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# Learning from Video Games in History

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Learning from Video Games in History

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Applied Research EDCI-589

Dr. Beverly Epps

Spring 2013

"I pledge…"

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## Introduction

In recent times a surge of new technology has swept across American youth and its influence has become a dominant force. While some welcome the surge, others treat it with distrust. Teachers are divided as to how much of the latest instructional technology is appropriate to integrate into their lessons but there is a growing argument for using educational video games in the classroom. This paper examines the status of educational video games.

Educators have always struggled to motivate and engage their students but more and more, students appear to be giving up on the traditional classroom, yearning for a more modern method of learning. At the same time, video games have significantly improved and have become increasingly popular. These factors strongly suggest that the lack of classroom engagement can be countered by educational video games. This paper discusses the benefits and drawbacks of the latest educational video games. It also provides examples of successful video games used in core subjects and makes a suggestion as to where and when students may be the most inclined to adopt educational video games.

### Problem Statement

Students should be actively engaged in the classroom. However, it is not unusual to find them sleeping, talking and distracted. The lack of relevancy in teaching methods to the students' internet-based learning styles results in their becoming increasingly disengaged from the learning process.

### Rationale

The reality is that society is steeped in digital complexities and for teachers to be effective the classroom must match the technology that dominates the students' world. If we do not transform traditional classrooms into multi-media hubs, we can expect continued student

disengagement and poor educational results. To best prepare learners for the 21st Century, we must invest heavily in the technology that is currently a real and present part of their world and which will increasingly grow more relevant to their future.

## Research Questions

1.) What are the benefits and drawbacks of video games in education?

2.) How proficient are teachers in instructional technology?

3.) How are video simulation games being used?

4.) For what subject areas and age groups might video simulation games be most effective?

## Literature Review

### Persistence of Disengagement

Students need to be engaged in order to learn. Teachers are constantly searching for effective strategies to foster engaged learning in their classrooms. However, while teachers demand that students pay attention in class, there are students who are simply not interested. Studies show that students have the ability to appear actively involved while they are actually engaged in thoughts or activities that are unrelated to the curriculum (Harris, 2008). Students may have their eyes on the teacher or their pencils on the paper, but this does not necessarily ensure that they are engaged in the teacher's lesson. Whether students are learning should not be measured by their appearance, but rather their mental connection (Harris, 2008).

Teachers have tried to make their lessons more engaging with a variety of different strategies. Being animated in their delivery, assigning project and problem-based learning, and playing instructional games are common attempts at increasing engagement (Mazer, 2013; Kee et al., 2009; Wirkala & Kuhn 2011). Of those strategies, instructional games may be the oldest and most successful (Charsky & Mims, 2008). Chris Crawford explained that educational games

are an essential part of nature, i.e. lion cubs learn to run and hunt by chasing and playing with

their siblings (Kee et al., 2009). Human learners seem to like playing games but dislike

traditional school activities such as reading.  In 2012, the SAT reading scores were the lowest

they had been in 40 years (Brown & Layton, 2008).  Students are not largely choosing to read

books or newspapers to acquire new information, but instead consult digital media (Kee et al.,

2009).  The digital world is proving to be more engaging and traditional teachers are at a

crossroad with their use of technology and understanding of how it affects learners (Kee et al.,

2009; Simpson & Clem, 2008).  Marc Prensky notes in a study that a high school student

complained that he had to "power down" when he went to class (Prensky 2001). Prensky, the

creator of Games2train.com, explains that learning is enjoyable but education is typically dull

(Kee et al., 2009).

Playing video games is far from boring to American youth.  The National Institute on

Media and the Family concluded that 92% of children between ages 2 and 17 play video games

(Simpson & Clem, 2008).   Furthermore, video games were originally designed for educational

purposes (Abrams, 2009).  Scholars speculate that if educational video games and simulations

were largely used in the classroom, the overall amount of learning would drastically increase

(Charsky & Mims, 2008).  This notion, however, is met with skepticism among some teachers

for a variety of reasons (Auman, 2011).  The benefits and drawbacks of classroom video games

are important for educators to understand.

**Benefits of Video Games**

One of the most obvious benefits of educational video games is the persistency of the

game.  The digital aspect makes the trial and error process essentially seamless.  Hitting the reset

button or starting over on a previous game level is part of the process.  Players are on a mission

to formulate a hypothesis and test it.  If it does not work, the player must understand why.  When

players figure out what does work, they have resolved their issue, teaching themselves by the

process of trial and error (Kee et al., 2009).   Kee et al. explain that this is called "cognitive

disequilibrium," the process where learners gain new perspectives as a result of interacting with

new information (Kee et al., 2009).   Games are designed for players to achieve a goal and work

through the difficulties that prevent the player from reaching that goal (Suja'ee & Khine, 2009).

Marc Prensky explains that when one makes a mistake and then learns from that mistake, this

correction prevents the same mistake from reoccurring (Hong et al., 2009).  Video games meet

the needs of today's learners, by allowing the trial and error process to be fast and convenient

(Simpson & Clem, 2008).

Another benefit of video games is that they naturally differentiate and promote ownership

(Simpson & Clem, 2008).  This means players can adjust the level of difficulty, select and

modify their characters, and make other choices as to how the game is played that provide

individualized opportunities.  Gamers call this "modding"( Simpson & Clem, 2008).  Some users

initially play the game on easier settings and as the objectives are mastered, may choose to

increase the difficulty.  Others may already be proficient with the material or the game itself and

want to challenge themselves by setting the game to a difficult level when playing.  Lectures,

readings, videos and other media do not give these choices and do not allow for the ownership

that is provided by video games.  Students become decision makers and instead of hearing,

reading, or seeing how an idea has taken shape, they actually become the entity and experience

the process first hand and their progress is self-determined (Simpson & Clem, 2008).  They

choose to operate the game according to their current level of understanding. This allows for

students at all different levels of proficiency to stay challenged and therefore engaged.  By

differentiating in this way, teachers using video games will not have to create intricate

differentiation plans, because the games will automatically do this for them.

