



PennState
Lehigh Valley

How Penn State Lehigh Valley Leveraged 360° Video to Create Immersive Learning Modules and Open Educational Resources

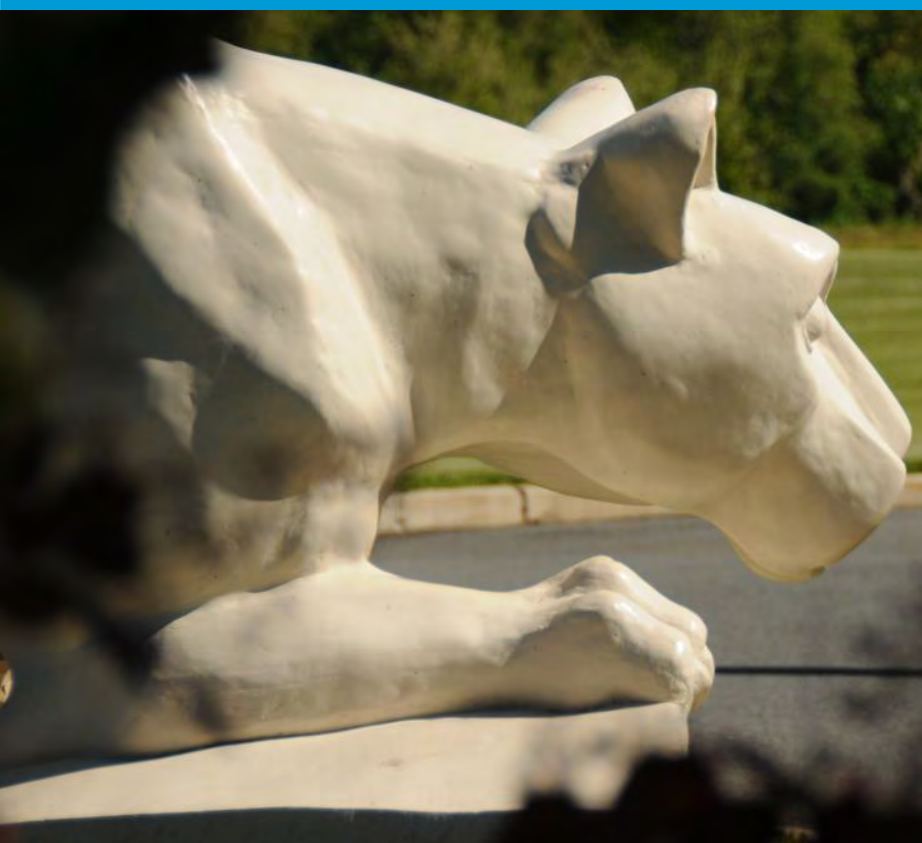
Dr. Kenneth Thigpen | Dr. Karen Kackley | Kate Morgan | Eileen Grodziak



WE ARE...

- Located in eastern PA
- One of 24 campuses in the PSU system
- A commuter campus
- One building
- Oldest campus in the PSU system outside of main campus (1912)

Sometimes it takes a village:



Ken Thigpen, Director of Academic Affairs

Kate Morgan, Director of Virtual Education

Karen Kackley, Assistant Teaching Professor
of Biology

Eileen Grodziak, Instructional Designer

Anita Serrano, Lecturer in Spanish

Emerging Technology/Study Abroad

- Penn State Study Abroad Programs
- Global Programs
- Embedded Study Abroad
- Virtual "exchanges"
- Virtual reality/augmented reality/360 image capture
- Department of Virtual Education
- Metamorphose Project
- Field testing - eco-projects
- Puerto Rico



