

Exploring the Power of Modern Gaming

Jacob J. Hatzenbuehler

Helena College University of Montana

WRIT 101: College Writing

Karen L. Henderson

28 April 2024

Exploring the Power of Modern Gaming

Emerging as a prominent and influential form of entertainment in contemporary society, video games have captivated millions of individuals across diverse demographics. Despite the longstanding debates on the negative effects of video games surrounding society, video games offer numerous benefits that contribute in a positive way to individuals and civilization. Traversing the cognitive enhancements, social connectivity, educational value, health benefits and economic importance, it becomes clear video games are more than a frivolous pastime, transcending mere amusement and serving as a valuable tool. Despite common misconceptions, video games offer a range of positive benefits, making them a valuable and enriching form of entertainment and education in contemporary society.

The potential enhancement of cognitive abilities is a compelling argument regarding video games. Research has demonstrated that engaging in certain types of video games, especially those that require strategy and problem-solving, can lead to improvements in cognitive function. For instance, playing action games like first-person shooters has been linked to increased visual attention and faster decision-making skills (Green & Bavelier, 2012). A study regarding children who played video games for three or more hours daily demonstrated faster and more accurate performance on cognitive tasks compared to those who never played. They noted that these cognitive differences were paralleled by distinct patterns of brain activity. Functional MRI scans revealed that children with extensive video game exposure exhibited increased brain activity in areas linked to attention and memory compared to non-players (National Institutes of Health, 2022). With the participation in video games, players can develop skills that can be used in real life scenarios, including increased attention, memory, visual attention, and faster decision-making.

Despite the stereotype that gaming is a solitary activity, video games can contribute to social interactions and community building. Video games being developed in the modern day often incorporate

multiplayer aspects, which have players join together to encourage teamwork to complete tasks, massively multiplayer online role-playing games (MMORPG) are one of the examples of these games.

MMORPGs were found to be highly socially interactive environments providing the opportunity to create strong friendships and emotional relationships. The study demonstrated that the social interactions in online gaming form a considerable element in the enjoyment of playing. The study showed MMORPGs can be extremely social games, with high percentages of gamers making life-long friends and partners. It was concluded that virtual gaming may allow players to express themselves in ways they may not feel comfortable doing in real life because of their appearance, gender, sexuality, and/or age. MMORPGs also offer a place where teamwork, encouragement, and fun can be experienced. (Cole & Griffiths, 2007, p. 575)

Esports are also an example of a growing sector within the culture of gaming that incorporates a multitude of multiplayer games that are played competitively at a professional level. They incorporate an opportunity to develop socially responsible leadership skills across individual, team, and societal contexts. Additionally, esports serve as engaging experiential learning platforms for students with specific communication and collaboration needs, such as those diagnosed with autism spectrum disorder. For instance, in special education settings, esports can effectively facilitate various communicative behaviors among students, including reciprocal discussions, information sharing, making requests, giving commands, and providing guidance (Zhong et al., 2022). Video games, particularly through MMORPGs and esports, demonstrate how gaming can provide benefits in social interaction, community building, and environments that encourage teamwork and communication skills.

Video games, when it comes to education, can be a beneficial and effective tool within classrooms. Math, science, social studies, language, and physical education can all implement specific video games as an effective replacement for standard practices, providing a more interactive and effective learning experience. As an example, research has demonstrated the benefits of using Second

Life (SL) as a virtual learning platform. Instructors have found that a well-designed learning environment in SL can promote deeper engagement and learning experiences compared to traditional methods like PowerPoint presentations. Students have appreciated the ability to engage in experiential activities within a 3-D virtual world, which not only meets course objectives but also exceeds them. Expanding learning beyond classroom boundaries through platforms like SL can enhance student motivation and provide opportunities for interaction with diverse communities beyond local settings (Arias, 2014, pp. 51-52). Along with its multiple benefits within the classroom, video games, specifically virtual reality (VR) simulations, can help to train and educate soldiers within the military. Steven et al. describes how VR technology is valuable in training and preparing soldiers for in-person conflict scenarios and is “helpful for the development and growth of military institutions. They are supported by virtual reality software and games that are tailored for military personnel's training and education. Examples of those being a combat simulator and virtual battlefields” (2023, p. 893). The integration of video games into our educational system can enhance educational engagement and effectiveness in various subjects and can extend to specialized training applications, such as military simulations, highlighting the diverse and impactful uses of gaming technologies in both academic and professional settings.

The video game industry is a major contributor to the economy. In 2024, the video game industry in the United States created and sustained 350,015 jobs across the economy, resulting in a total economic impact of \$101.4 billion. This industry contributed \$65.7 billion to the U.S. GDP and generated \$14.4 billion in tax revenue. (Grueber & Yetter, 2024). The industry continues to experience growth every year, allowing more contributions to the economy as it grows.

The global video game market size was estimated at USD 217.06 billion in 2022 and is expected to grow at a compound annual growth rate (CAGR) of 13.4% from 2023 to 2030. The market's expansion is attributed to the ongoing trend of online gaming, the emergence of high bandwidth

network connectivity, and the continuous demand for 3D games. (Video Game Market Size, Share and Growth Report, 2030, n.d., pp. 8-9)

The cultural impact of video games extends beyond entertainment, influencing other creative industries such as film, music, and fashion contributing to economic growth within these fields as well (Cerezo-Pizarro et al., 2023). The economic success of video games underscores their importance as a driver of innovation and technological advancement in the digital age.

