

Evolution in the Classroom: What Teachers Need to Know about the Video Game Generation

By Elizabeth S. Simpson

Research driving the mandates of the current education reform law, *No Child Left Behind*, indicates a 300% increase during the last 10 years in students being labeled with specific learning disabilities. In addition there has been a dramatic increase in the number of minority students labeled as having learning and emotional disabilities (U.S. Department of Education, 2002). One possible reason for this disturbing evidence is that our teachers and schools are not prepared to assess the skills or meet the needs of a “new” generation of learners entering their classrooms. The new generation I am referring to are those students who have daily access to interactive 3D environments, spend a significant amount of time exploring that environment and have the skills to maneuver and problem-solve within it. These environments are the 3D worlds of video games. There is evidence indicating the same students who are most at risk for failure in the traditional classroom setting also spend an average of twenty-seven minutes per day more than their counterparts using video games (National Center for Educational Statistics, 2002; Woodward, 2002). David Sousa, author of the book, *How the Special Needs Brain Learns* (2001), feels that the way our schools are currently set up could, in fact, be disabling for some students who might otherwise thrive given a different learning environment. Although research on the subject is still in its formative years, the research led by Henry Jenkins, Kurt Squire, Marc Prensky and James Gee, lends strong support to Sousa’s beliefs.

The students

Kids today spend more time outside the classroom — exploring, questioning and problem solving — than they do

“learning” in school. They make decisions based on their everyday experiences, their interests, their strengths and their desires. Their world expects them to interact with it and when they do so, they are in command. They welcome a challenge and the opportunity to test new boundaries. They are in control of their own destiny and the heroes of their own adventures. They support and guide the direction of a billion dollar industry. These are the gamers, the video game generation (Beck & Wade, 2004). Most are bright and inquisitive and can do things with a computer that the average teacher would never even attempt. Yet, many of the gamers in school today are at risk for failure. The risk is not predominantly for the reasons commonly cited, i.e., socio-economic status, cultural difference, disability or lack of opportunity. The gamers are not formally labeled. Instead they are referred to as lazy, apathetic, behavior problems, truant, disengaged or suffering from a bad attitude. Simply put, they are not happy in school. They are bored. They aren’t challenged. They see no relevance in the subject matter. Some are dropping out and many just are waiting it out, apathetic and unengaged. I believe it is because of the video game.

Like it or not, video games play a daily part in the lives of almost every child, either through actual game play or through having friends and family who are gamers (National Institute on Media and the Family, 2001). Therefore, understanding how this new generation perceives the world, interacts and problem-solves within it, can have a serious impact on how well the video game generation performs in school. “Once the child reaches the age of six or seven, the influence of the culture — whether or not it is manifested in a school setting — has become so pervasive that one has difficulty envisioning what development could be like

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in the absence of such cultural supports and constraints” (Gardner, 1991, p.105). The basis for the gamers’ cultural and social connections is often a shared gaming experience. Video games cross all cultural and ethnic boundaries. Not recognizing that these shared experiences exist, public education has failed to provide for the impact of that experience on students learning which deeply affects the way this generation responds to public education. Teachers, many of whom have never shared these experiences, face a deep chasm when trying to communicate with this generation in their classroom population.

The facts

- 92% of children ages 2-17 play video and computer games (National Institute on Media and the Family, 2001).
- Video games are most prevalent among children who are of elementary school age and older (Woodward & Gridina, 2000).
- The average American child grows up in a home with two televisions, three tape players, three radios, two VCRs, two CD players, one video game player and one computer (Kaiser Family Foundation, 2005).
- 60% of all Americans, or about 145 million people, play interactive games on a regular basis (Entertainment Software Association, 2004).
- From 1997 to 2001, computer ownership has increased 37% for Whites, 53% for Blacks, 53% for Hispanics, 38% for Asian/Pacific Islanders, and 46% for Native Americans (National Center for Educational Statistics, 2003).
- According to parents, children between the ages of 2 and 17 spend almost 6 ½ hours a day in front of electronic screens — television, video games or a computer (Woodward & Gridina, 2000).
- Approximately 80% of American families own a computer and 78% have video game equipment in their homes. (National Center for Educational Statistics, 2003; National Institute on Media and the Family, 2001).
- Households with more than one child are more likely to have a video game system than those with only one child. Homes with at least one boy are more likely to have a video game system (76% of homes with at least one boy vs. 58% of homes with only girls) (Woodward & Gridina, 2000).
- 100% of the college students polled in a recent survey

conducted at 27 campuses have played a video game either on a console or on the computer (Wilkins, 2004).