While educational video games naturally differentiate, perhaps the most significant

benefit lies in games' ability to hold the students attention. Student engagement is a teacher

priority and is closely related to retention (Charles et al., 2011).  Experts argue that the most

important type of engagement is cognitive engagement. Cognitive engagement is thought to

occur when students approach the learning process with the intent of calculatingly achieving

knowledge for the purpose of self-betterment (Harris, 2008). Other experts argue that emotional

engagement is equally important. When students become emotionally committed, they go

beyond cognitive engagement because they are wholly committed from within their own psyche

(Harris, 2008). When players become emotionally attached to a game, it may be hard to draw

their attention away from the game (Suja'ee & Khine, 2009).  In contrast, a classroom

environment that is lecture or worksheet-based might have students become disengaged by

something as simple as a pencil dropping on to the floor.  Experts note that the games can

provide both sustained cognitive and emotional engagement (Hong, et al 2009; Suja'ee & Khine,

2009).

In addition to encouraging cognitive and emotional engagement, video games are highly

motivational because students can become highly competitive which can boost school

achievement (Becker, 2007).  While players are decidedly engaged with the video game during

play, they are also motivated to do their best to so the outcome compares favorably to others.

Athletes often admit that they score and play better when competition is intense. Not only does

competition provide motivation, but also well-designed video games can create intrinsic

motivation.

Intrinsic motivation is similar to cognitive engagement in that the individual is focused

and passionately working towards a goal (Suja'ee & Khine, 2009).  Video games are framed by

certain objectives that, in themselves, are motivating (Suja'ee & Khine, 2009).  If learning by

video games is fun for students then that is all the motivation they need (Simpson & Clem,

2008).  Kurt Squire noted in his dissertation that when *Civilization III* was incorporated into his

history class, students began asking about topics that they had not been interested in before (as

cited in Kee et al., 2009). Inquiring about information from the instructor, be it for individual

betterment or for the sake of the video game, is a constructive part of learning and another

benefit of using appropriate video games in schools.

Motivation and engagement are necessary for the teacher's ultimate goal of promoting

higher-order thinking. However, many teachers complain that the current push for standardized

tests that require rote memorization does not promote higher-level thinking (Gallagher, 2005).

Video games promote the opposite of rote learning because they encourage higher order

cognitive development and analytical thinking (Hong, et al 2009). They foster constructivist

learning, where new learning generates a connection with existing ideas that in turn can be

applied to real life, creating a more effective way of thinking and problem solving (Hong, et al

2009).

Higher-order thinking is frequently accompanied by inquisitive students and the need for

feedback from the teacher.  Students desire timely feedback but grading papers is time

consuming, and with the growing responsibilities of American teachers, this might not always

occur in a timely manner. However, because video games are electronic they are able to provide instant feedback (Charles et al., 2011). Students are more engaged when they know they will be finding out immediately how they performed (Delialioğlu, 2012). Furthermore, game based feedback (GBF) is a powerful tool provided by video and simulation games where the players track their progress through a series of points and rewards (Charles et al., 2011). For example, a player might receive 10 points by simply logging into the game. Upon playing, a student scores points and passes checkpoints as a result of being correct. If a student is incorrect, it is discovered almost immediately (Charles et al., 2011). This makes the process of tracking progress easy, enjoyable, and productive.

All of the benefits of playing video games are essentially an alternative to actually having field experience. Video games and simulations allow for students to experience concepts that would otherwise be too costly or inconvenient (Simpson & Clem, 2008). For example, field trips require busses, bus drivers, fuel and ticket money, travel time, etc. The same ideas that would have been learned on the field trip may easily be learned by using the appropriate video game, and at little or no cost. The capabilities of today's video simulations provide situations that are remarkably close to reality (Suja'ee & Khine, 2009). In science class, animals can be dissected virtually. While this is not the hands-on experience a teacher may want to employ, it is surely more beneficial than a worksheet or another supplemental plan if a school cannot afford the animals. In business and economics classes, virtual businesses can be opened and operated. This exposes the learners to the realities of business and poses challenges that would be met if a business were really opened (Hong et al., 2009). Again, nothing would benefit the student more than using the real thing, but simulations and other digital alternatives are viable and comparatively inexpensive.

**Drawbacks of Video Games**

When weighing the benefits and drawbacks of video and simulation games, it is important to understand the background of the persons gaming. There exists a wide variety of proficiency with 21st century technology and research indicates that much of this is a result of one's age. Mark Prensky, the founder of Games2train.com, notes there are two different kinds of people: digital natives and digital immigrants (Kee et al., 2009). Digital natives have depended on electronics since the moment they were born. Those who learn how to manipulate electronics and digital devices at a young age have an advantage over those who learned such later in life. In essence, this can be compared to the child learning several languages in contrast to the adult attempting to learn a single new language. The older learner must work harder at memorizing and overcoming an ingrained language. A golfer picking up the game later in life is usually at a disadvantage when compared to someone who has been playing since youth. This notion helps explains the frustration of digital immigrants towards video games and the ease of that digital natives demonstrate. Therefore, since 25% of today's teachers are over the age of 50 (Simpson & Clem, 2008) and are digital immigrants, while growing up, they did not have computers as part of their daily lives. Many of these teachers are experts in their content fields but have yet to adopt the latest educational innovations (Simpson & Clem, 2008). Some teachers admit they do not know how to use and implement computer games and have an overall negative view of video games (Auman, 2011; Gros, 2007). Furthermore, those who are comfortable with a teacher-based lecture style often find it difficult to try other formats (Auman, 2011).