Video games have been increasingly recognized for their potential health benefits beyond entertainment. Exergames, which combine gameplay with physical exercise, offer a novel approach to promoting physical activity and fitness. In gyms and health clubs, exergames are implemented into certain exercise machines to promote competition to motivate the participant. Studies have shown that playing exergames can improve cardiovascular health, muscle strength, and balance in both children and adults (Staiano & Calvert, 2011). Virtual reality (VR) games, on the other hand, have been utilized in medical contexts for pain management and rehabilitation. VR-based interventions have demonstrated effectiveness in reducing pain perception and improving functional outcomes for patients with various conditions. Jones et al. described how one study found “that a five-minute virtual reality experience decreased the sensation of chronic pain by an average of 33% from pre-session and to post-session. Participants reported an average decrease in pain of 60% between pre-session and during the experience” (2016). Specialized games and apps can also teach cognitive and social skills, aid in managing mental health conditions, and enhance treatment adherence and symptom tracking. Certain apps and games are recommended for clinical use and families seeking resources (Weigle, 2018). Video games have a potential to promote physical health, aid in medical contexts such as pain management, and rehabilitation, and offer innovative approaches to teaching cognitive and social skills, which underscores their multifaceted benefits beyond entertainment.

Video games have become integral to modern society, offering a diverse array of benefits that extend well beyond mere entertainment. From enhancing cognitive abilities and promoting social interaction, to revolutionizing education and contributing significantly to the economy, video games have proven their value as a multifaceted tool for positive impact. They continue to be increasingly recognized for their applications in health and wellness, from promoting physical activity through exergames to aiding in pain management and rehabilitation with virtual reality interventions. As our understanding of the potential benefits of video games continues to evolve, their role in enriching lives and advancing various sectors of society is poised to expand, highlighting their significance in shaping the digital age and beyond.

References

- Arias, M. (2014). Using video games in education. *Journal of Mason Graduate Research*, 1(2), 49–69.
<https://doi.org/10.13021/G8jmgr.v1i2.416>
- Cerezo-Pizarro, M., Ignacio, F., Jorge G., & Jairo M. (2023). The cultural impact of video games: A systematic review of the literature. *Education Sciences*, 13(11), 1116–1116.
<https://doi.org/10.3390/educsci13111116>
- Cole, H., & Griffiths, M. D. (2007). Social interactions in massively multiplayer online role-playing gamers. *Cyberpsychology & Behavior*, 10(4). <https://doi.org/10.1089/cpb.2007.9988>
- Green, C. S., & Bavelier, D. (2012). Learning, attentional control, and action video games. *Current Biology*, 22(6), R197–R206. <https://doi.org/10.1016/j.cub.2012.02.012>
- Groeber, M., & Yetter, D. (2024). *Video Games In The 21st Century: The 2024 Economic Impact Report*. Entertainment Software Association. https://www.theesa.com/wpcontent/uploads/2024/02/EIR_ESA_2024.pdf
- Jones, T., Moore, T., & Choo, J. (2016). The impact of virtual reality on chronic pain. *PLOS ONE*, 11(12), e0167523. <https://doi.org/10.1371/journal.pone.0167523>
- National Institutes of Health. (2022, October 24). *Video Gaming May Be Associated with Better Cognitive Performance in Children*. <https://www.nih.gov/news-events/news-releases/video-gaming-may-be-associated-better-cognitive-performance-children>
- Staiano, A. E., & Calvert, S. L. (2011). Exergames for physical education courses: physical, social, and cognitive benefits. *Child Development Perspectives*, 5(2), 93–98. <https://doi.org/10.1111/j.1750-8606.2011.00162.x>
- Steven, L., Jason H., Keane, M. G., & Agung, A. (2023). Empowering military in tactical and warfare area with virtual reality technology: a systematic literature review. *Procedia Computer Science*, 227, 892–901. <https://doi.org/10.1016/j.procs.2023.10.596>

Video Game Market Size, Share And Growth Report, 2030. (n.d.). *Video Game Market Size, Share & Trends Analysis Report By Device (Console, Mobile, Computer), By Type (Online, Offline), By Region (Asia Pacific, North America, Europe), And Segment Forecasts, 2023 – 2030. Grand View Research*. <https://www.grandviewresearch.com/industry-analysis/video-game-market#:~:text=The%20global%20video%20game%20market%20size%20was%20estimated,connectivity%2C%20and%20the%20continuous%20demand%20for%203D%20games.>

Weigle, P. E. (2018). 5.1 Games for health? Video games and smartphone applications to enhance psychiatric treatment. *Journal of the American Academy of Child & Adolescent Psychiatry*, 57(10), S7. <https://doi.org/10.1016/j.jaac.2018.07.033>

Zhong, Y., Guo, K., Su, J., & Chu, S. K. W. (2022). The impact of esports participation on the development of 21st century skills in youth: A systematic review. *Computers & Education*, 191, 104640. <https://doi.org/10.1016/j.compedu.2022.104640>