The Ideological Dilemma in Using Games in Global Citizenship and Development Education

Paul Keating
Technological University of the Shannon, Clonmel, Co Tipperary, Ireland

paul.keating@tus.ie

Abstract: The objective of this paper is to contribute to discourse informing the use of computer games in Global Citizenship and Development Education. In doing so, it addresses the incompatibility and conflict between the values imbedded in games and those informing development education practice. It is aimed at both formal and informal educators who see the potential in using games in their practice and want to reconcile this dilemma. It is also aimed at policy makers and influencers who want to shape the structures governing such digital spaces in the public interest. The research involved an interdisciplinary literature review across the fields of Education, Game Design, colonialism and social activism. The analysis takes a postcolonial perspective and is informed by the theory and practice of critical pedagogy in youth work and development education. The study was conducted as part of Doctoral research and project work with NGOs over a seven-year period to 2024. In this context it is important to note that this is a rapidly changing and evolving sector. The development of computer games and immersive technologies over the past 20 years has been transformational, in their interactive capabilities and global proliferation, particularly with the emergence of "The Metaverse". Such expansion has been critiqued as a process of Colonialism, where young people's time, creativity, identities and attention is being commodified, monetised, packaged and sold to the highest bidder. The structure of the games industry, their content and the ecosystem surrounding gaming are all ideologically driven. Such ideology aligns with one of three systems: the neoliberal hegemony emanating from transnational corporations and market economies; the state control being exerted by China and others; or a blind commitment to opensource being advocated by many industry innovators, developers and users. When using games in an educational context, and particularly when addressing Social Justice and Global Citizenship, the values and cultures underpinning all three of these ideologies are problematic. It is the contention in this paper that such spaces can also be developed as informal educational spaces informed by values aligned with critical global citizenship and development education. Now is the time for development educational practitioners, conscientious games designers and policymakers to collaborate, to act, to legislate, to experiment and carve out a safe, progressive, dynamic, decolonised digital space for engagement with issues of global citizenship and development education.

Keywords: Development Education, Global Citizenship, Decolonisation, Metaverse, Games Based Learning, Critical Games.

1. Introduction

The Research for this paper was undertake as part of a literature review looking at the use of computer games in global citizenship and development education it also sought to inform a project to develop such a game with Trocaire, an international NGO based in Ireland. Its objective therefore is to inform Games Designers and Development Educators about the ideological drivers informing and shaping both games selves and the games industry. While there are many critical perspectives which could be taken in analysing games, colonialism and decolonisation are a key part of current discourse on development education.

The subject of this paper is computer games and their application in global citizenship and development education. It will open by defining both terms and looking at the use of games global citizenship and development education and their evolution more broadly as a social economic and cultural phenomenon. This will be viewed through a Colonial critical lens highlighting the challenges in using this medium to understand and address oppression when indeed, it has become an instrument of such oppression. The paper will conclude with a presentation of decolonising initiatives within games and will highlight principles which should be applied is reconstructing gaming as a medium for global citizenship and development education.

2. Global Citizenship and Development Education

The term "Development Education" is used in Ireland to describe initiatives which engage people with issues of Global Justice and Sustainable Development, "*…aiming to bring about positive change, informed by values of equality, diversity, sustainability, human rights and responsibilities.*" (IDEA, 2017). The Irish Development Education Association suggests this should start by encouraging people to understand and challenge the cultural, environmental, economic, political and social causes of poverty and oppression. The international NGO, Trocaire adds that "Development Education" should be an active and creative process which encourages optimism, participation and action for a just world, "*engaging children, young people and educators through a process of interaction, reflection and action.*" (Trocaire, 2017).

While "Development Education" is often used in its own rite it is also used as an umbrella term to describe a range of initiatives with similar aims but often using different descriptive titles and definitions. Such terms include "Global Citizenship Education", "Global Education" and "Education for Sustainable Development". In this paper I have chosen to use the generalised phrase "*Global Citizenship and Development Education*" which emphasises both a development and political imperative. Games are widely used in this sector to raise awareness, build understanding and encourage critical analysis (Keating, 2022). The next section will explore the background to how games have been used in this context and more broadly how mainstream games have evolved, highlighting some of the challenges inherent in their approach to development.