- Parents are the driving force behind the video game industry. In 2004, over 50% of parents polled said they were going to buy their child a videogame for Christmas. 90% of all videogames are purchased by individuals 18 years or older (Entertainment Software Association, 2004).

The teacher’s world — who is in the driver’s seat?

The majority of today’s teachers are women (79%) with an average age of 46. In some states, 60% of the teachers are over 50 (National Center for Educational Statistics, 2003). Most of the experience that most of these teachers have had with technology is limited to word processing, data bases, presentation software and perhaps some multimedia such as video and digital cameras. When these teachers bring technology into the classroom, they bring what they are familiar with, which, although it is a step in the right direction, is not necessarily engaging for the students. Teachers typically do not see the videogame as a learning tool. The teachers are working within an environment where change tends to be slow, money scarce and bureaucracy plentiful. Unfortunately their students are living in an environment where change is rapid, constant and anticipated. This generation of learner wants to be challenged. They want to have some control over the choices they make and the direction they take. The students are ready to be in the driver’s seat and in the fast lane (Beck & Wade 2004).

The problem facing teachers is that they do not want to give up the wheel. Their lack of understanding of this new generation leads them to believe that if they give up the wheel, the car will crash. The opposite may be true. The number one request by teachers for professional development revolves around behavior management/control issues. Teachers are encouraged to embrace differentiated instruction, a method of meeting the needs of the individual learner, yet many teachers are unsure how to achieve differentiation while still maintaining control; thus differentiation is slow to be integrated into the system. Differentiation is inherent in the video game generation’s world. The large majority make choices on a daily basis in every venue from food choices, information to be gathered, games to play, products to buy and shows to watch to music, clothing styles — the list is endless. If they want something they don’t have, all they have



to do is “Google” it and they are presented with a menu of choices: where to get it, how much it will cost, the history of the item and related subjects and sites. The environment is always individualized for them. This is the “have it your way” generation. The “do it my way” philosophy of the traditional old school does not work for this generation.

The gamer’s world — Move over, I’m driving; buckle up!

The game generation is in charge and ready to lead. Beck and Wade (2004) point out in their timely book, *Got Game: How the Gamer Generation Is Reshaping Business Forever*, that there are several distinct influences the experience of playing video games has on the way the game generation learns and organizes information. Prensky (2004) has likened the skills of the gamer to that of the highly effective workers of Stephen Covey’s era. Gamers believe, for example:

There is always an answer

Video games are basically fair. There is always a problem(s) that has a solution(s) which lead to an end result — the object of the game. There can be many different routes to reach the solution, all of which count equally if you achieve the goal. The answer is rarely obvious. A correct answer will give you information which will be useful in reaching the goal; thus you must persevere to find a correct answer. The answer is always relevant. You might be frustrated for a while and you may need help in finding it, but it is always there. Cheats (hints) are built into the program and are part of the resources available to you. Cheats are OK, because you are learning (gaining valuable information) as you move forward toward the goal. In schools, the answer is given to you; it is often not linked to anything relevant. There is only one right answer and one right way to get there and cheats are not to be tolerated! Students rarely, if ever, associate fairness with schools.

Nothing is impossible

In any game, you have the tools and the talent to be successful on your own, or you may connect with someone who has the information you need in order to move forward (collaboration). You see yourself and your friends do amazing things such as save the world from terrorists or alien invasions, beat the best team in the NFL, create thriving civilizations and manage a successful small business. You have the power to control your destiny. You can accomplish anything you want, and therefore you are motivated.

Trial and error

It is proven through game experience that this is the fastest, most efficient way to learn a game. If trial and error does not work, you know where to find the necessary resources and you can access them at will. You are in control of your own success or failure. If you persevere, you will achieve your goal. If you do not win, restart and try again. You will not make the same mistakes twice. Failure is a learning experience, not an end result as it is so often in schools.

Competition and collaboration

Competition is inherent in game structure. Gamers are always competing. Competition is the motivating factor. Competition does not eclipse collaboration; in fact, collaboration is often an integral part of furthering your success. Competition and collaboration are symbiotic rather than mutually exclusive concepts.

