

A Virtual Reality Check:

A tale of VR-inspired programming at two institutions

Cody House

Director of Online Learning and Instructional Technology
George Washington University



Bill Egan

Senior Instructional Designer
Penn State World Campus



Agenda

- Introduction
 - Collaboration started at OLC Innovate
- VR/360 Video Demonstrations
 - PSU: Nursing Home Assessment
 - GWU: Crime Scene Demo
- VR and Online Learning
 - Why VR?
 - Design Approach for Immersive Experiences
 - Pedagogy Focused Design
- Student Feedback and Data
- Next Steps...

Introduction

- It all started at OLC Innovate 2018 in Nashville...
- Exploration of VR in Online Learning
 - Similar goals
 - Similar challenges
 - Consistent approach to design
 - Pedagogically focused strategy



Penn State World Campus: Home Assessment



- NURS 352: Advanced Health Assessment
 - World Campus RN to BSN online program
- Case-based course following patients through the assessment and treatment procedures
- 360 Video Activity
 - Based on a home assessment for a dementia patient to evaluate the home environment for administering care based on the case
 - Observation/exploration of kitchen, living room, and bathroom via immersive 360 video
 - Guided tour of kitchen, living room, and bathroom via immersive 360 video
 - Students assessed on their reported observations and recommendations for the patient and family



Penn State World Campus: Home Assessment



Guided Bathroom Assessment (360° Video)

NOTE: keep in mind that 360° video controls only work in Chrome, Firefox and IE browsers on desktop/laptop computers. Use keys A and D for left-right, and W and S for up-down.



Time: 00:03:52 - Guided Bathroom Assessment Video Transcript

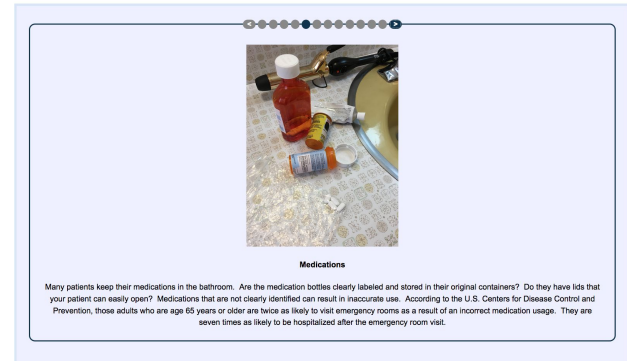
For best quality, select the highest quality settings available based on your connection (4K is recommended). Click "Settings" (cog icon) then "Quality" from the video player menu to make your selection. You may also choose to expand the video player to make it larger.

YouTube Settings

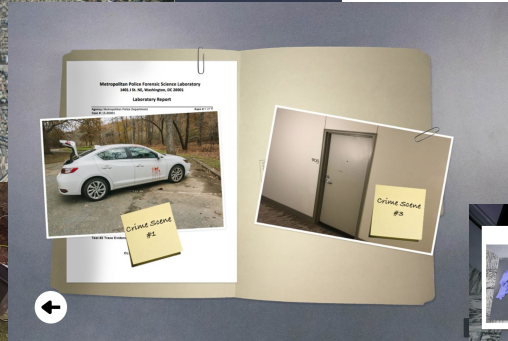
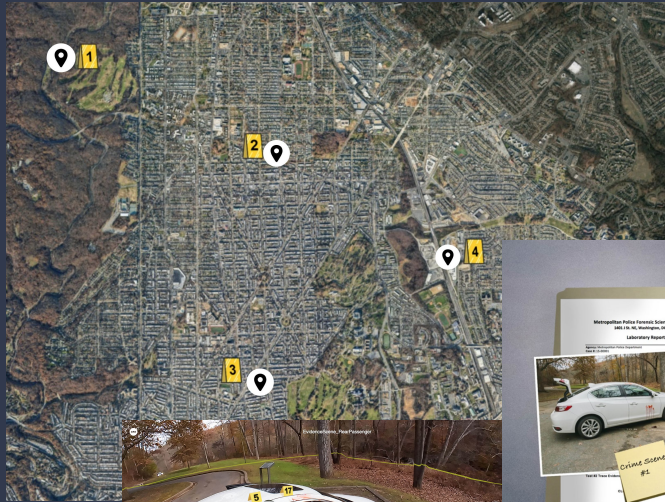
VR Headset:

If you would like to watch this video on a mobile device and/or with a VR headset, please use the separate link below. Make sure they open in the YouTube mobile app which is compatible with Google Cardboard and other VR viewers/headsets. Within the YouTube app tap the Cardboard/VR Viewer icon () and place your smartphone in the headset to start watching the videos.