3. Social Simulation in Educational Games

Salen and Zimmerman (2006) (2005: 80) define a game as "*… a system in which players engage in an artificial conflict defined by rules which result in quantifiable outcomes*". Jesper Juul adds to this definition by focusing on the agency of the player, who, in applying understanding, effort and skill can positively affect their progress in the game. The player therefore feels attached to the outcome of the game and they relate emotionally to what happens (Juul, 2011).

During the 1950s and 1960s extensive work was done on designing and using games within higher education and the NGO sector to raise awareness, build understanding and encourage a critical analysis of development issues. Academics such as Harold Guetzkow (1996) and William Gamson (2013) developed games which exposed students, over prolonged periods, to simulations of complex international relations (Inter-Nation Simulation, INS, 1966); the mechanics of domestic conflict and social movements in the USA (Simulated Society, SimSoc, 1966); as well as global justice, sustainable development and macro-economic systems. Local planning authorities and NGOs in the UK developed a series of very elaborate simulation games to encourage collaboration between civil society groups and state agencies around issues of environmental conservation and urban planning. Taylor and Watson (1978), Gamson maintained that such games "*open up the world to vicarious experiential learning,*" (2013; 616). While his games are physical role play games, he acknowledged that the future of such simulations lie in computer games within virtual environments.

An early example of the use of computer games in development education is identified by Bogost (2010). "Save the Whale", a game designed for Atari in the mid-1980s, involved the player in the role of Greenpeace, attempting to prevent whale poaching. The 1980s saw the growth in single and dual player games such as the classic Space Invaders and Pacman however, Mayra (2009) highlights the technical leap forward made in the early 1990s with the advances in processing power of home PCs and the integration of graphics cards and programming techniques which enabled the simulation of 3-Dimensional movement in gameplay and the exponential growth in the popularity of the medium.

4. Colonialism in Games

Many of the simulation games which emerged using this technology have similar themes to the physical ones developed as educational games. The "world building" genre of simulation games such as Sim City (1989) and Civilisation (1991), are commonly referred to as "God Games" (Poole, 2001). They were developed as entertainment products and have been very commercially successful. They place a strong emphasis on strategy and negotiating the complexity of interconnected social, economic and environmental systems, giving the player power to shape and grow their "worlds" (Mayra 2010:100). While acknowledged as a potentially powerful learning tool, commercial games inevitably compromise on realism in favour of entertainment value. Such games are often informed by questionable political values (from a global citizenship and development education perspective), rewarding hedonism, colonialism and economic exploitation, Penix-Tadsen, P. (2019). Herz (2001) posits that such games often allow players construct the physical layout of such worlds without considering underlying social tensions and the oppression inherent in colonialisation. For example, the domains in such games are often characterised as 'new worlds' and 'frontiers', limitless territory that can be determined and shaped by each individual player (Gunkel, 2018).

Other authors have been more forthright in their criticism of computer games, claiming that many are blatantly colonial in nature (Bastian et al 2015. Carpenter 2021, Skotnes-Brown 2019, Mukherjee, 2017 Mayar, M. and Schubert, S. 2021). Games series such as *Civilisation*, *Age of Empires* (1997), *The SIMS* (2000), *Oregon Trail* (1971), *World Of Warcraft* (2004) and others have, to varying extents, incorporated: a militarised prerogative to subdue; a cultural prerogative to civilise; and an economic prerogative toward domination. Carpenter (2021) refers to these as 4XGames - "Explore, Expand, Exploit, Exterminate". Games researchers have also highlighted

how many games embed narratives, imagery and gameplay which are, racist (Daniels, 2012, Nakamura 2009), sexist (Harvey, 2022, Flanagan 2009), exploitative (Wark 2007, Crocco 2011), aggressive and the encourage the erosion of empathy (Anderson C. A, et al, 2010, Fraser A 2012).

5. Proliferation of Computer Games

The most significant change since 2020 however, has seen a shift in public attitudes towards computer gaming. As a result of the pandemic, video games have gained legitimacy as a socially orientated media. This is despite sustained concern in the proceeding decades about deviant behaviour in games and unbridled extractive consumerism which pervade the narratives, the gameplay, the culture and the business model driving the computer games industry (Purchese, 2014). The World Health Organisation categorised video game addiction as a mental health disorder in May 2019, but less than a year later, they launched an initiative encouraging people to connect with friends and community through online gaming, #PlayApartTogether, (Lufkin, B. (2020). Research by Barr and Copeland-Steward, (2022) shows how online gaming became a social lifeline during lockdown, with a significant shift in patterns of play from single player to multiplayer socially interactive games. There is an ongoing debate that would frame computer games as both the addiction and the therapy, the poison and the antidote, the trivial distraction and the essential medium for social interaction (Keating, 2021).