Roles are clear

In games, roles are clearly defined. You are the droid or the Jedi, the good guy or the bad guy, an employee or the boss. You choose your role and understand its powers and limitations. You understand the rules, the tools at your disposal and you are willing to take the risks. In schools, the roles are not as clear. The child’s role of “student” is defined at the discretion of the teacher. At the secondary level, a child may have several teachers a day who all have different definitions of the child’s role depending on the activity chosen or the concept being taught. For some children the teacher is imposing roles which the child may not see as part of his or her identity as a learner. According to Gee (2003), “a child in a science classroom engaged in real inquiry, and not passive learning, must be willing to take on an identity as a certain type of scientific thinker, problem solver, and doer (p.51).” For example, if a child is good at writing creative poetry, that child may accept the role as “writer” or “student of writing” in English class. However, if a child comes into the learning environment with an identity that is contrary to the role the teacher is asking them to perform, he or she will not be successful. Thus, a child with a history of failure in math may have difficult time accepting the role of “math student” (Gee 2003). Unfortunately, that child, in response to the perceived role incongruence, may choose his or her own role, as in video game play, and opt to take a less risky role as a successful “class clown” rather than a poor “math student.”

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Gamers are autonomous

Merriam-Webster Online Dictionary (<http://www.m-w.com/>) defines autonomous as “the quality or state of being self-governing,” especially the right of self-government. The culture of gamers is very much a culture of personal and professional autonomy. Gamers play well with others but accept responsibility and consequences for their actions, both positive and negative, within the game. Gamers feel they have the right to choose their own path and are confident in exercising that right.

Gamers dominate their culture

There is little or no attention paid to elders. Most elders are non-gamers. Non-gamers don't have a clue what you are doing and therefore, they can't be of any help. Most gamers have come to this conclusion through trial and error. Edginess and attitude are dominating elements of the culture. Gamers are risk takers. They move fast and play hard. They are the stars in their own adventure. They are responsible for their own success. Their experience tells them that with patience and perseverance, they will succeed.

Do your own thing

Within the game generation, leaders are irrelevant and often evil; ignore them. This is the attitude of the dot.com generation. They created and built the eBusiness concept that dominated the economic landscape during the 1990's. At the time, there were no leaders to follow in this field. They carved their own niche and the payoff was huge. They did their own thing. When many of the dot.com's collapsed, they pressed “RESTART.” They learned from their mistakes and most have become rising executives in new endeavors.

The games vs. school

So, what is it about video games that make gamers respond to the world differently from the way they respond in the classroom? Compared to the classroom, games are empowering, motivating, individualized differentiated learning environments with set rules which value the efforts of the individual child. Games are challenging and motivating. They offer the child a shared experience with their peers in a collaborative environment. They are a platform for problem solving. The structure is apparent; the rules are clear and unambiguous; and your role in the game is well defined. The goal is always attainable.

Video games are rule-based

The rules are applied equally to each player. The rules of the game have to be sufficiently well defined so there is no room for individual interpretation. Consequences of player behavior are clearly either positive or negative. If there is a disagreement about the rules of the game, the game is stopped until the disagreement has been resolved. In schools we tend to consider our classrooms rule-based. However, the teacher is the keeper and the interpreter of the rules. The teacher chooses the game. The teacher makes the rules and can change the rules at will, either for the class or for the individual. The game continues even when rules are broken. Gamers, who are confronted with rules that are arbitrary and subjective, will often “shut down” and refuse to play the teacher's game.

Video games offer various routes to success

School has a set outcome with one acceptable route. If you stay in school for 12 or more years, you will get out. Schools are currently set up to sort students by age; skill is secondary. For example, a student who is very successful at his/her grade level will stay at that grade level and not move up. However, if you are not successful in your grade level, you will fall back a level. Regardless of your success in the lower level, you will not be able to move back up. Skill is not relevant to upward movement.

In a video game, success at one level catapults you to the next, more challenging level. Usually, there are several different routes available to reach the next level. These routes are based on individual skill. You may fall back temporarily, but there is always a route that will allow you to move back up to the next level and beyond.



Player effort influences the game outcome

The amount of energy the player puts into the game invests the player with the outcome. Teachers are frustrated with the lack of effort students are putting into their assignments and coursework. Yet these are the same students who spend hours playing games which they find relevant, challenging and fun.

The player is attached to the outcome

The player has an emotional attachment to the outcome, meaning the player is happy if they win or unhappy if they lose. Juul (2003) calls this the “game contract,” which the player agrees to when they play the game. The spoilsport is

one who refuses to seek enjoyment in winning, or refuses to become unhappy about losing, in which case the gamer is not attached to the goal. Many gamers are not sure what the goal is in school or how they can help accomplish that goal. For this generation of learner, that is a serious problem. Gamers often fail to see relevance in the information presented in the classroom. In games, the objective is clear — build an empire, save the world, kill the zombies. The gamer sees value in killing zombies and saving the world. The gamer often does not see value in filling out a spelling notebook, completing another math worksheet or reading a 15th-century author. Teachers have to understand how gamers learn in order to make the content relevant.

