Title: The Metaverse and Citizenship Education

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Pull out quote 1: We as educators urgently need to get on board and upskill ourselves in the language of the metaverse – because many young people are already there, or will be soon.

Pull out quote 2: Currently for most users experiencing the VR world there is no smell, taste or touch, and you can't move very much. But these are all coming.

Pull out quote 3: There are real world risks and benefits too.

Pull out quote 4: I'm fairly sure ACT would be interested in collaborating… to make the metaverse democratic.

Editor/designer – Image for this article stock photos of users wearing VR headsets. Something like this: https://www.google.com/imgres?imgurl=https%3A%2F%2Fi.ytimg.com%2Fvi%2F2VkO-Kc3vks%2Fmaxresdefault.jpg&imgrefurl=https%3A%2F%2Fwww.oculus.com%2Fblog%2Fintroducing-hand-tracking-on-oculus-quest-bringing-your-real-hands-into-vr%2F&tbnid=ndgdZy9eDKWiRM&vet=12ahUKEwjch--UuMH3AhUIUBoKHV8IDtYQMygMegUIARDVAg..i&docid=0eLD6fXrboeIZM&w=1280&h=720&q=vr%20headsets%20wireless%20hand%20tracking&ved=2ahUKEwjch--UuMH3AhUIUBoKHV8IDtYQMygMegUIARDVAg (note non-white woman, no controllers, in corporate office space)

Intro:

In this article Hans dives headfirst into the metaverse, thinking about its potential impacts on citizenship education and why it is essential that teachers upskills themselves to enable improved teaching of critical media literacy, rights and democracy in this new space to ensure hope wins over dystopia.

Article Begins:

Imagine coming home from a heavy day of teaching, and wanting to escape it all. So you decide to go to Santorini for the evening. Or you want to learn how to play the guitar but can't be bothered to buy a guitar or go out, or even let someone come to you. Actually you've had enough of the planet completely – so you decide it's time to go to the international space station to float and ponder on the meaning of it all. Or you need to freeze time and become an FBI agent, or a racing car driver, or you love rollercoasters and need a good scream to get it all out. Sounds like a fantasy doesn't it? You can do all of this now in virtual reality (VR). You can go skydiving and feel like you are falling out of the plane. You can see climate change impacts in Antarctica. You can learn to operate on a human being, fly or dance with a room of revellers. You can watch films or music videos in 2D or 3D on the largest cinema screen you've ever seen (heralding the end of the real deal?) – and turn around to see the avatar representations of people behind you. Real people. In fact forget screen based online teaching, you can teach in VR.

Trying to explain what Virtual Reality has become is almost impossible. You need to experience it. I do encourage you to do this, find someone somewhere that has a headset and teach yourself. At home we have a headset and were totally blown away by the technology, friends thought we were a bit daft until they tried it out. This article is an attempt to express to you why we as educators urgently need to get on board and upskill ourselves in the language of the metaverse – because

many young people are already there, or will be soon and we must be in a position to help them navigate these complex places. There are many positive opportunities in the metaverse, but just like the internet there are many, many risks.

For the totally uninitiated, to experience VR a user puts on an enclosed headset over the eyes, often they have in-built speakers or you use headphones. Some can be plugged into a computer or console and others are totally wireless. Some have controllers to navigate the virtual environment, others use haptic gloves or just your real hands to enable interaction. When the device is on, everything you see is within the world of the computer. Many think it's just like a computer game – but the technology now is far beyond and rapidly progressing, yes you can play 360 degree computer games but you can also watch 360 videos or be in a blank space and design objects including cars or buildings. For those that are becoming familiar with the technology, did you know its usership is exponentially growing and it's estimated to be worth $200billion by 2026 with about 200 million users (Mordor Intelligence, 2022 and Carter, 2021). For the sceptics – yes there is a long way to go for it to become mainstream, yes it could be only a 'venture', but in 2008 Facebook had 100 million users and now it has almost 3 billion. In 2021 Zuckerberg spent $10 billion on investment in the metaverse. That's a heck of a lot of money to waste if it's just a pipe dream (Isaac, 2021).