In October 2021 Facebook formally rebranded to Meta. Mark Zuckerburg took that opportunity to formally adopt the concept of "The Metaverse", committing to spend $10 billion per year on technologies to enable it to happen (Isaac, 2022, Barr, 2021). The idea of the Metaverse, or The Metaverses, has been driven by the proliferation of computer games and related technology. It's definition is however, nebulous; utopian or dystopian depending on your point of view; real or imagined; here already, or another 20 years down the road. Some see the Metaverse as the future for human-technology interaction, others as a giant marketing ploy perpetrated by mega corporations to consolidate their power and their profit. Whatever one's perspective, there is momentum behind the expansion of the gaming "ecosystem" to create an integrated experience where people can work, play, socialise and learn in virtual world. A world envisaged in Neal Stephenson's 1992 novel "Snow Crash", when the phrase, "the Metaverse" was first coined, (Stephenson, 2022).

Such an ambition might have seemed fanciful even 5 years ago. However, recent developments in gaming, artificial intelligence and virtual reality technology, corporate restructuring in the sector, Covid and massive financial backing has made the prospect of an integrated, interactive digital environment plausible. Covid has accelerated this mass migration and has further defined it as a social rather than a solitary space (Barr, M., & Copeland-Stewart, A. 2022), a space which Mark Zuckerberg and Meta seem primed to develop, (McWilliams, 2022).

6. Who Controls This Space?

While the vision for a metaverse anticipates a unified digital experience, the reality is that there is limited interconnection between different applications. The discourse on the development of the games industry and the Metaverse is one of corporate control, mergers and acquisitions, territorial expansion, speculation with rising and falling share price, (Piccha, 2022). In 2014, the 100 million registered users of Minecraft found that ownership of their online identities, many of the assets they had created and the community they had built, transferred over night from Mojang, the Swedish start-up who created the game, to Microsoft (Makuch, 2014). With this success under their belt, Microsoft are now looking to do the same with the games company, Blizzard/Activision and their 400 million monthly users, (Warren, 2023). Also in 2014, Facebook began purchase negotiations with Oculus. During these negotiations they committed to ensuring that users of Oculus would not be required to have a Facebook account and they would not be subject to advertising. Since then, they have rowed back on both of these commitments and the BBC has reported on the anger of Oculus users who believe the company sold out to Facebook (BBC, 2021).

These examples illustrate that mergers and acquisitions in this sector have an impact beyond the purchase of technology, licences, databases, or even brands and customer loyalty. Gamers and VR users are often heavily invested personally in the Metaverse, they project their identities, socialise, learn, earn, create, and live, to a certain extent, *in this space*. This construct of games and the Metaverse as a space or even a "territory" is key to understanding the mentality of the community of users and the extent to which current developments can been seen as colonial in nature, (Smethurst.et al. 2023).

While the exploitation of the Global South by the Global North is being enacted in through games, Amrute (2019) points out that when we think about colonial relationships in this context, we need to treat the South as being dispersed across the globe. While most of the companies are based in the USA, so too are many of these being usurped, excluded, exploited and oppressed within, or because, of this technology. Hao (2022) cautions that the industries contributing to the development of the Metaverse may not actively proport slavery and the racist beliefs that dehumanized entire populations, they have, however, developed new ways of exploiting cheap and precarious labour. Exploitation within and through games extends beyond the financial as articulated in a 2021 report for the European Commission. This report highlighted the use of computer games and related platforms to recruit, indoctrinate and direct young people into violent extremism and terrorism (Lakhani 2021). This is not unexpected as such extremists have been very active in adapting digital media to their purpose, as can be seen

7. Governance and Regulation

in their use of the internet and social media (Duncombe, 2019). Games are particularly powerful as a site for radicalisation (Schlegel, 2021, Robinson and Whittaker, 2021).

Given the scale of social, economic and political activity involved in this ecosystem, concerns have been raised about control and regulation. The EU has highlighted challenges relating to the governance and geopolitical control of the metaverse. They present three possible models for control including:

1. Regulation and legislation overseen by the state;
2. Free, decentralised and open access for all;
3. For profit business control overseen by the tech companies, (Council of the European Union 2022:13).

