

## I LEARNED THAT IN A VIDEO GAME

Let me confess up front: I am a gamer. Since the days before video cards and two-buttoned mice, I have explored the depths of the video game, taking refuge from the April rains and harsh northern winters to find solace behind my monitor. The PC can now take you places beyond books, show you things a movie never could, and even teach you things that cannot be found in the classroom. Through my travels in the virtual world, I've shot every major modern weapon known to man, caught passes from Brett Favre, and driven cars I'll never afford at speeds I'd never thought possible. I've seen empires rise and fall, nurtured small towns into metropolises, and led squads, platoons, companies and legions to victory. I've saved humanity more times than I can count on both hands. In return for my service in these pixilated realms the PC game has blessed me with gigs of tech-know, connected me to nearly half my friends, and inspired me to gain an acute level of comfort with technology.

Textbooks did not motivate me to build a computer, to look inside and analyze the circuits. Reading Rainbow never showed me how to connect to people online who live in Australia, establish a friendship, and then work seamlessly as a team. And lectures, while arming me with essential basics of the computer language, never compelled me to invest over two hundred hours of additional work and study outside of class to create a game of my own from thin bytes. The culprit for all this nonsense: I accuse the video game. I blame these virtual worlds for giving me the skills that modern employers demand and require to compete globally in the market of today. The video game is, in fact, an untapped resource for the education community that can be used to create realistic

simulations, teach with innovation, and portray a sense of purpose within the material that is hard to grasp in the classroom.

There are disbelievers out there, people who don't agree that this kind of technology exists for our gain. Andrei Codrescu, an acclaimed poet, makes his point perfectly clear in his article *Intelligent Electronics*: we find ourselves “worn out by the losing battle against ever-newer technology,” (Codrescu, 1997) specifically when dealing with computers. He builds his argument by accusing computer programs of hampering self-learning, stating that “our ignorance is now shielded from itself by a screen of faux simplicity.” Codrescu claims that “we now have to empty ourselves fast of information that literally goes through us” (Codrescu, 1997). In other words, Codrescu is worried that computers deliver information too quickly and therefore deprive people of thoughtful interaction. Along with these arguments, Codrescu asserts that “people used to go to coffee houses, hang out on their stoops,” but now they are sucked into their computers, ignoring civilization and refusing to interact socially (Codrescu, 1997). Other opponents agree, claiming that excessive computer use has been “identified as a mental health issue in other countries, including the United States” (Fackler, 2007). These critics all seem to agree that computers pose a “new and potentially deadly addiction,” and that their effects need “to be cured” (Fackler, 2007). However, many of these negative claims can be refuted using varied examples of one simple extension of the computing field: the video game. More often than not it is the video game that sparks imaginative and communal development, inspiring a sense of accomplishment and creativity.

Sad fact about the modern ritual of classroom material: most of the kids who can pass tests such as history, social studies, and science can't apply this knowledge to the

real world (Shaffer, 2006). This lack of purpose within the material draws students away from school and prematurely into the job market, where they are stranded in their pre-graduate ignorance. Of the one-third of all high-school students who drop out before getting a degree, over 80 percent said that more simulated "real world" learning opportunities might have helped them in school (Shaffer, 2006). Video games can mimic such an experience by "showing" rather than teaching through their ability to create cheap but efficient simulations. Many students today are learning more about art, design, and technology from their video games and other digital technologies than they are from our technologically impoverished schools. These tech-savvy individuals don't just consume but produce their own videos, animation, and game modifications (Shaffer, 2006). These students, the ones who are familiar with the technology around us, are the students who are ready to face competitors who live just a mouse-click away in Ireland, Finland, China, India, and dozens of other countries whose economies are growing.

According to James Gee, (2005) video games are surprisingly effective at teaching their users to play them. A gamer who is forced to read the game manual before diving into a video game would be much less likely to play the game or buy the product. Instead, gaming designers have learned to teach the player during the action. That is, the game withholds knowledge from the player until it feels the user is ready for that information. Because of this, the gamer actually *wants* this knowledge at the time it is distributed. The players thus discover key strategies and develop their play strategy with the game. After the initial tutorial, the game will set the user free to develop his or her own techniques to solve the game's problem. Soon the gamer develops beyond what the developers originally perceived, using tools in the game in ways that differ from their

original purpose, and in a sense creates a game specific to him. For example, in popular real time strategy games (RTS's) such as *Company of Heroes*, the player is forced to develop tactics and react differently in varying situations, especially online. These games over the internet usually require immediate interaction and cooperation with other humans despite enormous distance barriers. In this genre of games it is also difficult to predict an opponent, as there is no predetermined storyline. Thus, the player must solve the puzzle with the given tools amongst increasingly complex situations, forcing the player to adapt along the way. This provokes yet even more creativity within the player.