PennState
Lehigh Valley

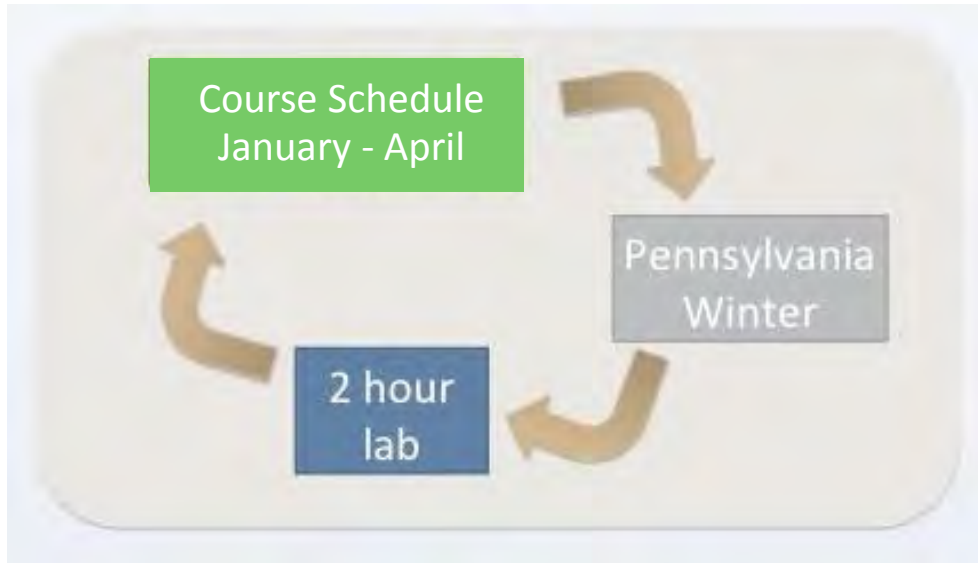
THINKING OUTSIDE THE CLASSROOM

Bringing the Tropics to Pennsylvania



Project documented in NABT 2012 [Conference Poster Presentation](#)

Challenges



+



Objective

Compare & Contrast Biomes



Photo credit: Nicholas A. Tonelli [CC BY 2.0](#)

Temperate Forest



Rain Forest



Grassland

Benefit

“Even though I did not get to travel to Costa Rica, I gained from the experience of those who did. It made the course...much more engaging.”

-student response





Immersive Opportunity



Student Perspective Using 360° Video

“I feel as if I am a part of the environment around me, even though I physically am not there.”



Unexpected Benefit of this Project

♪ *How do you
solve a problem
like Maria?* ♪







PennState
Lehigh Valley

REIMAGINING THE STUDENT LEARNING EXPERIENCE

Press **esc** to exit full screen



Ana Serrano, Instructor in Spanish I, II, III



Old San Juan



Old San Juan Fig Tree on the Water



Flattened 360° Video (underwater lenses)





Window to the Sea – The Vieques Conservations Historical Trust



Cementerio Santa Maria Magdalena de Pazzis, San Juan



One video 3 lessons

1. Spanish I – True or False
2. Spanish II – Terminology
3. Spanish III – Creative Writing Assignment







PennState
Lehigh Valley

STORYBOARDING AND FILMING

A 360° VIDEO

Equipment

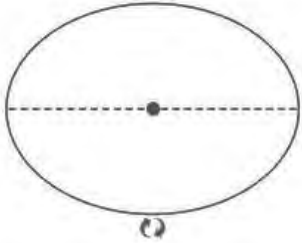
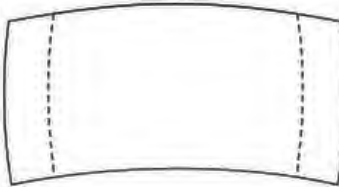
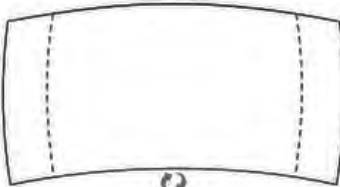
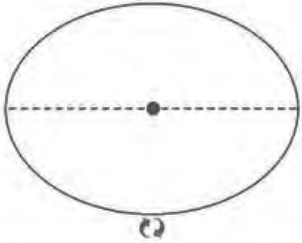
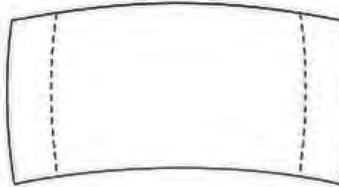
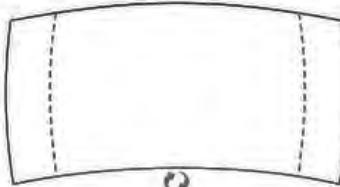


Viewing Equipment



How Do You Film in 360?

