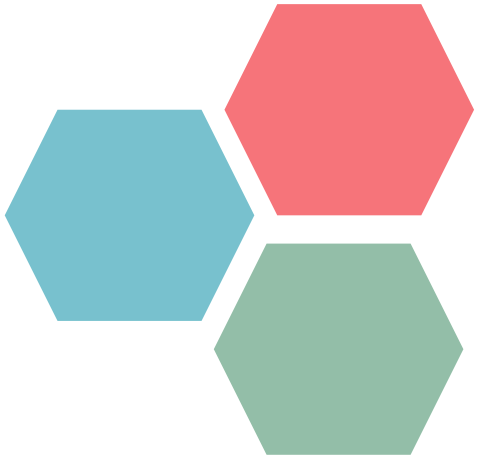
Day + time	Number of attendees‡	Number of Survey Respondents$^{\Omega}$
Day 1: 9-12pm	25†	23
Day 2: 9-12pm	25†	17 £

‡ The total excludes STEM2035 leadership team members in attendance.

Ω Due to not all respondents providing feedback for all questions, reported survey response numbers may not equal the total number of survey respondents.

† This number represents the total number of STEM2035 members who logged on to the Zoom meeting at some point; not all individuals stayed on for the entirety of the PLC.

£ Only 18 STEM2035 grantees were on the call on Day 2 when the survey was administered.



May PLC Day 1:
Survey Summary Results

Survey Response Summary
PLC: Day 1

Thinking about the activities today (e.g., review of DoS, Clover + DEI frameworks, case study review and tasks, whole group debrief of case study, reflection etc.), what part of the PLC was the most valuable for you and why?

The majority of respondents (91%, *n*=21) indicated the case study activity, ensuing discussion and frameworks review were the most valuable.

Main benefits cited were:

- Peer collaboration
- Gathering new ideas and viewpoints through brainstorming
- Reviewing the frameworks and reflecting on how to use them in their work *[see the appendices for a full list of individual responses]*

> *The details from the deep dives into how to improve learning with just the minimal info given in the case study were remarkable to me. I can easily see how much more thoughtful and sophisticated everyone in the group is and how assimilating DoS, Clover, DEI not only impacts critical review of instructional settings but also the willingness to hear others' perspectives and to share.*
>
> —PLC Day 1 participant

Was any part of the PLC not valuable to you and why?

> *The group share-out was a little long and I found it hard to maintain focus. Maybe a more structured format for sharing out would help? It could have just been my mind frame today.*
>
> —PLC Day 1 participant

Only 9 individuals provided feedback to this question. Respondents frequently cited the length of time dedicated to specific activities as being too long.

Least valuable aspects cited:

- Ice breaker
- Group share-outs
- Group activity
- Individual reflection times *[see the appendices for a full list of individual responses]*

What do you plan to share with your program's staff from what you learned today?

- A plan to maintain communication with their students
- Case study activity (*n*=2)
- Different ways to engage students in order to gather data (*n*=2)
- How to apply the STEM2035 tools
- Ideas for how to engage with schools
- Importance of:
    - allowing staff to be more innovative in making program changes (*n*=2)
    - reviewing activities and lessons that are being utilized
    - actively promoting outside resources (e.g., mentoring)
    - building strong community connections
    - parental involvement
    - pausing to allow youth to ask questions along the way (girls, in particular)
- New ways to implement their knowledge of DoS and Clover in reshaping their programming (*n*=2)
- Pitfalls of data collection
- SMART goal created in the group *[if no n is reported, the theme reflects the comment of one participant; see the appendices for a full list of individual responses]*

The importance of actively promoting outside resources. We want youth to know that supports exist everywhere. Stating clearly what a mentor can do and being upfront about how interpersonal connections have helped us build the program opportunities we create.

—PLC Day 1 participant

Looking into opportunities to adopt the case study activity as part of professional development for our team of Green School Coordinators to drive more critical thinking about their approach and efficacy in the classroom.

—PLC Day 1 participant

Survey Response Summary PLC: Day 1

Is there anything you have questions about from today or would like elaboration on?

