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IGME 110

September 23, 2019

Video Games Should be an Essential Part of Cognitive Development and Skill Acquisition

Video games have become a key component in the lives of people all across the globe. People of all ages and backgrounds are exposed to the messages spread by the video game industry daily, whether through advertisements or live-streamers or the products themselves. Younger audiences, particularly those in early childhood development, are the most exposed to the messages of this industry. To reach this audience, many companies have chosen to focus entirely on cognitive development games for young children. Many companies are devoted solely to creating products that focus on establishing and developing the minds of the young. Video games have significant benefits over many different resources and are tools that all people should be exposed to at some point in their lives.

Every child needs some source of knowledge and guidance during their early stages of development. The first five years of a child's life is the period in which executive skills develop at the fastest rate. Parents are indisputably the best source of guidance for children, but many parents also lead busy lives working to provide for themselves and their children. Many children end up in daycares or watched by babysitters. The US Department of Education states that around 60 percent of the "24 million children age 5 and under residing in the United States in 2014" were taken care of through some type of "nonparental care arrangement" (Redford 1). Some of these arrangements are standard daycares or pre-kindergarten programs while others are

relative or nonrelative care (Redford 2). Busy parents still try their best to guide their children through the early years, but without the ability to devote all of their attention to their child, some things go untaught or underdeveloped. Educational video games and programs will never replace a parent in a child's life, but they can help develop upon the structure they already have. All parents, even stay-at-home parents, can benefit from using developmental tools to help teach or expand their child's knowledge.

Not only are these tools often easily accessible, but they are created by professionals. Many of the people who design video games for children have dedicated themselves to creating the most effective and beneficial games. The companies responsible for creating these tools often have focus groups, professional testing, and in-depth research to ensure that their product is helpful. LeapFrog Enterprises Incorporated, the company responsible for the well-known LeapPad for young children, has many of their researches and studies on display for the public on their website (Leapfrog). LeapFrog is not the only company focused on creating interactive video games for children. Numerous companies are working for the benefit of children; some marketing devices or games on a supported platform, and others developing easily accessible games that run directly from websites. From better-known devices like the LeapPad or websites like ABCMouse (Willets ¶ 6) to lesser-known systems like Mate Marote, these systems combine neurocognitive sciences and studies on childhood development to create interactive programs that continuously challenge children in an entertaining manner (Nin 22). Often these companies choose to release their studies in research papers or discuss them at conferences. Companies devoted to educational games, such as LeapFrog, hire individuals who have studied childhood development and cognitive development. While some video games are created simply for the

sake of entertainment and others by those less qualified to create such programs, many of the products in the field of childhood development are created by professionals.

The video game industry is already one of the most far-reaching industries in the rising generations. Children, teenagers, and young adults across America have almost definitely played video games at some point in their lives. As of 2011, “91% of children between ages 2 and 17 play[ed] video games” (Granic 1). With an industry reaching such an astoundingly large audience that is expected to grow, it only makes sense that people would construct video games for a developmental purpose. Even in the post-critical stage, gaming has beneficial effects for the individual. In a recent meta-analysis, the researchers found that even a game not designed for cognitive development influenced those who played it. The researchers “concluded that the spatial skills improvements derived from playing” a shooter such as *Halo* or *Grand Theft Auto IV* were “comparable to the effects of formal courses aimed at enhancing these same skills” (Granic 3). While it would generally be discouraged to introduce a young child to a violent game such as *Halo*, the study shows that there are still cognitive benefits from video games even well past early-development. Studies are also using video games, such as Space Fortress, as a method to learn more about skill acquisition itself as games are an effective method of learning or developing skills (Boot 1). Some studies even go as far as to create their own systems and games for the sake of research. Despite its already colossal size in the modern world, the gaming industry is continuing to grow. As it continues to develop and advance, more opportunities to learn are opened to the already vast number of people who play video games.

