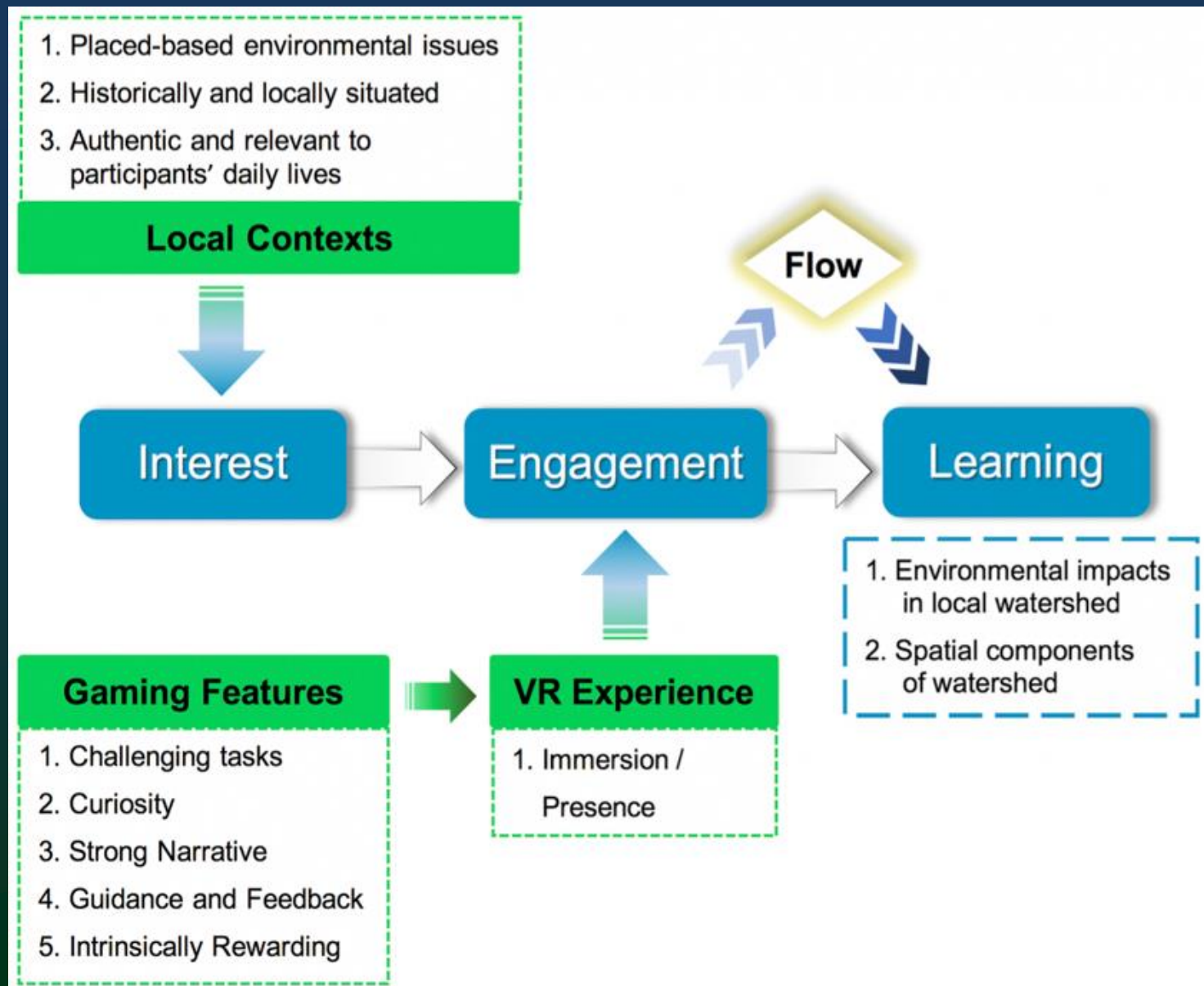# Immersive VR Learning Model

Design Principles

- Design for diverse populations

- Use of multiple and varied representations

- Engage learners in challenging tasks

- Provide a strong narrative

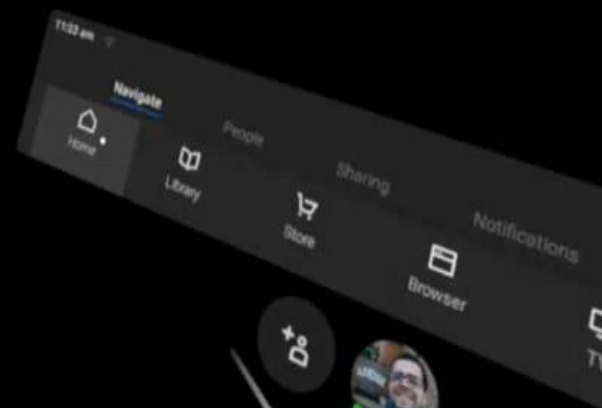- Provide supportive guidance and motivational feedback