Sample 360° Storyboard

Title	Director	Platform(s)
		
<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
		
<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>

How Do You Film in 360°?



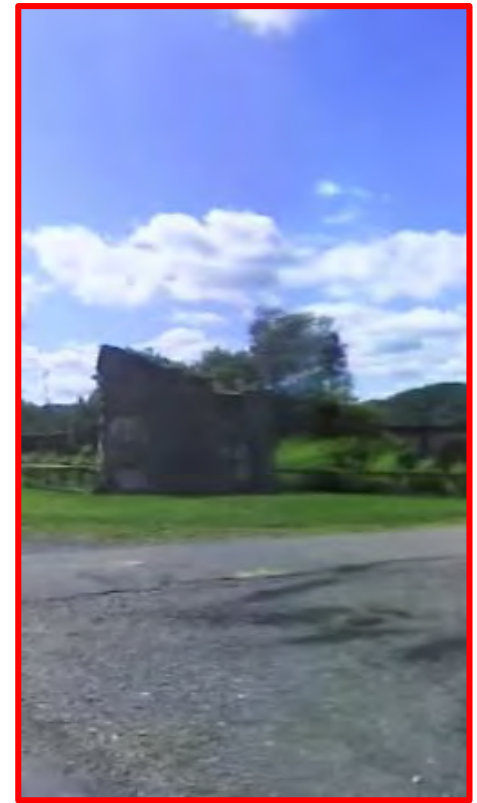
- Avoid important content at seams
- Best focus is 4-8 feet
- Narrate without specific directions

Remember the Seams...



Seams on Film

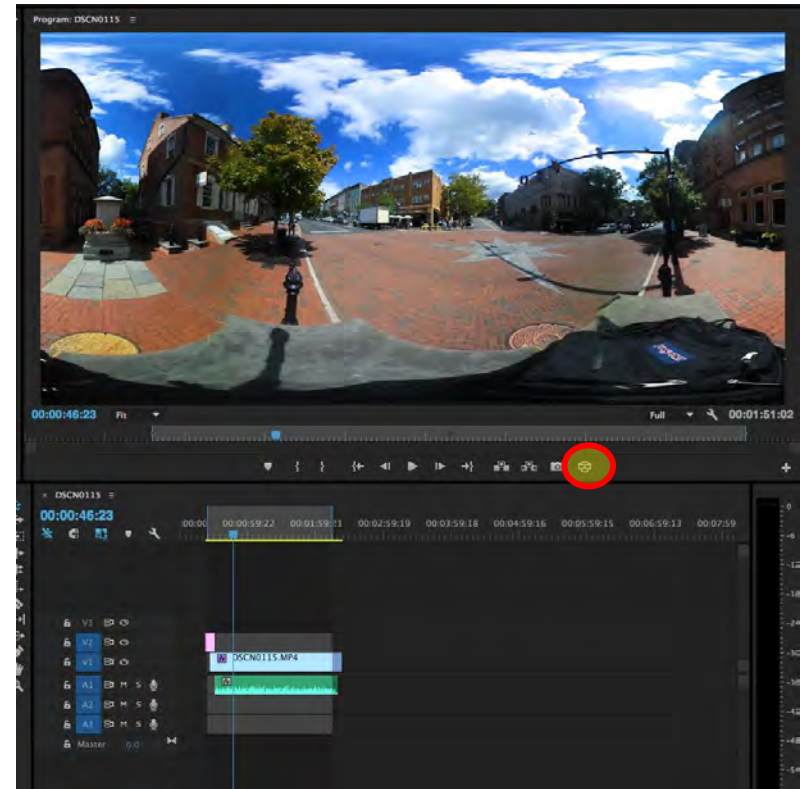
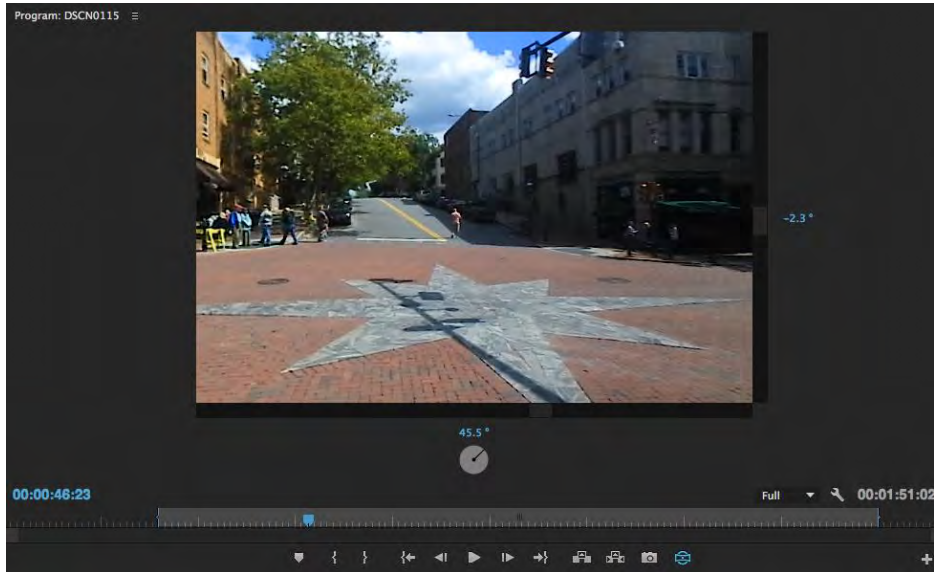
SEAMS



