

Podcast Transcript

Clip 1 – Fun AD

Looking to engage your students in their learning? To bring your lesson to that next level? We think, video production is where it is at. We will help you narrow down your googling time to find that right video for your topic specific course. This website has been curated by only the finest MET students from the ETEC 532 course. These videos are varied in topics and provide curriculum frameworks. There are annotated bibliographies to provide the teacher with more detailed information about each source. Hold on, but as any good teacher wants to know, how do the students engage. Well, we have that, too, we have a whole section dedicated for students who want to explore video production tools and resources. We want to empower teachers and students in this avenue of texts and technologies. Visit our website ETEC532video.weebly.com to get an exclusive deal to obtain these resources for free. Make your lessons the next big thing. (Harustiak, et al., 2020)

Clip 2 – Terminology for the listeners

Before we begin, there is some terminology we will be using throughout our podcast that we would like to ensure our listeners understand. Welcome to some commonly used words in the world of virtual reality, also known as VR.

They are:

iVR - immersive virtual reality (Southgate, 2020)

Head-mounted display or HMD – includes goggles or a helmet. (Southgate, 2020)

Simulator sickness (or cybersickness) is when your brain and body conflict with what is happening in the virtual world and what is happening in the real world. It can lead to motion sickness or vomiting, and so on. (Carson, 2016 & Southgate, 2020)

Haptics – it is like you are touching something. It is using your tactile sense. (Carson, 2016)

360 video – fixed point and surrounded by 360 degrees of video, like YouTube 360 (Carson, 2016)

Clip 3 – Welcome

For MET Times – I'm Anna-Marie MacPherson. This is the very first episode of Virtual Reality in Reality. Today, we will explore and examine the history, successes, drawbacks, and future of implementing Virtual Reality into the classroom.

Clip 4 – Introduction

ETEC 540 course is based on the concept that text and technologies are ever-changing. As the human species evolves, for good and evil, so too has text and technologies. Therefore, one has many choices when interacting with technologies and envisioning both text and technologies as products from the past into the future.

As a student who had to record notes via the overhead, the technology of my time, I wanted to believe there must be a better way to engage the learner in the process of learning.

I did not know that technology and text are so intertwined that I created a technology by recording notes.

However, this form of technology did not serve me well to retain the content. From this experience and my experience playing engaging learning games, such as *Where in the World is Carmen Sandiego*, when I became a teacher, I wanted to make learning more accessible to the students. Therefore, this is where my love for integrating technology into my teaching has blossomed.

Clip 5 – What is VR?

If you have stumbled on this podcast and are unsure what virtual reality is, let me explain. As described by the University of Toronto, this immersive technology describes “the use of computer technology to create a simulated environment which can be explored in 360 degrees. Unlike traditional interfaces, VR places the user inside the virtual environment to give an immersive experience.” (University of Toronto, n.d.). So imagine you have always wanted to swim with sharks or visit Machu Picchu, well you now have the opportunity to do this without leaving your classroom. Now imagine you want to take a course at a faraway post-secondary but do not have the means to afford on-site living expenses; these are some of the possibilities that can arise from VR. The imagination and engagement and immersive learning with this technology have the potential to be endless.

Clip 6 – History of VR

To understand where we are with VR and its potential, we must know where it came from; yes, folks, this will be a quick VR history snapshot. In her book titled "Virtual Reality in Curriculum and Pedagogy - Evidence from Secondary Classrooms" (2020), Erica Southgate has described that we can date 3D technology as far back as the 1800s, as the stereoscope. A stereoscope was "a handheld device that allowed people to look through lenses to view a 3D picture formed from a dual (stereo) image" (Southgate, 2020, p.10). It could be similar to my generation's toy called "View-Master" (Southgate, 2020, p.10). So, if you did not grow up with a View-Master, go ahead, and take a moment to google it, get that image in your head. Now that you have that image in your head let's stop here for a minute and have a "what if" moment. What if this podcast was projected into a VR headset, and you were listening to my voice? At the same time, I project images while immersing you in a room with a View-Master. You had the chance to interact with terms and items that will be presented in this podcast. This what-if moment could become so much more valuable, as noted by Sharma (2019), as it allows the "student to visualize educational material in a unique and innovative manner" (p.1). Now back to the history. Some other interludes with a stereoscope had tactile and aroma incorporated in the 1950s right through to the 1980s (Southgate, 2020). However, with the coining of the word "virtual reality" by Jaron Lanier, the idea was physically manifested into a tangible headset and haptic gloves (Southgate, 2020). From there, big gaming companies, such as Sega and Nintendo, dipped their toes in the water but with little success until private companies' emergence of multiplayer gaming and investment into the technology and hardware (Southgate, 2020). From here, we

