Virtual Mentoring
Next Generation Learning Supports for All Students

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Factors Supporting or Constraining Persistence in STEM Learning

Engaging Context, Texts, Tools, and Tasks

Individual

Systems and Structures

PERSISTENCE

National Research Council of the National Academy, 2012
Students with disabilities are persistently underrepresented in STEM college majors and careers (NSF, 2013).

Students with disabilities who do enroll in college, less than a quarter major in STEM fields of study (NSF, 2013).
• Barriers to STEM learning for students with disabilities are less often the manifestation of the disability but more often environmental barriers.

• General educators often report lower STEM expectations for students with disabilities.
Virtual Worlds and Communication Platforms

Engaging Context, Texts, Tools, and Tasks

Individual

Systems and Structures

PERSISTENCE
In Brief: **Benefits of Virtual Worlds**

- Individualization
- Creative Solutions
- Immersion
- Collaborative Learning
- Control over Personal Representation (IDENTITY)
- Access to Mentors
- System for providing STEM resources
Universal Design for Learning and Assessment

Access issues in virtual communities are present to some degree in all online education tools and systems.

A bedrock issue for on-line learning and supports must focus on Universal Design for All Students with an emphasis on Accessibility for all.
Universal Design Learning and Assessment

UD Principles

- Equitable use
- Community of learners
- Perceptible information
- Simple and intuitive
- Flexibility in use
- Instructional climate
- Tolerance for error

Current Module

Module with Multimedia

- Video examples with real-life situations and characters
- Voice narration
- Using plain and simple talk
- Use of navigation bar
Effective On-Line Resources and Communities of Learners for Mentors and Teachers

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Positive Student Findings

Self-determination
Making informed decisions and taking responsibility for those decisions
SDT: *Choice, relatedness*, and *competence* (Ryan & Deci, 2000)

Self-advocacy
Effectively communicate, convey, negotiate or assert one’s interests, desires, needs, and rights

Negative anxiety
Importance the mentor provides both academically and personally

Importance of self-mentoring strategies

*Actions that students* take to support their own learning and personal growth
Instant Message

Right click on a avatar and select IM.

To send a Private instant Message (or IM) to a friend, hover your mouse over their avatar, right click and select IM.

A IM is a private conversation. No one else can see what you are typing when you are in a IM with someone.

Friends

Right click on a avatar and select Add Friend.

When you meet someone that you like to start a chat with, you can add them to your Friends list. Right click on their avatar and select Add Friend.

That will send a friendship request and you will be notified if they accept or reject.

Friends are able to keep track of each other’s conversations online.

Click the ‘Open’ button on the bottom bar to list your friends’ IM.

You can see your friends in the ‘My Friends’ list.
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• Virtual- Mentoring is an effective on-line resource for underrepresented populations

• Continued attention focusing on helping students develop the ability to monitor their own thinking processes and know how to find resources to support their learning

• Continued attention on embedding support seeking resources for enhancing the persistence of high school students, particularly in on-line academic settings
  – Cognitive wrap arounds (Kaplan, Silver, Lavque-Manty, & Meizlish, (2013)
  – Exams can be a platform for metacognitive instruction (Lovett, 2013)
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