

Virtual Mentoring

Next Generation Learning Supports for All Students

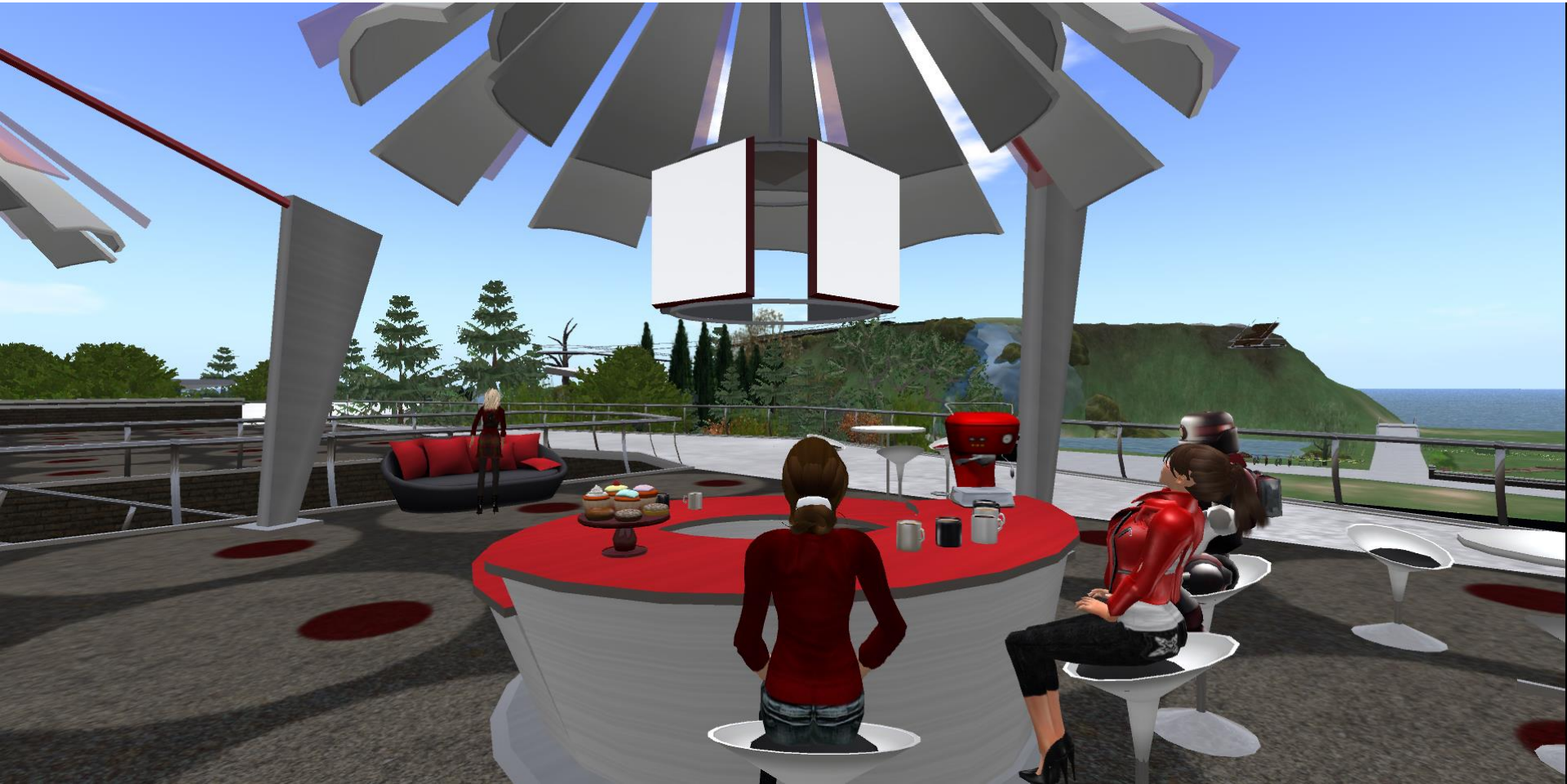


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New Models in Online Education: Equipping the Student of the Future