could explore if VR in the classroom and immersive opportunities will blossom at the school.

Clip 7 – Strengths

VR's strengths can create a classroom limitless with potential. VR can stretch beyond the room where it is being used or by whom is using it. As I mentioned at the beginning of this podcast, I was a student who could not grasp the content in my classes by merely taking notes. However, as I played around with technology, I have found that I grew into an adult who appreciated learning through various multimedia formats. I took this and decided to want my classroom to be similar. I wanted my classroom to resemble an area where audio, visual and kinesthetic learners can grasp the content.

Now imagine a classroom where each student can engage their learning through a tool that hones in on the best way they learn. At this moment teachers have to diversify their singular lesson plan to meet the needs of 30 different learners without necessarily working in unison towards an end goal. In the world of VR, Southgate (2020) has recommended a model of "Conceptions of iVR for learning" (p. 38). Alright, here is another "what if" moment. Since this is a podcast, and we don't have images, this what-if moment will ask you to create a picture in your head. The image is of a compass with the directional navigation of N, E, S, W. Now image the compass as a circle. Around the circle, you have four individual circles connected by solid lines. In the first circle, think of it as the N on the compass; it has a circle with "total learning environment" written inside. Another circle is located on the E, and it has written in its "learning tool." Then on the S, this circle has written in it "an experience." Finally, on the

W, this circle has written in its “immersive digital media” (Southgate, 2020, p.38). All of these circles are connected by lines that connect each one. Wouldn't it have been fascinating to have been immersed in iVR, and instead of me having to give you a word-for-word description, I could have you click on the compass in the room. It would project a picture of this model. This model encompasses the notion that students will extend their learning and strengthen their connections to the material if they can be immersed at the moment.

Suppose educators are willing to move beyond the notion that "tech is a tool" (Southgate, 2020, p.37), believing that the tool must have a learning purpose instead of acknowledging that the device will facilitate learning. In that case, the classroom teacher will create creating lesson plans and projects that afford students the capabilities to "demonstrate knowledge mastery and/or ability to collaborate, communicate, or problem-solve" (Southgate, 2020, p. 38). As educators, this model can help us understand how to create immersive and deeply impactful learning giving students the chance to think beyond the limits of their textbooks and explore their imagination with the possibilities. As educators, we need to grow from our innate comfort zone of understanding technology in the classroom as passive or active and instead move towards "choreographing learning" with the help of iVR (Southgate, 2020, p. 39).

Clip 8 – Limitations

As a teacher and master's student, I would be remiss not to speak to the limitations of immersing a classroom into the world of VR.

As with many new forms of technology and integration into the classroom, research on this topic is limited.

Southgate (2020) noted that many of the research papers, were merely descriptive in manner, as iVR has only recently become affordable to create focus groups for more quantitative and qualitative studies.

A more rudimentary concern a classroom teacher may have about this technology is the notion that students could experience simulator or cybersickness (Southgate, 2020).

The classroom teacher must vet the content that will appear in the VR HMD and determine the potential for students experiencing this form of motion sickness.

A more significant concern and topic that needs further research is the privacy aspect related to private companies and their vested interest in this technology. Privacy is a genuine concern in the world of education, as school districts must abide by the privacy laws enacted in their state, province, or country. Therefore, it must be examined that more thorough research is necessary. Such technology can expose students not only to harmful content applications but afford these private companies the capabilities to “collect information by filming” with the technology that is known as “pass through” (Southgate, 2020, p.18). Pass through technology allows the user to put the headset on while still able to see their surroundings before immersing themselves in the application. Southgate (2020) reported that “[t]he integration of biometric data collection into VR and other immersive technologies represents profound consent and privacy challenges. This coupled with lack of transparency regarding if and how this type of data is being

collected by manufacturers of iVR equipment and software developers.” (Southgate, 2020, p. 18).