In their assessment they see the USA favouring corporate control; China favouring tight state control, both vying for ideological dominance (Council of Europe, 2024). Alternatively, tech activists and innovators have traditionally been vociferous supporters of open access (Erickson, 2022). The EU report concludes that those who now take control of the building blocks of the Metaverse, whether state or corporate actors, are set to become its gate keepers in the future. The report closes with the unanswered question. "*Will there be a system of governance which will be subject to some form of democratic legitimacy?* (Council of the European Union 2022:13). A recent Forbes Magazine report entitled "*Will it be owned by corporations, or will the metaverse be a space in which people hold the keys to their own identity?*" (McCauley 2022) also draws attention to the current battle for control of our digital future. The term "Metaverse Manifesto" is being used by a range of opensource campaigners looking to keep an open, inclusive metaverse that empowers its inhabitants. (Dolata, M. and Schwabe, G. 2023; Buckley, C., Holley, D. and Fallin, L. 2023)

8. Decolonising Gaming

The term "Civic Gaming" has been used to describe simulation and role play which address social issues. Research undertaken by Oberle et al (2020), and Lenhart et al. (2008) indicate that young people who play such games demonstrate a more significant interest in politics and contribute more to charities than those who don't. Keating (2016) and Bastian et al (2012) highlight the value of such games in fostering empathy with those who are marginalised and in actively engaging young people who show limited prior interest in social justice issues. Flanagan (2020) expresses a higher level of ambition for computer games as a contemporary art form which can, and should, be used as a political tool to intervene, subvert or disrupt the dominant narrative within games themselves, the industry controlling them, and more broadly within society.

With roots in both a feminist reaction to the misogyny within computer games and returning to the critical analysis inherited from Guetzkow and Gamson, Flanagan (2010) reinforces the potential of the "Activist Game" or "Critical Game" and documents the emergence of games that address social issues in such a way as to explore notions of agency on the part of those who are marginalised and of the gamer in addressing injustice in the real world. Such Critical Games promote positive social change. Flanagan and Nissenbaum (2007) observe that progressive game design and its underlying technology, should emerge from progressive social values. They propose a framework, "Values at Play" (VAP) which encourages designers to consider issues such as diversity, justice, creativity and expression, inclusion, cooperation, equality and gender equity when conceptualising and developing games.

This commitment to the integration of critical social values is further developed by Schrier (2021) in her reflection on the games' development process. She highlights the importance of congruence between the objectives of critical gaming and the process by which such games are designed, developed and distributed.

Flanagan and Jakobsson (2023) highlight the emergence of decolonising games designed within communities to reflect on the experience of Native Americans. Ellwood Barnes (2021) sees the potential of computer games as a means of "*..reimagining traditional ways of knowing and being, and (their) transposition into the medium of videogames is survivance, a continuation of Native stories and Native life*",(Ellwood Barnes 2021). Mukherjee (2018) joins with Frasca (2001) and others in calling for the initiative in games design and development to be taken by the Global South and the power of the medium repurposed to the benefit of the majority of the world's population.

Penix-Tadson (2019) point to the shifting profile of those who play and make computer games towards the people of the Global South. He posits that Computer Games can be decolonial and refers to Mukherjee's ground-breaking 2017 study "Videogames and Postcolonialism: The Empire Plays Back" as highlighting how games can provide a medium of protest. Penix-Tadsen (2019) highlights how many designers have taken up this challenge, actively contributing to game cultures and designing games which acknowledge and engage with the challenges faced by people of the Global South in their diversity of geographical, socioeconomic, political and cultural contexts.

9. Framing Games as an Activist Space

The real challenge presented by Flanagan and Schrier (2021) is not only to design a game, or digitise a particular campaign, but rather to open up a space within digital gaming where new approaches and methods informed by Global Citizenship and Development Education can emerge. Rather than this space modifying existing games or adapting game platforms to serve Critical Gaming, the suggestion is that new collaborative platforms need to be built from scratch based on values of inclusion, equality, respect, dialogue, creativity, and critical reflection. Flanagan sees such an initiative being led by games designers with a personal and political commitment to values of social justice, she refers to these as "*Conscientious Game Designers*". In line with Penix Tadson's (2019) commentary on the games industry more generally "*... the time has come to redefine video games and game culture from the perspective of the global south*" Penix Tadson (2019:26).