Currently for most users experiencing the VR world there is no smell, taste or touch, and you can't move very much. But these are all coming with user friendly haptic gloves, taste & smell technology, omni-directional treadmills and even mind-control (although rudimentary the latter is disconcerting) (Stein, 2022, Reuters, 2021, The Digital Threat, 2021, and SmartVR Lab, 2021). The technology that exists at the moment enables one to see almost a 180 field of vision (human beings see at 220), hear 360 degree sound, be able to turn in any direction and interact with items within this space, most devices enable your real hands to be tracked, you look down and see your hands in a computer world. You do feel as though you are moving, your brain is often fooled into thinking you are actually in the VR world – this can be frightening and nauseating. You can even map real objects into your environment, blending AR within the VR world creating XR. For example plugging in a real keyboard so you can type, but see 6 monitors in the VR world for new frenzied multi-tasking. Just consider smart devices that can be connected to the VR environment and what that could do for chores or home shopping. Some VR headsets currently enable the exterior world to be seen through cameras into the headset, so it does not need to be removed. Who knows with all of this going on one day we might never need to leave the home, creating the simulated universe some have speculated about. The really strange thing is our science fiction seems to have galvanised us to create our potential science reality or as many would see it, dystopia.

Deepfake and artificial intelligence technology is making this virtual reality landscape even more insidious. Deepfake technology has been associated to pornography, replacing the faces of pornography performers with faces of other people such as celebrities, more recently though it has been used for media reports from the war in Ukraine showing a video of Zelensky calling for Ukrainians to surrender (Burgess, 2022). While it was an odd video – and could be seen as such and easily debunked, the technology is rapidly improving and as 60 minutes reported in 2021 (see resources box) may have chilling consequences for how we are able to verify news sources in the future. Artificial Intelligence speeds this up, not only are we developing software that can learn how to improve itself through analysis of reactions to images, but that can then be used to improve the deepfake videos made, through automation. Combine this with filters or AR elements that many use in Snapchat and Instagram or the photo edit features to 'disappear' people or distort faces and put this into a VR landscape and I hope you can start to realise why we as teachers need to learn how to use this technology as we are entering a new era for critical media literacy.

There is a platform in the emerging metaverse called Roblox originally built for phones and other devices but now accessible by VR headsets as well. Within this platform a user can create a 'game' and then invite others to join it and try it out. The positive adjunct to users having fun is that this can be used to share a huge range of information, and experiences, to democratise learning and knowledge to explore different perspectives quickly and easily and draw together activists. The risk is that this can be used to exploit the vulnerable including through the sexual exploitation of children (Stonehouse, 2021), and just as it can be used to develop democratic spaces for activism and creation it has been used by the far right and other extremists (D'Anastasio, 2021). The platform itself has been criticised for the financial exploitation of children, when parents and children have not been aware of employment or other transactional based laws (Parkin, 2022). It's not only in Roblox where these things can occur. When users enter the VR world and shared spaces like movie theatres they can create an avatar, and then interact with others with this avatar. They can type, gesture and speak. They can manipulate their voices to sound older or younger, or that of a different gender. Clearly navigating such software experiences needs education around safeguarding, countering violent extremism and human rights based pedagogy.

VR can be used to help with addiction, phobias, mental health and other elements but a current limitation is that it can't be used for too long without headaches, blurred vision, dizziness or disassociation, a limitation I am sure will be reduced as the technology improves. I do wonder if that improvement will lead to a rise in 'hikikomori' (persons who withdraw completely from society) and what that would mean for exploitation, grooming or scams. There are real world risks and benefits too, for the risks; a different take on data hacking and data privacy problems; a further class division, those that have good quality VR, are NFT wealthy and those that do not, and then those that are still living in the real world with resources, and those that are living in the real world with limited resources and no access to VR. Think about the benefits of how it could change protest movements, navigating future pandemics, or other global disasters. Think about how this intersects with human rights, knowledge and access to these.

