THE CASE AGAINST LEARNING IN SCHOOL WITH EVIDENCE FROM VIDEO GAME STUDIES

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Abstract

The author of this article argues that learning in school is an outmoded practice that needs to be reevaluated in light of current practices that children engage in outside of school as well as skills needed for the future. She draws on the philosophy of learning proposed by John Holt and researchers who have carried over his philosophy to demonstrate the qualities of real learning. Then, she demonstrates that learning principles built into the video games as proposed by James Gee, are more effective in engaging players in skills needed in the 21st century than many activities students perform in school.

INTRODUCTION

From the moment we are born, we embark on the journey of learning. Within the first few years of our lives, without any specific instruction, and surrounded by people of different ages, we master the most complex system there is to master, namely our

language. As argued by Chomsky (1965), our ability to learn a language is innate and we come equipped with mechanisms that allow us to master any language we are exposed to. Is this biological endowment exclusive to learning languages? A reasonable answer seems to be *no*, due to the fact that humans easily master many other abilities but in our modern, 21st century world, we seem to believe that the innate abilities with which we are born pertain only to language. Many, if not most, of us seem to believe that learning only occurs when it is taught by a qualified teacher and with 20 or more students of the same age sitting still, i.e., learning from within a school. Consequently, in fear of low school achievement many parents limit or even completely eliminate their children's exposure to non-school activities, such as video game playing. However, research shows that video games provide a rich and stimulating learning platform (Gee, 2002, 2007, Egenfeldt-Nielsen, 2005; Squire, 2006, 2011) so, rather than limiting children's exposure to these rich learning environments, we can study them to understand what makes them so rich and stimulating.

The beginning of the belief that learning is best achieved in a school setting can be traced back to the establishment of our educational system, which was marked by the Industrial Revolution. The primary goal of our newly created educational system at that time was to fill the factory jobs that became available and prepare their students for the society's challenges in those times. If it is still the primary goal of our schools today to prepare youth to deal with society's challenges, why is it that so little has changed in the school system when so much has changed in our society as well as our needs? By fossilizing an industrial model that is no longer relevant nor meaningful, schools are, in essence, not preparing students to fully participate in our globalized society today. The

idea that schools are not relevant and need a transformation to keep up with the changing

society is not new by any means. Dewey (1916, 1938), a philosopher and an educational

reformer, argued over 70 years ago that schools did not provide genuine learning

experiences but only an endless amassing of facts. He recognized that learning is

primarily an activity that arose from the personal experience of grappling with a problem.

A few decades later, John Holt (1983), another educational reformer, urged that our

schools are outdated and routinely suppress our natural endowment for learning with

which we are all born. Many contemporary scholars continue to make a case that our

schooling today is not up to par with learning that occurs outside of school in today's

world (Gatto, 1992, 2008; Gee, 2005, 2007; Faltis, 2003) and I believe that we have

reached the point that we can no longer afford to ignore it.

WHAT LEARNING IS AND IS NOT

One of the simplest observations John Holt (1983) made about children and the

way they learn is that "little children often dislike being given more help than they ask for"

(p. 28). This can manifest itself at school in a couple of ways. If children are given more

help than they need when they could accomplish a task on their own, they will not be

challenged enough and be bored in school. It might be worth noting here that once

children are accustomed to receiving help at every turn, even when they don't want or

need it, they may give up all agency and refuse to do anything without help. Gatto

(1992), for example, believes that one of the worst things school teaches children is an

'intellectual dependency.' If our help goes beyond what the child is ready to receive,

because the task is too far beyond the child's current ability, it will appear to the child that learning is difficult and he or she may become discouraged from learning. But the real problem is not that learning is difficult; it is the fact that schools dictate when and how and to what extent learning may occur rather than allowing children to learn on their terms at the time they are ready. If we have no freedom to decide what and how much we learn, learning feels constraining instead of liberating. Llewelyn (1991) expressed this very eloquently in the following way:

> The mind will be free, or it will be dead. It can be numbed, quieted, and restrained so that it memorizes names of Portuguese explorers and plods through grades one to twelve. If it is fiercely alive and teamed up with a forgiving spirit, it may find a way to be free even in school, and stay awake that way. But these strategies are defenses, not full-fledged learning (p. 46).