In advising activists how to challenge corporate colonialism within the technology sector Amrute (2022) suggests a number of things which need to be bedded into any anti-oppressive initiative. Rather than be resigned to corporate or repressive state control over technological spaces she encourages activists to undermine tech colonialisms, and "*reframe the stories of tech inevitability and fixedness in our patterns of engagement with the world*" (Amrute 2022:2). What we intend to do needs to be reflected in how we go about doing it. Amrute (2022) proposes the adoption of principles to be applied in the decolonisation of technology. The following draws from this and other work cited in this paper to apply such principles when considering the use of games in global citizenship and development education.

1. *Values based design:* Global citizenship and development education principles must be central to the technology and methods being used. The approaches need to be constantly critiqued, reimagined, practiced and repeated. There should be a seamless congruence to the level whereby the digital spaces feel like a development education spaces and people become attuned to this as a way of being.
2. *Join with existing movements:* As outlined movements do exist that are actively trying to break the bind between tech, data and exploitation by using technology to address community generated questions and create digital platforms based on cooperative, democratic principles. Partnering with such groups and building interdisciplinary alliances would be important in developing practice and resources as well as ensuring the initiative remains true to Freirean principles.
3. *Solidarity across the Margins:* Amrute (2022) also recommends that one should refuse to engage with technology and organisations which compromise your values and to actively share your knowledge and technology with others, particularly those on the margins. It is important that any such movement grows from the margins, particularly from the Global South and people who are excluded from political discourse in the Global North.
4. *Facilitating Global Citizenship and Development Education Methods:* Any such space would need to be based on Global Citizenship and Development Education values, theory and practice. This process should include activists and technologists who are prepared to embark on a collaborative journey of discovery and action in order to shape a space for social change.
5. *Transference to the Real World:* One of the challenges in operating within a virtual environment is that peoples understanding and activism may be restricted to that space. This brings us to the concept of transference which relates to how we bring experiences, understanding, skills, analysis and a commitment to act, from the virtual into our real lives and visa versa. (Khasawneh et al. 2024) It is

necessary to acknowledge that players live in the real world, they access the metaverse from real rooms, on real streets, within real communities under the protection of real governments, or not, as the case may be. As it is for refugees, the stateless, the homeless, the disenfranchised, the poor and the oppressed. Frasca, (2019) reminds us that "*The space inside the screen negotiates its meaning with the space that surrounds it*". If games are to be a medium for social change they need to negotiate the relationship between the liminal and the real, ensuring that dialogue, reflection and action within the game initiates dialogue, reflection and action within physical communities and societies.

10. In Conclusion

This paper has presented the challenges inherent in using computer games in global citizenship and development education. It also highlights the power and proliferation of the medium and as such one which cannot be overlooked and indeed one which could have a profound and constructive impact in this discourse. It is also apparent through this review that it is not only the content of computer games which needs to be addressed but the structure of how they are designed, developed and distributed. The recommendations presented require a mobilisation of Development Educators, Conscientious Games Designers and Activists on the margins in the global south and north with the shared vision of building an alternative games ecosystem which challenges the Colonial hegemony which has defined discourse in games and development to this point.

References

Amrute, S. (2019). 'Of Techno-Ethics and Techno-Affects,' *Feminist Review*, 123(1), pp. 56–73.

Anderson, C. A. et al. (2010). "Violent video game effects on aggression, empathy, and prosocial behavior in eastern and western countries: a meta-analytic review," *Psychological bulletin*, 136(2), pp. 151–173.

Barr, M. and Copeland-Stewart, A. (2022). "Playing video games during the COVID-19 pandemic and effects on players' well-being," *Games and culture*, 17(1), pp. 122–139.

BBC News. (2020). "Lockdown and loaded: coronavirus triggers video game boost," BBC, 6 May. Available at: https://www.bbc.com/news/business-52555277 (Accessed: June 15, 2024).

Bogost, I. (2010). *Persuasive games: Persuasive Games: The Expressive Power of Videogames,* Boston, Mit Press,

Buckley, C., Holley, D. and Fallin, L. (2023). 'A manifesto for the metaverse: opportunities and challenges for learning development,' *Journal of Learning Development in Higher Education* [Preprint], (29).

Carpenter. M. (2021). "Replaying colonialism: Indigenous national sovereignty and its limits in strategic videogames," *American Indian quarterly*, 45(1), p. 33.