BREAKTHRU

Georgia STEM Accessibility Alliance (GSAA)

$$\sqrt{s(s-a)(s-b)} \quad 2\pi r = A$$

$$=P \rightarrow AB=A$$

$$a = \frac{c\sqrt{b+d}}{5cb-d}$$

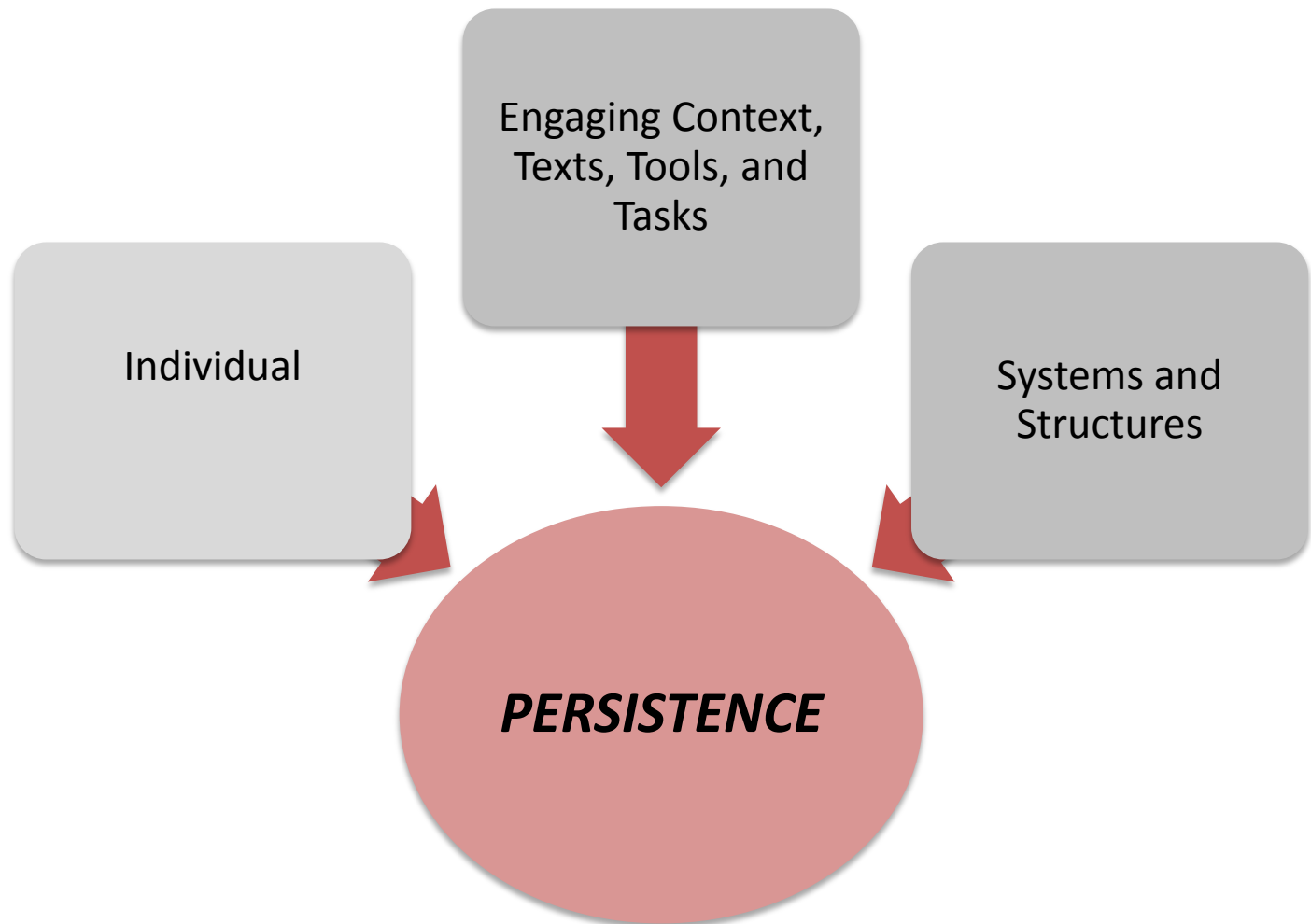
$$h = \frac{\pi \cdot x}{y}$$

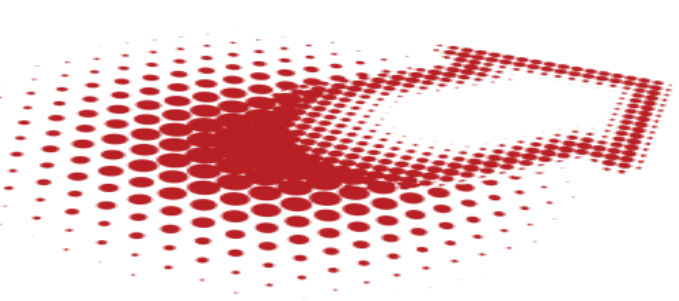
$$x = \frac{z_1}{z}$$

$$y = z(x)$$



Factors Supporting or Constraining Persistence in STEM Learning

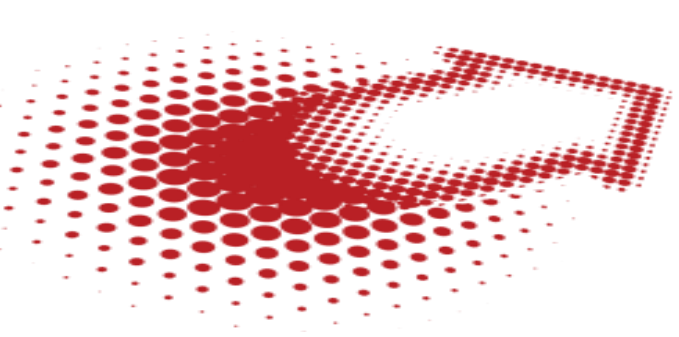




BREAKTHRU

Students with disabilities are persistently underrepresented in STEM college majors and careers (NSF, 2013).