Video games simulate real-life consequences

Medical colleges use video games to train surgeons, the Air Force uses “virtual flight simulators” to train its fighter pilots and many major corporations are using “virtual models” to train their junior executives. If you screw up, your patient dies, you crash or you’re fired. These are real-life consequences. Games can often mirror the complexities of real life. Gamers view the world from multiple viewpoints. They play games from the first, second and third person perspective, opening different routes to problem solving. They can literally get into a character’s skin and see the world from the character’s point of view. They understand that problems are complex but given a relevant goal, clear expectations and the autonomy to utilize a variety of resources, they can and do find the solution.

The bad news

Game over. Educators have been slow to pick up on this fundamental shift in the way the video game generation learns. They know something is very different in the classroom; they just can’t pin point what it is. Teachers are frustrated by their inability to connect with students. This dissatisfaction is evidenced by the 63,000 open teaching positions across the nation in 2003. The current majority of teachers is over the age of 46 and began teaching before the video game was such a big part of the youth culture. The average teacher rarely shares the same daily experiences or has the same interests as their students whose native experience with technology is so different from their own. Students and teachers are in a constant battle for control and influence based on opposing expectations. There is a huge cultural divide between the video game generation and the teachers, and that divide is taking its toll on both students and teachers alike.

Students are telling teachers loud and clear that they don’t want to play the teacher’s game anymore — game over. We are dealing with a new, rapidly growing culture that refuses to be force fed a “canned education.” Apathetic students are willing to be in school, perhaps, but motivated only by their parents, their friends or the law. Even though they are physically in attendance, they are not engaged in the “game” we call school. This attitude is a slap in the face to our traditional educational system, but it is a fact and it is not going to go away. It should be a wake up call — the rules have changed.

Today’s dominant emerging culture is the culture of gamers. The Kaiser Foundation (2005), reports that US kids spend an average of 49 minutes daily playing video games. The majority of those playing console games are boys, with girls more likely to play computer or handheld games. The

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study showed that on any given day, 63% of boys and 40% of girls spend part of their day engaged with video games. The data also showed that children 8 to 14 years old tend to spend more time engaged with video games than older children, 15 to 18 years old. Thus, given that 100% of college students polled on 27 campuses indicated they had played a videogame in the last 12 months, we can assume that gamers are not a rarity in the classroom. The members of the gamer generation are our future CEOs, doctors, lawyers, scientists and world leaders. Beck and Wade (2004) conducted a large scale study of 2,500 business professionals to determine whether the experience

of gaming, and growing up surrounded by games, changes attitudes, expectations and abilities related to how the video game generation performs in the business world (p.21). The results indicate that gamers see the world very differently than do their parents, teachers or other non-gamers. The structure of the game molds the gamers’ experiences, leading to a different way of looking at the world and, given a certain situation, determining how best to interact. Teachers who are not gamers do not live in the same world and therefore cannot see the possibilities. The gamers are trying to send a message to their teachers and to the educational system as a whole. Clearly, teachers are going to have to rethink how they present material in the classroom.

Embrace the video game

Many commercially available video games can be used as learning tools in the classroom. Current research has identified the main features of video games that teachers need to be aware of when using them in the classroom (Juul, 2003; McFarlane, Sparrowhawk, & Herald, 2002). Lesson plans using existing video games as the learning platform

are rapidly emerging. Squire has created teaching materials to support the learning in Sid Meir's game, *Civilization* (Squire, 2003). Teaching with video games can open new avenues of communication between teachers and students. They offer the student a familiar environment in which to demonstrate their skills, to move to the next level (Hostetter, 2002; Prensky, 2004). Teachers who are familiar with the covert learning found in video games can create win-win opportunities in the classroom. Ninety percent of all elementary and secondary students polled use their home computers for videogames, while only eighty-three percent use them for school assignments (National Center for Educational Statistics, 2003). Why not merge the two? I am not saying that the video game should completely replace the foundations that should stay intact. I am, however, saying that the use of video games as a teaching tool deserves serious consideration as a means of presenting information and bridging learning concepts. To explore the use of video games in the classroom forces educators to reevaluate their role as "teacher." Video games allow teachers to share learning experiences with the students and to label and extend the student's learning in such a way as to truly prepare the child for future challenges. Today's teachers, and

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Websites for further research and game reviews

- www.Eopinion.com
- www.Smartkids.com
- www.mediafamily.org

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