

# USING GAMES, COMIC STRIPS, AND MAPS TO ENHANCE TEACHER CANDIDATES' E-LEARNING PRACTICE IN THE SOCIAL STUDIES

Nancy B. Sardone Ph.D.

*Georgian Court University, 900 Lakewood Avenue, Lakewood, New Jersey 08701, USA*

## ABSTRACT

This article reports on teacher candidates' use of e-learning tools and activities designed for their future students. Candidates offered comments to give an idea of the strengths and challenges of each. Suggestions are made for teacher educators on the types of technology-integrated activities that lend themselves to both traditional and e-learning environments, offering an updated perspective on teaching and learning in the Social Studies.

## KEYWORDS

e-Learning, Social Studies, games, comic books, maps

## 1. INTRODUCTION

When thinking about instruction, preservice teachers tend to follow the teaching methods experienced in their own K-12 education. Those experiences tend to be traditional in nature, such as worksheet-based assignments and textbook-based readings, especially in Social Studies. Yet, numerous studies on teachers' use of technology and students' desire to use technology in school advise us to reassess our views. We need to take into consideration that today's classrooms are filled with students whose daily media exposure is almost eleven hours (Kaiser Family Foundation, 2009). In addition, we need to consider the *National Council of Social Studies* Position Statement regarding curriculum suggests that social studies programs should engage students directly and actively in the learning process and such programs should use several kinds of media technology (NCSS, 2010). Through the use of technology, teachers begin to recognize the strong positive effects it's use has on student learning and engagement (Educators, 2010). Under four headings related to themes in social studies (digital citizenship, geographic competency, raising awareness of current events, and social consciousness), a brief commentary follows offering perspective on teaching and learning in the social studies using the technology-integrated projects and describes teacher candidate experiences.

## 2. DEVELOPING DIGITAL CITIZENSHIP

"Students aren't getting enough instruction in school on how to use technology and the Internet in a safe and responsible manner" (National Cyber Security Alliance, 2011). Keeping children safe while engaged in online activities is a critical concern of parents, teachers, and policymakers (Thai, 2009). Other aspects to digital citizenship are responsibility and collaboration. The International Society for Technology in Education states, that advances in technology have drastically changed the way we interact with the world and each other. The digital age requires that we understand and are able to harness the power of technology to live and learn (2012). There are many well-constructed digital games designed to teach cyber safety, cyber security, and cyber ethics.

Candidate use: Candidates played online game *Privacy Playground: The First Adventure of the CyberPigs*, which aims to teach elementary students how to navigate the Internet and to identify Internet marketing ploys. In this game, each time the game characters' face a decision, players answer questions as to whether or not the characters are making the right decision. Through this game, elementary students learn techniques to avoid online predators. Candidates explored *Privacy Playground*, and many expressed surprise at the depth and complexity of thought required to ensure online safety. A few candidates reported that they got a couple of game questions wrong, indicating to them that K-12 students are not the only ones who need to be educated in these topics. Lycoming College's online module teaches college age students what constitutes plagiarism and how to avoid it in the online game, *Goblin Threat*. Players are asked a series of questions such as "Tara can use an article in an online database without citing it if:" (A) It only contains information found in other articles; (B) She only uses the abstract; (C) She can never do this; or (D) It was used in a class discussion. Candidates remarked that it was a good review of material. Keeping oneself in check as to current copyright laws is a prudent plan to share with students. Australian Web Site, *Teaching Treasures* offers ways to ensure cyber safety through a self-check activity.

## 2.1 Developing Geographic Competency

It is remarkable that Americans are relatively uninterested in geography (Fritzer et al, 2010). In one study, 50 percent of American participants (n=510) between the ages of 18 and 24 indicated it important, but not necessary to know where countries in the news are located or to speak a language other than English (47%). Three-quarters believe English is the most commonly spoken native language in the world, rather than Mandarin Chinese (National Geographic & Roper Public Affairs, 2006, p. 4). The American Geosciences Institute cites gaps in geographic competencies in students (2015). These findings suggest that U.S. youths are unprepared for an increasingly global future.

Candidate use: Using maps and National Geography (2015) standards - *How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information*, and *The physical and human characteristics of places*, candidates worked in triads to design a game that could help to develop the geographic skills of students. Each team was provided with three different countries as the context of their game. For example, one team received the grouping of Egypt, the Netherlands, and Argentina and another Namibia, Peru, and Iceland. All ten groups created board games that used a variety of maps (both online and paper-based). A few teams also asked players to use the Web to answer specific game questions.