The hesitation to use video games at school is also due in large part to the inflexibility of curriculum (Baek, 2008). According to a survey, this is the most significant drawback for expert teachers (Baek, 2008). They said that fun and popular games are difficult to align with

curriculum because commercial over-the-shelf (COTS) game designers do not operate with school curriculum in mind (Baek, 2008). Therefore, teachers would need to spend a considerable time playing the game and seeking ways to relate it to the curriculum (Charsky & Mims, 2008; Baek, 2008). A teacher might spend time working with a game, only to find that it merely scratches the surface of what is being taught. Unpacking games to see what they offer might not be what teachers consider to be the best use of their time, especially when what they find does not effectively cover the curriculum at hand.

As teachers worry about games not matching the curriculum, it is important to note that educational video games have generally not matched the overall quality of COTS games (Kee et al., 2009). Many of the current video games being used in schools are more "drill-and-response," (Kee et al., 2009). As a result, students find current educational games less entertaining than COTS games. The engagement of many video games used in schools, then, is not the matched by the engagement of the games played at home (Simpson & Clem, 2008).

A related concern is the lack of supporting materials to accompany computer/video games, particularly how they can be used in the classroom (Baek, 2008; Auman, 2011; Becker, 2007). Many teachers are aware that games are available, but there is little available that can help guide their implementation of games for the upcoming lessons (Becker, 2007; Baek, 2008). Because teachers currently have heavy time constraints (Becker, 2007), developing their own resources to implement games in the classroom is considered by many to be just another good idea that requires an enormous amount of their time (Becker, 2007). Many digital immigrant teachers are used to traditional teaching and completely restructuring their teaching style is not something they are likely to do (Auman, 2011). There is no master list of educational games that are approved by experts (Baek, 2008).

Just as the lack of resources deters teachers from including video games in their lessons, there are concerns about student readiness (Baek, 2008). Some students might be versed with technology and can figure out how to play on their own, while others with less exposure may struggle.  Each time a new game is learned, there is a certain set-up that takes place initially. Controlling the settings, creating the character, and adjusting to the rules and objectives may take more time than the game's mastery would yield to the student (Baek, 2008).

Another concern is the overall patience level of the modern student. Digital natives seek out information at what is called "twitch speed." (Simpson & Clem, 2008) This means that they are quick to find what they need and to disregard what they do not need.  By doing this, they eliminate the information that, in previous generations, was often stored for later use. (Simpson & Clem, 2008) Video games do not generally give the players information that they will not need.  In theory, a video game exposes the learner to less overall material than reading and other learning methods.

Student readiness and time constraints are also met by concerns over fixed class schedules (Baek, 2008).  Standard curriculum often does not allow time for games.  For example, if a pacing guide recommends two class periods be spent on a topic, but learning a computer/video game takes half of the first day, the teacher would have little reason to devote so much time and energy to something that can be taught more quickly and effectively with traditional methods (Baek, 2008).

Teachers are not only concerned about issues with time, but also the cost of video games. While budget limitations were seen in Baek's survey as the least concerning issue, effective software is often costly (Baek, 2008).  In addition, the computer capabilities needed to support

games are generally not found in school computer labs. Many schools have insufficient servers to support games that require high-speed internet connections (Baek, 2008).

Finally, the drawback commonly known to digital immigrants is the reputation of modern video games. Some teachers are under the impression that the negative effects of gaming outweigh the positive (Baek, 2008). According to a survey, teachers are concerned about the addictive nature of games, the possible impact on their students' eyesight, the inappropriately mature content, and the elevated levels of competition games create (Baek, 2008). If a very engaging educational game is addictive, one has to wonder whether the player is actually gaining knowledge by playing extensively, or if the action or "fun" part of the game is an overall detriment. Society has understood these effects and teachers have good reason to be concerned. Regarding the inappropriate content, many COTS games have given the entire industry a bad reputation. For example, in the game *Custer's Revenge*, the user is encouraged to commit a sexual assault on a female native who is tied to a pole (Kearney & Pivec, 2007). The game was banned and was the target of much national protest (Kearney & Pivec, 2007). Since video games now contain explicit materials, a lack of supervision can have adverse effects.

## Successful Gaming in Business/Economics, Math, Science, and History

**Business/Economics: *Restaurant Empire*™.**

One video game simulation that has been effectively used in business and economics classes is *Restaurant Empire*™. Players of this game start out with a cash budget and they are to open and maintain a restaurant. They are responsible for every aspect of the establishment including designing, managing, cooking, and employing (Simpson & Clem, 2008). A study was done to see if it could be used effectively in connection with state learning standards. The

teachers took important steps before, during, and after the gameplay (Simpson & Clem). These steps are vital to ensuring the lesson is meaningful and effective. The study found the game to pose realistic challenges that taught valuable, standard-related lessons (Simpson & Clem, 2008).

**Math:** *Dimension M*

A video game that has gone to great lengths to appeal to the player while clearly being educational is the game, *Dimension M*. The interface (how it looks and plays) of *Dimension M,* mimics the game Halo, which earned $200 million in the first 24 hours of its release in 2010, more than any movie in U.S. box office history on its opening weekend (Fisher, 2010). While the game looks the same as Halo, the violence is supplemented with mathematics. Players must master a variety of standard math skills in order to successfully play and win the game. A study done on the potential success of this game's implementation in math classes found that students using Dimension M made considerable gains in their standardized test results. Students in the study went from a 43% mean score on their pretest to a 63% on their post-test. They more than doubled their understanding of prime numbers and perfect squares by playing the game (Gillispie et al., 2010).

**Science:** *WolfQuest*

Life Science classes are being met with an increase in available simulation software. One popular game is WolfQuest, created by the Minnesota Zoo in 2007 (Ashe, 2007). This is a first-person, or in this case, first-wolf game where the world is seen through the eyes of a wolf that is part of a pack. Players learn about Yellowstone Park and must overcome the ecological challenges that wolves face. Players earn bonuses for authentic wolf behavior and are able to

chat with others around the world playing the game. The Minnesota Zoo found that its players took a higher interest in wolves and more importantly, in science generally (Ashe, 2007).

