

Enhancing Cybersecurity Education Through a Representational Fluency Model

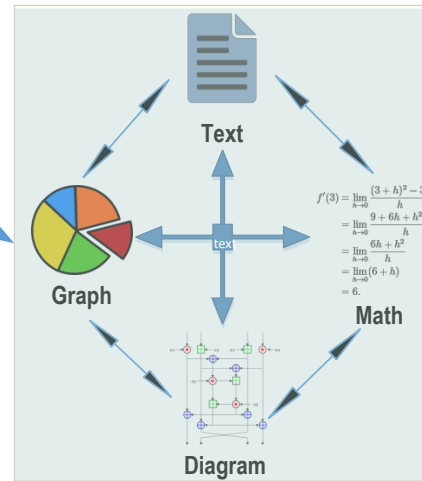
Challenge:

- There is a significant shortage of qualified cybersecurity workers
- How do we grow students' cybersecurity mindset?



Cybersecurity Concepts & Principles

Can be modeled



Representational Fluency

Scientific Impact:

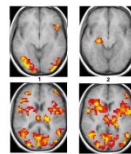
- Does the use of multiple representations during instruction help students learn Cybersecurity concepts?
- How is cognitive processing of cryptography impacted by the use of multiple representations?

Solution:

- Build students' representational fluency in Cybersecurity domain
- Promote long-lasting learning results through Model- Eliciting Activities



Grade



fMRI

Measured by



Learners Mental Models

If you teach this way

Broader Impact:

- Discover a better way to teach complex concepts and principles in cybersecurity.
- MEAs designs can be shared with the community.
- Findings from this project can shed lights on learning in other STEM fields.

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