True, or *classic learning*, (Smith, 1998) "is archetypal, universal, deeply rooted, and uncontaminated. It says, very simply, that we learn from people around us with whom we identify" (p. 3). Therefore, learning, according to Smith (1998), can be viewed as 'joining the club' of a particular domain.. From the moment we are born, we join what Smith (1998) calls a 'spoken language club' (p. 17). In this "club" children acquire the language of the particular community by being immersed in it and they do not learn deliberately nor is learning forced upon them; it is rather a "by product, a consequence of something else far more important—establishment of identity" (Smith, 1998, p. 17). Throughout our lives, we become members of a variety of "clubs," such as a literacy club. We learn from other members of this club by observing them and slowly identifying with the activities, rules, and values of the particular club. There is no coercion, expectation,

or test to see if one is suitable to join it and learning happens inconspicuously, without

realizing it.

Learning in our modern society has come to be considered tantamount to

schooling. However, learning in school has also become very disconnected from the

outside world, which has been evolving since the first educational institutions became the

model for our schools today. Schools have become more modernized by having

computers (which some schools still cannot afford to use on a daily basis with all of their

students), but besides that very little has changed. Learning in school, for the most part,

means memorizing and "cramming" for the test. When the test is over, students do not

feel obligated any longer to remember the information as they will rarely use it in the

near future in or outside of school. From that perspective, learning may be perceived by

students as something to complete that involves "giving answers that please grownups"

(Holt, 1983, p. 95).

Our notion of learning is influenced by the institution of schooling to the point

that the very definition of learning is distorted in our modern minds. We rarely think of

learning as natural and self-motivating, but as something that requires a lot of effort and

is driven by external factors. Holt (1983) describes many situations which shed light on

the nature of learning evident in small children. For example, by watching his

granddaughter, Holt came to a conclusion that children learn not because they want to

please someone, but to satisfy themselves.

Many more examples contradicting the definition of real learning exist in our

society that can be attributed to our schools. For example, as Smith (1998) points out, we

do not think about learning as continual and something that can be inconspicuous, but as occasional. This occasional learning most likely occurs in school where it is monitored by someone, i.e. the teacher. Moreover, we think that learning is dependent on rewards whereas in reality it is not. Dev (1997), for example, demonstrated that extrinsic rewards lead to a decline in academic achievement. We also think that learning is assured by testing but in reality it is inhibited by it. Researchers studying the correlation of high-stake tests and school achievement find that they increase drop-out rates and decrease graduation rates (Amrein & Berliner, 2003). School mandated testing also has been shown to decrease content instruction, and increase the time spend on teaching test taking skills (Ricci, 2004; Smith & Rottenberg, 1991).

Taking tests, sitting at the desk listening to a teacher, or working on the exercises from the book may be helpful in learning to obey authority and following directions but if our goal is for students to be independent, creative, imaginative thinkers who can continue to innovate, or out-innovate our world, as recently urged by president Obama in his speech to business students, then our school practices hinder this goal. Researchers who may not be familiar with the philosophy of John Holt recognize the disconnect between school learning and true learning, which they argue today's youth and adults alike engage in outside of school. The work of James Gee with respect to video games provides critical insights into how players construct knowledge, which I will explain below.

LEARNING IN VIDEO GAMES

According to Gee (2007), "…good video games build into their very designs good learning principles" (p. 215), some of which are inherent in widely accepted learning theories. One of such theories is the theory of *situated learning* proposed by Lave & Wenger (1991), according to which learning must be situated in naturally occurring situations and embedded within activity, context, and culture. The game design principles are also based on the learning theory proposed by Vygotsky (1978) who argued that children learn through collaboration with more advanced peers or adults. Vygotsky formed a theory of Zone of Proximal Development, which proposes that a student learns best when he or she is not far from the current level to accomplish a particular task and who is provided with *scaffolding*, or assistance, appropriate for completing the task. Some scholars and educators have attempted to apply the aforementioned learning theories in education by developing programs and curricula optimal for learning. Gee extends this quest by exploring something that has already been proven to be very successful, namely video games, and explores it in order to discover what makes learning in video games so challenging, yet fun. What he claims is that game designers, motivated mostly by profits from sales and not educational reasons, knowingly or not, successfully apply many of the learning theories in their game design.

Gee has not always embraced video games in his life. He was in his late 50s when one day he decided to play a video game with his son after watching him for many years and being quite intrigued. After playing the video game with his son, he realized that it required the kind of learning and thinking that he, as a university professor, was not accustomed to and had not been experiencing since being a graduate student and

becoming set in his ways of learning. The experience of trying to learn to play the game

with his son proved to be very challenging and frustrating, yet kept him coming back.