**History:** *Civilization IV*

A tech-savvy high school student says that when he goes to school he must "power down," implying that the school does not challenge him or meet his 21st century needs (Prensky, 2001). Sid Meirs must have had this problem in mind when he designed the *Civilization* series which is one of the highest grossing COTS games ever published (Kee et al., 2009). *Civilization IV*, which sold six million copies in the first six months of its debut, aligns with a multitude of secondary world history learning standards. A study done on the effectiveness of the game's use in history class gives it high marks and indicates bright prospects that his accomplishments can provide. In an urban, Florida high school, ninth graders took part in a five day experiment where *Civilization IV* was played for three of those days. The principal was shocked at how engaged the students were and how well they worked collaboratively. The conductors of the study were impressed at the level of sophistication they demonstrated in their decision-making. The students wished they could play games like *Civilization IV* in all of their other classes. (Pagnotti & Russell, 2012). What was important about the results of this game, and so many others like it, is not how the games affect students' test results, but how the technology affects their attitude about learning in general.

### Transitioning to Classroom Video Games

Although many teachers are reluctant to have their students play video games, studies show that they will change their minds after being properly introduced to the idea (Simpson et al., 2008). Half of teachers would be open to using educational video games when the word

"game" is used in the survey (Becker, 2007). Furthermore, 90% of teachers who were trained on how to implement video games and simulations said they wanted to use them as a teaching tool (Simpson et al., 2008). The potential for video games to revolutionize the teaching profession is enormous. Some argue that the revolution has already begun (Hong, et al 2009; Suja'ee & Khine, 2009; Charsky & Mims, 2008). Thus, all teachers who have yet to join the transition from traditional instruction to 21st century digital game and simulation instruction deserve to be approached about it in a non-threatening way. They should have various games and simulations modeled and should be given proper instructional tools that accompany the games. Teachers entering the workforce now should already be familiar with video games, as they are digital natives. However, the digital immigrants teaching now also deserve the opportunity to adopt educational video games that can tailor their teaching practices to best prepare their students for the future. As educators look for this to occur in public schools on a large scale, it is important to look at the most opportune settings.

Not only do teachers need to work towards embracing video games, but video game designers need to collaborate with educators to create a new market of educational video games that can be sold to public schools across the country. Currently, COTS games are designed for entertainment purposes and generally lack specific, core subject content. At the same time, academic-based video games are typically less entertaining than COTS (Charsky & Mims, 2008). A new market campaign should combine COTS award-winning graphic designs with specific educational standard alignment. This campaign could potentially negate the issue of student disengagement, a problem that can easily be overcome.

Knowing that playing games is an efficient means of learning and that children are infatuated with electronics, we should acknowledge the potential power of classroom video

games.   If COTS video game designers worked with developers of school curriculum, the role of

the teacher could forever change from irrelevant and boring to meaningful and dynamic.

Learning situations created by video simulation games are reaching students in a way that

lecturing teachers cannot.  Factors that prevent the adoption of video games in the classrooms

such as teachers' fear of computers, lack of training and funding could easily be rectified by

standard school protocols such as more relevant in-service training and rerouting of funds from

expensive textbooks to classroom-related software. On a wider scale, however, lack of software

can only be resolved if leading educators reach out to game developers to collaborate on more

effective and classroom-appropriate games.

      If American teachers want to truly prepare their students for life in the 21$^{st}$ century, they

should be willing to overcome the challenges that educational video games pose.  Teachers who

have not considered using video games as part of their instruction, should.  If educational video

games are to play a significant role in public schools, there must be a larger amount of success

stories.  While many different subjects and grade levels have experimented with video games in

the past, there are students who are more likely to give video game experimentation positive

results than others are.  Adolescents play the most video games (Simpson et al., 2008).  This

would imply that middle school and high school students would be the most receptive to playing

video games in class. Furthermore, according to a Michigan State University study, about 25%

of the most popular video games are history-themed (Kee et al., 2009).  Both of these factors

suggest that secondary social studies teachers have the best opportunity to implement video

games in the classroom. In order for this to happen on a large scale, there is much to be done.

## Conclusions

Holding the interest of modern students can be challenging.  They are frequently unenthusiastic about traditional teaching methods but excited about computer technology. The recent advancements of computer video games and simulations have opened new doors for students and teachers alike.  However, these advancements are complicated and need further development to appeal to digital immigrants. While the drawbacks of implementing video games in school are understandable, they can be overcome. The benefits of using video games in the classroom are a powerful reminder that technology can augment human effort and fill the voids left by more traditional methods and materials. Successful video games and simulations are increasingly being documented in school studies and their potential is being more easily recognized.  One must not ask if video games can be relevant in the classroom but rather how soon and with what degree of difficulty will they be implemented.  A good place to start a full-scale transition from books and papers to video games and digital assessments is the secondary social studies classroom because of the availability of history-related COTS.  To this end, teachers must be willing to adapt to technology, which students are already utilizing.

**References**

Abrams, S. S. (2009). A gaming frame of mind: Digital contexts and academic implications.

>   *Educational Media International*, *46*(4), 335-347.

Ash, K. (2011). Games and simulations draw children into new vistas for accessing science.

>   *Education Week*, *30*(27), S12.

Auman, C. (2011). Using simulation games to increase student and instructor engagement.

>   *College Teaching*, *59*(4), 154-161.

Baek, Y. (2008). What hinders teachers in using computer and video games in the

>   classroom? Exploring factors inhibiting the uptake of computer and video games.

>   *Cyberpsychology & Behavior*, *11*(6), 665-671.

Becker, K. (2007). Digital game-based learning once removed: Teaching teachers. *British*

>   *Journal Of Educational Technology*, *38*(3), 478-488.

Charles, D., Charles, T., McNeill, M., Bustard, D., & Black, M. (2011). Game-based feedback

>   for educational multi-user virtual environments. *British Journal Of Educational*

>   *Technology*, *42*(4), 638-654.

