What is STEM identity?

"The way people make the concept of fitting in within STEM fields, specifically, the way individuals make 'meaning of science experiences and how society structures possible meanings' " (Singer et al, Carlone & Johnson).

What are the 3 dimensions of STEM identity?

Carlone & Johnson modeled how STEM identity is established in three dimensions. These dimensions, particularly recognition, are important to maintain a strong STEM identity.

- **Competence:** acquiring knowledge and understanding content
- **Performance:** social performance of relevant scientific practices (e.g. presenting one's research to the public)
- **Recognition:** self-recognition and validation from others for one's competence (e.g. appreciation of one's work from a mentor)
Why is "Recognition" important for STEM identity?

- Carlone and Johnson (2007) found that career pathway trajectories differed among women of color in STEM majors with strong academic records. Students who were recognized by others experienced smoother advancement along their STEM career path, compared to those who were not.

- Lane (2016) also shows that improving retention of STEM major students of color partly depends on STEM identity development.

A student about to change majors was recognized as a high achieving student at a banquet.

"Oh, she remembers me. I was actually important, you know."

"I was like, what? [I] couldn’t believe it. It’s just that encouragement."

Quotes from Lane (2016)

How can you foster students' STEM identity?

Utilize the tips from our previous infographics:
- Acknowledge and Celebrate Students' Progress
- Embrace a Growth Mindset

References


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