

TeachME Professional Development

The Essential Elements of STEM Education

Background

1. The STEM education movement has gained dramatic momentum over the past decade, largely due to the need to bolster the US STEM workforce to compete in a global economy.

- A. True
 - B. False
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2. The continued shortage of qualified STEM workers is likely due to what occurs in the preK-16 educational system, where students experience each of the following EXCEPT:

- A. They lose interest in STEM-related learning
 - B. They lose confidence in their abilities to perform in these fields
 - C. They feel that the “STEM culture” is not welcoming to them
 - D. They view STEM courses in a negative light because of their complexity and inflexibility
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3. While selective enrollment math- and science-focused high schools admit based on achievement and serve only a small portion of the student population, inclusive STEM high schools have no admissions criteria for students and as such serve a broader and often more diverse population.

- A. True
 - B. False
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The Eight Essential Elements-Instructional Elements

4. The crucial instructional elements for successful STEM education include project-based learning, research-driven strategies, real-world connections, and global information.

- A. True
 - B. False
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Non-Instructional Elements

5. Inclusive STEM high schools instill a strong school culture and provide students with support for emotional needs, and they commit to establishing and maintaining relationships with community members and institutions through a strong community presence and by ensuring that students participate in:

- A. Community-wide action projects
 - B. Service learning
 - C. Local shadowing or internship opportunities
 - D. Student-led community outreach
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Discussion

6. Study findings suggest that STEM school leaders and stakeholders view a STEM school identity, and STEM in general, as rooted in the instructional practices employed, transferable skills focused on, and positive and inclusive culture created at these schools.

- A. True
 - B. False
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7. Overall, the STEM school movement appears to encourage educators to view students as active participants in their own learning and to focus on the critical student outcomes of creative and inventive thinking as well as:

- A. Collaboration
 - B. Problem-solving abilities
 - C. Citizenship
 - D. Digital literacy
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8. The STEM school movement promotes career, technology, and life skills, problem-based learning, and personalization of learning in order to support the key focus of the current education system, which is student empowerment.

- A. True
 - B. False
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