Making Virtual Reality a Reality in Today's Classrooms

Teaching with AR & VR

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The market for virtual reality applications is growing at a rapid pace, and is expected to double in the next five years (Bolkan, 2017). As the cost of equipment falls and schools have greater access to technology, there is great interest in virtual reality as an educational tool. A small but growing group of educators have started to integrate virtual reality in their classrooms, with promising results (Castaneda, Cechony & Bautista, 2017). We reached out to teachers and administrators who are currently using virtual reality in their classrooms to hear their perspectives and practical strategies for infusing this resource into their classrooms.

Here we share three vignettes of three different approaches: a social studies class in a suburban school district, a district-wide perspective from an urban school district and a class designed entirely around understanding and implementing VR for other classrooms. We also share how we are using these ideas to inform our own project in designing a collaborative immersive virtual reality educational game for introductory high school biology.

Exploring the World from Within the Classroom Walls

Part of learning about immigration in Melinda Lohan's high school classroom in Medfield, MA is a virtual visit to both Ellis Island and Angel Island. "Most of my students have been to Ellis Island, but most haven't been to Angel Island", Lohan explained, "They can see two entry points for immigration and how it has changed based on the current political climate."

Lohan has been using virtual field trips in her class for three years, after being introduced to the experiences during a digital learning day sponsored by the technology specialists in Medfield. Students use their own phones during the activity, and the school supplies the viewers. Initially, there was some turbulence. "The first time I tried it, it was totally a disaster. The WiFi didn't work, the students could not get set up.."Now she asks her students to download the field trip app to their phones on the first day of school as a

homework assignment and asks the students to keep the application on their phone or accessible in the cloud for easy access. "The more you can set up in advance, the easier it will be."

Using a flipped classroom model, Lohan's students watch her lectures on YouTube and do their notes at home, which gives them time to focus on activities during class. She provides guiding questions to keep them focused on the learning objective but lets students choose how they watch the virtual reality field trips. "There is a lot of movement in the field trips and so they can get dizzy. I let them do what they want — stand, sit, lie down on the floor. I also have a screen so they can mirror a phone for the group in case the WiFi cuts out." Lohan's experience with virtual field trips is evident when she quickly adds, "I make sure to tell the students to turn off their notifications before they share their screen with anyone. Once I didn't tell the kids to turn off their notification, and a snapchat came up while we were looking at one student's phone. She was mortified. So, now I always remind them at the start of class." The school helpdesk, staffed by high school students, also provides support if the WiFi is variable or the devices are not working properly.