VIDEO GAMES AS A LEARNING TOOL

Position Paper

Video Games as a Learning Tool

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Abstract

Giving consideration to video games as an authentic tool for education and learning is a controversial subject. Video games have been vilified by the opinion of culture as a violent, pointless, brain-numbing pastime. Some of the games which even our youngest players engage in do not reflect positively on human nature, but appeal to the darker side of human behaviors. Many of our students come to us already immersed in this cultural gaming phenomenon. It is beyond our scope or power as educators to control or direct a gaming industry which has legitimately responded to the demands of the gaming generation, the consumers of video gaming. It is the position of this paper that as educators, we must explore the phenomenon of video games and try to understand the successes they demonstrate in engaging our students.
As teachers, we are educating a generation of students who have more access to technology, media, information, and communication than any generation before them. Students coming to us now have very little knowledge or experience with the 20th Century (Warlick, 2006). And yet so much of our educational system is still in the hands of 20th Century thinking and technology that I believe we are loosing ground to a generation that has a learning style we are not only under equipped to address, but that we are likely too unfamiliar with to properly address. Professor James Gee, who has studied video games and learning for the past several years, supports this premise. He noted that when he first played a video game, he discovered that all of his “baby-boomer ways of thinking and learning didn’t work” (Gee, 2007, p2). Among a bourgeoning wealth of technologies available to us today, video games are often in the forefront in our students’ lives. As educators, we may well find ourselves under informed as to their impact and their potential.

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It is the position of this paper that as educators, we must explore the phenomenon of video games and try to understand the successes they demonstrate in engaging our students.
Video games are not going to simply go away, so we must not only make our peace with them, but exploit what they can offer to improve our skills as educators.

Beyond the grumblings and condemnations of parents and educators as to the evils of video games, a great deal of research has been done on the impact of video games on society, especially our children. Perhaps the foremost condemning argument against video games, not only as a tool for education, but against the very genre itself, is the violence in some of the games. These games are designated as teen or adult, but are often played by younger gamers.

In testimony before the United States congress, Dr. David Walsh, President of the National Institute on Media and the Family, testified that 84% of teens, and 92% of male teens played video games. He further stated that “the more time spent playing electronic games, the lower the school performance” (The impact of, 2003, p. 6). His testimony also implied that those youngsters who preferred playing violent games performed more poorly in school. He also noted that violent game players, whether male or female, are more likely to argue with teachers and get into fights (The impact of, 2003).

In their study on the effects of violence in video games on children, (Funk, Baldacci, Pasold & Baumgardner, 2004), the researchers in this study found that “exposure to video game violence was associated with lower empathy and stronger pro-violence attitudes” (p. 11). The study supported the concerns raised that children exposed to video game violence could and would be desensitized to violence. They pointed out that in video games, “empathy is not adaptive, moral evaluation is often non-existent, but pro-violence attitudes and behaviors are repeatedly rewarded” (p.12).
The findings from these studies would make a strong argument against endorsing video games as an effective educational tool. Rather, the implication is that we should shun them, because of their antisocial impact.

There is a general perception noted in the literature (Pillay, 2003) that recreational computer games have no value towards students learning at school. Other perceptions that would be covered by this umbrella would be that games are pointless, that student’s pursue them mindlessly, and that most players do little more than mash buttons.

Another argument against video games is the health impact. There is a recognized obesity problem among our entire population, and children, especially “couch potatoes” are not immune from this issue. Schuh noted in her study (2004) that 99% of the children in the study had at least one television in the home, and more than two thirds of the students had computers. Findings quoted in her study concluded that “the average child consumed on average 6 hours and 32 minutes of media per day” (Schuh, 2004, p.334). Although the figures above include all forms of media, video games may be assumed to contribute some significant amount. If one adds those six hours to an approximate six hour day in school, the implication is that many students are seldom engaged in physical activity during the school day or when they get home.

The issues addressed in this first section raise some serious questions about video games, and media exposure in general. Although these issues need to continue to be studied and addressed, the fact remains that video games are entrenched in our culture and are not going to conveniently go away. The fascination, the engagement, and the interaction of our children and young adults will continue to be fed by the attraction of video games; therefore denouncing them is of little practical value.
Video games and learning.  

There are now voices in education that are asking us as educators to take a closer look at games, and to consider what they have to offer us in terms of learning. In their article on internet gaming and simulations, Asakawa and Gilbert (2003) concluded that there were several benefits to I-M (internet mediated) games. The literature cited in their study noted that negotiation through I-M games provided more “equitable and efficient results” (2003, p. 10) for the participants. Further, they noted that the technologies of the internet allowed participants in internet games to use images, sound and video conferencing at a distance to participate in simulations while overcoming some of the obstacles of travel costs, time and facilities (p.10). Although the I-M games in their study were simulations, not classic video games, they do share some common features. Video games and I-M simulations have objectives the player must accomplish, they allow for role playing which is intrinsically reinforcing, they allow for synchronicity between players, and both provide game facilitation, either online or through manuals or facilitators (pp. 11-12). Students using these technologies are learning and communicating in new ways, as well as developing practical skills which they can apply in their future careers.

