Today’s Talk:

Inclusive uses of avatars and narratives in VR biology simulations

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Agenda

- 1: Overview
- 2: Design Guidelines
- 3: Community
ASU is a comprehensive public research university, measured not by whom it excludes, but rather by whom it includes and how they succeed;
Inclusion in the onsite classrooms

- Training faculty
- Microaggressions
- Transgender guidelines
- Opportunities for research for undergrads
Started in Fall 2017
Currently has 1700 students in the program
3 Simulated Lab Courses

Online Bachelor of Science in Biological Sciences

The online Bachelor of Science in Biological Sciences degree enables students to delve into the basic organization and processes of life (microbes, plants and animals) at scales ranging from molecules to ecosystems and in time from picoseconds to millennia.

7.5 Weeks per class
39 Total classes
120 Total credit hours

Resident tuition | Non-resident tuition
Labster offered:

- Expertise in design
- VR technology
- Grants to support development
Labster challenges:

- Non-biologists designing simulations
  - ASU Faculty partnered and approved biology content
- Narrative training
  - Helping faculty understand how to tell a story

- ASU Inclusion Mindset
Concerns:

Stereotypes in a narrative
Concerns:

Microaggressions & Humor

https://www.lifescied.org/doi/10.1187/cbe.18-01-0011
Concerns:

Gender
Gender Neutral
Power Dynamics
Concerns:

Human empathy
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Initial Training and Discussions

- Brought in experts for our meetings
  - **Renee Klug**, ASU’s International Educator
  - **Sara Brownell**, Inclusion in Biology Education
  - Variety of resources from ASU’s traditional classes
Group Norms and Guidelines:

- Process for reviewing
- Process for reporting
- Shared standards for any new simulations
Group Standards:

● Framework for language
  ○ Non-judgemental
  ○ Humor
  ○ Empathy

● Framework for visuals
  ○ Gender
  ○ Culture
  ○ Race/Ethnicity
  ○ Religion
  ○ Disabilities
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“Inclusion Team”:

- Reviews all new simulations
  - Members from:
    - Labster representative
    - Student (2)
    - Graduate Students (2)
    - Faculty (1)
    - Staff (2)
    - Biology Education (1)
    - Committee for Campus Inclusion (1)
Your Turn: Small Group, Then Share Out

- Using our guidelines, watch the following simulation and answer these questions:
  - Do you see any potential areas of concern?
  - Do you see any areas where mindful design was used?
  - Do you think these guidelines are enough?
  - How would you improve on this process?
“created guidelines for designing more inclusive simulations (e.g. characters, conversations, storylines) that all content designers follow right now, so that has been integrated not only in the simulations we are developing in collaboration with ASU but also for any new simulation we create.”
Parting Thoughts

• One of my favorite professors said to me…. 
Keep Conversations Going!
THANK YOU!
Resources

**Gender:**
Females voices are heard only 40% of the time, even though they make up 60% of biology classes

**Race/ethnicity**
Active learning works disproportionately well underrepresented minority students

**Anxiety**
Understanding how classroom practices influence student anxiety

**Religion**
Religious students can have negative experiences in college bio classes
[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5332041/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5332041/)

**LGBTQ**
LGBTQ students can perceive the biology community as unwelcoming
SESSION EVALUATION

1. Go to the online program: http://bit.ly/session-eval
2. Select the session title from the drop-down menu.
3. Fill out the feedback form for a chance to win ELDc20!