That is when he made the realization that perhaps video games, even the violent ones,

have something to teach educators about effective learning environments. Gee (2005;

2007) uses examples of many different games, but he mainly talks about games "in which

the player takes on the role of a virtual character, moving through an elaborate world,

solving problems, or in which the player builds and maintains entities like armies, cities,

or even whole civilizations" (Gee, 2007, p. 1). He also gives examples of games with

violent content, which he claims still provide players with a good learning environment.

Even though Gee's (2003, 2007) and others' (Black, 2008; Blumberg, 1999) work

makes it abundantly clear that there are benefits of video games associated with the

development of critical thinking, motivation, and even writing skills research shows that

the public is very concerned that computer game playing has created a generation of kids

with behavioral problems, such as violence, short attention spans, and hyper

competitiveness (Squire, 2002). Although one should be concerned about any contexts

that generate any form of violence (or has any other negative effect on children), it also

needs to be acknowledged that research linking violent games with violent behavior has

been far from conclusive. While some studies indicate a correlation between violence in

games and children's behavior (Anderson, 2004), others point to a combination of other

factors (Porter & Starcevic, 2007), or even completely refute such correlation arguing

that violent video games provide a safe space for children to learn to cope with different

emotions, such as anger and violence (Jones, 2003). However, it is not my intention to

promote violent video games but to demonstrate that video game *design*, even in violent video games, makes learning challenging, yet not discouraging.

LEARNING IN VIDEO GAMES VERSUS LEARNING IN SCHOOL

What sets good video games apart from the school context is that a video game, unlike any textbook or a teacher, allows the player to take on a new, virtual identity, which is different from that of the player. Learning a new domain, whether it is reading or math, requires taking on the identity of a reader or a mathematician (Gee, 2007; Smith 1998). Learning in video games allows players to identify with others who value the particular game the player has chosen to play and by choosing a character, the player is forced to understand what it feels like to "be" that character. Gee (2007) explains this on the example of games *EverQuest* and *World of WarCraft* where a player's characteristics, such as race and gender, of his or her avatar (the character that the players create) determine that player's abilities, such as dexterity, wisdom, agility, etc. in the virtual world. In other words, learning and performing in the game is strongly tied to the players' new identity which they are in control of. Real learning, Gee (2007) argues, requires that learners commit themselves to the new identity because it will allow them to be fully and actively engaged in the game. By making such strong connections between the players and the game, game designers tap into what Gee believes to be the key for learning in general, namely being able to identify with the domain being learned. Students in schools rarely have the opportunity to see themselves as mathematicians or physicists; they are expected to learn what mathematicians and physicists do, but do not learn what it is like

to belong to their "club." Students are learning about something that they do not see a strong connection to and, therefore, it is meaningless to many of them. Can we blame the students for not wanting to learn something that is meaningless to them?

Because learning in video games is meaningful, players quickly develop an increasing understanding of a particular game and its 'semiotic design' and they take on the role of experts. A semiotic domain, Gee (2007) explains, is a sign system—images, words, symbols, sounds, etc. that takes on meaning in the particular domain. Gee argues that players develop the understanding and the expertise of the domain through critical, or deep, learning which happens when players consciously "attend to, reflect on, critique, and manipulate" the domain at the design level, or metalevel. In other words, one becomes an expert by thinking about the game as a system and a design space, not by memorizing images or sounds and their meanings in that particular domain. Gee proposes that such critical thinking "can sometimes lead to novel moves and strategies, sometimes ones that the game makers never anticipated" (p. 35). The discovery of the novel moves and strategies is what sets playing good video games apart from the rote memorization, test preparations and overall school curriculum, which is often structured around some definitive lists of facts that can be tested in a standardized way. Knowledge, however, is not merely a list of words and facts; it requires the understanding of how the words and facts relate to something else, so that it can also be used outside of the contexts in which it is first applied.

The knowledge of facts is certainly needed in a video game but it is only needed when used for a specific purpose, such as problem solving and it is never used outside of the context of the game. For example, when someone engages in playing a video game

for the first time, they are not given a manual to study beforehand; although they may

access it if they wish to once they begin playing and have a specific need for accessing it.

In a game called *Pikmin*, players (in this case, young children) are encouraged to think

about themselves as problem solvers. Sure, they will make errors as they go through the

game, because they have never been instructed on how to play it, but this is when their

learning begins so it is expected that they will make errors. The key is that the game does

not discourage the players from making errors but encourages persistence to correct them.