Therefore, these concerns may be enough for a school or district to decide the consequences outweigh the benefits afforded to the students.

Clip 9 – What is currently happening with it?

What about now, how is VR currently being used in classrooms? Let's use science as an example. VR can enhance the mundane "safety" unit from a worksheet to engaging the students with the essential functions of the lab and its equipment while avoiding accidents and wasted materials (Theodoropoulou et al., 2019). Where VR has been integrated into a high school science classroom, Southgate (2020) remarked that students in a controlled study of biology class were able to self-regulate, demonstrate higher-order thinking, and collaborate with others while pushing "the boundaries of learning science through symbolic and creative endeavour" (p.71).

Drama is a classroom that one would wonder how to integrate VR. However, that is precisely what one teacher did (Southgate, 2020). The teacher wanted to expand the minds of their students and have them understand how to work collectively while working collaboratively towards an end goal of creating a play (Southgate, 2020).

As a teacher myself, VR has the potential to transport students from my classroom, such as Psychology, into the realm of VR, where they can take on the persona of John Hall and understand what it can feel like to be blind (ARTE France, 2019). Students in my Social Justice class can sit at a famous diner in Washington DC, listening to intimate

moments as they "reflect on their experiences of restricted movement and race relations in the U.S." (Oculus, n.d). The VR world can take a person from reality to an artificial world where they can enclose "their senses to such a degree that they feel as though they are there" (Southgate, 2020, p. 123). The possibilities are endless if the educator is willing to understand that it is not VRs principal function to be a tool with a learning purpose. Instead, it gives students the chance to explore while innately learning or mastery skills while being aided with the device.

With travel restrictions still in place throughout many parts of the world, the potato farmers of Prince Edward Island have created a marketing campaign that involves using 360 goggles. They have sent these goggles to major retailers. These goggles include several short videos to demonstrate the process from seed to ready for shipment (Canadian Press & Edwards, 2021). This unique campaign gives virtual reality a place in the import/export business. But, I beg the question, if this avenue is being explored beyond the realm of hobby gamers and used as a marketing strategy, why wouldn't a teacher want to implement VR in their classroom. The teacher, and school, could be setting up their students for success in the business world for jobs; we can't even fathom at this point.

Clip 10 – Where are we going

As we have explored the world of VR and all that it can currently offer, I have to wonder if your mind has begun to wonder about where do we go from here? We have come through a global pandemic where most educational institutions were forced to move to an online learning platform. It was becoming evident that education, previous to COVID

needed a change; it was just a matter of time. Although some have grown tired of classroom zoom meetings and online working, many have not, through choice or requirement.

Therefore, as individuals stayed home during the pandemic and began to live more in the digital world, Facebook took a gamble and introduced “Horizons Workrooms” in August 2021 (Isaac, 2021). This leap forward has moved an industry mainly used for hobby gamers into the realm of possibilities that VR could be used in a more meaningful and contextually based manner. This possibility can gear the educational system towards creating similar-based classrooms. Sharma’s article recognizes if we make an immersive educational platform that provides interactive functionalities while reducing the cognitive load, we have the potential to conceptualize abstract theories (Sharma et al., 2019). Suppose we can lead students to the table while engaging them in abstract theories through the iVR experiences and lead them to a world beyond problem-solving. In that case, we can create students who can participate in design speculations and “can act as a catalyst for collectively redefining our relationship to reality” (Dunn & Raby, 2013, p. 2).

Clip 11 - how many references?

Include phone ringing

Anna-Marie: Hi Bob!

Bob: Hi Anna-Marie!

Anna-Marie: You know why I’m calling. So Bob, how many references do we have for today’s podcast?

Bob: Well Anna-Marie today, for our first episode we have 16 citations.

Anna-Marie: If people want to get these citations or learn more, where should they go?

Bob: They should go to www.blogs.ubc.ca/etec540amac/final-project if they want to explore more.