

Technology in the Social Studies Classroom: A Literature Review

Lauren Peterson

The College of William and Mary

EDUC F65

TECHNOLOGY IN SOCIAL STUDIES

Abstract

Social studies teachers who seek to integrate technology into their classrooms in effective ways may be in the minority at this point in time. Research shows that many social studies classrooms do not use technology and those that do are using it merely as a replacement for obsolete technology. Research indicates that social studies teachers' attitudes towards technology use in the classroom can be positively affected. However, empirical studies of the effects on student learning and achievement are limited and provide mixed results.

Introduction

There were two main questions that prompted this research. How is technology being used in social studies classrooms, if at all? What is the effect on student motivation and learning? Previous research showed that most history teachers teach directly from the textbooks. In addition, history textbooks tend to be very dry and dull due to the political nature of the process in which they are adopted. The purpose of this lit review was to look into the possibilities that technology holds for integrating more diverse materials and active learning into the social studies classroom. These peer reviewed journal articles were found through a search of ERIC. Articles on this topic vary and include theoretical, qualitative, and quantitative studies. The articles spanned from 2003 to 2010. Technology is always changing and advancing quickly, so it was important to look at more recent articles on this topic.

Reviewing a number of theoretical works that advocate basic foundations for integrating technology into social studies classrooms will lead to a better understanding of the work involved in the qualitative and quantitative research studies. These articles focused on why technology has not been successfully incorporated into social studies classrooms and what can be done about it. Seminal authors in the field, Doolittle and Hicks (2003), write that the application

TECHNOLOGY IN SOCIAL STUDIES

of technology is theoretically underdeveloped. They posit that constructivism should be used as the foundation for the application of technology in classrooms in order to achieve the goals of social studies education. They use the philosophies of constructivism to develop theories for social studies education. They then provide six strategies to integrate technology into the classroom. They acknowledge the theoretical nature of their suggestions and explain that their strategies are not a strict “how to” for using technology in the classroom (Doolittle & Hicks, 2003). Many of the articles used Doolittle and Hicks’ theories to advocate constructivism as a way to make the use of technology more than just a replacement for obsolete technology. An example of replacing old technology would be using PowerPoint in place of transparencies, but not using any new functions of the new technology.

A few of the articles mentioned the National Council for the Social Studies definition of what social studies is supposed to do for students and society. That purpose is to develop the knowledge, skills, and values necessary for students to be effective citizens in our democratic society (Hostetler, 2009). Crowe (2006) emphasized social studies as a way to prepare students to become active members of our democracy. Technology impacts democracy and its citizens in three ways that should be incorporated into the classroom; through access to information, access to the political process, and new topics and issues brought about by technology (Crowe, 2006). The Internet has brought greater access to information and the political process. Students must be motivated and taught how to use the Internet in effective and responsible ways. They need guidance to learn how to sift through the vast amounts of information and the many ideological viewpoints espoused on websites and blogs (Crowe, 2006). Hostetler (2009) uses Crowe’s ideas to put forth the argument that technology should not be used for technology’s sake, but that it must have a purpose. Teachers need to be persuaded to use technology in their classrooms. In

TECHNOLOGY IN SOCIAL STUDIES

order for this to happen, there needs to be more empirical evidence of the advantages of purposefully using technology in the social studies classroom (Hostetler, 2009). Hostetler (2009) also claimed that purposeful use of technology may not be compatible with the current top-down form of curricular decisions and standardized testing. He thought that this structure may need to change before technology can be fully integrated into the classroom in a meaningful way.

In contrast to some of the others, Hammond and McGlinn-Manfra (2009) offer a way for teachers that embrace a variety of pedagogical theories to incorporate technology in their classrooms. Teachers' classroom practices are based on their internalized pedagogical aims. The theory is based on technological pedagogical content knowledge (TPCK). That is the intersection of content knowledge, pedagogical knowledge, and technological knowledge. At this intersection, any pedagogical base can effectively use technology (Hammond & McGlinn-Manfra, 2009). They use the examples of Giving, Prompting, and Making styles of teaching to show how each type of teacher can integrate technology into the classroom according to their pedagogical style (Hammond & McGlinn-Manfra, 2009).

Findings

Research Involving Pre-service Teachers

Most of the research available on technology in the social studies classroom focuses on teachers' attitudes and abilities. The case study conducted by Wright and Wilson (2009) followed two male social studies teachers from their pre-service coursework through student teaching and their first years of teaching. The researchers gave Ken and Seth surveys before the start of the study and after their certification process. They also conducted classroom observations and interviews during student teaching and the first years of in-service teaching. The researchers wanted to examine the growth of and find commonalities between Ken and Seth.

TECHNOLOGY IN SOCIAL STUDIES

The two participants went through a methods block of four courses during their training that in which they used technology regularly and created an electronic portfolio of their work. The two were chosen for their outstanding work on their electronic portfolios. In addition, both participants described positive feelings towards the use of technology in the classroom prior to the start of the study (Wright & Wilson, 2009). This may have caused their results to be skewed because it is unknown if student teachers without initial positive feelings towards technology would have had similar experiences as Ken and Seth. However, as a case study, generalizing to all teachers was not the purpose.