In a game, as opposed to school, errors are seen as opportunities for reflection and

learning.

The notion of "embodied learning" is mentioned repeatedly by Gee (2007) when

referring to video games. By "embodied learning" Gee means the kind of learning that is

felt and acquired not only through the mind, but also the body. In other words, our bodies

experience actions that are seen through our eyes. Therefore, it is possible for us to

experience an action without actually performing it, but by merely seeing or simulating

the action, and video games offer a lot of that. The author contends that,

> Children cannot learn in a deep way if they have no opportunities to practice what
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> they are learning. They cannot learn deeply only by being told things outside the
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> context of embodied actions. Yet, at the same time, children must be motivated to
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> engage in a good deal of practice if they are to master what is to be learned. (p.65)

In order for this to occur, however, children need to voluntarily engage in learning.

Although recently there has been a great deal of research and curriculum reform aimed at

getting students more involved in their learning, rarely do researchers and educators pay

attention to the question of what makes learning pleasurable and, hence, motivating to be voluntarily engaged. According to Gee (2007), for the most part, we all enjoy learning, it is when we are not learning that we get bored and lose our motivation. As Llewellyn (1998) puts it: "we are all born with what they call "love of learning," but it dives off into an elusive void when we go to school" (p. 47). Once becoming engaged in the game, however, players voluntarily immerse themselves in a multitude of creative tasks related to the particular game, such as discussing (often in their second language) game strategies and writing extensively about them (Black, 2008; Gee, 2007). Gee argues that this voluntary engagement is what sets schools and video games apart. All this additional work that players engage in outside of video game playing takes time and effort but it also allows players to think about the game in a new light and learn from others who have mastered the particular skill or move in the game, so it is worthwhile. It is very rare that students voluntarily engage in more school work outside of school because they do not derive pleasure and a sense of accomplishment from it. Gee believes that game designers are well aware of the "pleasure" factor and that they try to keep the gamer engaged and always learning something new.

Unlike schools, games offer participants a continuous feeling of learning by constantly challenging them and letting them experience new obstacles with a varied level of difficulty. Consequently, the player never feels bored or left out since the game does not allow the player to use skills that have been routinized or automatized. This is precisely what occurs in many classrooms where the repetition and memorization of rules represent the cornerstone of teaching. Scholars (Cummins, 1979, in Faltis, 2001) have long argued that skills that are automatized are not demanding enough and they do not

promote active cognitive involvement. Gee (2007) points out that automatization should
not be the goal of education as it "gets in the way of new learning if it does not change
and adapt in the face of novel conditions and new opportunities" (p. 67). The mastery of a
particular skill should not be the end goal, but as part of a process of figuring out paths to
progress to the next level in the game. Thus, the mastery of a particular skill also requires
players to learn new skills so that the learning cycle can continue.

Unfortunately, school values the teaching of skills merely for their own sake,
which may be one reason skill learning is made so difficult and boring. Imagine if
students were required to attend lectures about how hammers, saws, and screwdrivers are
used, and students were then tested on what they learned without ever being shown what
these tools actually do, and certainly without ever having an opportunity to pick up a
hammer and pound in a nail themselves. Skills are tools; they are useless to anyone who
does not need them or have a deep understanding of what they are for and how they can
be utilized in many different ways.

When teaching and learning is done mostly for the purpose of test taking, students
generally fail to connect the prior learning and utilize it in the higher level of learning and
across different disciplines. Testing, as argued by Smith (1998), has never been shown to
actually promote learning nor has it been reevaluated since its beginnings in the 1920s.
However, as the quality of education is declining, school officials and policy makers call
for more testing, which may seem odd if we have no empirical evidence that it works. We
all have become accustomed to testing and trusting its results to the point that students
are reluctant to read or write unless it is tested and improving education appears to be

tantamount to creating new tests (Smith, 1998). What testing has been shown to accomplish, as argued by Smith, is to turn our "teachers and students into marionettes, manipulated by offstage puppet masters" (p. 65). This analogy is very appropriate when we consider the many educational policies that have been advocated by people who have not set foot in classrooms since graduating, but who claim to know how to best educate our children.

