



“IT’S QUALITY IN AND QUALITY OUT. WE ARE LOOKING TO TAKE OUT-OF-SCHOOL STEM TO THE NEXT LEVEL.”

- Ellie Mitchell, executive director of the Maryland Out of School Time State Network

STEM, CIVIL RIGHTS AND ELEVATING EXPECTATIONS: MARYLAND’S OUT OF SCHOOL NETWORK’S QUEST TO CLOSE THE OPPORTUNITY GAP FOR IT’S STUDENTS

The Maryland Out of School Time State Network (MOST) is elevating the landscape of afterschool and summer learning in the state of Maryland with a focus on inclusive, high-quality STEM programming.

Joining the Million Girls Moonshot gave MOST a clear brand and message to advance equity in STEM learning opportunities for hundreds of out-of-school programs and educators to do just that.

“STEM education is a civil rights issue,” says MOST’s executive director, Ellie Mitchell. “Maryland is home to a ton of STEM careers - cybersecurity, biotech -we’ve been a tech hub with a number of amazing institutions and that sector is growing. Yet it's a have or have not situation with STEM learning opportunities. Unfortunately, a lot of kids are moved out of STEM pathways really early on.”

Knowing that STEM identity is the best predictor to whether or not children persist in STEM learning, Mitchell tasks the field with ensuring that young people have the right opportunities to stay engaged, excited and to get kids to see themselves working in this growing sector.

“We created our own Maryland Moonshot website that helps tell the story about women and equity issues in STEM. It also leads people to all the great opportunities in Maryland that exist to participate in STEM learning opportunities both in school and out of school,” says Mitchell. “The Moonshot has helped us focus our work and messaging. It also enhances issues that were already a priority for us, including making sure that the gap is narrowed, and eventually deleted entirely, for the young people who have historically been denied opportunities outside of the school day.”

The Moonshot goals have helped MOST catapult their own objectives of inclusive STEM learning forward. Participating in the Moonshot has also been a helpful conversation started for the state network. It has helped focus the work around a brand, with clear goals and resources like webinars and free training. MOST has organized a series of forums and events to keep educators around the state engaged around the importance of things like role models and mentors in building a child’s STEM identity.



MILLION GIRLS MOONSHOT



THE IMPORTANCE OF ROLE MODELS

Role models and mentors have been MOST's central focus for the year, as the Network works to strengthen STEM identities in Maryland's students.

“I think it's a little bit more complicated than ‘if you can't see it, you can't be it.’ We have to build a culture among students that sets new expectations, particularly in Baltimore. It's true across the country, in other places too - we have a history of low expectations for some of our students,” says Mitchell. “Mentors and role models take you out of that experience and show you what is possible. And they show you the possible in a way that outlines the steps to make a career a reality in an empowering way. It's hard to do that on paper. It needs to be done in person, or at least with real people for young people to really connect to it.”



Lataisia Jones Ph.D., Neuroscientist
Photo from Lyda Hill Philanthropies' IF/THEN® Initiative

MOST has focused on highlighting prominent women in STEM, especially women working within the state. The Network is working to help local programs find and incorporate role models into their existing programs.

The Moonshot has also brought additional resources into the state, including grant funding that has recently re-started Mitchell's favorite program - the STEM Ambassadors program.

The Million Girls Moonshot believes that role models, mentors, and family engagement in a young person's STEM education leads to increased interest, greater self-confidence, and ultimately a stronger STEM identity. Developing a science-related identity increases the likelihood that students will work toward developing science literacy, or even pursue a career in a science or STEM-related field. Conversely, when a young person lacks a STEM identity, this increases the chance for disengagement and makes it less likely for them to pursue STEM-related activities in the future.



For these reasons, the Moonshot partners with The National Girls Collaborative Project, IF/THEN Collection, the Geena Davis Institute, and many others to connect program providers to role models and mentors and to engage families.

STEM AMBASSADORS

Participating in the Million Girls Moonshot allowed MOST to bring back Mitchell's favorite program - the STEM Ambassadors, a yearlong professional learning community to bring high-quality, equitable STEM opportunities to more students.