Charsky, D., & Mims, C. (2008). Integrating commercial off-the-shelf video games into school

>   curriculums. *Techtrends: Linking Research & Practice To Improve Learning*, *52*(5), 38-

>   44.

Delialioğlu, Ö. (2012). Student engagement in blended learning environments with lecture-

>   based and problem-based instructional approaches. *Journal Of Educational Technology*

>   *& Society*, *15*(3), 310-322.

Gallagher, W. J. (2005). The contradictory nature of professional teaching standards:

>   Adjusting for common misunderstandings. *Phi Delta Kappan*, *87*(2), 112-115.

Hong, J. C., Cheng, C. L., Hwang, M. Y., Lee, C. K., & Chang, H. Y. (2009). Assessing the

>   educational values of digital games. *Journal Of Computer Assisted Learning*, *25*(5), 423-

437.

Fisher, R. (2010). $200 million in sales made by the game Halo: Reach in 24 hours?– more than

   any movie at the US box office on its opening weekend. *New Scientist*, *207*(2779), 01.

Gillispie, L., Martin, F., & Parker, M. A. (2010). Effects of a 3-D video game on middle school

   student achievement and attitude in mathematics. *Electronic Journal Of Mathematics

   & Technology*, *4*(1), 68-80.

Gros, B. (2007). Digital games in education: The design of games-based learning

   environments. *Journal Of Research On Technology In Education*, *40*(1), 23-38.

Harris, L. (2008). A phenomenographic investigation of teacher conceptions of student

   engagement in learning. *Australian Educational Researcher* (Australian Association For

   Research In Education), 35(1), 57-79.

Kearney, P., & Pivec, M. (2007). Sex, lies and video games. *British Journal Of Educational

   Technology*, *38*(3), 489-501.

Mazer, J. P. (2013). Validity of the student interest and engagement scales: Associations with

   student learning outcomes. *Communication Studies*, 64(2), 125-140.

Layton & Brown. (2012, September 21) SAT reading scores hit a four-decade low. *Washington

   Post*.  Retrieved from http://www.washingtonpost.com

Pagnotti, J. & Russell, W. (2012). Using civilization IV to engage students in world history

   Content. *The Social Studies*, 103:1, 39-48.

Prensky, Marc. (2001) Digital natives, digital immigrants. *On the Horizon*. 9:1, 1-6.

Suja'ee, M., & Khine, M. (2009). Designing interactive learning: Lessons from video games.

    *International Journal Of Instructional Media*, *36*(4), 371-381.

Wirkala, C. & Kuhn, D.  (2011). Problem-based learning in K–12 education: Is it effective and

   how does it achieve its effects? *American Educational Research Journal*, 48:5, 1157-

   1186.

Appendix



Using Video Games to Teach United States History: 1865 – Present
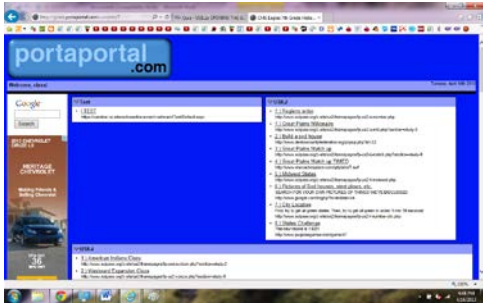
Michael Diebold
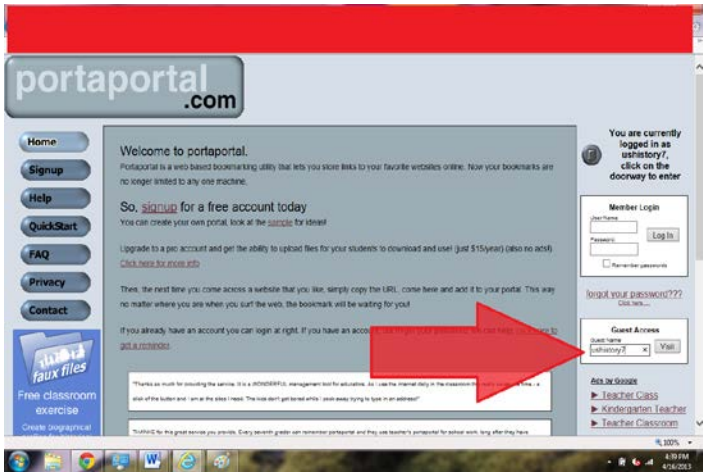
University of Mary Washington

Spring 2013

**Introduction**

The purpose of this appendix is to provide Virginia teachers of <u>United States History 1865 to Present</u> with a list of computer games that will enhance student understanding of the curriculum. There are a total of 8 games, one for each SOL. Each game is part of a complete lesson plan. Each lesson plan includes an anticipatory set, the game, all of the questions in the game, and a conclusion.  The suggestions that accompany the games offer teachers easy and effective ways to enhance the computer games and the overall student understanding.

**Logging into portaportal**

| | |
|---|---|
| Step 1: Get to the website | Go to www.portaportal.com |
| Step 2: Log in | Find the "Guest access" and enter the password, **ushistory7** which is all one word, no spaces.<br><br> |
| Step 3: Find your assignment | Find the SOL number at the top of each tab to play the appropriate game.<br><br> |

