DIGITAL GAMES FOR ENGLISH CLASSROOMS

by **Nancy B. Sardone**

School of Education

Georgian Court University

Lakewood, NJ, USA

nsardone @ georgian.edu

and

Roberta Devlin-Scherer

College of Education and Human Services

Seton Hall University

South Orange, NJ, USA

devlinrb @ shu.edu

"Literature analysis games were great for assessing knowledge of setting, character, and symbols."

"Playing *Lord of the Flies* brought fond back memories of when I read it."

"This project taught me how to teach timeless English literature in new ways."

"It was shocking to have the little child, my character, get captured and killed. I truly felt sad."

"This experience taught me to have patience with myself when learning something new."

Introduction

Overheard during our students' discussions about digital learning games, these comments brought smiles to our faces. A beginning methods class was reconstructed to include several sessions devoted to teaching preservice teachers 'how, why, and when' to use digital games in upper middle and high school classrooms and co-taught by a technology and teacher education faculty. Preservice teachers majoring in English education were given digital learning games to play, share with small group of middle or high school students, and then explain the purpose, suggest potential uses, and teach chosen games to younger students and peers.

This article describes the games played and highlights reactions of preservice teachers and their students. In addition, suggested ways inservice teachers can use games in the current curriculum are included.

Related literature

English classrooms are the natural home for building skills in reading, writing, speaking, listening, viewing, and the development of media literacy. However, any classroom has students who talk more than others; write better than others; and feel more comfortable discussing their views. Students identified as low ability may not get extensive discussion time in tracked classes (Applebee et al., 2003). Learners need to have opportunities to express themselves and develop the aforementioned skills in and out of the classroom. One major finding of a recent study indicates that the social interaction related to playing digital games increases student engagement (Lehnart et al., 2008). This result has implications for English classrooms as gamers can post information on gaming Web sites and discussion boards, and gamers who do so are more likely to stay informed about current events and go online to get information about politics or current events (Lehnart et al., 2008).

Digital games also can foster positive group process and decision-making strategies. Digital learning games differ from games of entertainment and games designed for training purposes. They are intended to target the acquisition of knowledge as its own end and foster understanding within an academic content area (Klopfer, Osterweil, & Salen, 2009).

Digital learning games can help to develop students' listening skills as games 'speak' to students by outlining the game objective and providing feedback at specified times. For special student populations, read aloud protocols can help them understand meaning, especially if the transcript is readily available. Recent studies indicate that when middle school students are read to, it builds their knowledge in content areas, helps them have positive attitudes toward reading, and helps increase their reading fluency (Ariail & Albright, 2006). Perhaps similar results could be reaped through software agents modeling the same literacy skills as the teacher.

Game research now provides solid evidence that children learn important content, differing perspectives, and vital 21st century skills from playing digital games (Thai, Lowenstein, Ching, Rejeskil, 2009). *Partnership 21's* (2007) framework highlights the importance of developing students' critical thinking and technology skills. Gaming is one strategy that can help teachers and their students meet these goals. Teenagers are a powerful demographic group highly effective at influencing their families' consumer decisions (Kantrowitz & Wingert, 1999; Montgomery, 2007). With guided game-based lessons, students can examine how media

advertising aims to influence their buying decisions. Games also have the potential to promote team work and communication skills. For example, language learning games help students acquire language in comfortable communication situations. Using a commercial game, *The Sims*, with supplementary materials has helped English as Second Language (ESL) students learn vocabulary (Rannali, 2007).

Noted by a number of researchers and parent groups, education is the best tool for keeping students safe while online (Berkman Center, 2008). Students engage in social experiences, having the opportunity to witness both prosocial and antisocial behavior of others in gaming situations, which is important to their growth and development as social beings. Games are often played in a virtual space occupied by others and as such, gamers control their characters and make choices about how to act and what to say through their character. In one study (Lehnart et al., 2008), the majority of teens noted seeing or hearing antisocial remarks while playing, yet they also report witnessing far more prosocial behavior in players in terms of their helpfulness toward others. Self-policing of virtual space is an activity reported by 75 percent of the respondents who indicated they witnessed other players responding to aggressors by asking them to stop their antisocial tactics. These actions indicate that gamers are able to discern between good and bad social behavior in meaningful ways as well as fine tuning their analytical skills. In this venue, students have the opportunity to self-advocate as well as advocate for the rights of others in the promotion of civility. Through game contexts, students are encouraged to reflect on their own awareness, actions, and perceptions related to the seeds of discrimination. With the proliferation of cyberbullying cases in our society, this issue of public concern is important, and gaming is one tool to help students as well as teachers and families.