Editing and Uploading 360° Videos



Adobe Premiere



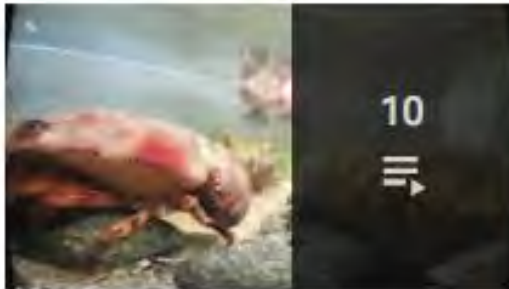
Editing and Uploading 360° Videos



The screenshot shows the YouTube channel page for "PSU Lehigh Valley Virtual Education". The banner features a white tiger sculpture against a blue sky with clouds, with the Penn State Lehigh Valley logo and the text "Virtual Education" in a blue script font. The channel name is "PSU Lehigh ValleyVE" with 11 subscribers. A "SUBSCRIBED 11" button is visible. The navigation menu includes "HOME", "VIDEOS", "PLAYLISTS", "CHANNELS", "DISCUSSION", and "ABOUT". A video titled "Exploring El Yunque with Dr. Kackley" is featured, showing a forest scene with a 3:31 duration. To the right, a "POPULAR CHANNELS" section lists "BuzzFeedVideo" and "iDubbzTV", both with "SUBSCRIBE" buttons.

