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Usage and Effects of Video Games in Education

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In modern society, the act of playing games entices certain prejudices towards those who decide to participate in such activities. Those prejudices normally revolve around negative stereotypes where games are meant for non-social adults and are seen as something akin to addiction if gone too far. But how much gaming is needed to be considered as an addiction and what actual effects does it have on mental growth, social capabilities and academics? As a community revolving around technology as much as we are, understanding how video games play a role in our social space is an important aspect to growth. We can also think about gaming in a positive light, where it is used for education, accessibility, and even in politics. Understanding the the different types of gamers and all the factors that are involved when identifying a negative gaming addiction as opposed to a healthy gaming experience is important to advancing research into the effects of video games

The use of social media and video games have been increasingly invasive in the lives of children, adolescents, young adults, and even the older generations. It has become a device where we can connect with others from across the world and form relationships that otherwise would not have been possible. However, along with all the benefits, the negatives are something to acknowledge and understand. To first begin this understanding, we must first recognize what Internet Gaming Disorder entails. According to the article, "INTERNET ADDICTION DISORDER: CURRENT AND FUTURE PERSPECTIVES" this disorder includes, "preoccupation with Internet games... withdrawal symptoms... tolerance, the need to spend

increasing amounts of time...continued excessive use of Internet games despite knowledge of psychosocial problems...escape or relieve a negative mood..." (Andrei 2). This list contains nine parts, where having five of these symptoms is amount one would need to be diagnosed with this disorder. To cover all points, many of them revolve around the idea of an unhealthy amount of time spent playing games and the refusal to accept that they do have a disorder; This resulting in the loss of social involvement and an increased amount of time online. Especially for adolescent teens where, "excessive use of internet is explained as a means to compensate for or cope with deficits in self-esteem, identity and relationships" (Andrei 3). For teens, it is much easier to talk to people online behind a screen in place of human interaction. Real world interactions bring stress regarding public image and how to fit in among peers and continues to be prevalent at all stages of life. Therefore, when a virtual world, where anonymity reigns supreme, is created, an escape from real life is also created. People have access resources that allow them to meet others similar to them across the world. This online social interaction is a silver lining in the definition of Internet Addiction Disorder. Due to this interaction, the type of gamer is split into those who participate in social games, non-social games, multiplayer games, etc (Carras 475). In the case where a teen is using online gaming to compensate for a lack of real world interaction, it is reported that, "more online social interaction reported fewer problematic gaming symptoms than those with less online social interaction" (Carras 472). Those who do have close online interactions place more value on those relationships, which do translate into real life. We can also see those who take real life interactions and use them in online communities. People lacking the ability to differentiate reality from games can make virtual worlds a potentially dangerous place depending on the person. The translation to real life could come in negative forms, such as

mood swings and general behavioral changes. Lack of social interaction can lead to, "boys with social anxiety who game heavily in the absence of significant online social interaction...might be at greater risk of problems with gaming. This could also reflect motivations for gaming such as gaming to escape or to garner in-game achievements, which may be tied to unmet psychological needs..." (Carras 477). Video games are designed to create a variety of experiences where all types of people can be immersed in. This leads to players to automatically have different motivations in playing, resulting in different effects on mental health, behaviors, and social interactions. Lacking online and real life interactions result in a higher chance for social anxiety, depression, and other mental conditions that are only enhanced further when gaming is seen as the only escape or relief to such problems. As a child or teen, this could lead to growth being stunted and cognitive function being suppressed (Andrei 5). On the topic of growth, there is a question most parents with children probably have. What effect does gaming have on academics?

As most human beings are, the ability to learn differs vastly person to person so it is hard to say what effect gaming has on studying. However, general trends can often be found when studying a group of students. In the article "Effects of Social Media Usage and Social Media Multitasking on the Academic Performance of University Students", Wilfred Lau, "establishes social media usage and SMM as the key variables that negatively influence the academic performance of university students and, specifically, that VG and SMM are detrimental to university student learning" (290). SMM refers to social media multitasking meaning the use of social media while doing other tasks. A key point that this article makes is that the use of social media and video games for educational purposes actually does not negatively impact a students ability to study. However, when they are used for non-educational purposes does it make a