- [Guided Bathroom Assessment \(360° Video\)](#)

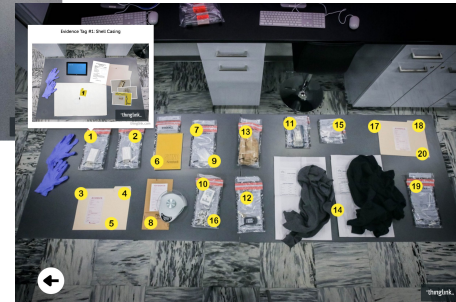


GWU: Virtual Crime Scene Demo

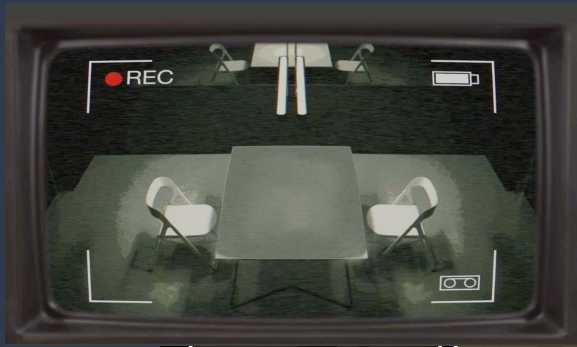


“What was the value add?”

- Police & Security Studies program
- Project filled a major void in program
- Created a virtual crime scene to provide a “hands on” experience
- Three fully developed crime scenes and an interactive evidence table
 - Includes a wide-range of evidence as well as authentic laboratory reports and other case files

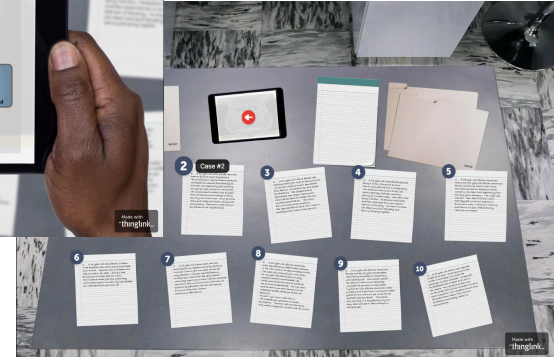


GWU: Virtual Crime Scene Demo



Expanding the Universe

- Now expanded to three additional courses
 - The Criminal Mind
 - Particular Forms of Crime
 - Criminal Analysis
- Looking at two or three more courses for next year



Virtual Reality and Online Learning

- **Be selective** when and where you utilize VR.
- Tap into **experiential learning** and student interest.
- Consider institutional, program, and course learning objectives and whether virtual reality can help students **achieve desired outcomes**.
- Utilize the technology as an **engagement tool**.
- Designing materials that **support learning** - not as the sole solution for learning.
- Articulate goals and context to students at the start of VR elements to **ensure visible connections to objectives**.

Designing Immersive Content and Experiences

- Considerations/Challenges for integrating VR
 - Pedagogical Value
 - Production Logistics
 - Cost Effective (ROI)
 - Scalability
 - Hardware
 - Accessibility
 - Knowledge Gap
 - Student/Faculty Demand and Interest
- Strategies and Best Practices for Effective Design
 - Address the Knowledge Gap
 - Ideation
 - Conceptualizing
 - Production and Post Production
 - Implementation and Delivery
- What Went Wrong?
- What Went..Less Wrong?

Student Feedback and Data

Penn State

- Active IRB Research evaluating the effectiveness of 360 video in online learning.
 - Does 360 video and immersive content provide value to the learning of students?
 - What are students' perceptions of immersive content and related VR viewing and hardware?