In another semester, the assignment guidelines tasked candidates with finding an authentic geography problem that K-6 students could explore through a game interface. Twenty board games were developed; twelve contained interactive components where players would use the Internet to answer specific questions asked during game play. An example of an interactive game is *Citrus-opoly*, focused on an authentic problem where, since 2005 Florida citrus groves have been infected with citrus greening (Harmon, 2013; Voosen, 2014). Players are asked to consider relocating the farmers' Florida groves, limiting choices to Texas, Arizona, or California. Players round the board game and using a computer to locate specific Web-based maps, they would compare and contrast the physical, political, climate, and agricultural characteristics of these three U.S. states.

## 2.2 Raising Awareness about Current Events

During the fall of 2014, world news agencies reported on Iran's growing nuclear ability. Those talks were aimed at curbing Iran's ability to put two elements (uranium and plutonium) to use in weapons (Broad & Pecanha, 2015). Since nuclear weapons are the most dangerous weapons known to man, it is important to be aware of and give deep attention and consideration to the countries stockpiling radioactive materials. Today, there are over 16,000 known nuclear warheads (Kristensen & Norris, 2014) possessed by nine countries reduced from an all-time high of 60,000 during the Cold War. Nuclear weapon development began as a struggle between Communism and anti-Communism until 1986 when then Soviet leader, Mikhail Gorbachev floated the idea of a "nuclear-weapon-free world" (Rotblat, Steinberger, & Udganar, 1993). Since that time, the debate and consideration of nuclear weaponry has ensued.

Candidate use: Seventeen candidates played online game, *Peace Doves*, whose objective is to use the dove as a worldwide symbol of peace to disarm nuclear weapons possessed by nations. Each player is given eight peace doves. Once players identify the country possessing nuclear weapons based on provided clues, they launch a dove to that specific country to disarm it. If correctly identified, the mission is deemed successful as the nation is disarmed. If not, the player gets another chance. Candidates completed the same questions post play as they did pre-play, revealing significant improvement in knowledge gained through game play (Sardone, 2017). We then discussed the then news headlines involving Iran nuclear ability. Candidates wanted to know if, for example, Iran encroached on the 1970 Non-Proliferation Treaty agreement when constructing a nuclear energy plant. The long-term impact of Iran as holder of nuclear materials on the other Gulf States was discussed and debated. After discussion, candidates understood that possession of nuclear weaponry was a strategy countries used to keep potential attacks at bay. However, they did not understand why the United States was involved in the talks and what the U.S. hoped to gain by such involvement.

### 2.3 Developing a Critical Social Consciousness

Bullying and harassment, most often by peers, are the most frequent threats that minors face, both online and offline (Internet Safety Technical Task Force Report, 2008). The proliferation of cyberbullying cases in our society is of concern, and gaming is one tool to help students develop both awareness and skills to avert or confront such instances. Cyberbullying is being cruel to others by sending or posting harmful material or engaging in other forms of social aggression using the Internet or other digital technologies (Willard, 2007).

Candidate use: Candidates played *Allies and Aliens: A Mission in Critical Thinking*, designed to develop middle school students' awareness of stereotyping and prejudice. The game's content asks students to examine their values as scenarios of increasing degrees of prejudice and discrimination are presented. The game setting is the year 3065 and Earth considers joining an intergalactic alliance and players decide the benefits of joining such an organization. Teacher candidates remarked how quickly, silently, and insidiously discrimination spreads. One discussant stated that it is important for children to experience through game interfaces the way people think and act toward others when they feel threatened so they can evaluate their own feelings, if found in a similar situation.

Another assignment equipped candidates with Web-based tools like *Toon Doo* and *Story Board That* to develop comic strips on topics such as bullying, racism, conflict resolution, and the environment with the purpose to help K-12 students develop a social consciousness. Researchers and educators promote the use of comics as an effective and powerful way to get students engaged in their own learning (McVicker, 2007).

## 3. CONCLUSION

We are in the midst of exciting changes in education that can enrich and extend the learning of social studies well beyond class time. The candidates involved in this experience reported that they did not use digital games in their own K-12 educational experiences but did use review games like *Jeopardy*. Further, their past experiences learning social studies are no different than that reported in many studies, where social studies is often the most disliked subject taught in schools due to the use of stagnant instructional strategies (Leming et al, 2006).

Facilitation of instruction by teaching content through application demands a fundamental change in teachers' roles. In the role of facilitator, teachers are no longer the purveyors of facts; instead, they are asked to guide activities that help students exercise their skills and knowledge (Sawchuk, 2009). Today's teachers are being asked to develop and/or select learning activities that aim to develop students' critical thinking skills. The technology-based activities designed, guided, and recommend in this article are fairly easy for the motivated teacher to organize. Most tools used in these projects are free and Web-based. Assigned readings or discussions may seem an easy fit for social studies topics but have found that active engagement by blending concepts with a technology integrated activity to be worth the effort.

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