Game's contextual challenge/ Narrative

- Volunteering at Lehigh Gap Nature Center

- Key has been lost at one of 9 locations in watershed

- Visit each location and identify each one to retrieve the key

- Complete the badge board with all 9 icons
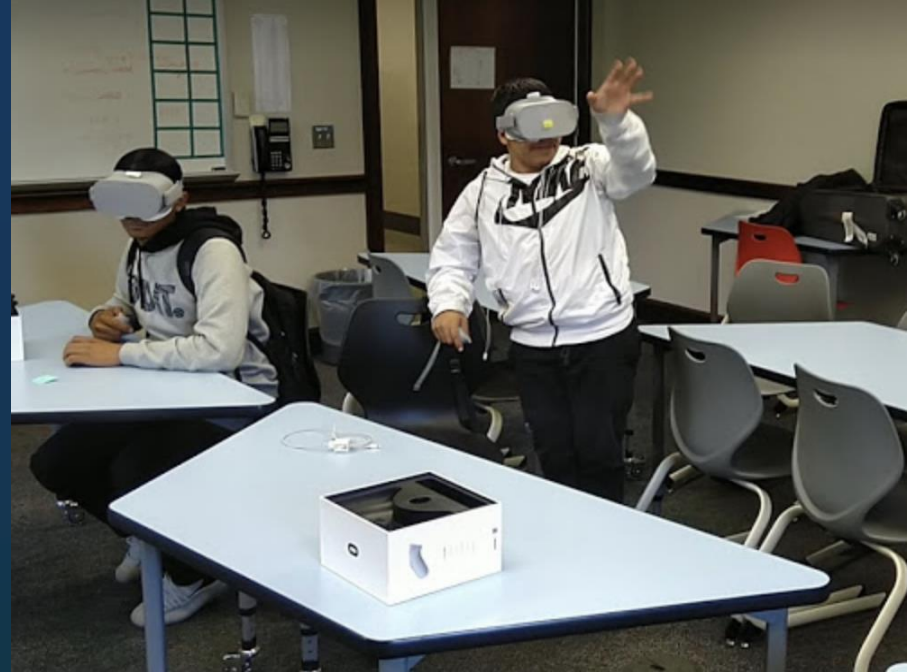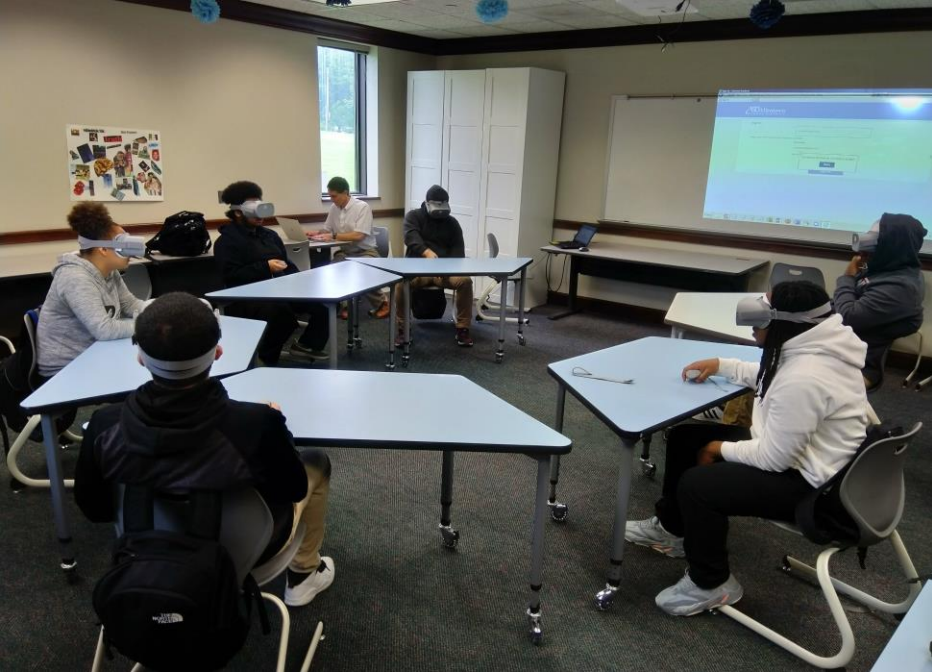
Let me show you the iVR game

https://youtu.be/S82yyf7C_DI

All students experienced a flow state (n=54)
Total flow measure mean was 41.67 (SD=5.67)
Responses range: 31-50

FLOW SURVEY ITEMS (Likert 1-5 scale); Cronbach's alpha = 0.80	Mean	SD
I was challenged, and I felt I could meet the challenge.	4.13	0.94
I did things naturally without thinking too much.	4.15	1.02
I had a strong sense of what I wanted to do.	4.46	0.69
I felt I was on track towards my goals.	4.43	0.77
I was totally focused on what I was doing.	4.56	0.66
I felt in control of what I was doing.	4.17	0.96
It felt like nothing else mattered.	3.72	1.12
I lost my normal sense of time.	3.70	1.14
I really enjoyed what I was doing.	4.43	0.76
I was in the zone.	4.37	0.71

Almost all users had positive attitudes towards using the VR game (98.1%)
Total perception of learning with VR games mean was 53.46 (SD=6.47)
Responses range: 33-60; Cronbach's alpha = 0.915; Likert 1-5 scale

Students' Perception of Virtual Reality for Learning item responses	Mean	SD
I enjoyed using the Virtual Reality (VR) game.	4.76	0.47
I felt that the Virtual Reality game helped me learn.	4.33	0.82
I would like to use VR games for learning in the future.	4.57	0.75
I believe using VR games in school is a good idea.	4.65	0.59
Using VR games makes learning more interesting.	4.61	0.63
I felt like I really was there during the VR game.	4.26	0.94
My seeing and hearing senses were fully used while in VR.	4.13	1.01
I felt the Virtual Reality game held my attention.	4.42	0.80
I felt I could move better in the game the longer I played.	4.41	0.81
I believe VR games can be helpful for learning.	4.59	0.66
Using VR games can improve my learning in school.	4.39	0.76
Learning to use Virtual Reality is not a problem.	4.59	0.66

Favorite focus group quote...

How did your experience with VR compare to typical school activities?

"When my phone buzzed in my pocket, I did not care to answer it. In any other class, I would have checked it immediately."