GWU

- End-of-course surveys
- Informal conversations

Penn State: Student Feedback and Data

It gave a greater visual detail to learning and envisioning the case scenario

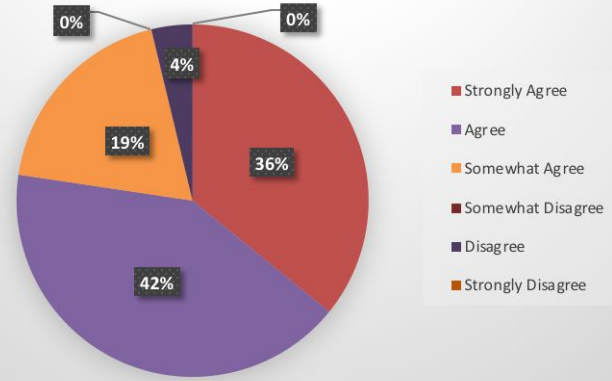
It made me feel that I was exactly walking in the rooms and made my assessments.

Best part of the class! I really enjoyed this activity.

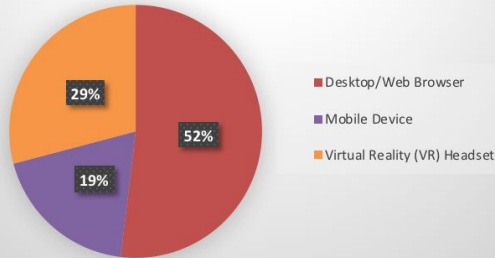
The only thing I didn't like is i could not make out somethings

The VR glasses were of poor quality. I only used them for a few minutes before going back to the computer to view 360 videos.

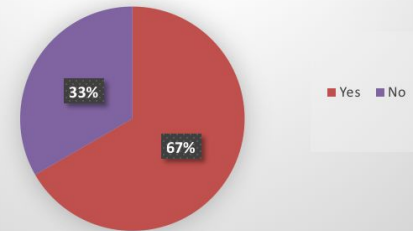
I gained new insights shown in the 360° video(s) that I can put into practice. (n=53)



How did you view the 360° Video(s)? Check all that apply. (n=44)



Now that you've experienced the video(s) with a headset, would you recommend it to someone else? (n=27)



GWU: Student Feedback and Data

"I like the videos and the virtual crime scenes. I think they both offer an **interesting approach** to get the material across."

"This platform (VR) offers students **exposure** to subject matter content in ways otherwise **unavailable in a classroom setting.**"

"I am kind of old school when it comes to learning and **prefer downloadable or written** information over video"

"I Think the idea is amazing and shows great foresight in **what online education can offer.**"

"keep it as simple as possible, some people in this cohort **may not be as savvy with technology** and may struggle."

"To see a crime scene virtually, then be able to **interactively manipulate** the environment is **an invaluable tool** for use in this class"

Next Steps...

- How to Get Started Toolkit/Checklist - resources
 - Return on Investment and allocation of time and resources (adjunct faculty, etc.)
- Continued collaboration between PSU and GWU
 - Shared strategies and best practices
 - Shared content and resources
 - Shared feedback/data
- Steps for expanding on progress towards “true VR” in online learning
 - WondaVR - branching scenarios
 - WebVR
 - Oculus Go/Quest

Index of Resources

- [What the Research Says About VR in Classrooms](#)
- [Virtual Reality in Education](#)
- [Virtual Reality in the Classroom](#)
- PSU News: [World Campus researches effectiveness of VR headsets and video in online classes](#)
- PSU News: [Penn State World Campus implements 360-degree videos in online courses](#)
- [WCLD 360 Videos](#)
- [Penn State Immersive Experiences YouTube Channel](#)
- [Virtual Crime Scene \(ThingLink Project\)](#)
- Inside Higher Ed: [Trial and Error: Virtual Reality 'as Memorable as the O.J. Simpson Case'](#)

Contact Information

- Cody House
 - codyhouse@gwu.edu
- Bill Egan
 - wae3@psu.edu

Session Evaluations & Drawing



👍 Evaluate Session

- Download and open OLC Conferences mobile app
- Navigate to specific session to evaluate
- Select “Evaluate Session” on session details screen (located under session type and track)
- Complete session evaluation*

*Each session evaluation completed (limited to one per session) = one contest entry

Five (5) \$25 gift cards will be awarded to five (5) individuals

Must submit evals using the OLC Conferences mobile app or website