Studies on student learning preferences
Numerous studies report wide use of computer game play among today's youth. *The Pew Internet & American Life Project* states that 97 percent of American teens - ages 12-17 - play computer, web, console, or mobile games. Teens are also playing these games with relative frequency and duration. Nearly one-third (31 percent) of teen gamers play games every day, and another one in five (21 percent) play games three to five days a week (Lenhart et al., 2008).

Similar results were reported by the Kaiser Family Foundation's study, *Generation M: Media in the Lives of 8-18 Year-olds*. This study examined media use among a nationally

representative sample of more than 2,000 3rd through 12th graders. Findings revealed that children and teens devote increasing time to "new media" use [computers, the Internet, and video games] (Roberts, Foehr, & Rideout, 2005). Project Tomorrow: SpeakUp (2008) surveyed over 351,000 K-12 students, teachers, parents and administrators and found that all grade levels played computer-based educational games while in school with greatest game use (50 percent) found in elementary grades (K-2). Online games and virtual reality environments are also used by students to collaborate outside of school. Elementary students (3rd–5th) report the highest use of online games (54 percent) and virtual reality environments (38 percent) compared with older students. Middle school and high school student respondents play online games (34 percent) and participate in virtual reality environments, like *Second Life* (15 percent).

The current learning environment that students reside in is one characterized by "multitasking, visual orientation, immediate gratification, and parallel processing" (Chen, 2005, P1). As such, current findings suggest that today's learners of all types indicate a preference for active learning, further specified as learning by doing through the use of interactive lessons, friendly competition, and trial and error (Borrenson-Caruso & Salaway, 2007; Chen, 2005; Davis, 1999; Heyboer, 2006; Krantrowitz & Wingert, 1999; Oblinger, 2003; Project Tomorrow: SpeakUp, 2008; Roberts, Foehr, & Rideout, 2005). The use of train and error is often referred to in the literature as an instructional practice that establishes "evaluation-free zones" (Elbow, 1993, p.205) in which students can feel free to make mistakes that don't count against them and therefore, have wide appeal.

The most recent studies indicate that playing action video games on a regular basis can alter a player's attention skills in terms of increased perception, attention, and cognition. Gamers have better focus and better visually selective attention than non-gamers. Action games push the speed of learning (Bavelier as cited in Stansbury, 2010). As online educational games continue to be popular among the teen set, schools are interested in using them for learning. In schools of education, it is imperative that teacher educators lead the way.

Purpose of the study

With increasing attention paid to game-based instruction in today's classrooms, it is important to guide preservice teacher development in their appropriate uses. Without teacher educator guidance into these newer forms of teaching and learning that can address the inclusive

classroom, the comprehensiveness of candidate experiences may be lacking. Candidates need to experience first-hand what it is to facilitate student instruction in game use as it represents a new form of teaching and learning compared to the direct instruction [often lecture-based] still most widely used in today's middle and highs school classrooms.

Method, participants, and materials

A mixed methods research design was used to analyze candidate impressions regarding selected digital learning games designed for the English curriculum. At a mid-sized private university located in New Jersey, secondary teacher education students majoring in English Education (n=10), ages 20-22, participated in the study. Students were enrolled in a sophomore level teacher education course.

Teachers often note cost and accessibility as reasons for not using games in their classrooms. For these reasons, free web-based games were selected for candidates along with other criteria of online accessibility for both in school play and replay at home. Eleven digital games that connect to information and media literacy, current issues, and literature with a focus on literary analysis were chosen for their value to help develop students' critical thinking. These eleven games were chosen for candidate use as these particular games have the ability to develop students' critical thinking skills in engaging and multi-modal ways.

Procedures and Instrumentation

Participants were assigned one of eleven English Education Web-based games. They learned the game on their own and then completed the *Game Review Form* that asked them to define purpose(s) of the game, rate the ease of play, and comment on the use of feedback (see Appendix 1 for question format). Candidates then taught their game in a required secondary education field experience, which was a structured weekly tutoring program with at-risk middle school students. The tutoring program was in place before the study and was simply used by study participants. The tutoring sessions were approximately 60 minutes in length. Candidates then completed the *Student Game Play Report*, which asked questions relating to their observations of tutees during play (see Table 2). Candidates were then asked to teach their game in a 20-minute presentation to their peers. Participants were asked to reflect on the game project and share their overall impressions of digital games and impression of their tutees'.