I missed much of the review of the frameworks as a late arrival to the cohort. If there is a review session where this material is covered more in depth, I'd love to take a look!

—PLC Day 1 participant

Three participants responded to this question

Sitting with the discomfort of talking about incarceration and race. Is there a need to balance talking about the reality of experience? Middle school kids know that people (sometimes family) go to jail/prison. Could we talk about post-incarceration STEM opportunities and careers to normalize reentry?

—PLC Day 1 participant

So much of the success of these student encounters depends on personal relationships and personalities; how this is handled is still illusive.

—PLC Day 1 participant

Anything else you'd like to share with us?

11 participants responded to this question. The majority shared thanks for the PLC organization and content and the value Tracy and Jamaal bring to the work.

I always love the PLCs. Even after being involved for the past few years, it always still feels new and exciting. Tracy, Jamal, and Andrea (and everyone else) do a really great job making everyone feel welcome and included. There are a lot of wonderful people involved who have created such a mutually beneficial space for our organizations; it doesn't even matter that we are scattered across two states and now have gone virtual.

—PLC Day 1 participant

One PLC attendee provided specific feedback about future group work and a desire to have it slightly less structured.

"I think making group work on more tangible projects was a good move, maybe just a bit more room for free flow of ideas as in, make a lesson plan around this rather than modify an existing one."

May PLC Day 2:
Survey Summary Results

Thinking about the activities today (e.g., Human Bingo, gallery walk, unconference discussions, etc.) what part of the PLC was the most valuable for you and why?

Respondents most frequently cited the unconference discussions as the most valuable (53%, *n*=8); followed by the gallery walk (*n*=6) and Human Bingo activities and the Wonder platform (*n*=2 for each) . Note: Some people listed more than one as the most valuable.

*The **unconference** was the most valuable. It's always helpful brainstorming different ideas with other folks. There is always someone who has thought of something that you haven't thought of.*

—PLC Day 2 participant

*The **gallery walk** was the most valuable, it showed me what other organizations are doing and made me think we should collaborate with them in ways I hadn't thought before.*

—PLC Day 2 participant

Specific aspects people cited they appreciated in these activities:

- Seeing/hearing what other people were doing that sparked ideas for how they might collaborate, share resources and best practices
- The opportunity to talk with peers about similar issues and solutions
- The ability to move around/pop in and out of conversations (related to the unconference and Wonder Room)

Was any part of the PLC not valuable to you and why?

Only 3 participants provided feedback related to something not being valuable. Comments included:

- *"Human Bingo. It got a little clunky sitting in large groups just running through the list of questions. Maybe setting a smaller size limit on how many people can share at one circle would help?"*
- *"I think the digital mingling aspects were somewhat pointless and awkward. I understand why you tried though."*
- *"It seems like the purpose of these sessions is mostly social."*

What did you think of the Wonder Platform?

Respondents had overwhelmingly positive feedback about the Wonder Platform, writing comments such as "*loved it!*" "*Wonder was great. I think it should be used again.*"

Only 3 out of 16 people expressed a negative or neutral leaning response about their use of the platform (e.g., cringey, don't need another platform, will continue to explore to see if it can be put to use in their programming) *[see the appendices for a full list of individual responses].*

> *I admit I didn't it like it for the first 10 mins. As an introvert I did not appreciate people just having the ability to pop into my bubble. BUT I am now a HUGE FAN. It's a great platform for conferences and other things. It really allowed us to have some great discussion and to actually interact with people.*
>
> —PLC Day 2 participant

Is there anything you have questions about from today or would like elaboration on?

One respondent asked that a reading list for resources to talk about social issues inside programming be shared.

What do you plan to share with your program's staff from what you learned today?

Themes from respondents' feedback included:

- Collaboration efforts (*n*=3)
- Takeaways from the unconference (*n*=2)
- Wonder Platform (*n*=2)
- A digital platform a participant suggested
- Details about a conversation around accessibility
- Human Bingo activity
- Invite colleagues to join a local women in leadership group on Facebook
- Discussion of strategies for outreach with staff, board, and volunteers
- Volunteer training resources *[if no n is noted, the theme was shared by one respondent; see the appendices for a full list of individual responses]*

We are planning to hold a spring data review/debrief in July to share the latest data findings. This is also an opportunity for the cohort to check in and/or discuss pertinent topics. In addition to a review of the data, which of the following would you be interested in participating in?