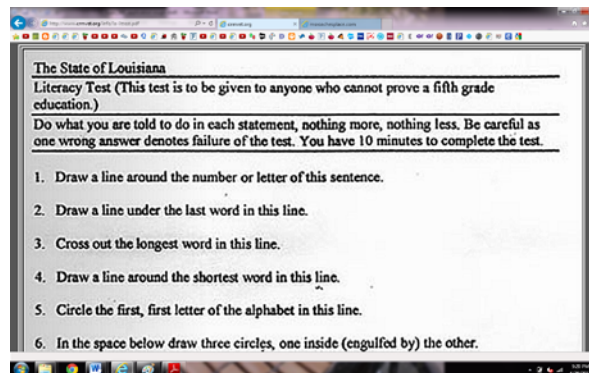| SOL: | **USII.2a** The student will use maps, globes, photographs, pictures, or tables for explaining how physical features and climate influenced the movement of people westward. |
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| Game: | Building a Sod House  |
| Anticipatory Set: | Show a clip from "Far and Away," that shows the Oklahoma land rush and the meaning behind "The Sooners." http://www.youtube.com/watch?v=yxaJY8UZxn4.  Hold a brief discussion about westward expansion and the thinking of American settlers.  |
| Game objective: | Successfully build a sod house |
| List of questions | 1.) Where will you make your camp?<br>2.) What will you live in while you build your sod house?<br>3.) How do you begin?<br>4.) What will you use to cut the sod?<br>5.) How much sod will you cut?<br>6.) How do you position the sod blocks to start building?<br>7.) How will you build the walls?<br>8.) You fit a window into each space and?<br>9.) What will you use to build your roof? |
| Assessment: | If the student gets all of the questions correct, the house will appear in tact.  If they miss any questions, the house will appear poorly built.  Students should show the teacher when they have a completed sod house which means they answered all 9 questions correctly. |

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| **Closure:** | Ask students what they learned about the process settlers took when building their houses.  Have students do a Google image search of sod houses and ask them to find photographs of elaborately built sod houses. |

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| **SOL:** | **USII.3** The student will demonstrate knowledge of the effects of Reconstruction on American life by<br><br>    a)  analyzing the impact of the 13th, 14th, and 15th Amendments to the Constitution of the United States.<br>    b)  describing the impact of Reconstruction policies on the South and North.<br>    c)  describing the legacies of Abraham Lincoln, Robert E. Lee, and Frederick Douglass. |
| **Game:** | Fling the Teacher<br> |
| **Anticipatory Set:** | <br><br>Pass out copy of Louisiana state literacy test (found at www.crmvet.org/info/la-lit**test**.pdf) Teacher completely changes tone when administering the test to one of little patience and disconcert. Review the rules of the test as listed at the top of the document: They have 10 minutes to complete it or they cannot vote. Also, if they miss a single question, they cannot vote. At the end of 10 minutes when no one finishes, inform them that they all fail and cannot vote. Go over one of the ridiculous questions on the chalk board and explain that some of the questions can be marked wrong no matter what answer is given:<br><br>#20 Spell backwards, forwards.<br><br>Discuss the similarities and differences of the Black Codes and the Jim |

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| | Crow Laws and how they relate to the Reconstruction Era. |
| **Game objective:** | Actually fling the teacher. |
| **List of questions** | 1.) What region is Virginia located in? <br> 2.) Which Amendment banned slavery? <br> 3.) Which southeastern state is home to New Orleans, the city of Jazz? <br> 4.) Which Amendment defines citizenship <br> 5.) Which southeastern state is home to Atlanta? <br> 6.) Which Amendment ensured the freed slaves the right to vote? <br> 7.) Who urged southerners to reconcile with the North even though many wanted to continue fighting? <br> 8.) Who was not allowed to hold public office during Reconstruction? <br> 9.) Who fought hard for the Constitutional Amendment to guarantee voting rights? <br> 10.) What ended Reconstruction? <br> 11.) What was the name of the people who came south to take advantage of Reconstruction? <br> 12.) What was the agency set up to help the freed slaves? <br> 13.) What were the name of the laws the southerners were making to get around the rules of Reconstruction? <br> 14.) Who felt preserving the Union was more important than punishing the South? <br> 15.) All of the following are in the southeast except? |
| **Assessment:** | If the students get all of the questions correct, the teacher will be catapulted. If they miss a question along the way, they will have to start over.  Any student who can show their teacher has been flung, has correctly answered all 15 questions. |
| **Closure:** | Call out the 15 questions from the activity and call on students to line up early after answering a question correctly. |

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| **SOL:** | **USII.4b** The student will demonstrate knowledge of how life changed after the Civil War by explaining the reasons for the increase in immigration, growth of cities, and challenges arising from this expansion. |
| **Game:** | Hoop Shoot<br> |
| **Anticipatory Set:** | <br>Show the rap video made by Mr. Wilder entitled, "I'm Just an Immigrant." found at http://www.youtube.com/watch?v=r4dIDiwVTk4. Discuss the hardships faced in the immigrant neighborhoods including the deplorable living conditions, crime, and disease. Ask students to reflect on how hard it must have been to go to a new country with virtually nothing and not speak the language. |
| **Game objective:** | Get a high score by making a lot of basketball shots. |
| **List of questions** | 1.) Which area was home to the textile industry?<br>2.) What area was home to the automobile industry?<br>3.) What area was home to the steel industry?<br>4.) Who was captain of the oil industry? |

|  | 5.) Who was the captain of the steel industry?<br>6.) Who was the captain of the automobile industry?<br>7.) What was the AFL<br>8.) Poor, overcrowded, hazardous, unhealthy, high unemployment, could best describe…<br>9.) Who was the founder of Hull House?<br>10.)          Virginia is to the southeast as New York is to? |
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| **Assessment:** | At the end of their game, it will display how many questions they got correct out of ten. |
| **Closure:** | Call out the 10 questions from the activity and call on students to line up early after answering a question correctly. |

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| **SOL:** | **USII.5a The student will demonstrate knowledge of the changing role of the United States from the late nineteenth century through World War I by explaining the reasons for and results of the Spanish American War.**<br>. |
| **Game:** | En Garde<br> |
| **Anticipatory Set:** | <br>Show the 10 minute episode of Spongebob entitled, "Krabby Kronicles," found at http://spongebob.nick.com/videos/clip/krabby-kronicle-full-episode.html. Explain that Mr. Krab encourages Spongebob to fabricate news stories so that the newspaper sells more copies.  Describe the parallel between this and the yellow journalism seen before the Spanish American War.  Explain how people believed exaggerated news and the public opinion ultimately led to war. |
| **Game objective:** | Knock out your opponent. |
| **List of questions** | 1.) Which region borders both Canada and Mexico?<br>2.) Which two countries fought for Cuban independence?<br>3.) All of the following were reasons for America helping Cuba |