Description of games played

Information and Media Literacy Games

Investigating media is an area that continues to assume greater importance in the English curriculum. The goal of two games is to develop competent Internet users as well as research, and critical thinking skills through immersive and engaging game contexts. *CyberSense and Nonsense* [http://www.mediaawareness.ca/english/games/cybersense_nonsense/] and *Allies and Aliens: A Mission in Critical Thinking* [http://www.mediaawareness.ca/english/games/allies_aliens/] raise awareness about Internet ethics and ask students to examine values as they relate to actions and potential impact on others.

CyberSense and Nonsense addresses numerous online issues and through game characters, students learn lessons in determining authenticity of online information, rules of netiquette that guide online participation, and examine regulation strategies to combat stereotyping and cyber-hate. This game offers contextually situated scenarios that students can easily identify while they are taught the difference between biased and prejudiced information and factual and subjective information as they develop their critical thinking abilities.

Allies and Aliens: A Mission in Critical Thinking guides students toward a growing awareness of stereotyping and prejudice. The game's educational scaffolding builds as increasing degrees of prejudice and discrimination become available. More complex than *Cybersense and Nonsense*, the game setting for *Aliens* is in the year 3065 and Earth has been invited to join an intergalactic alliance. Students play the roles of agents to decide the benefits of joining such an organization. Through the game context, students are encouraged to reflect on their own awareness, actions, and perceptions related to discrimination.

Ad Decoder: Decipher the Media [http://www.bam.gov/sub_yourlife/yourlife_addecoder.html] is a media literacy game that teaches lessons associated with hidden messages in advertisements. Learning about the messages behind ads help students understand the differences between real vs. ideal images. Marketing ploys and techniques are highlighted, such as preying on a person's insecurities to entice them to buy a product; how ads can purposely mislead people; and how celebrities are often used to endorse products that they may or may not believe in or use.

Current Issues

English teachers also take responsibility for helping students stay aware of contemporary problems. Assuming the role of refugees in a Sudanese refugee camp trying to survive and avoid violent encounters with the military enables players to become familiar with and involved in a current world crisis in *Dafur is Dying* [http://www.dafurisdying.com].

In *Ayiti: The Cost of Life* [http://www.unicef.org/voy/explore/rights/explore_3142.html] the effects of poverty are exposed as players assume the roles of family members living in rural Haiti. Players learn the correlation between choices made, their respective outcomes, and the constraints faced within the game and examine the impact poverty has on access to education, nutrition, basic healthcare, and child mortality. Both of these games increase awareness of human rights and critical global issues.

Literary Analysis Games

A number of games can help illuminate classic pieces of literature. *Setting: Not Just Time and Place* [http://www.beaconlearningcenter.com/WebLessons/Setting/default.htm] asks players to follow along with Elizabethan character, Romeo, as he explains how to analyze literature to determine setting. Students are asked to read information and answer questions that test their knowledge of setting; with increasing levels of complexity that move from a simple definition (place and time) to more detailed literary analysis using excerpts from *The Awakening, Moby Dick, Hamlet, Lady Chopin*, *Scarlet Letter,* and poem *The Road Not Taken* as the context. Students develop confidence in their interpretations of an author's meaning. Moving beyond setting, *Lord of the Flies* [http://nobelprize.org/educational_games/literature/golding/index.html] assesses student understanding of story elements - plot, character and symbol - in the novel.
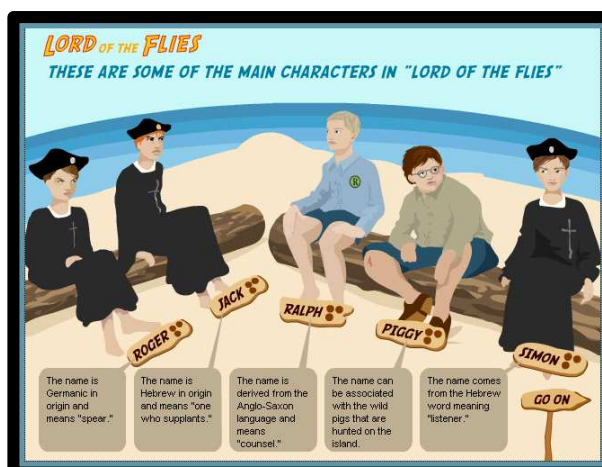
Figure 1. *Lord of the Flies Game*

Other games give a flavor of a time period as well as guide student understanding of particular authors and artists. Students learn about Charles Dickens' influences in game, *Surviving Charles Dickens' London* [http://www.bbc.co.uk/arts/multimedia/dickens/index_popup.shtml] as they face tasks and choices as they encounter characters from Dickens' writings. *A Shakespeare Murder Mystery: Who Killed the Very Reverend Toby Spoon?* [http://www.pbs.org/wgbh/mystery/murder2/index.html] is available in both interactive and text-based formats. Gamers play the role of a Chief Inspector, and develop deductive reasoning skills as they interrogate suspects, investigate for clues, and make an educated guess as to the murderer.