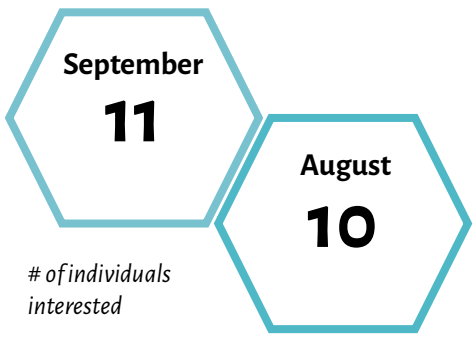
When asked what they might be interested in discussing at the July data review/debrief, *space for programs to share a current challenge and receive suggestions/feedback from cohort* had the highest number of interested individuals

POTENTIAL TOPICS	RESPONSE #
Space for programs to share a current challenge and receive suggestions/feedback from cohort	**11**
Space for programs to share quick updates on their programs	4
Space for discussion and/or content on a specific topic identified ahead of time	3
None of the above	2

We have heard from many that you value the opportunity to talk and learn from each other. As we have phased out the cohort calls and are ending the coaching sessions, we are wondering if cohort members and/or coaching session participants would value some opportunities over the summer to meet around specific topics.

Respondents indicated interest in meeting up around specific topics, with a September date being slightly more interesting than an August *[see the appendices for a list of names of staff members who would also be interested in participating].*

Yes, if the topic were relevant, I would join one in…

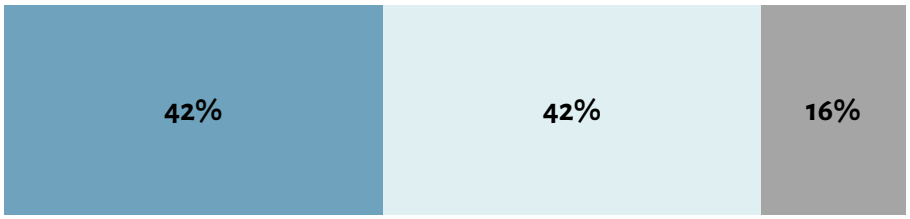


# of individuals interested

8 people provided feedback about the most relevant topics they'd be interested in discussing. Support for ***transitioning to in person in the fall*** and ***how to best support youth in the transition back to in-person*** were mentioned by all, as well as strategies for ensuring students are still successful after they are no longer enrolled in the program, being provided concrete tools and sustainability coaching, and how to gain buy-in from teachers and community organizers for long-term projects (e.g., grants, multiple visits with a class, etc.) were mentioned by one individual each.

We are interested in understanding how COVID has impacted individual's engagement with STEM2035. Which statement best expresses your situation?

The majority of respondents (*n*=16) indicated that the **situation with COVID has** either ***made them more engaged*** or ***not changed how they engage*** with STEM2035 supports and activities.



- The situation with COVID has made me more engaged with STEM2035 supports and activities.
- The situation with COVID has not changed how I engage with STEM2035 supports and activities.
- The situation with COVID has made me less engaged with STEM2035 than I would have been.

Respondents were offered the opportunity to write in their own thoughts about engagement, rather than select one of the close-ended options. Individuals shared the following:

- *Due to COVID-19, I have had to take on additionally responsibilities at my museum, which has led to less time for STEM2035.*
- *Having great difficulty pinning down program staff on setting up observations, discussing surveys, etc.*
- *It has changed my need for engagement (need to check in with everyone - what do they need...), but as a director, I'm being asked to do more in every area of my job... so it has increased my need for engagement, but I don't feel I've done it well.*
- *It is not so much more or less engaged as the project took on a much different form. More engaged and connected with the cohort but feeling less connected to STEM in general.*
- *Needed to give it more attention and think outside the box regularly.*
- *The online format has made time commitments of PLC and coaching groups easier to manage.*

APPENDICES:
Open-ended Responses

May PLC Day 1

Open-ended survey responses: Day 1

Thinking about the activities today (e.g., review of DoS, Clover + DEI frameworks, case study review and tasks, whole group debrief of case study, reflection etc.), what part of the PLC was the most valuable for you and why?