As educators we know of constructivist pedagogy – VR takes this to a whole new level. There are a huge wealth of positive possibilities, including for creating new experiences where we can share and learn, thinking about empathy, and developing compassion – seeing different perspectives through someone else's experience like in Leon Oldstrong's Virtually There Movie, or considering how to improve biodiversity, or problem solve disasters. We can come together to see our avatars in 3D as opposed to just on Zoom and have meetings, including developing a form of 360 worldwide assembly movement. We can learn about the Houses of Parliament through an interactive video, or simulate robotic surgery, the latter which is already being used by Barts Hospital in London – including for real remote robotic surgery (Evenstad, 2017). Think about how we can enable users who are unable to travel, to experience the world around them to connect with others, to protest, pressure or lobby. Imagine what we could do with VR if we enabled different people to come together virtually to discuss their ideas, to interact and showcase their stories, perhaps through immersive film or rooms where marginalised groups could connect with each other and allies across the world, where we can see the reactions of people we are having dialogue with, where the anonymous trolls on chatrooms have a face or reputation – perhaps purchased through NFTs.

This piece is not endorsed by Meta, the new company name for Facebook, but I'm fairly sure ACT would be interested in collaborating with it and others to make the metaverse democratic. A threat of the metaverse – (at the time of writing it is not controlled by the company called Meta) is that the internet could become a fully controlled space. At the moment despite governments around the world increasingly controlling access to the internet, and companies such as Google being the

gateways to it, the internet is still free, open and largely democratic – most people can use it and add content to it with a range of devices (Shahbaz and Funk, 2021). One of the many concerns with the metaverse is that the main players within this new version of the internet are those creating the hardware in which to access it. This hardware is becoming more and more affordable, in some cases cheaper than other gaming consoles and TVs. But if only a few organisations control the access points and the operating software to use it, and they retain the personal data of users, then the internet will no longer be a democratic space, it becomes a corporatocracy which has very real dangers for the real world. Recently Elon Musk put in a bid for the controlling share of Twitter, he described the platform as enabling humanity to discuss crucial issues. The statement seemed hyperbolic, however if Twitter is one of the few players within a VR landscape – and the VR world is the next iteration of the internet – he might be right.

As educators it is our responsibility to prepare young people to be able to navigate in these increasingly complex times and realities. At the moment the metaverse and some of the software technology mentioned here is not universally experienced, but as the technology improves the access will become easier and more commonplace. I have suggested some of the concerns, and it does not take much to imagine others. However, if we teach young people effective citizenship education including open source and ethical coding, up-to-date critical media literacy, if we enable young people to know and use their rights and be active in democracy perhaps the metaverse can become an inspirational revolutionary environment that helps us all to engage with each other in the real world more effectively. Perhaps.

Definitions

[(Box) Editor/Designer: Put this near the beginning, on the first page.]

There are a range of new terms to manage so here is a list to help:

VR: Virtual Reality, an entirely immersive virtual world, with varying degree of peripheral vision (field of view) and depth.

AR: Augmented Reality, digitised elements seen through a device in the real world.

XR: Extended Reality, real elements within the virtual world. Like a sofa, work desk, or fridge.

XR/AR Control: Being able to interact with the real world while within the AR/XR world. For example, for surgery.

Haptic Gloves: Gloves that enable items to be felt.

VR Mind Control: An interface that enables control in the VR world through the power of the mind, sensors placed on or even in the brain to do this.

Immersive Film: Films shown within the VR world that are 360, the interaction is controlled by the film and not the user.

Metaverse: The 3D internet.

Deep Fake: Using software to map one person's image onto another.

AI: Artificial Intelligence, while there is the Sci-fi version of AI, in the current form AI is machine learning that speeds up processing, and automation).

NFT: Non-Fungible Tokens, a unique token that demonstrates ownership of an asset that only exists in the digital world.

Avatar: An electronic image of a user, that can be created by the user to look like anything they want.

Resources Box: A few resources to explore the possibilities:

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Books:

Ernest Cline: Ready Player One (2011) (Fiction)

Aldous Huxley: Brave New World (1932) (Fiction)

Phil Jones: Work Without the Worker: Labour in the Age of Platform Capitalism (2021)

Leon Oldstrong's Virtually There (See review by Aroosa Azam, and get to experience it for yourself on at www.virtuallytheremovie.com

60 Minutes: How synthetic media, or deepfakes, could soon change our world (2021) https://www.youtube.com/watch?v=Yb1GCjmw8_8

The Verge: NFTs and the $13B marketplace, explained (2021) https://www.youtube.com/watch?v=H3TABd_nBJU&t=18s

Interactive Experience that can be used in VR too: https://www.lyfta.com/ supporting 2022 ACT Conference

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