Council of Europe. (2022). The Metaverse Virtual World Real Challenges: Available at: https://www.consilium.europa.eu/media/54987/metaverse-paper-9-march-2022.pdf (Accessed: June 15, '24).

Crocco, F. (2011). "Critical gaming pedagogy," *The Radical Teacher*, (91), pp. 26–41.

IDEA (2021), Global citizenship education Ireland.ie. Available at: https://www.ireland.ie/en/irish-aid/what-we-do/global-citizenship-education/ (Accessed: June 15, 2024).

Dolata, M. and Schwabe, G. (2023). 'What is the Metaverse and who seeks to define it? Mapping the site of social construction,' *Journal of Information Technology*, 38(3), pp.239–266.

Duncombe, S. (2019*). Dream: Re-Imagining Progressive Politics in an Age of Fantasy*, New York: The New Press, New York: O/R Books.

Ellwood Barnes, S. K, (2021). "*Onkwehón:we play: Decolonizing videogame ecology and disrupting environmental racism*" An Unpublished thesis, Arts and Digital Humanities, University of Alberta

Flanagan, M. and Nissenbaum, H. (2007). "A Game Design Methodology to Incorporate Social Activist Themes." Proceedings of CHI (Computer Human Interaction Conference) , New York, NY: ACM Press, pp. 181 – 190.

Flanagan, M. and Jakobsson, M. (2023). *Playing oppression: The legacy of conquest and empire in colonialist board games*. London, England: MIT Press.

Flanagan, M. (2009). *Critical play: Radical game design*. Mit Press.

Frasca, G. (2001). "Rethinking agency and immersion: video games as a means of consciousness-raising," *Digital creativity*, 12(3), pp. 167–174.

Gamson, W.A. (2013). 'Games throughout the life cycle,' *Simulation & Gaming*, 44(5), pp. 609–623.

Gilbert, N. (2020). Number of gamers worldwide 2024: Demographics, statistics, and predictions, Financesonline.com. Available at: https://financesonline.com/number-of-gamers-worldwide/ (Accessed: June 15, 2024).

Gunkel, D. J. (2018). *Gaming the system: Deconstructing video games, games studies, and virtual worlds.* Bloomington, MN: Indiana University Press.

Hao, K. (2022). "Artificial intelligence is creating a new colonial world order," *Technology review*, 19 April. Available at: https://www.technologyreview.com/2022/04/19/1049592/artificial-intelligence-colonialism/ (Accessed: June 15, 2024).

Guetzkow, H. (1996). A Home Page for Harold Guetzkow (no date) Hawaii.edu. Available at: https://www.hawaii.edu/intlrel/pols635f/Guetzkow/hg.html (Accessed: June 15, 2024).

Harvey, A. (2022). “Making the grade: Feminine lack, inclusion, and coping strategies in digital games higher education,” *New media & society*, 24(9), pp. 1986–2002.

Hernandez, P. (2014). The internet reacts to Microsoft buying Minecraft, Kotaku Australia. Available at: //www.kotaku.com.au/2014/09/the-internet-reacts-to-microsoft-buying-minecraft/ (Accessed: June 15, 2024)

Herz, J. C. (2001*). Joystick Nation*. London, England: Abacus

IDEA, (2017). Impact of Development Education, Ideaonline.ie. Available at: https://www.ideaonline.ie/Impact (Accessed: June 15, 2024).

Juul, J. (2011). *Half-real: Video games between real rules and fictional worlds*. London, England: MIT Press.

Keating. P, (2022). New toolkit: Using Games in Youth Work: National Youth Council of Ireland. Available at: https://www.youth.ie/articles/new-toolkit-using-games-in-youth-work/ (Accessed: June 15, 2024).

Keating, P. (2021). Covid, computer games and Freire, The post-pandemic university. Available at: https://postpandemicuniversity.net/2021/11/24/covid-computer-games-and-freire/ (Accessed: June 15, 2024).

Khasawneh, Y. J. A, Khasawnehb, N. & Khasawnehc, M. A. S, (2024). Exploring the long-term effects: Retention and transfer of skills in gamified learning environment, *International Journal of Data and Network Science* 195-200.

Lenhart, A, Kahne, J, Middaugh, E, Macgill, A, Evans, C & Vitak, J. (2008). Teens, Video Games, and Civics: Teens' Gaming Experiences; Pew Research Center.