- The details from the deep dives into how to improve learning with just the minimal info given in the case study were remarkable to me. I can easily see how much more thoughtful and sophisticated everyone in the group is and how assimilating DoS, Clover, DEI not only impacts critical review of instructional settings but also the willingness to hear others' perspectives and to share.
- It's been awhile since I've went back and reread all the frameworks. Great fresher!
- I was late but I did enjoy hearing the thoughts/conversations from the groups that shared.
- I would say that the task of working with the group to revise the activity and reflecting on how to use the frameworks to improve the activity was very helpful.
- Being able to work with other like-minded professionals to get fresh ideas and to remember you are not alone.
- Going through the different viewpoints of the case study. Seeing how other groups took another approach actually gave me ideas that I can use in the future for my own programs.
- I would say the break-out group workshop was the most helpful though it would have been nice to have gotten a bit more freedom. The case study part didn't come through but the group discussion was good.
- This entire PLC was valuable. I enjoyed the peer collaboration.
- Break out session
- The case study review. It ended up being a problem I currently have (connecting with teachers/parents outside of summer programming) and it was helpful to brainstorm and plan a SMART goal with the team.
- Case Study Review - allowed us to think differently about a programming scenario - what we would change and why - using all of the frameworks we have used along the way... may have been useful to have done this a year+ ago!
- Having to actually think through an issue!

Open-ended survey responses: Day 1

Thinking about the activities today (e.g., review of DoS, Clover + DEI frameworks, case study review and tasks, whole group debrief of case study, reflection etc.), what part of the PLC was the most valuable for you and why? [continued]

- Case study review and discussion was so valuable to thoughtfully consider perspectives, how this example links into issues we all see in our programs.
- The whole group debrief of the case study was the most valuable for me. It gave me lots of new viewpoints and new ideas.
- Brainstorming ideas about the case study and how to make the program more impactful in the long-term. We have been struggling with a similar issue with out program so it was really helpful to think about it from a different perspective, as an outsider reading a case study, and to hear what other people thought.
- The case study review and engagement activity was most valuable due to the ability to brainstorm with others. This allowed me to take in the opinions of others, and think outside of my own way of thinking.
- I like the case study and discussion
- Practice of applying DoS Clover and DEI to a practical problem as a lens.
- I really enjoyed working on the case study with members of the PLC that I haven't really ever had the chance to interact with. Of course, it was by chance, but I enjoyed in none the less. I always enjoy the chances to brainstorm with our group.
- Reviewing the frameworks and applying them to Task #1
- Vast improvement on breakout rooms. I think they should have been this way a year ago. However, I think it would have been beneficial for everyone to have task #1, just with different situations perhaps, or make them all the same. The team building required to create, improve a lesson is key for getting STEM going, or any programs for that matter. Very essential skillset needed for our line of work.
- The reflection was valuable, because it allowed for thinking about how these three hours today could inform work going forward in a direct and tangible way.
- I was only able to join for the beginning of the Day 1 PLC but appreciated the review of the DoS, Clover, and DEI frameworks and LOVED the case study activity- hoping to adopt it for our own programming as part of professional development for our coordinators (:

Open-ended survey responses: Day 1

Was any part of the PLC not valuable to you and why?

- Can be a drag to listen to other teams talk through what they did independently when it doesn't feel directly relevant.
- I'm not sure that any of it was not valuable, however I do believe that (though I know it's essential for grant/funding) sometimes there's too much focus on data and numbers, when the primary goal is to help the children.
- Not a big fan of ice-breakers but that's just me.
- The feed back is beneficial, but it went a bit long.
- The group share-out was a little long and I found it hard to maintain focus. Maybe a more structured format for sharing out would help? It could have just been my mindframe today.
- The group work was a struggle. We started with a difference of opinion and rather than working it out, one of the people turned camera off and stopped participating. Then everyone else turned cameras off.
- The individual reflection time. I just answered emails during that because PLCs are so long that I needed to multi-task in what felt like down-time.
- The system used for reporting back on your groups conclusions was long and difficult to follow. I look forward to having access to everyone's notes.
- We didn't have a fun game this time :(I love playing the games because it gives me something to use with my program participants. Although the opening circle was fun, it made me hungry. I did learn about salt potatoes, so now I have to go home and try it!