Students review and apply the skills needed to become a successful Elizabethan playwright in 16th century London *In Search of Shakespeare: The Playwright Game* [http://www.pbs.org/shakespeare/game/]. Players make choices about topics to write about and take action when problems occur such as censorship or lack of audience approval. The Renaissance era comes alive in *Renaissance Florence: Time Machine Adventure* [http://www.activehistory.co.uk/Miscellaneous/free_stuff/renaissance/frameset.htm]. This game provides economic, religious and social background and rich information on the artists and advancements in this time period. Players are given a mission to protect five major people of the Renaissance; Michelangelo, DaVinci, Raphael, Galileo, and Brunelleschi from kidnappers.
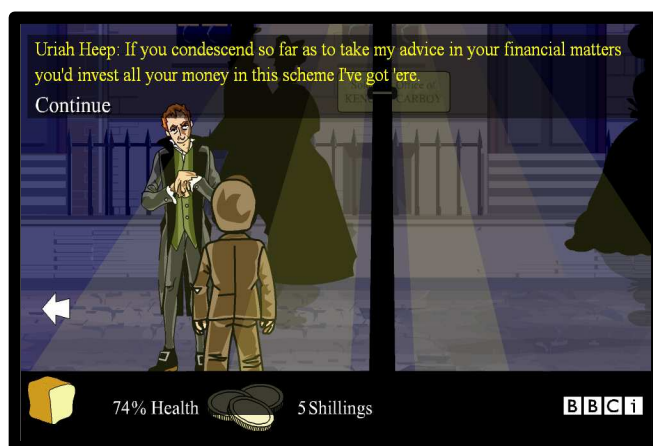
Figure 2. *Surviving Charles Dickens' London Game*

Presentation and discussion of results

Responses from *Game Review Form* and *Student Game Play Report* were examined and reported by reaction to game content and uses. Games that earned high praise from teacher candidates did so for different reasons. Presentation of important content or issues with powerful messages was one reason games were valued by study participants. They appreciated games that tackled sensitive issues, e.g. *Cybersense and Nonsense* (seeds of discrimination, Internet ethics) and *Ad Decoder* (influence of powerful media sources). Because of its socially significant subject matter, *Darfur is Dying* provoked a thoughtful and concerned discussion as the game gave a human face to the horrific events in Sudan. While most preservice teachers had heard about Darfur they were unaware of the extent of the crisis and were appalled by the savagery. One candidate commented that being told in a lecture that young girls had to run to a well to get water while risking capture would not have had the same effect on her as playing this game and seeing what actually happened to the characters. Her level of sympathy for the Sudanese people was intensified through the digital simulation.

Games can serve practical purposes too. *Lord of the Flies* requires that students have prior knowledge of the novel to be successful. Preservice candidates realized that this game could be used to determine if students were reading the book as assigned. And knowing that they were going to play a game as a review for reading might get students to complete that

assignment. The game could also be a tool for review. *Renaissance Florence* offers a multi-modal way for students to learn and process information. Games like *Renaissance Florence* may aid students' in information processing as the pacing is self-controlled. Rich visuals help students' associate written text with pictures, providing additional information to make connections in human memory. Respondents remarked that this type of game would be helpful in an inclusive classroom for English Language Learners (ELL) or students with developmental delays.

Preservice teachers commented on how course content could be related to individual games. For example, participants suggested *Darfur is Dying* could be used to introduce an individual novel or a thematic unit on human rights. The recent novel *Child Soldier* was suggested as one reading that could accompany this game while *Renaissance Florence* could be tied to a unit on the Harlem Renaissance.

Players valued excellent and timely feedback provided in games. In *Cybersense and Nonsense* game characters gave each other feedback associated with positive and negative uses of netiquette. These characters also congratulated game players when they got correct answers and steered them in another direction when incorrect. The use of trial and error as a method for problem solving (e.g. *Setting: Not Just Place and Time*) was recognized by preservice players as a reason to use games in the English curriculum because students are offered a comfortable way to make mistakes and learn from them.