As seen with the *Halo* and *Grand Theft Auto IV* examples, video games that benefit skills are not limited to just educational games. Action games, as a broad definition, are typically

described as fast-paced games that concern numerous elaborate steps at the same time. Many action games can develop more basic, visuospatial skills such as quick decision making and simple perception (Gray ¶ 2) or the ability to stay focused on a particular task in a distracting setting (Blumberg 615). A recent comparative study involving game players and non-game players used MRI technology to analyze the neurological patterns of the subjects. In the study, the researchers found that game-players could “allocate their attentional resources more efficiently and filter out irrelevant information more effectively” than their non-gamer counterparts (Granic 3). However, these cognitive developments are not evenly shared across all genres of video games. As action games may positively impact the visuospatial capabilities of the individual, puzzle games may have more of an effect on complex problem-solving skills while role-playing games lead to more creative players (Granic 4). However, video games do not just automatically affect the cognitive abilities of the user just from the interaction. For the individual to receive short or long-term benefits from the video game, they need to be “gradually and systematically challenge[d]” (Nin 22) by numerous components that all work in sync with one another to create a more interactive situation; real-time strategy games are often very layered and created to be challenging (Pellissier ¶ 22). Not all video games have the same effect, but nearly all of them can prove beneficial in their own way provided they keep the user interested and challenged.

Despite the obvious benefits, there are still many who are against using video games as a resource to develop cognitive skills. It is a common belief that video games lead to more violent tendencies in children and, eventually, adults. There have been numerous studies that claim to have proven that video games cause violence, but they often overlook preexisting conditions or

less than typical expectations for ‘violence’. There are many organizations, mostly parent-run, that believe video games are responsible for isolation and aggression, but do not have substantial evidence to back up the claim. Many researchers believe that these organizations place the blame on video games because it is easier than analyzing the social state and household situation of a child (Pellisier ¶ 20). Others claim that video games, without a doubt, are a key source of aggression in the youth. Introducing young children and those still in early developmental stages to violent games will likely result in less empathetic individuals in the future; they would become accustomed to the violence. However, violence is also something that is seen all across media and in daily life, meaning there may not be any effect from video games anyway. Yet some precautions can be taken to prevent children from playing games that contain mature content. The Entertainment Software Rating Board (ESRB) places a rating on each video game that publicly displays the type of content within the game and the recommended age group (Rating). Those of the appropriate age for a game often experience no change in aggression or empathy levels after long-term exposure to violent games (Kühn 1231). The proven benefits of video games not only substantially outweigh the unproven claims that they cause violence.

Other groups disapprove of video games as an institutional tool because they are believed to decrease sociability and lead to obesity. While video games may add a screen in between two individuals, it is still a social industry. Not only do many companies rely on multiplayer options to stay in business, but there are countless websites and applications that allow people to connect through video games. In a developmental role or an academic setting, video games may lead to a more isolated individual, but only for the course of the exercise. Many who use gaming as a past-time or tool for development are not negatively affected in any social sense (Kühn 1220).

Many people tend to confuse correlation with causation when it comes to social behavior and video games. Some people naturally prefer to be left alone to themselves and still enjoy video games as a tool or hobby, others are outgoing and lively but still enjoy the same games. Video games can cause obesity as a result of inactivity, just like reading, television, or even just sitting and doing nothing. Like nearly everything in life, video games should be age-appropriate and used in moderation to maintain a healthy mental and physical state.

Video games are an essential tool for people of all ages to create, learn, and develop skills and cognitive abilities that can help them throughout their lives. A resource as accessible and wide-reaching as video games should be positively promoted by our society as an educational tool. Many of the issues that people claim are caused by video games could be solved as simply as moderating the amount of time spent using video games. The proven cognitive benefits of using video games for skill acquisition greatly outweighs the speculated risks and dangers of gaming. Video games can be something we all use to better ourselves and our abilities, or just as a way to relax and pass the time; there is a world of opportunities in video games and it is a world that is more than worth exploring for yourself.

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