Playing video games, as opposed to activities performed in school, is very engaging because it immerses the players in the game mentally. To ensure that this intellectual process is not tedious, but pleasurable at all times, there are a lot of easily accessible "objects and artifacts that store some of the knowledge for the players" (Gee, 2007, p. 107), which they can use at any time, either during or after the game, which allows them to free their mind and engage in the game. In school, however, this would be considered cheating. In real life, just like in video games, we have easy access to knowledge whether it is stored in other people's minds, online, or in video game's objects. Players learn to use the knowledge when needed and by freeing their mind from trying to remember every detail, the players are able to accomplish more. In a game like *World of WarCraft*, players form teams based on the skill sets that they possess and each of them contributes to the success or failure of the task they are involved in. Consequently, knowledge is distributed among the players and their "smart tools".

Allowing players or students to accomplish their goal in many different ways allows them to personalize their learning to their own styles and rely on their strong points, rather than being expected to accomplish a task in one particular way. When playing a game, players "get multiple and multimodal sources of information to enable

their own discoveries about the story, the virtual world, and the problems they face" (Gee,

2007, p. 134) and the likelihood of eventually succeeding is so much greater. With this

principle in mind, game designers ensure that they reach a greater range of customers;

customers with different abilities and learning styles. Although much current research

exists on the topic of differentiated learning (e.g. Tomlinson, 2009) in the school context,

trying to fit this new approach into the old system is a daunting task and, more

importantly, teachers have been shown to be ill-prepared to implement differentiated

instruction into their teaching, and seem to believe that such instruction is not necessary

(Logan, 2011).

It is also important to recognize that learning is not just a cognitive but also a

social process (Vygotsky, 1978; Lave & Wenger, 1991; Gee, 2004). If learning is a social

experience stemming from action, the environment in our schools may seem constraining

to say the least. Video games not only afford synchronous interaction within game play

but also asynchronous interaction through gaming forums in which players explore

gaming interests through conversation and exchange of game-related materials. The

social context of gaming consequently goes beyond the walls of the classroom where

students learn through participating in so-called *affinity groups* (Gee, 2007). It is rare,

however, to see students extending their learning of school-related projects beyond what

is required by the teacher. Moreover, it is important to remember that playing a game, in

and of itself, is an experience that offers a social-like interaction by engaging in role play

with other characters in the game so even when the game is played alone, it may offer

more learning opportunities than the structured, artificial, and very often behavior-constraining classrooms.

Lastly, school instruction leaves little time for practice (and I do not mean the drill activities with which we are all too familiar), which is essential for deep learning to occur. In school, "practice" may be associated with applying the newly learned material to specific tasks or exercises. For instance, the teacher in the ESL classroom lectures about the rule of the third person singular in the Present Simple tense and for "practice" students are asked to create a morning scenario and use the rules to talk about the activities this morning routine may involve. Another example is students of physics who are asked to memorize Newton's Law of Gravity and calculate the force of gravity between two objects for practice. In both cases, students may be able to accomplish the task at hand but they are not likely to extend their knowledge beyond the assigned tasks because the quality and the amount of practice are too limited and too decontextualized. The decontextualized practice that predominates school education does not lead to deep learning, as deep learning occurs when a learner desires to re-engage a challenging activity over and over again and when they are given proper time to interact with other human beings (or avatars as in the context of a video game) in a meaningful context (Gee, 2007; Lave & Wenger, 1991). Video game players, as opposed to learners in school, engage in practice in context from the moment they begin the game and are free to continue practicing for as long as necessary to master the skills they need to successfully complete the game.

CONCLUSION

While a lot has changed in the world since the Industrial Revolution and in the

ways students interact with one another and spend their spare time, our education system

continues to expose them to materials and methods that have been used for many years

and are, for all practical purposes, obsolete. Not only does the reproduction of past

practices affect the effectiveness of instruction, it also affects the future of our youth who

find it difficult to find school learning relevant. One of the essential qualities needed in

our modern world is problem solving—we need our future citizens to be 'solutionaries',

as Zoe Weil (2012) so expressively termed, in order to deal with international conflicts,

pollution, economy, etc., but schools do not seem to engage their students in activities

that would provide them with opportunities to exercise these skills. If we truly want our

students to learn, we need to create pedagogical situations in which learning is seen as

having the potential of having an impact on our lives instead of reproducing outmoded

approaches through which learning is viewed by students as a top-down imposition.

While playing a game, players engage in critical thinking and strategizing, which

is voluntary and allows players to have full control. All this critical thinking and

strategizing occurs in a fun and stimulating environment, which keeps the players

motivated to master their skills. One can argue that learning school subjects is not

supposed to be fun and that it takes lots of effort some students are just not willing to put

forth. If that were true, those same students would not be willing to put effort in any other

activity, such as video gaming, which, as has been shown, requires time, effort, and dedication.

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