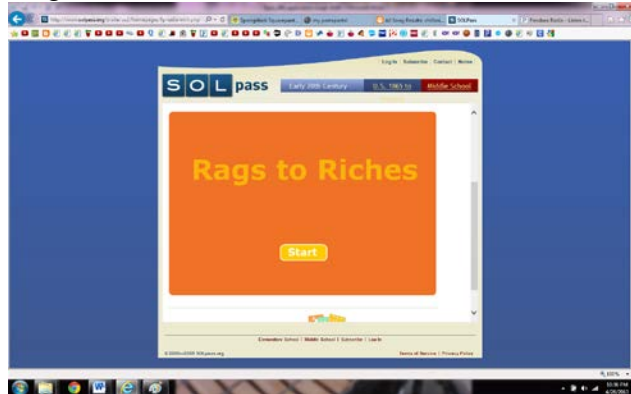|  | in the Spanish-American war except… <br> 4.) Who thought of using radio as entertainment? <br> 5.) Who sent the first wireless signals? <br> 6.) All of the following were labor saving devices that came into use during the early 20<sup>th</sup> century except? <br> 7.) Who invented the airplane? <br> 8.) What were the territories the US gained after the Spanish-American War? <br> 9.) What is the practice of exaggerating news stories called? <br> 10.) Who developed the assembly line? <br> 11.) What two things influence US involvement in international affairs the most? |
| **Assessment:** | At the end of their game, it will display how many questions they got correct. |
| **Closure:** | Call out the 10 questions from the activity and call on students to line up early after answering a question correctly. |

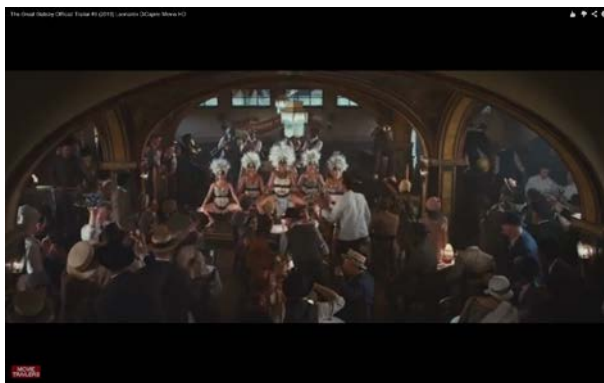| | |
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| **SOL:** | **USII.6** The student will demonstrate knowledge of the social, economic, and technological changes of the early twentieth century by<br><br>a) explaining how developments in factory and labor productivity, transportation (including the use of the automobile), communication, and rural electrification changed American life and standard of living.<br><br>b) describing the social and economic changes that took place, including prohibition and the Great Migration north and west.<br><br>c) examining art, literature, and music from the 1920s and 1930s, with emphasis on Langston Hughes, Duke Ellington, Georgia O'Keeffe, and the Harlem Renaissance.<br>. |
| **Game:** | Rags to Riches (Who wants to be a millionaire?)<br> |
| **Anticipatory Set:** | <br><br>Show the trailer for the new movie, "The Great Gatsby," found at http://www.youtube.com/watch?v=ukgJDXbD89A. Discuss the "Jazz Age" and how electrification and Prohibition caused a change in American society. |

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| **Game objective:** | Knock out your opponent. |
| **List of questions** | 1.) Who is known for popularizing the use of the assembly line to produce more affordable products?<br>2.) American life changed in the early 20<sup>th</sup> century with labor-saving products like washing machines, electric stoves, water pumps, electric lighting, and radios. What made this possible?<br>3.) An artist known for urban scenes, paintings of flowers, and scenes of the southwest-<br>4.) Which time period was characterized by the more affordable automobile and the invention of the airplane by the Wright brothers?<br>5.) During Prohibition, those who smuggled illegal alcohol were known as-<br>6.) During Prohibition, places where alcohol was illegally sold were called-<br>7.) Which constitutional amendment, adopted in 1919, made it illegal to manufacture, transport, and sell alcoholic beverages?<br>8.) A novelist who wrote "The Great Gatsby," a novel about the Jazz Age of the 1920s-<br>9.) In the south during the early 20<sup>th</sup> century, wages for African Americans were low and jobs were scarce. In addition, African Americans in the South faced discrimination and violence.  The result was-<br>10.)     A novelist who wrote "Grapes of Wrath," a novel about the plight of poor migrant workers during the "dust bowl" of the 1930s-<br>11.)     The Great Migration resulted in-<br>12.)     Between 1916 and 1920, half a million African Americans left the South where many had been sharcroppers. They migrated-<br>13.)     An African American poet who emerged as part of Harlem Renaissance-<br>14.)     Who is NOT associated with the Harlem Renaissance? |
| **Assessment:** | At the end of their game, it will display how many questions they answered correctly. |
| **Closure:** | Call out the 14 questions from the activity and call on students to line up early after answering a question correctly. |

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| **SOL:** | **USII.7b** The student will demonstrate knowledge of the major causes and effects of American involvement in World War II by locating and describing the major events and turning points of the war in Europe and the Pacific. . |
| **Game:** | Walk the Plank  |
| **Anticipatory Set:** |  Show the opening scene of WWII in HD, Episode 1 Darkness Falls, found at http://www.youtube.com/watch?v=XqMlo51U_KQ. Offer explanations of what is occurring in the scenes. Explain that WWII was different than all of the wars before it because of technology and how it affected the death toll. Explain that more civilians died in WWII than the total amount of casualties from the Revolutionary War, the Civil War, the Spanish American War, and WWI combined. |
| **Game objective:** | Walk the Plank. |
| **List of questions** | 1.) What event in 1939 started WWII?<br>2.) Who commanded the US forces in Europe?<br>3.) Which of the following events is incorrectly matched |