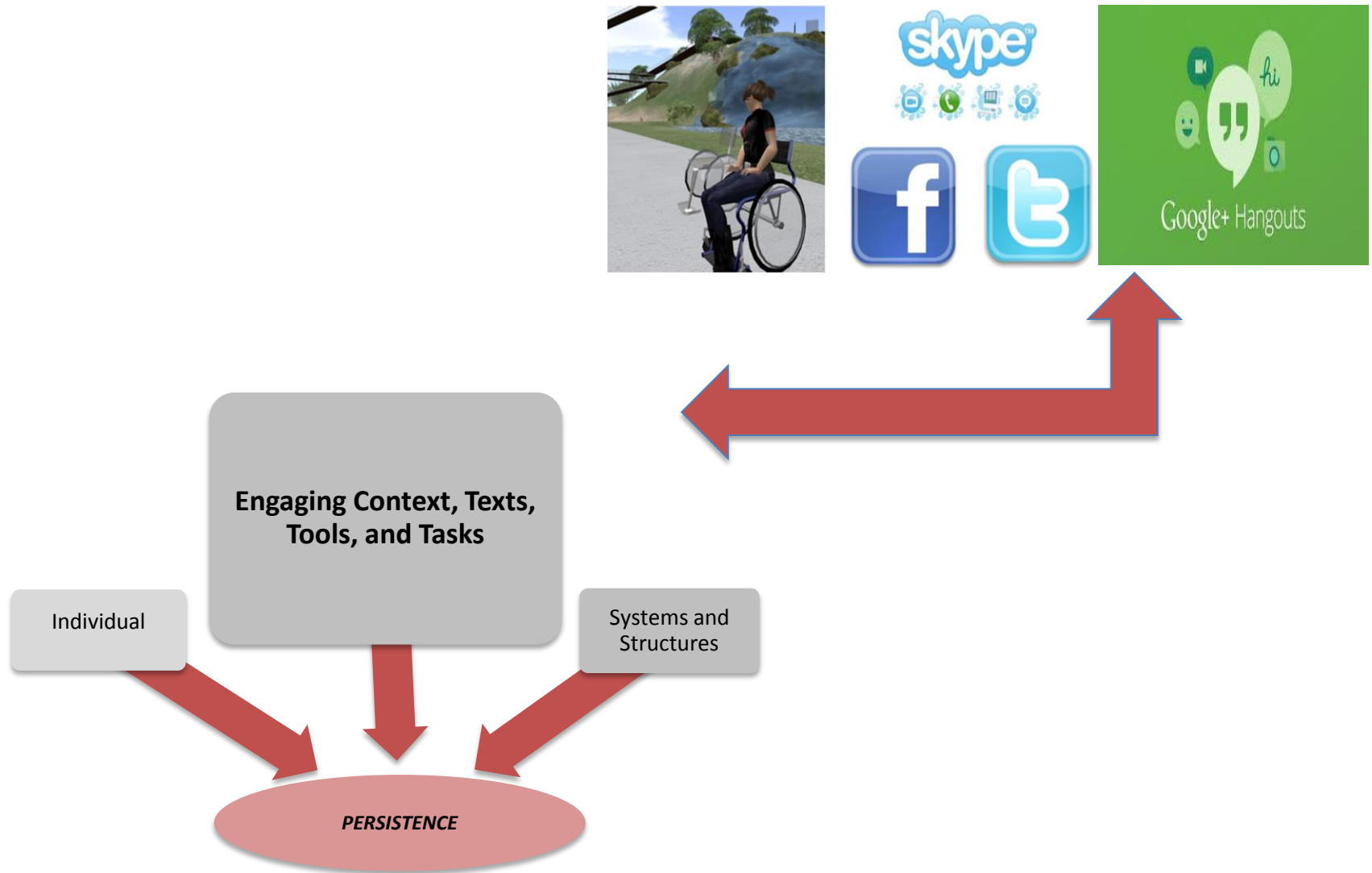
Students with disabilities who do enroll in college, less than a quarter major in STEM fields of study (NSF, 2013).



