Experience, Immersion and Critical Distance: VR/AR in Education

It's a truism to say that we learn through experience, but it seems that each generation must reinvent the wisdom and significance of this key idea in education. Today we talk about presence — the ability to transport the viewer into another world. This is arguably the real appeal of VR/AR.

Throughout history, we've always learned best by being metaphorically transported through interacting with the storytellers of our culture, around the community campfire. Today, games, film and visual media provide forms of storytelling that may function as mediated experiential learning, where through a combination of images, sound, music and interactivity, people feel engaged with characters and situations, and making decisions, taking action, and analyzing and solving problems. George Gerbner, a media scholar and educational leader at the University of Pennsylvania once considered mass media to be the central educational institution of the culture. By skillfully combining entertainment and information, learners are invited to empathize with the protagonists of movies and TV shows and feel connected to their experiences, applying the lessons of the protagonist's experience to their own lives.

Today, educational technology continues to enable educators to tap into the complex power of media for active learning. As we notice how this generation is unresponsive to lecturing, we're now seeing teachers create learning environments that require their students to access, analyze, create, reflect and take action, using a variety of print, visual, sound and digital texts, tools and technologies.

As part of a dynamic paradigm shift in education, educators are now recognizing the full potential of educational technology to transform sit-and-listen pedagogies of traditional education's transmission model with both the try-and-explore pedagogies of gaming and the create-to-learn pedagogies of digital media.

Prof. Renee Hobbs exploring META, an AR device

By combining the features of gaming and digital media to support learning, VR/AR offers us a 21st century return to Dewey's dream of learners immersed in real world actions, learning from experience and reflection on action. After all, if transformative learning experiences are what enable people to reach their full human potential, VR/AR may stimulate new appreciation for restoring immediacy and intimacy to experiential learning, in its mediated and interactive form.

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Immersion vs Critical Distance

Of course, wearing a VR/AR headset and exploring a virtual world is not the same as real-world experience. The VR/AR experience has been carefully crated and constructed. All media are constructed, and VR/AR is no different. When a student uses the New York Times virtual reality journalism app to explore "The Displaced," which depicts a Syrian refugee camp in Lebanon, he or she feels a sense of being there, but this illusion has been produced at great expense by a team of photojournalists, editors and computer programmers. Immersion just doesn't happen: it's produced.

Unlike the filmmaker or photojournalist who can simply record action at the scene, the virtual-reality filmmaker must involve the subject in an elaborate choreography of action to create the illusion of immersion. A subject may be asked to repeat an action, the scene may be staged or arranged to meet the needs of the 360o film equipment. The intense visual simulation of these powerful illusions may interfere with efforts to craft balanced and fair narratives. The deep immersion that VR/AR provides may interfere with recognizing that media are selective and incomplete and always represent a particular point of view.

And even more troubling, given that people's understanding of reality is shaped by Hollywood, Madison Avenue and Silicon Valley, it may be that VR/AR inevitably achieves its sense of "realism" by approximating the realities represented in advertising and propaganda, action adventure movies and first-person shooter games. Media scholars have long recognized that people may see mediated "reality" as more real than their own lived experience. After all, this is what leads many people to represent themselves as celebrities of a sort on social media.

The rise of VR/AR in educational technology may offer the potential to bring educational technology in a closer relationship with the fields of perceptual psychology, communication and media, and cultural studies. This is an important goal.

As educators use VR/AR technologies for learning, they will be compelled to also provide their students with an understanding of how VR/AR works. By helping students to critically analyze and deconstruct virtual reality, they discuss how and why the illusion of presence is sustained. This, then, changes the way we use the media.

A pessimist might argue that VR/AR is just another way to restore the power to large technology and media companies towards more control over the content of the curriculum. One can easily imagine a state-of-the-art virtual reality app, as expensively produced as a videogame and underwritten by an oil company, taking students into the aftermath of an oil spill and offering us a great science lesson with a powerful and immersive illusion that showcases the company's efforts to be a good corporate citizen. Such efforts are misguided forms of propaganda that will not improve education.

But nearly from the moment they experience it, students and teachers alike always ask, "How can I create a virtual reality experience myself?" An optimist might recognize that, instead of positioning educators and students as the simply the receivers of education technology products, the rise of VR/AR may align with the power of create-to-learn pedagogies and embrace our capacity to be content creators.

Prof. Renee Hobbs, teachers and developers, collaborating to develop an AR educational solution

Learners now expect to "talk back" to media and this expectation should shape the future of VR/AR. I imagine a future where VR/AR in education helps learner and teachers represent our unique and subjective lived experiences to one another in ways that build our capacity to gain knowledge, embrace ambiguity and respect cultural diversity, and better care for the lives of others.