Open-ended survey responses: Day 1

What do you plan to share with your program's staff from what you learned today?

- A plan to maintain communication with our students after they graduate our programs to ensure that they are still successful.
- Allowing staff to be more innovative in program changes.
- Application of the stem 2035 tools.
- Consciousness that surveying and attempting to quantify the qualitative can have some pitfalls one needs to be mindful of.
- Different ways to engage students in order to receive data. There are so many ways I hadn't thought of until today.
- I plan to share this case study - if it's ok - with our teacher program this summer. This was extremely eye-opening and leads to much discussion on what is being done and what can be done.
- I think it is important to continue to review activities and lessons that are being utilized in our programs. When you know better you do better.
- It would be good for our staff to learn from others in the cohort about how they engage schools in the program.
- It's okay to drift away from the initial purpose in order to open opportunities for better understanding and relationship building.
- Looking into opportunities to adopt the case study activity as part of professional development for our team of Green School Coordinators to drive more critical thinking about their approach and efficacy in the classroom.
- More new ways to implement our knowledge of DoS and Clover in reshaping our programming.
- Most of it was for personal growth. The breakout rooms as I mention previously, were very valuable.
- Specifically, as it relates to our upcoming math exhibit, ways that we can demonstrate collecting and interpreting data while keeping Youth Voice at the forefront (find topics that are relevant to the students and allow them to take ownership of the data collection process).
- The idea of looking at our lessons from a different perspective, especially keeping in mind DoS, Clover, and DEI.

Open-ended survey responses: Day 1

What do you plan to share with your program's staff from what you learned today? [continued]

- The importance of actively promoting outside resources. We want youth to know that supports exist everywhere. Stating clearly what a mentor can do, and being upfront about how interpersonal connections have helped us build the program opportunities we create.
- The importance of parent involvement in order to improve student participation in particular programs. Also, to remember that it starts at home, and it will take creativity/effort to involve parents/guardians in particular programs.
- The pausing to ensure all participants (especially girls) have the ability/opportunity to ask questions along the way - Nicole/Gabrielle/Evelyn's comment about girls not being assertive enough to ask a question, and potentially being lost was HUGE...
- The SMART goal we came up with, and the importance of having year-round connections with the youth you intend to serve. Even if it's only every other month, making sure they know they're supported outside your program is important.
- They really should have been at the PLC session - they missed a lot of useful practice in critical thinking.
- To make sure that we are building strong community connections. As a museum that focuses on STEM we need to have strong community connections to have successful programs.

Open-ended survey responses: Day 1

Is there anything else you'd like to share with us about the PLC or STEM2035 related activities?

- Caring, empathy and direct engagement still extremely critical part of success.
- I always love the PLCs. Even after being involved for the past few years, it always still feels new and exciting. Tracy, Jamal, and Andrea (and everyone else) do a really great job making everyone feel welcome and included. There are a lot of wonderful people involved who have created such a mutually beneficial space for our organizations; it doesn't even matter that we are scattered across two states and now have gone virtual.
- I don't know if/how the program will be continued within the organization. I appreciate that Malia indicated that she knows that it's a hardship that the funding will not be continuing. That gives us the chance to figure things out a little more concretely.
- I think making group works on more tangible projects was a good move, maybe just a bit more room for free flow of ideas as in, make a lesson plan around this rather than modify an existing one.
- Inspiring, as usual!
- It was very informative, and I love that you all try to change it up and try new things.
- Thank you…much appreciated!
- The facilitators of this PLC are AMAZING! They really know how to "bring the weather" and cultivate a positive and collaborative cohort environment.
- This is a good team. Thank you for bringing us all together.
- Today I listened to my group discussion and heard that Clover can be just as effective, sometimes more effective, at getting to the root of issues than DoS can. Thinking about assertiveness, claiming space, belonging in STEM.
- When it comes to creating curriculum, I think we need to realize that most of these children, are still children. Depending on age group of course (I personally worked on Middleschoolers) I think it's a bit early to focus so hard on their future. There is a very small window for children to be children and for them to "live in the moment." Yes, we should focus on real world/life development to help them relate to future endeavors, but we can't compromise [a] child's adolescence in the process. We can help them learn math without bringing in some of the crazy topics that adults struggle to manage. Thanks.