Some games promote and even require solving problems in a group with other online players. For example, examine the online super-community of *World of Warcraft*. At the onset of this particular game, the player is given a specialization in one field, but a handicap in another. As players develop the game as they see fit, they will be required at certain points to draw upon the trust and friendship of another player to help them accomplish a task that they are themselves incapable of completing. In turn, the player may find himself summoned by another player to do the same. Interestingly enough, this interaction often spans a wide variety of the human race, as the game does not emphasize or even recognize race, religion, or sex. The game can be seen here as something beyond a learning tool: it actually spans the racist barriers that are seen in real life among humans. Overall, some "form of affiliation [in video games] has been argued to be crucial for the workplace" (Gee, 2005). Teambuilding in gaming promotes social development, and often gives players communication and social skills beyond what can be learned in the average classroom.

Early on, the gaming industry realized the value of ‘pleasuring frustration.’ This is the aspect of some games that forces the player to develop themselves, as opposed to the game constantly firing information at them. In Tom Clancy’s *Splintercell*, the player is only taught the basics during the initial training as an elite CIA spy. Simply put, the player learns how to move, look, jump, and stay in the shadows. Immediately after, the player is challenged through a series of missions, with increasing difficulty, but is rarely told how to fulfill them. For example, in the first mission the player is told to shoot the cameras to avoid detection. In the second mission, the cameras are bulletproof, and the player learns instead to stay in the shadows. In the third mission, there is abundant lighting, and the player must learn to use the precious ammunition to shoot out the lights. Finally, in the fourth mission, the abundant lighting comes from reflections and moonlight, and the player realizes that the key is to time the camera movements and sprint through blind spots in the camera’s sight.

This demonstration of ‘pleasuring frustration’ also provides a motivational aspect to the game. According to Professor Gee, “Good games solve the motivational problem by what I think is an actual biological effect” (Gee, 2003). Often players begin to care for their character as they overcome the challenges that the game presents, which results in a more structured relationship between the player and the obstacles. The player who enjoys solving these problems is always rewarded with a ‘mission success’, and is then presented with a new, more difficult problem to solve. Players engage in this gaming world much like someone who puts together a puzzle, solving the problems, putting together the pieces, and being rewarded at the end with a clear picture and a feeling of success.

Other critics accuse video games of being so mindless that they can be demoted to point-and-click games, simply a matter of which player can click their mouse the fastest. Mindlessly watching a screen is comparable to watching television. Playing video games, however, is so much more than staring at a screen. As psychologist Robert Kubey (2002) points out in his article on TV addiction, “the obvious difference from television, however, is the interactivity.” In fact, studies have shown that video games increase reflexes, as well as pattern and visual recognition skills. As many professors teach using patterns, students who play video games are more likely to catch trends in subjects such as chemistry, for example. These improved reflex skills can be readily put to use in games utilized by the United States military, reducing hesitation in soldiers during virtual recreations of actual tactical scenarios that will one day save lives. Video games are also utilized by athletes and even online stock brokers, who rely upon instinctual reflexes to perform at their highest potential while in the workplace.

What’s the future of this growing technology? Developers want to get gamers as close to the action as possible, and although that does not mean getting into the television, it currently means getting off the couch. The Nintendo Wii debuted in November 2006, and has since taken gaming beyond the mental, and incorporated the physical. Digital sensors in the wireless controllers require you to actually mimic the motions that are used in sports like bowling, tennis, baseball and others (Schmidt, 2007). Whether you are swinging a sword or pitching a fastball, in order to play the game you have to swing your arms and groove your body. According to a study published by the Mayo Clinic in the January issue of *Pediatrics*, researchers found that children burned three times as many calories playing "active" video games versus playing traditional

hand-held video games (Schmidt, 2007). The University of Toronto is developing a Wii-based "therapeutic video game" that treats children who suffer from hemiplegic cerebral palsy (Shaffer, 2007). According to researchers, the nature of these kinds of games stimulates the motor skills of the weaker sides of the body, and results have shown that these video games "do the trick" (Shaffer, 2007). Video games that require action like the Wii are here to stay, and soon we will be able to credit advances in health as well as education to video games.

Video games have been stereotyped as harmful, destructive, and addictive, but these conclusions are hasty and a fallacy of accident. Instead, video games should be viewed more often as instruments for enriching players academically, socially, and physically. Video games have proven their worth as capable teaching instruments, helping players so well that they rarely realize that they are actually being taught. From a social standpoint, video games often bring a community together, binding a group of players and promoting teamwork. Games often motivate their players, offering a mental escape and a continual set of developmental challenges. Finally, games can be utilized to promote reflexes, pattern recognition skills, visual alertness, and dexterity. With all of this potential that the video game has to offer, it is clear that we must utilize its power and allow for its embrace within the educational community.

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