Students Achieve More with Afterschool STEM

Learning in science, technology, engineering and math (the subjects collectively known as STEM) helps students succeed in school and prepares them for careers that are driving global economic growth. Nationwide, states and schools are engaging diverse partners like afterschool programs, libraries, museums, universities, and businesses to ensure that students have access to high-quality STEM education.

The Every Student Succeeds Act (ESSA) gives every state the opportunity to establish a coordinated and intentional network of STEM partners in its K-12 education plan. This is a critical time for states to secure resources that will help their students gain fluency in STEM, strengthen opportunities for their schools and communities, and position them for economic prosperity. By fully utilizing the hours outside of school, and taking an all hands on deck approach to maximize collective impact, we can ensure that our kids are prepared for the future.



Afterschool STEM offers students unique benefits

- Extra exposure: Children spend less than 20 percent of their waking hours in school.¹ Afterschool STEM can almost double the amount of time some students have to question, tinker, learn and explore STEM topics.²
- Change of scene: Afterschool STEM engages students in hands-on, real-world projects. These programs offer innovative ways for students to practice STEM skills in an informal space. This makes STEM more accessible, more interesting, and helps to build fluency, much like immersing oneself in a new language.
- A chance to follow their spark: High-quality afterschool STEM cultivates interest, builds real STEM skills and helps students connect STEM to their lives and communities.⁴



 Opportunity for all: The wealthiest 20 percent of families spend almost seven times more on enrichment activities outside school for their children than do the poorest 20 percent.⁵ Afterschool STEM helps to close this gap by offering engaging learning programs to a diverse range of students.

ESSA Title IV, Part A aims to provide funding to every state and district to support well-rounded learning opportunities with a strong emphasis on STEM education. Authorized activities include collaboration among educators in schools, afterschool programs, and other education partners, to provide hands-on learning and engage students in STEM. By prioritizing STEM, afterschool programs, and other informal learning activities in their applications for Title IV-A funds, state and district leaders can help their students prepare for future success.



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Research shows states, schools, students, and communities benefit from afterschool STEM.



Students in afterschool STEM stay engaged and gain interest in STEM learning.

- Students who participate in elementary school-level afterschool STEM programs demonstrate stronger interest in STEM during middle school, while interest among nonparticipants is more likely to decline during the middle school years.⁶
- The more students participate in STEM learning opportunities after school, the more interested they become in STEM subjects and majors.⁷



Additional research about the impact of afterschool STEM is available at

impacts.afterschoolalliance.org

Afterschool STEM supports students' academic achievement.

- Students who participate in intensive afterschool STEM programs, like Girlstart in Austin, Texas, improve their academic performance by earning higher test scores, taking more science and math courses, and having higher rates of high school graduation.⁸
- Regular participation in afterschool programs has been shown to narrow the math achievement gap between students from low- and high-income families.⁹
- Among students who attend the Clubhouse Network, an afterschool program that provides hands-on technology learning to students at 51 sites nationwide, 91 percent care more about doing well in school, 90 percent try harder at school, and 85 percent feel like they are more successful in school. Students attributed the changes to their participation in the Clubhouse.¹⁰

Collaborations with afterschool STEM programs can also help school teachers hone their craft.

At the STEM Educators Academy in New York City, classroom teachers and afterschool educators engage in joint professional development at premiere science institutions to co-design and co-teach STEM. As a result, the quality of STEM activities increased and both sets of educators increased their confidence in teaching STEM.¹¹

Sources

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