



STEM in Missouri Afterschool

Inspiring learning in tomorrow's workforce!

Over two-thirds of Missouri students that graduate from high school do not meet all four benchmarks of College and Career Readiness on the ACT exam. How do we better prepare Missouri students to be equipped for the technologies and global market place of today? One readily available option we can invest in and support quickly is Missouri's afterschool programs. Afterschool programs operate across the state in a variety of settings, from public to private to collaborative. Afterschool programs provide a safe, high quality environment for Missouri's children during the prime daytime hours from 3pm to 6pm when most students are in-between traditional school time and at home. It is in these afterschool programs where we can engage, excite, and educate young people in the areas of Science, Technology, Engineering and Mathematics (STEM).

Why does STEM matter?

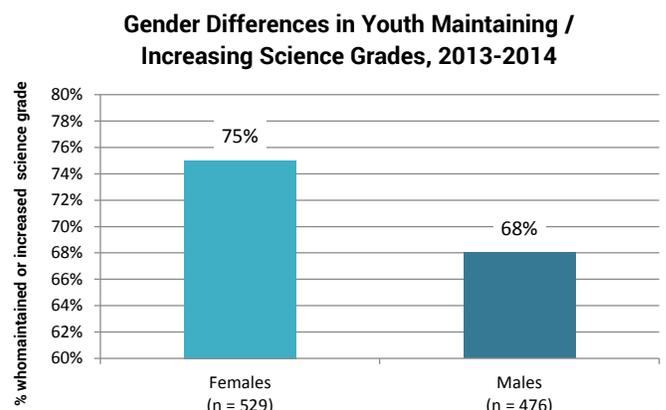
Our world is rapidly being transformed. Technologies and innovations are increasing our safety, health, education, productivity and advancing our society exponentially. We must put forth our best effort to help Missouri's children understand the impact that STEM can have on them in their day to day lives, as well as demonstrate the tremendous career potential that exists in STEM fields. Employers in STEM and non-STEM industries need employees that can be adept at math, science, and technology. The Missouri Mathematics and Science Coalition, a statewide STEM connector comprised of pre-K-12, higher education and business leaders, cites STEM programming in afterschool as one "of the most readily available areas that we have in Missouri to make immediate gains in STEM education."

The benefits of STEM in afterschool programs

STEM programming in afterschool not only gets kids excited to learn, but can have a solid impact on their achievement in core subject areas in school—especially among low-income and female students. For example, it is well known that females are less likely than males to pursue careers in STEM fields, and part of the focus of STEM afterschool programs is to encourage girls to participate in STEM activities to enhance their science achievement. These efforts seem to be working; compared to boys, girls in grades 6-12 who attended Missouri afterschool programs were significantly more likely to increase or maintain their science grades during the 2013-14 school year.

Missouri by the numbers

Currently there are over 137,900 students participating in 3,100 afterschool programs across the state of Missouri. These students receive benefit from the programs by having additional educational support and activity involvement. Within these afterschool programs there has been a recent desire across the state to provide more high-



The ROI of STEM in Afterschool

- Improved academic performance
- Better work habits
- Increased attendance rates
- Stronger interest in STEM careers
- Better collaboration and social skills
- Enhanced critical thinking abilities
- Girls are more engaged and interested in STEM



Focusing the lens on STEM in afterschool

Afterschool programs can easily be expanded to serve more students around the state. Through an increase in awareness, professional development, and public/private funding support, we can make an even greater positive impact on the ability of Missouri's children to succeed in the classroom. By bringing focus to these programs, we can and will increase Missouri's students' ability to succeed in school and in life.

impact, project-based learning activities centered around STEM. For example, in Missouri Project LIFTOFF, STEM curriculum is being delivered at 309 afterschool sites impacting over 7,207 of children in the state. This is one program that is easy to replicate given improved funding to afterschool programs.^{1,2}

Connected effects of afterschool programs

In addition to providing a safe and supportive space for youth to learn and develop STEM skills, afterschool programs support families by giving parents peace of mind. In the newly released America After 3PM report, 73% of Missouri parents agreed that afterschool programs help give working parents peace of mind about their children while they are at work. Beyond relieving parents' worry, research shows that participation in afterschool and summer learning opportunities actually increases parental engagement in their children's learning.³

Recommendations for Supporting Afterschool STEM

- ✓ Visit your local afterschool programs or attend a Lights On Afterschool event in your community!
- ✓ Support the development of a task force to explore afterschool and summer learning statewide.
- ✓ Visit <http://moasn.org> to take the pledge to be an Afterschool Champion, and find more ways to get involved!

¹ Auger, A., Pierce, K. M., & Vandell, D. L. (April, 2013). *Participation in out-of-school settings and student academic and behavioral outcomes*. Unpublished paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA

² Pierce, K. M., Auger, A., & Vandell, D. L. (April, 2013). *Narrowing the achievement gap: Consistency and intensity of structured activities during elementary school*. Unpublished paper presented at the Society for Research in Child Development Biennial Meeting, Seattle, WA

³ Kreider, H. and Westmoreland, H. (2011). *Promising Practices for Family Engagement in Out-of-School Time*. Charlotte, NC.; Harris, E. and Rosenberg, H. (2012). *Families and Expanded Learning Opportunities: Working Together to Support Children's Learning*. Harvard Family Research Project. Retrieved from <http://www.hfrp.org/publications-resources/>.