Editing and Uploading 360° Videos

Created playlists



Exploring Puerto Rico 360°

Updated today



Historic Bethlehem 360°

Updated 5 days ago



**The Drew's Point of View
360°**

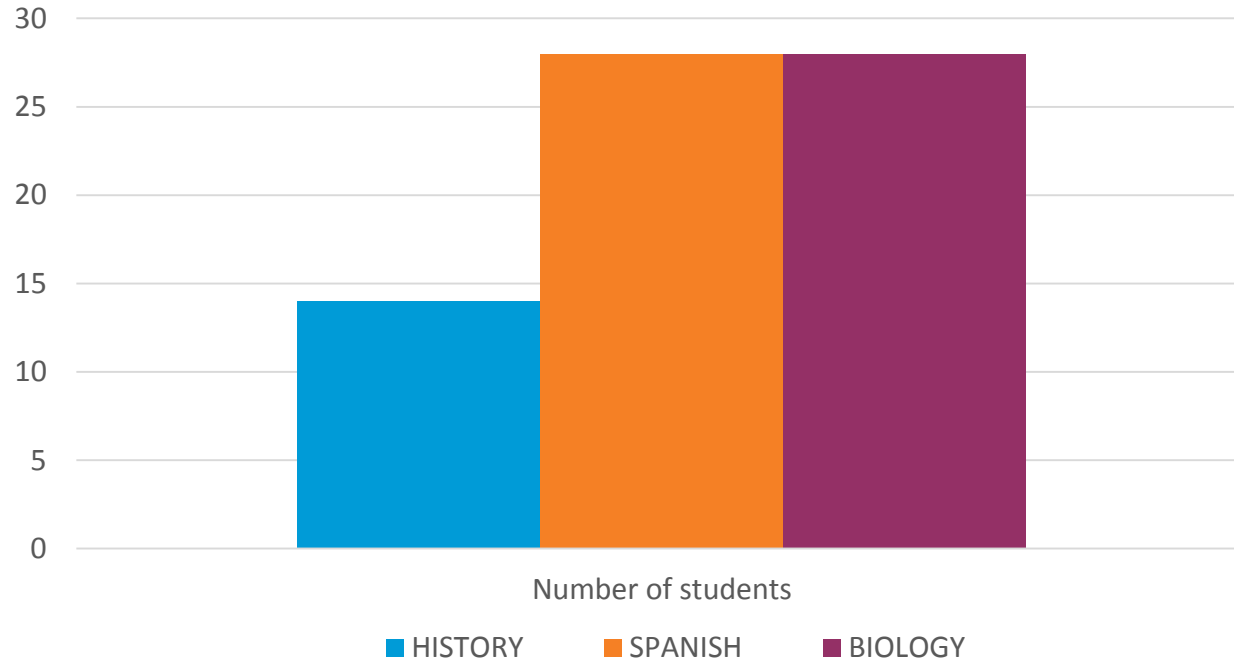


PennState
Lehigh Valley

ASSESSING THE PILOT

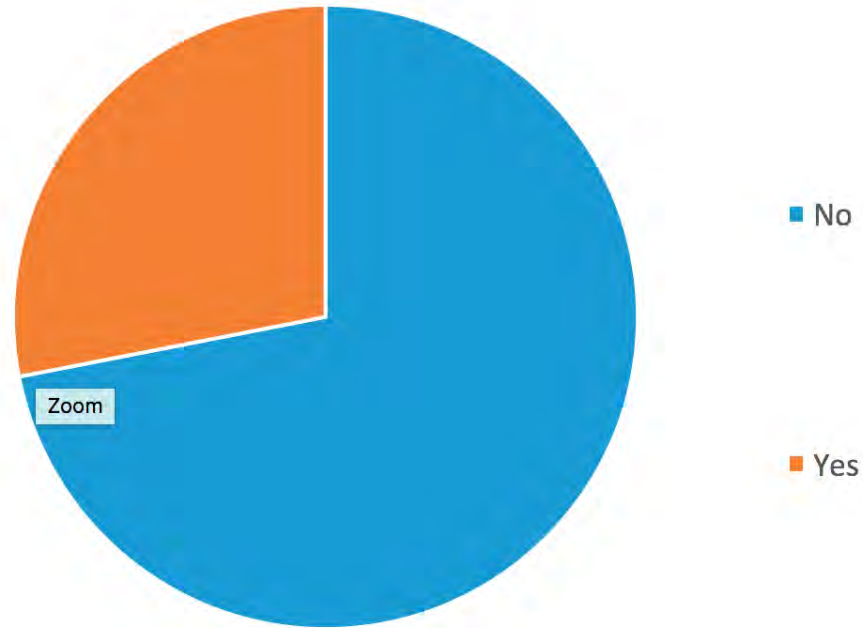
360° EXPERIENCE

Pilot Assessment



Students' Prior Use of VR

n=70



Students' Prior Use of VR

n=70	VR	online	w/headset	both
none	49			
yes	21	5	9	7

Students' Prior Use of VR



Type	#
Google Cardboard	5
Oculus Rift	2
HTC vive	2
Samsung VR	3
Don't remember	6

Student's Prior Use

Number of Hours per week

n=60	VR	360 video
0	44	49
Less than 1	12	9
Between 1 & 3	2	1
More than 3	2	1

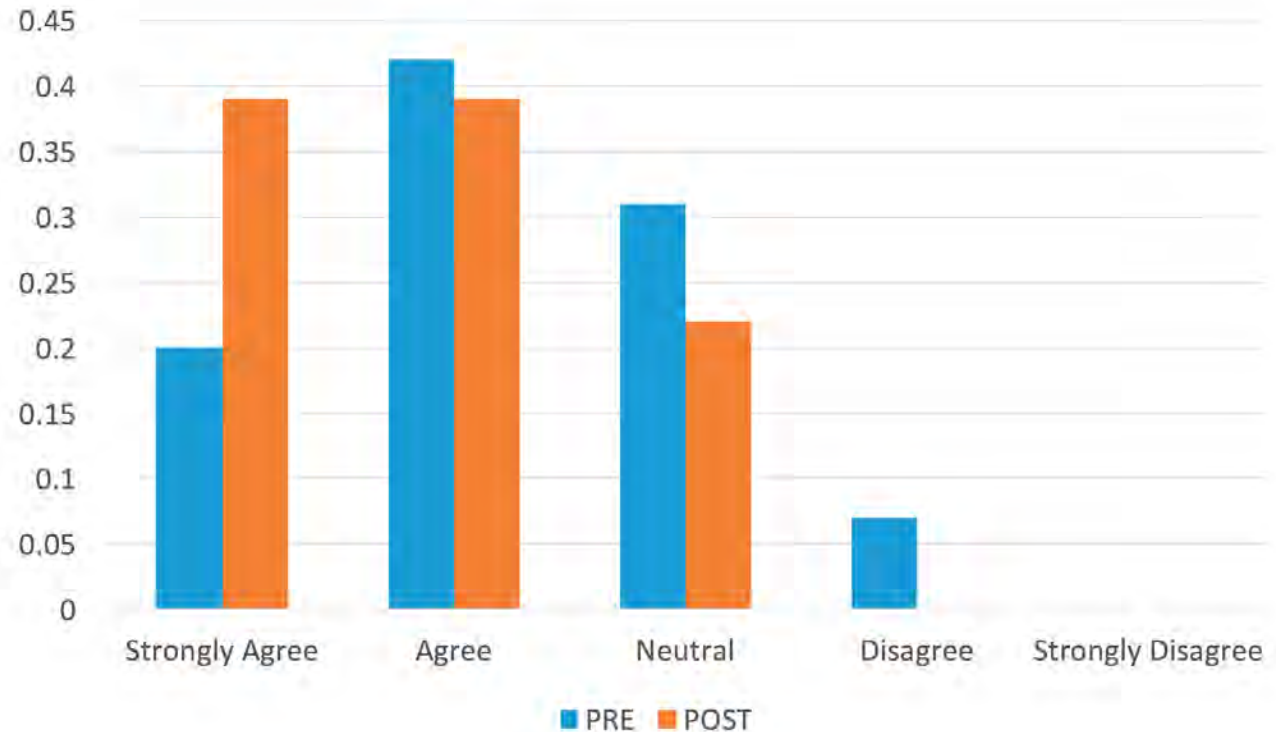
Open Comments on Prior Use

Witnessed others using VR – YouTube

Facebook

Eager to try

Student interest in using 360 video in college classes



Describe Experience

Feels like you are in the video

Interesting

Cool

Everything is around me without being there

Unbelievable point of view

It was insane, intense, real!

I didn't even know that you could do that!

Open Responses

Ability to move around the screen

Choose where you want to look

Feel “in” what I was viewing

Being able to move and see what I choose

Moving with my phone to view

Would be even better with headset



Open Reponses

Browser compatibility issue

Getting back to where I started

Quality (some connection issues)

Sound

Stationary camera

Too much information



What ideas do you have for
360° Video?

How can 360 be used in college?

Field trips

View scientific specimens

Astronomy

Show us different biomes first hand

Math

Engineering - to see big cities

Explore national parks

Digital class projects

Campus tours – Common hour activities



What assessment information
would you be looking for?



THANK YOU