BREAKTHRU

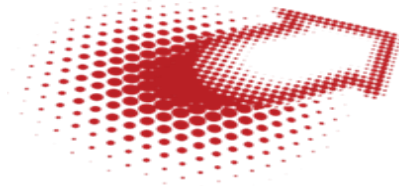
- Barriers to STEM learning for students with disabilities are *less often* the manifestation of the **disability** but more often **environmental barriers**.
- General educators often report lower **STEM expectations** for students with disabilities.

Virtual Worlds and Communication Platforms



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



BREAKTHRU

Universal Design for Learning and 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

Current Module

The screenshot shows the Breakthru website interface. At the top, it says 'E-mentoring for success in science, math, technology and engineering'. Below that is a navigation bar with links: Home, For Students, For Mentors, Mentor Forum, About Us, Log In, and FAQs. The main content area is titled 'Self-Determination for Post-Secondary Students' and 'Making Decisions to Achieve Goals'. It lists 'Objectives' such as describing the importance of self-determination, defining self-determination and self-advocacy, listing rights under the US disability laws, recognizing research and personal strengths/limitations, planning communication, and practicing self-advocacy skills. To the right of the text is a photo of two men in boxing gloves. Below the objectives is a list of topics: Adulthood and Responsibilities, Characteristics of Self-Determination, Seeking Help and How It Relates to Self-Determination, Communicating Your Needs, Know Your Rights, Understand Your Disability, and Advocating for Your Needs. At the bottom right, it says 'Adulthood and Responsibilities >'. A sidebar on the left has links for Home, Forums, and Resources.

Module with Multimedia


The screenshot shows the Breakthru website interface with a video module. The navigation bar is the same as the previous screenshot. The main content area is titled '[DEMO] Self-Determination' and asks 'Have you ever found yourself in the same situation as the one in this video?'. Below this is a video player showing a person in a classroom setting. The video has a title 'Some students may struggle with learning in a large-enroll classroom.' and a play button. Below the video player, it asks 'What would you do? Are you able to talk with others about your difficulties?'. Below that, it says 'This module will tell you about self-determination.' and 'Go through this module and see if you and your mentor can come up with a plan to help you advocate for yourself.' At the bottom, there is a list of activities: [DEMO] Meet Mr. White, [DEMO] Understanding Your Rights, [DEMO] Your Rights: Understanding Your Disability, [DEMO] Tips for Understanding Your Disability, and [DEMO] Activity: Complete the Understanding Your Disability Worksheet. A sidebar on the left has links for Home, Forums, and Resources.

UD Principles

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

- 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




E-mentoring for success in science, math, technology and engineering

[Home](#) | [For Students](#) | [For Mentors](#) | [Mentor Forum](#) | [About Us](#) | [Log In](#) | [FAQs](#)

Mentor Lounge

[View](#) [Edit](#) [Webform](#) [Outline](#) [Results](#) [Track](#) [Grant](#)



[Mentor Profiles](#) [Mentor Forum](#) [Mentor Resources](#)

Welcome

- [Home](#)
- [My account](#)
- [Create content](#)
- [Log out](#)
- [Forums](#)
- [Mass Contact](#)
- [Resources](#)

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Virtual Mentoring

Positive Student Findings

Self-determination

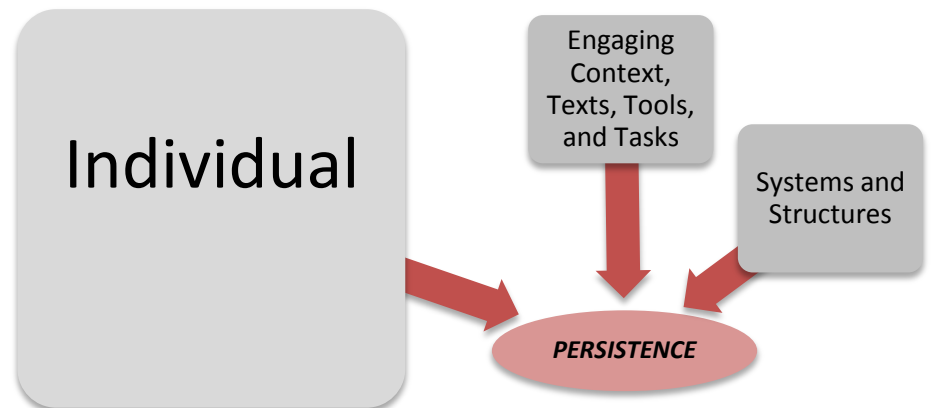
Making informed decisions and taking responsibility for those decisions

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



Self-Mentoring

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



BREAKTHRU



Virtual Mentoring

Next Generation Learning Supports for All Students

- 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 embeddding ***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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