

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



- Contact us
- Accreditation and state regulatory authorizations
- About ASU

- ***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.

[Resident tuition](#) | [Non-resident tuition](#)

7.5

Weeks per class

39

Total classes

120

Total credit hours



Labster offered:

- **Expertise in design**
- **VR technology**
- **Grants to support development**

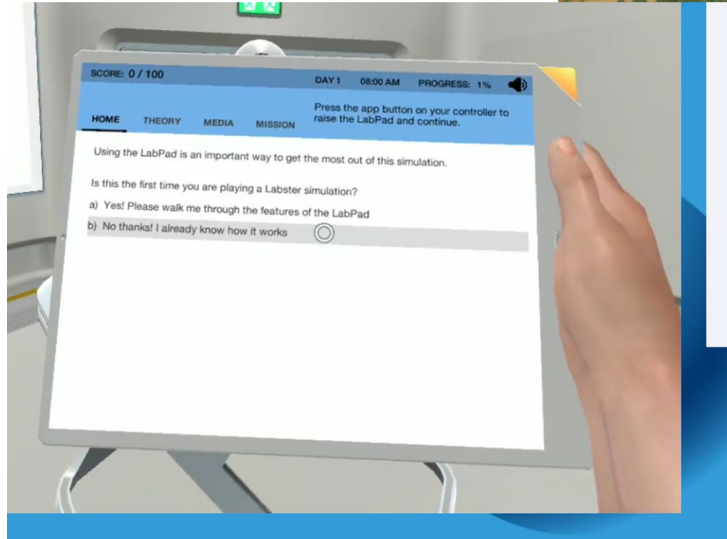
Labster challenges:

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

- **ASU Inclusion Mindset**

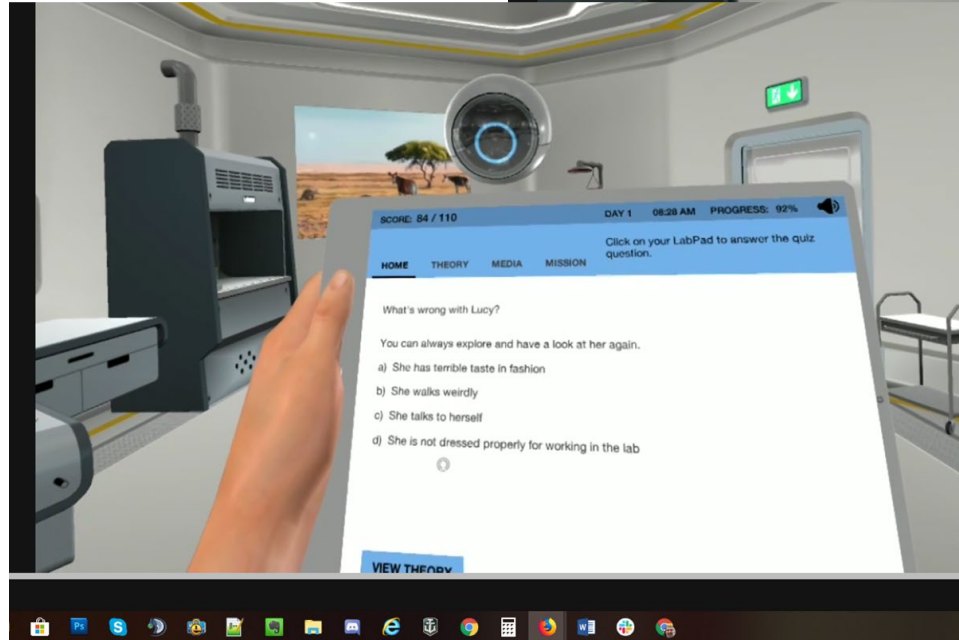
Concerns:

Stereotypes in a narrative



Concerns:

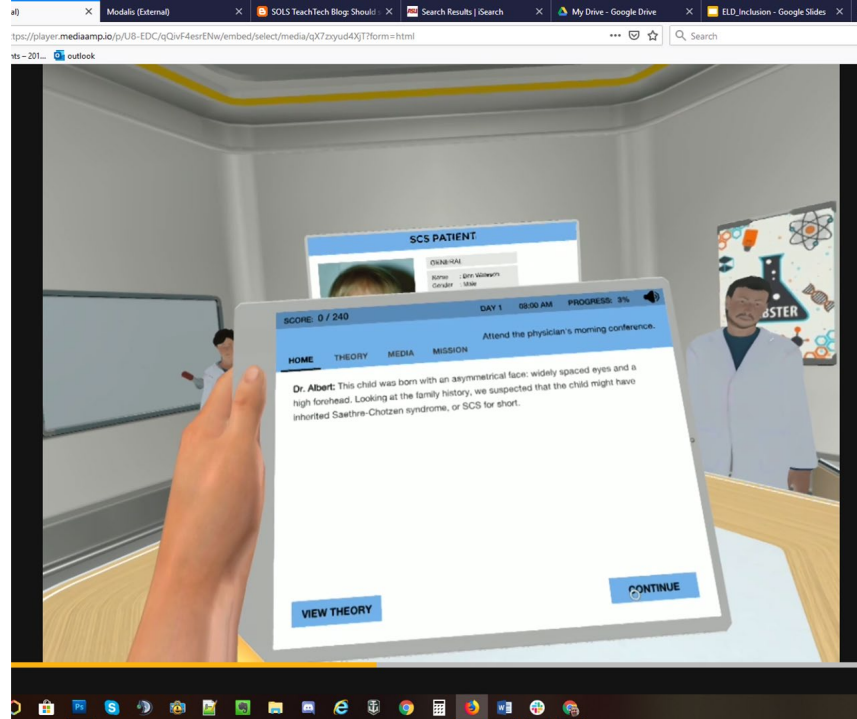
Microaggressions & Humor



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

Concerns:

Gender
Gender Neutral
Power Dynamics



Concerns:

Human empathy



Agenda

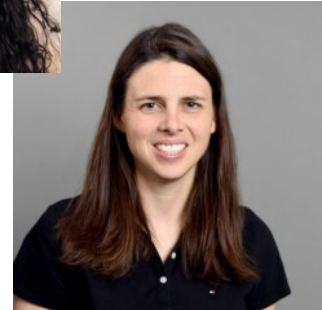
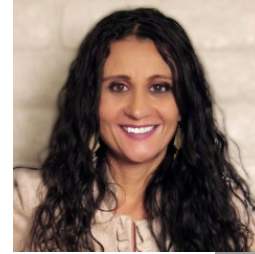


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Initial Training and Discussions

- 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?



https://www.labster.com/faculty_resources/biodiversity-assess-and-compare-biodiversity-on-an-exoplanet/



Labster Support of Inclusion

“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!





excellence

critical thinking

impact

best practices

technology

collaborative

active

student-centered

innovative

THANK YOU!

flexible

imaginative

problem-solving



Resources

Gender:

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

<https://www.lifescied.org/doi/pdf/10.1187/cbe.13-10-0204>

Race/ethnicity

Active learning works disproportionately well underrepresented minority students

<https://www.lifescied.org/doi/full/10.1187/cbe.14-03-0050>

Anxiety

Understanding how classroom practices influence student anxiety

<https://link.springer.com/article/10.1186/s40594-018-0123-6>

Religion

Religious students can have negative experiences in college bio classes

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5332041/>

LGBTQ

LGBTQ students can perceive the biology community as unwelcoming

<https://www.lifescied.org/doi/full/10.1187/cbe.16-01-0074>

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<http://bit.ly/session-eval>
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