APPENDICES:
Open-ended Responses

May PLC Day 2

Open-ended survey responses: Day 2

Thinking about the activities today (e.g., Human Bingo, gallery walk, unconference discussions, etc.) what part of the PLC was the most valuable for you and why?

- Gallery Walk and Unconference - I was able to see what other organizations were doing and possibly collaborate/share best practices, and also get resources for an immediate issue.
- Human bingo
- I enjoyed getting to know everyone in the Human Bingo game but thought the gallery walk was the most valuable. It was great to see what everyone was working on.
- I love Wonder Room - thx for the introduction. Discussions today were extremely thought provoking and productive.
- I really enjoyed today! Human Bingo was a great get to know you activity, the gallery walk was great to get to see everyone's programs, and the unconference was SUPER USEFUL
- I would say that the unconference was very helpful. The chance to talk with peers about similar issues and solutions to those issues is a great thing.
- I would say the gallery walk was the most hopeful, just getting a more full view of what everyone's doing.
- The gallery walk was the most valuable, it showed me what other organizations are doing and made me think we should collaborate with them in ways i hadn't thought before.
- The unconference allowed for gaining fresh perspectives on the problems that we all face.
- The unconference discussions - the ability to move between groups at will made it easier to have casual discussions and brainstorm, vs the formality of Zoom
- The unconference discussions were great today. A lot of great ideas for collaboration came out of this chat. The gallery walk was also great. It was wonderful to see pictures of all the great work everyone is doing.
- The unconference was the most valuable. It's always helpful brainstorming different ideas with other folks. There is always someone who has thought of something that you haven't thought of.
- Unconference discussions - it was great to be able to move around and pop in and out of conversations rather than being held captive after conversation stalled
- Unconference discussions - talking through common issues and sharing solutions.
- Using wonder to talk to several different groups.

Open-ended survey responses: Day 2

What did you think of the Wonder Platform?

- Don't need another platform
- I admit I didn't it like it for the first 10 mins. As an introvert I did not appreciate people just having the ability to pop into my bubble. BUT I am now a HUGE FAN. It's a great platform for conferences and other things. It really allowed us to have some great discussion and to actually interact with people.
- I loved the wonder platform and I plan to use it with students in the future!
- It is an interesting new platform we will need to continue exploring to see if it is viable for our programs.
- It was good. Something to get used to but creative in ways of engaging.
- It was great!
- It was new to me, and I liked it :)
- It's great! I've used something similar, but this is paired down. It was great to be able to move freely between groups.
- LOVE IT!!!
- Loved it!
- Once I figured it out, it was really fun, especially the accidental bumps.
- Pretty cringey but it seems like a good idea on paper.
- Very cool. Easy to use. Very short runway to engagement, easy! Fun to pop into chat windows. I liked it more than I expected.
- Very interactive and [appealing] to the eye
- Very interesting! I like the format. It is one more thing to learn and share, but if it works, I don't mind that learning curve.
- Wonder was great. I think it should be used again.

Open-ended survey responses: Day 2

What do you plan to share with your program's staff from what you learned today?

- Collaboration efforts. I got a lot of good potential collaborators and I'm excited to follow these leads!
- Conversation we had in small group around accessibility
- Everything we discussed in the unconference, plus the human bingo, that was so fun!
- I made many notes from yesterday thru now - plan to send Word doc summary to Portville Supt and PD and follow up with request to discuss.
- I of course plan to share the wonder platform and the information I learned for other organizations and how they plan to move forward in the future.
- I want to talk about more strategies for outreach with my staff, board, and volunteers.
- Invite my colleagues to join a local women in leadership group on Facebook.
- Might show someone a digital platform someone suggested to me.
- New collaboration efforts.
- The volunteer training resources
- The Wonder Platform and continuing to push the idea that we should focus on bringing programs *to* participants rather than assuming everyone can come to us.
- Thinking about collaborating across state lines!
- Usually, I have at least 1 positive thing to share, but today's take away - I hate Wonder! We actually had a staff meeting and I asked if anyone had heard of it and no one had.