"We are a part of the larger conversation about STEM learning happening across the field. It is about engaging young people in STEM and getting them excited about it. But if we're not building relevance, if we're not building meaning, if we're not connecting to students' real lives, then, the impact is probably going to be minimal," says Mitchell. "In thinking about professional development and the kinds of experiences we want program providers to give students, we want to take that extra mile through this process of encouraging reflection and an examination of practices. This is an exciting and pivotal time to be able to do that, and we have great partners to do that with."

The current STEM Ambassadors cohort has leaders from ten organizations participating, which serve approximately 5,000 students total. It's a small group making a large impact. The Ambassadors will complete a number of training modules during their time in the program including, best practices to recruit role models and mentors, and Digital Harbor Foundation trainings on making for educators, entrepreneurship, and textiles and technology.

The professional development will focus on both the quality of STEM content, as well as a reflection to ensure the activities are implemented in a culturally responsive, girl-friendly, engaging and inclusive way.

"In afterschool programming, we don't get to go deep into STEM learning often," says Mitchell. "We can find fun activities that involve STEM skill building, but that doesn't necessarily lead to the quality or larger

impact we want to have. We have measured an increase in quality, focus and student engagement in the programming implemented by our past Ambassadors. We know our efforts are making an impact."

In addition to building the quality of STEM programming, the STEM Ambassador program works to build partnerships and connections among the ambassadors themselves. Overtime, the alumni have continued to work together and learn from each other. MOST also continues to share ongoing opportunities with them. Programs in previous cohorts have grown and expanded their reach. They have also been able to use their new data collecting tools to help make the case for growing their programs.

Mitchell is hopeful for the momentum that the STEM Ambassador program has gained recently with support from the Moonshot. It is her goal to use the data collected from the program to build a stronger case for more resources to grow the program.

"I also just want to see the joy of the professionals who are in our learning communities as they apply the knowledge that they have gotten into their own programs with their students. We get to hear how thrilled and connected the students are to the work that they're doing. That is ultimately the goal: to impact young people's lives and trajectories in the program. We want more of that."

**IN THE SIX COHORTS OF
STEM AMBASSADORS
PROGRAMS, THE
PROGRAMMING SCORED
HIGHER IN BOTH QUALITY FOR
STEM LEARNING, AS WELL
AS STUDENT ENGAGEMENT
IN THE CONTENT.**

COLLECTING DATA TO ENHANCE PROGRAMMING AND STUDENT INTEREST



Since 2013, every Ambassador has completed DoS training and 100% of them have reported a change in their practice. Every single educator has reported that the training has made them a stronger and better STEM facilitator.

Developed by Partnerships in Education and Resilience (PEAR), the Dimensions of Success (DoS) is an observation tool that measures the quality of students' STEM learning experiences. It can be used to understand the strengths and weaknesses in programming, as well as to track a program's quality over time.

Scoring high on the DoS means an intentionally designed program that is facilitated in a way that meets best practices. When educators are able to do this, students can connect with the material in a meaningful way, which increases their interest in STEM.

Through their participation in the Moonshot, MOST also gives educators other data collection tools from PEAR, including the Common Instrument Suite, a self-reported student survey that measures a variety of STEM-related attitudes, including STEM engagement, STEM career knowledge, and STEM identity.

By both observing the programming and student surveys, educators can see how new programming is capturing student interest with quality implementation, gain more insight into things they want to explore next and expand that interest in a real way.

"We are teaching educators a different mode of operation. Frankly, we don't always give kids the opportunity to explore their learning. A lot of learning is about memorizing facts and figures and formulas, not about solving problems," says Mitchell. "If you're truly looking at best practices in out-school learning spaces, you need to give kids experiences to do things that they may have never done before. It's going to be exciting. It also might be hard. It might just be fun. But, it's certainly going to be a different exercise of the brain. At MOST, we are trying to create learning environments that are much more ideally used."

MOST is one of the 50 statewide Afterschool Networks established by the Mott Foundation. MOST Network is also a National Afterschool Association affiliate for the state of Maryland.

A national initiative led by STEM Next, the Million Girls Moonshot seeks to inspire one million more girls in STEM learning by 2025.

STEM Next is a leading advocate for afterschool, summer, and informal STEM learning spaces, with the mission is to make out-of-school STEM opportunities a reality for millions of young people to help them thrive in STEM and beyond.