negative impact. Lau introduces the cognitive theory of multimedia learning, where one only has a limited amount of working memory that can take in information and if that is overflowed, there is a drop in efficiency and performance (287). This theory is applied to media sources such as videos and music but can also be applied to video games. Unlike videos and music which can be played in the background, games are something that are actively played, with all sensory organs being engaged in some form. Games have music, visuals, interaction through controls, and human communication, making them a form of entertainment hard to use while multitasking. This idea results in, "VG as the key determinant of poor academic performance. It is beyond the scope of this study to gather more information about how much time students spend on VG every week, the nature of the games they play...These are, however, important issues that will help explain the finding here regarding students who reported that they on average played video games once a week" (Lau 290). Based on the average of one day a week gameplay, we can only imagine what a higher amount of gameplay can result in. We can infer from the information gained from previous articles that the type of game and amount of time has a great impact on one's cognitive ability and mental state. Those with Internet Gaming Disorder are highly susceptible to poor academic performance and may reject the fact that gaming is a factor in their failure.

While it is true academic stumbles can be attributed to a lack of ability in managing tasks in an efficient way, video games can be used for educational purposes. For a student, the traditional way of being taught can lead to a state where they are not being actively engaged with the material that they are learning. What using new technology, in the case video games, does is that it brings a new way to participate in class. By being engaged through play, various skills that

can be taught through paper can be transmitted through a series of different, engaging simulations. These simulations are not limited to the classroom and can feature basically anything that would be interesting to the students. This interaction can result in similar, if not better results in cognitive function that traditional methods (Devary 4). Devary adds that, "traditional classrooms produce a better mastery of recalled information. Alternatively, less traditional technology...produce improved skills for developing questions, formulating hypotheses, and the ability to intelligently address new problems" (4). While the use of video games can not replace traditional teaching methods, it becomes a device that teachers can use in order to produce and improve different mental capabilities. For example, "spatial skills can be trained with video games in a relatively brief period, that these training benefits last over an extended period of time, and crucially, that these skills transfer to other spatial tasks outside the video game context" (Granic 3). In this case, action games such as shooters allow the player to focus on important details while filtering out any unnecessary information. Granic adds that because of these skills transfering into real life, they can be used at different skills i.e army using a gamepad for a bomb defusal robot. Games can be created to train the brain and how it processes information. The simplest example would be a puzzle game improving puzzle solving skills and creative thinking.

Before delving into more positive effects of playing games, it is important to define what play is. According to Isabela Granic, "play constitutes an emotionally significant context through which themes of power and dominance, aggression, nurturance, anxiety, pain, loss, growth, and joy can be enacted productively" (2). While these themes can be taught through other means, video games are an accessible method that can be actively engaged with. This makes the lessons

learned from a player's own actions in game more meaningful, translating virtual experiences into real life experiences. This can be seen to help those with social anxiety because,"According to the *social compensation hypothesis* (Kuth & Griffiths, 2011), online media users who have difficulty with real-life social interactions may use online relationships in an attempt to meet their social needs" (Carras 473). This may be a factor in why online games are so popular among the youth. The stress of fitting in with peers can make it hard to connect with others on a personal basis, leading to games to be a bridge for that connection. Players can learn the value of interaction and use that lesson to help them in real life. Games also promote, "effective motivational style both in and outside gaming contexts" (Granic 5). This leads to a sense of accomplishment when achieving a certain goal. Due to that feeling, intrinsic motivation to strive for a better goal becomes something that is learned through play. The player can apply what they did in game to an achievable goal in real life, be it through academics or personal improvement and leading to an increase of self-esteem and overall social wellbeing.

Politics is something that most people would not associate with games, however it is something to be thought about. Michael Bossetta introduces the concept of political campaigning games which, "are defined as advergames that promote a partisan political position in an electoral context" (3). Boussetta analyzes a game called Fiscal Kombat which demonstrates how a game can make a commentary about a political position and add gameplay to frame the narrative of the creators stance (in this case it is anti-wealth). While games like Fiscal Kombat are directly attacking certain socioeconomic classes and political groups, many similar themes can be found in other, unrelated games as an overarching story. For example, there are many stories that explore the idea of rising against a strong power that is holding down its people

(Dishonored) that players can analyze and understand that there is a real life meaning that could be drawn. This plays a part in how games can teach lessons in an implicit way, allowing for critical thinking and growth. Thinking about games in a political context allows them to transcend something meant for entertainment, but rather art pieces that make a statement on a social issue and suggest a change through means that only games can provide.

Video games have been a social discussion of mental health and addiction but we can see how they can be used to promote positive change among the youth who are more likely to participate in said activities. Not only that, but using video games as a new technology in the classroom can allow for more development that traditional teaching methods can not provide. Political games is also a field in which many art students can explore due to the nature of social change and political protest.

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