Sometimes preservice teachers had different opinions than their game players as to whether a game was interesting. Two teacher candidates, who originally thought *Allies and Aliens* too simple, were surprised at the high interest and focused engagement of their middle school players. One participant wondered how her middle school students would feel about the subject matter and seriousness of the *Darfur* game and was pleased at their focused engagement. Preservice students were positive toward the idea of using games at the beginning of our games' sessions but they were better able to express both specific contributions games could make toward learning and identify the possible problems they could face as facilitators following their experiences.

Conclusion

Maltese (1995) describes clever teacher developed project-oriented game structures (*Nobel Prize Committee, Enlightenment Broadcasting Network, and Renaissance Mall*) he uses to inspire his students and suggests some guidelines for classroom gaming: have teacher select groups, make success related to recognition other than grades, e.g., certificates or titles; use collaborative projects that elicit different skills. He sounds an alarm about our schools' investment in competition and expresses concern that too often games are used to identify the winners and losers. If students' concept of winning is the main reward for playing a game, it could lessen motivation.

Using games that do not proclaim a clear winner is a good idea for classroom settings so the emphasis can be on the learning. Almost all games in this study allow gamers to proceed regardless of the answer provided. Two games in particular: *Ayiti: The Cost of Life* and *Darfur is Dying* are not designed to be won in the conventional sense of winning. They are simulations meant to highlight critical global issues such as poverty and genocide. All the games played in this study have the ability to evoke classroom discussion in ways that typical American students may not have encountered.

This study asked candidates to work together as they played the games, which allowed all to learn correct navigation and this easy entry paved the way to enjoying the game and thinking about curriculum in new contexts. This game project focused candidate attention on recognizing they were adopting a new strategy and to give themselves time to learn it. The idea of gaining knowledge rather than focusing on speed of play or final outcome was stressed. It is recommended for classroom teachers to adopt this same procedure when assigning games to their students.

Web-based games are useful for teachers and students in the English curriculum. They can be used as a starting point for teachers to gain student attention, used to reinforce lesson concepts, or provide a focus for classroom discussion in which students could share their views. Students have an opportunity to learn about subjects and content more in-depth with games than perhaps a book would provide, particularly if they are not avid readers. In the English sector digital games are easily available, related to the curriculum taught, and do not require extensive set-up time. If the game content is integral to the curriculum, its technological aspects are easy to

master, and the game is well received by students when teachers present it, then gaming has the potential to be an exciting and useful instructional resource for teachers.

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Appendix 1. *Game Review Form Including Evaluation Criteria*

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1.   Name of game played:

2.   Purpose of the game?

3.   English subject fields related to game:

4.   What do students need to know to be successful at the game?

5.   Was there frequent feedback on your performance?

a.   Explain how this feedback helped, had no effect, or hindered your play.

6.   What did you learn from the game in terms of :

a.   Academic content?

b.   Social skills?

c.   Technology skills?

d.   Personal reflection?

e.   Other?

7.   Overall impressions of the game.

Appendix 2. *Sample Student Game Play Report*

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1. Comment on student interest while playing game.

(a.) Did the game hold the interest of students?

(b.) Was there a point when they lost interest?

2. Comment on student learning.

(a.) Ask students what they learned from the game.

(b.) Ask students if they would like to see this game played in their regular classroom.

(c.) Ask students if the use of the game helped them process the information (English content) differently than through lecture mode.

3. Comment on using games in your future English classroom.

 (a.) Now that you have finished the game project, rate your opinion on the statement below.

Games offer an effective way to teach and learn in English classrooms.

Disagree	Disagree somewhat	Not sure	Agree somewhat	Agree
1	2	3	4	5

Appendix 3. *Sample Lesson Activity*

After playing the game, *Ad Decoder: Decipher the Media* [http://www.bam.gov/sub_yourlife/yourlife_addecoder.html] middle or high school students would be assigned a group project consisting of different media advertisements for a specific consumer product [i.e. Athletic Apparel, Automobiles, Basketball Sneakers, Cell Phones, Digital Cameras, Flat Screen Televisions; GPS Handheld Devices, Internet Access Service, MP3 Players, etc.]. Each group would be responsible for developing an oral presentation centering on these discussion points:

1.   Find the hidden or misleading message(s);

2.   Analyze the target audience;

3.   Analyze techniques used to create want;

4.   Assess the value of logo or brand names;

5.   Determine ways in which the celebrity endorser looks different from people that you know in real life (goal is to uncover unreal ideals);

6.   Disclose your own level of affinity for the product