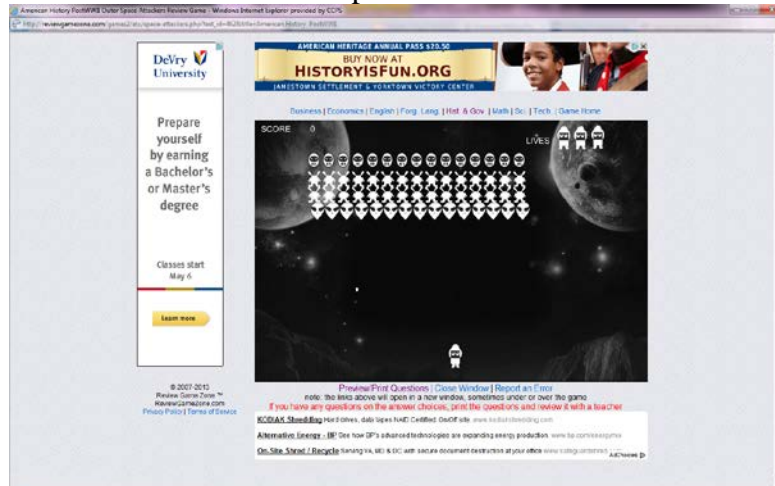|  | with the year it occurred?<br>4.) In which battle did the German defeat mark a major turning point of the war?<br>5.) Why did President Truman decide to drop atomic bombs on Hiroshima and Nagasaki?<br>6.) Which statement best describes fascism?<br>7.) Germany, Italy, and Japan were the leading ____ Powers.<br>8.) When did the Soviet Union change sides to join the Allies?<br>9.) As conflict grew in Europe and Asia, American foreign policy evolved from-<br>10.)    The battle around Stalingrad raged on for almost a year.  Cold and starving German troops finally surrendered in February, 1943. This battle is considered- |
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| **Assessment:** | If the student's character walks the plank, the character will be pushed off of the plank and the screen will say, "You Win."  If the student answers a question incorrectly, the character on the screen will inform them that they were incorrect and what the correct answer is.  They will not have to start over at that point, although they may want to (by typing F5) because simply missing one question will not allow you to complete the game. |
| **Closure:** | Call out the 10 questions from the activity and call on students to line up early after answering a question correctly. |

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| **SOL:** | **USII.8** The student will demonstrate knowledge of the economic, social, and political transformation of the United States and the world between the end of World War II and the present by<br><br>a) describing the rebuilding of Europe and Japan after World War II, the emergence of the United States as a superpower, and the establishment of the United Nations.<br><br>c) identifying the role of America's military and veterans in defending freedom during the Cold War, including the wars in Korea and Vietnam, the Cuban missile crisis, the collapse of communism in Europe, and the rise of new challenges.<br><br>. |
| **Game:** | Outer Space Attackers<br> |
| **Anticipatory Set:** | <br><br>Show the Youtube video entitled, "Pretty Much the Cold War," found at http://www.youtube.com/watch?v=hU_8OLBK0ic. Explain that the video |

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| | is silly but that it has some truth to it. Discuss the tension between the USSR and the USA and how the world was divided into two camps over the tension.  Describe ways in which the US attempted to contain communism and how the Cold War concluded. |
| **Game objective:** | Get the highest score. |
| **List of questions** | 1.) What were the two main countries of the Cold War? <br> 2.) What 1989 event signified the end of communism in Europe? <br> 3.) What happened to East Germany after WWII? <br> 4.) What is the American policy to stop the spread of communism? <br> 5.) What was the plan to send massive financial aid to Europe after WWII called? <br> 6.) What happened during the Cuban Missile Crisis? <br> 7.) What happened to Japan after WWII? <br> 8.) Why is the state of tension between the Soviet Union and the United States known as the Cold War? <br> 9.) The United States helped South Korea in the Korean War. What country eventually sided with North Korea because they were becoming communist? <br> 10.)    How did Americans feel about being involved in the Vietnam War? |
| **Assessment:** | Look at the students score at the end of the game and determine your own grading scale based off of the points they scored. |
| **Closure:** | Call out the 10 questions from the activity and call on students to line up early after answering a question correctly. |

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| **SOL:** | **USII.9a** The student will demonstrate knowledge of the key domestic and international issues during the second half of the twentieth and early twenty-first centuries by examining the Civil Rights Movement and the changing role of women. |
| **Game:** | Penalty Shootout  |
| **Anticipatory Set:** |  Show the Youtube video of Martin Luther King, Jr.'s final speech, generally referred to as his "Mountain Top Speech," found at http://www.youtube.com/watch?v=Oehry1JC9Rk.  Describe how his ideas for passive resistance were effective and how difficult it was to show restraint amidst violent racism. |
| **Game objective:** | Get the highest score. |
| **List of questions** | 1.) What is a demonstration in which protestors sit down in a location and refuse to leave called? <br> 2.) What court case ruled against "Separate but equal" and |

|  | desegregated schools? 3.) Who refused to give up her seat to a white man and triggered the Montgomery Bus Boycott? 4.) Who gave the "I have a dream…" speech and was a leader of the Civil Rights Movement? 5.) All of the following were effects of segregation EXCEPT… 6.) What organization expanded during the Civil Rights Movement? 7.) Who desegregated the Armed Forces? 8.) What group did the Civil Rights Act benefit? 9.) Starting in 1965 which groups had the most immigrants? 10.)    What does passive resistance mean? |
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| **Assessment:** | Look at the students score at the end of the game and determine your own grading scale based off of the points they scored. |
| **Closure:** | Call out the 10 questions from the activity and call on students to line up early after answering a question correctly. |