Schuh’s study (2004) of media links and the classroom puts video games in an interesting light. Her study pointed out that in classrooms where the text was considered the final authority, open ended discussions were limited. She advocates allowing students to draw on their experiences with media in order to develop classrooms where the environment becomes “socially more complex” (p. 342). By allowing students to cite other media, which would include their experiences with video games, students will bring a
richer conversation to the classroom, while giving the teacher the opportunity to help them discern what information is beneficial and which distracts from the collective.

In his study on the cognitive processes of video game players, Pillay (2003) found that contrary to claims that recreational computer games do not help children, the study in fact demonstrates that “there may be structural knowledge that may be generalized to functioning effectively and efficiently in an IT-based environment” (2003, p.348). He also noted that by playing a variety of video games, players develop schemas which “have value when confronted with respective tasks at a later stage” (p.348). This concept of students developing a “repertoire of schemas” which could be used in future technology based education tasks, seemed to be the most compelling information from his study. His study also indicated that “playing recreational games may increase the time efficiency in accomplishing set educational tasks and obtaining correct solutions,” (p. 345) when playing educational games with similar structure.

In an interview with Professor James Gee, Bedigian (2007) drew out a great deal of insightful information. Gee is one of the voices of reason asking educators to take a closer look at what video games have to offer and what we can learn from them.

Gee points out that there is often a disconnect between parents and their children when it comes to what is happening on the home computer. Parents may be of the opinion that their children are “in there playing games” (Bedigan, 2007, p. 2) when in reality they are creating websites, redesigning the family computer, creating relationships with people across the world through internet games, and writing guides for games and discussion boards (Bedigan, 2007). This same disconnect may well indict some aspects of our educational system, especially with teachers who are technology resistant, or who are too
set in their ways to adapt to the rapid changes that technology brings not only to their teaching, but also to the way their students learn and communicate.

In the interview, Gee goes on to share how it suddenly dawned on him that “good games were learning machines” (Bedigian, 2007). He emphasized that good learning principles supported by cutting edge research in cognitive science were built in to these games. Gee argues that good games “stay inside, but at the outer edge of the player’s growing competence,” which allows the player to feel the game is challenging but doable. Gee calls this a sensation of “pleasurable frustration.”

Gee also addresses the “cycle of expertise” (Bedigian, 2007, p. 3) which allows the players to form good strategies based on their experience and previous knowledge. Gee also talks about the motivational aspect of video games. He suggests that the motivation comes from an “actual biological effect” (p. 3). By operating a character from a distance, Gee suggests that it makes humans feel “that their bodies and minds have actually been expanded into” the game space. This virtual identity is more engaging for the players. In his interview, Gee actually states that “we would do better at teaching science in school if kids really invested in a scientist identity. But you have to make it happen, you can’t just say pretend” (Bedigian, 2007, 4). He then admonishes education with the comment that “too often today schools are returning to skill-and-drill and multiple-choice tests that kill deep learning” (p. 3).

There are some strong arguments that question the value of video games, especially those that are supported by data that the violence in the games can have an effect on students’ empathy and desensitizes them to violence. In his interview, Gee argues that
there is a great deal of learning going on even in violent games like Grand Theft Auto (Bedigian, 2007), but as an adult he found some of the violence distasteful and circumvented it in his strategy. Children and young adults playing the same game may not have the tools to make such a decision. Regardless of these negative aspects, video games as learning tools have valuable inherent qualities that I believe should be taken seriously.

The structure of these games is intrinsically interesting to the students playing them. The video game industry is a financial gold mine because of the successes of its games and gaming strategies. Video games will not be going away, therefore I strongly feel that education must not only accept them, but must study them, and incorporate the positive points of their design and function into learning. Unfortunately, this is not currently the case. Gee points out that “…most companies making games for school don’t get it” (Bedigian, 2007, p. 6). He argues that the games allow students to point and click, but they do not allow students to become immersed in the identity of the characters in a game, or in the problem solving challenges so prevalent and popular in video games (Bedigian, 2007).

Beyond that, the way students respond to video games demands that we take a look at the way we instruct. Students come to our classrooms with skills in text messaging, internet skills, word processing, and are communicators who adapt to new technologies with great ease, confidence and comfort. But when they enter our classrooms, their phones are turned off and put away, their access to information is limited to a textbook or lecture, and every communication medium they are so comfortable with (and many teachers are still uncomfortable with) are inaccessible to them (Warlick, 2006).
I would propose that teachers need ongoing training in not only modifying their lessons to embrace technology, but also professional development in how to do better those things that video games do so well: immediate and appropriate feedback, necessary information on demand, skills for problem solving, opportunities for inquiry and exploration, and in general, making the classroom more engaging. This is a huge task, and one that most likely cannot be done without embracing technology as an integral part of the classroom. Creating and using creative, well designed, responsive, interactive gaming within the curriculum during the school day may be controversial, but I believe it may be a tremendous resource for reaching and teaching this new generation of technology savvy students.
References