Makuch, E. (2014). Minecraft passes 100 million registered users, 14.3 million sales on PC, *GameSpot*. Available at: https://www.gamespot.com/articles/minecraft-passes-100-million-registered-users-14-3-million-sales-on-pc/1100-6417972/ (Accessed: June 15, 2024).

Purchese, R. (2014). Misogyny, racism and homophobia: where do video games stand?, *Eurogamer.net*. Available at: https://www.eurogamer.net/misogyny-racism-and-homophobia-where-do-video-games-stand (Accessed: June 15, 2024).

Mayra F, (2009). *An Introduction To Games Studies*, SAGE, USA

Mc Williams, D, (2022). *The rich will own the metaverse. Our children will live in it*, Irish Times, Dublin,

McCauley, A, (2002). “The Battle For Control Of The Metaverse: Can Open Innovation Outrun Corporate Domination?” Forbes https://www.forbes.com/sites/alisonmccauley/2022/03/22/the-battle-for-control-of-the-metaverse-can-open-innovation-outrun-corporate-domination/?sh=75a4be647f15

Mukherjee, S. (2018). “Playing subaltern: Video games and postcolonialism,” *Games and culture*, 13(5),pp.504–520.

Mukherjee, S. (2017). *Videogames and postcolonialism: Empire plays back*. 1st ed. Cham, Switzerland: Springer International Publishing

Nakamura, L. (2018). “AFTERWORD:: Racism, sexism, and gaming’s cruel optimism,” *in Gaming Representation*. Indiana University Press, pp. 245–250.

Stephenson, N. (2022). *Snow crash*. London, England: Viking.

Newzoo (2024), Newzoo’s Global Games Market Report 2023 | May 2024 Update accessed https://newzoo.com/resources/trend-reports/newzoo-global-games-market-report-2023-free-version

Oberle, M., Leunig, J. & Ivens, S. (2020). What do students learn from political simulation games? *Eur Polit Sci* 19, 367–386.

Penix-Tadsen, P. (2019). *Video games and the global south*. Lulu.com.

Picchi, A. (2022). Meta’s value has plunged by $700 billion. Wall Street calls it a “train wreck.,” CBS News. Available at: https://www.cbsnews.com/news/meta-stock-down-earnings-700-billion-in-lost-value/ (Accessed: June 15, 2024).

Poole, S. (2001). *Trigger happy: The inner life of videogames*. London, England: Fourth Estate.

Robinson, N. and Whittaker, J. (2021). “Playing for hate? Extremism, terrorism, and videogames,” *Studies in conflict and terrorism*, pp. 1–36. doi: 10.1080/1057610x.2020.1866740.

Salen, Katie & Zimmerman, E. (2005). Game design and meaningful play, in Ed. Joost R & Goldstein J, *Handbook of Computer Game Studies*. p 59-79. Boston, MIT Press.

Tekinbas, K. S. and Zimmerman, E. (2003). *Rules of play: Game design fundamentals*. London, England: MIT Press.

Schrier, K. (2021). “We the Gamers: How games teach ethics and civics.” Oxford University Press, New York. doi: 10.1093/oso/9780190926106.001.0001. Print ISBN: 9780190926106Publisher: Oxford University Press

Mayar, M. and Schubert, S. (2021). “The joystick in the garden: Video games, American studies, and politics,” *European journal of American studies*, 16(3).

Skotnes-Brown, J (2019). Colonized Play: Racism, sexism, and colonial legacies in the Dota 2 South Africa Community. in *Video Games and the Global South*. ETC Press, pp. 143-154.

Smithson, A. (2022). The Metaverse manifesto - Alan Smithson, Medium. Available at: https://alan-smithson.medium.com/the-metaverse-manifesto-2206d893a3bb (Accessed: June 15, 2024).

Trócaire. (2020). *Educate*: Available at: https://www.trocaire.org/our-work/educate/ (Accessed: June 15, 2024)..

Wark, M. (2007) *Gamer Theory*. London, England: Harvard University Press

Warren, T. (2023). Microsoft completes Activision Blizzard acquisition, Call of Duty now part of Xbox, *The Verge*. Available at: https://www.theverge.com/2023/10/13/23791235/microsoft-activision-blizzard-acquisition-complete-finalized (Accessed: June 15, 2024).