Open-ended survey responses: Day 2

If you are interested in a session in August and/or September, what topics would be most relevant/useful for you? (e.g., transition to fall in-person, how to best support youth in the transition back to in-person, etc.)

- How to best support youth in the transition back to in-person; strategies for ensuring students are still successful after they are no longer enrolled in the program.
- How to best support youth in transition
- In person transition for sure
- Sorry, not interested! My job is just seemingly quite different than everyone else's.
- Sustainability coaching - concrete tools, suggestions
- Those listed above would be great. It would be good to spend time on the transition back to full time in-person, maybe?
- Transition to in-person programming
- Transitioning back in person for staff and youth
- Transitioning back to in person with the kids

Open-ended survey responses: Day 2

If you answered that other staff members may be interested in participating in an August and/or September session, please list their names here.

- Brian Trzeciak, Greg Dudley, John Montague

- Donna Glasgow and Steven Pantoja. Both of my program coordinators (along with most of my staff) work during the day and are unable to attend most of these events, even though they would really like to attend so if it could be after 8/20 or prior to that but after 3:30 PM they could attend.

Open-ended survey responses: Day 2

Anything else you'd like to tell or share with us?

- I know that programs and staffing has changed but do we have a contact roaster sheet for all programs for collaborations.
- I'm going to miss you all! I'm so glad that I was able to participate!
- My contract with the Baldwin Center is ending on June 30, 2021, so I will not be continuing in STEM activities after that time. It was great meeting you and working with you! - Ruth Kaleniecki
- Thanks!
- Wonderful investment of my time - thanks for all your hard work!!!
- You are all awesome :)

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EVALUATION + CONSULTING LLC

STEM2035 Grantees Focus Group Protocol

Introduction:

Thank you for taking time to participate in this discussion today.

As you know, I am the external evaluator for the STEM2035 initiative. I am meeting with a select number of grantees to learn more about your experience. Information from this discussion will be used to provide program leadership with feedback that can help them understand what worked and what areas could be strengthened if they were to implement a similar initiative in the future.

My role as moderator will be to guide the discussion, but our time together is for you to speak. All data I report on from this focus group will be deidentified or in the aggregate, and any identifying information you share today will be removed from any findings I provide to the program administrators.

Lastly, are you OK if I audio record this session? It is my practice to record focus group and interview sessions so that I can focus on the discussion and not have to take notes and miss out on anything one of you says. (Ask participants to indicate their consent in allowing us to audio record the session.)

Do you have any questions for me prior to beginning?

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1. I know you were all involved in STEM2035 in different ways throughout the past 3 years. Can you tell me a bit about how you engaged with the initiative?

2. How would you generally describe your experience with the grant program?

3. What would you say have been your main successes or accomplishments from participating? Why?

    a. What would you say has been the main value of participating in the grant program for you?

    b. How do you think your organization benefitted from being part of STEM2035?

        i. Do you think that these benefits will be sustainable in the long-term? If so, in what ways do you think they could be sustained?

4. Can you give me an example of how your participation in the program, including any knowledge/expertise gained, translated into organizational processes, programming, or curricular activities?

5. I understand that many organizations had a lot of turnover these past 3 years. This meant that the people who participated with the initiative changed. Was this an issue for your organization?
    a. If yes, what measures were taken to pass along lessons learned?

6. Did you encounter any other challenges?

7. What advice, if any, would you give to future participants of a similar grant initiative to ensure that they can maximize the benefits of their participation?

    a. What recommendations, if any, would you give the foundation/grant program managers for supporting participants' success?

    b. What about any recommendations to your own organizational leaders about what they can do to support their employees' successful participation?

8. Is there anything else you'd like to share with me?

Thank you for taking the time to speak with me. I appreciate it.