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FACTSHEET

STEM Programs Are Vital For National Security and Business

Investing in STEM and early childhood can help build skilled military and civilian workforces

Summary

Increasing science, technology, engineering, and math (STEM) education, beginning with early childhood education (ECE), can help ensure kids are ready for any career they choose. **Nationwide, 77 percent of youth between the ages of 17 and 24 are ineligible for military service,** largely due to educational shortcomings, a lack of physical fitness, and a history of crime or drug abuse.[1] In other words, less than a quarter of youth are eligible to serve in the military, and may also be less prepared to join the civilian workforce. Business leaders and retired military leaders agree that increasing access to high-quality STEM programs in early childhood will pay off for our economy, as well as our military and civilian workforces.

The importance of STEM

STEM plays a role in developing executive functions such as cognitive flexibility, self-control, and the ability to learn new concepts. Since many executive functions develop between the ages of 3 and 5, introducing children to STEM concepts before kindergarten is vital.[2] One study found that children who had low levels of scientific knowledge when entering kindergarten struggled later on in their schooling, with 62 percent in third grade and 54 percent in eighth grade experiencing continued knowledge gaps.[3]

Helping children develop STEM skills

Studies have shown that young children are receptive to learning logic and math, and early math skills are the strongest predictor of academic success in the future.[4] High-quality ECE can provide children with the STEM skills they need for future academic achievement.[5] Introducing children to STEM early is very important, especially considering that, prior to the pandemic, 59 percent of fourth graders in the United States were not proficient in math, and 64 percent were not proficient in science.[6] Gaps in science achievement that begin early in a child's education tend to continue throughout their school career. For achievement gaps that occur early on, even increased learning gains in later grades may be insufficient to help students catch up in STEM subjects.[7]

Building a skilled workforce

While STEM is important for success in school, it can also lead to success later in life. Many employers seek qualified candidates for jobs in technology-focused fields. The Bureau of Labor Statistics projects that between 2018 and 2028, the number of STEM-related jobs will increase by nearly 9 percent (nearly 11 million positions). Comparatively, non-STEM roles are expected to grow by only 5 percent.[8]

Strengthening national security

Maintaining a competitive advantage over adversaries, and protecting our national security, requires a STEM-skilled uniformed military and civilian workforce capable of developing leading-edge technologies such as advanced manufacturing and logistics.[9]

Conclusion

Without enough young people who can meet the STEM needs of both the private sector and the military, our economy and our national security will suffer. Policymakers can help develop a skilled workforce for the future by investing in access to high-quality STEM programs for children in ECE today.



1 U.S. Department of Defense, Office of People Analytics (2022). Qualified Military Available (QMA).
2 https://journals.sagepub.com/doi/10.3102/0013189X16633182
3 https://journals.sagepub.com/doi/10.3102/0013189X16633182
4 https://www.ncsl.org/research/education/early-stem-education.aspx
5 https://www.ncsl.org/research/education/early-stem-education.aspx
6 https://www.nationsreportcard.gov/
7 https://journals.sagepub.com/doi/10.3102/0013189X16633182
8 https://soeonline.american.edu/blog/stem-in-early-childhood-education

Mission: Readiness
Retired admirals and generals strengthening national security by ensuring kids stay in school, stay fit, and stay out of trouble.

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Business executives building a skilled workforce by promoting solutions that prepare children to succeed in education, work, and life.

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