Both participants left their certification program even more excited about the potential of technology use in the classroom. Seth was placed in a school district which discouraged the use of what little technology they had available. This experience caused Seth to leave that school. Ken went on to get a master's degree in Educational Technology. Once they were both in schools with technology, Ken and Seth used technology almost daily. Ken kept in touch with his former advisor and implemented new technologies into his classroom. Seth had lost touch with former mentors after moving, and he stuck mostly to using technology that had been introduced in the methods courses in his coursework. The researchers concluded that the use of technology was consistent with their professional development and support that they received. The researchers also found in their observations that both participants used technology mostly as a classroom management tool. In their interviews, Ken and Seth made comments alluding to students' focus and attention being greater when technology was used in class. The researchers made recommendations for teacher educators as a result of this study. They suggested that lifelong learning should be encouraged so that teachers grow professionally and integrate newer technology into their classrooms, and methods should be explored for this ongoing support. Due

TECHNOLOGY IN SOCIAL STUDIES

to their findings, these two authors commented on the possibility of exploring the use of technology as a classroom management tool in further research (Wright & Wilson, 2009).

In the research done by Ray and Coulter (2010), they looked at the effect of exposure to digital mini-games on pre-service teachers' attitudes towards technology. They worked under the assumption that teachers must accept the idea of technology as a useful and positive tool for the classroom before technology can be successfully implemented. There had previously been some mixed findings in the areas of game use in the classroom. This study focused on digital mini-games as a new potential teaching tool. Digital mini-games take little time to play, have a limited set of challenges, and are mastered quickly. Most of them are available for free on the Internet. This lends digital mini-games to be used easily in the classroom (Ray & Coulter, 2010). An example of these types of games is one in which students must create an environmentally friendly city with a limited budget. Students learn that being green is expensive, but if they do not make at least some environmentally friendly decisions, people in the game become unhappy and even sick. The game can be used as a starting point for a realistic conversation about the costs and benefits of environmental policies.

This study used 18 participants who were pre-service teachers. The ages ranged from 20s to mid 50s, however, most of the participants were in their 20s. The researchers realized that younger teachers may have been more predisposed to positive feelings towards technology. A pre test was given before the study. They also admitted that the sample size was too small to make generalizations. The participants were taught how to play certain digital mini-games. Then they discussed the appropriateness of their use. The pre and post surveys were designed to measure participants' perceptions of digital mini-games using a Likert scale. They were tested for content validity prior to the study. The results of the study were statistically significant with

TECHNOLOGY IN SOCIAL STUDIES

a p value of $p < .01$ (Ray & Coulter, 2010). Overall, the participants had a more positive view after the treatment. Over 80 percent of participants agreed that digital mini-games have the potential to support meaningful student learning and support the needs of diverse learners. 100 percent agreed that these games promote students' motivation to learn. However, only 75 percent agreed that they could be integrated into their own teaching methods. Ray and Coulter (2010) conjectured that this contradiction could show that some participants worry about being able to link digital mini-games to the objectives on end of year standardized tests. Some may also be concerned about losing control of their classrooms because games cause students to become excited (Ray & Coulter, 2010).

Research Involving Teachers in Technology Workshop and Programs

Three of the articles involved studies that involved teachers who were participants in professional development programs. Shriner, Clark, Nail, Schlee, & Libler (2010) started by questioning why social studies teachers fail to take advantage of technology. Their research investigated if perceived confidence and competence with technology could be altered by professional development workshops. They worked under the assumption that technology training is key to faculty adoption of technology use. Their methods involved three workshops that trained teachers in the use of technology and approaches for integrating it into the classroom. The first workshop involved showing teachers how to create virtual field trips. The other two looked at a variety of technology for the social studies and geography classrooms. Participants in the first workshop were 92 teachers at all levels. The second workshop was 39 teachers at all levels. The third workshop was 46 teachers at the secondary level only. The participants were given a survey with a Likert scale before and after the workshops. The results were statistically significant that perceived confidence and competence with technology went up. The first and

TECHNOLOGY IN SOCIAL STUDIES

third group had a p value of $p < .001$, and the second group had a p value of $p < .05$ (Shriner et al., 2010). The researchers showed that participants gained a significant amount of confidence and competence in their abilities in a short period of time. The virtual field trips generated the most excitement for potential use in classrooms (Shriner et al., 2010).

The purpose of the case study done by Swan and Hicks (2007) was to provide a clearer portrait of the extent to which in-service teachers, who expressed an interest in the potential of technology and advocate the use of primary sources, were using the Internet to prepare students to learn to think historically and critically. They were interested in a constructivist theory of learning. The researchers found three social studies teachers that had gone through training with the Virginia Center for Digital History, so they were already inclined to technology. The workshops taught them to incorporate primary sources found on the Internet into their classes. The three participants had varying degrees of experience and educational backgrounds from a highly educated veteran teacher to a novice teacher. The researchers conducted 15 classroom observations throughout the 2003-2004 school year, pre and post interviews, and they collected lesson plans and other materials (Swan & Hicks, 2007).

They came up with four assertions after analyzing the information. Participants used primary sources frequently, but their uses varied. Participants used technology to acquire and display primary sources, but their uses varied. Pedagogical content knowledge informed their purpose for teaching history. Their purpose for teaching was the strongest influence on their ability to leverage instructional technology as a support for historical thinking practice. They used technology according to their own purposes, and these purposes inhibited or promoted the use of technology to facilitate historical thinking practices. Swan and Hicks (2007) concluded that there is promise and there are pitfalls to technology. Primary source acquisition over the

TECHNOLOGY IN SOCIAL STUDIES

Internet is not transformative or constructivist in nature. It is merely replacing the old way of getting primary sources. Only one participant used technology in a way that furthered students' critical thinking. This aligned with her pedagogical beliefs as the only participant to have a constructivist view of learning. The researchers concluded that a teacher's pedagogical content knowledge defined how technology was used in the classroom (Swan & Hicks, 2007).

The study conducted by Taylor and Duran (2006) followed the participants of the MITTEN program over a four year period from 2001 to 2005. They looked at how integration of new technology affects instruction in social studies. They had 257 educators in seven cohorts in the MITTEN program. The social studies section of the program had 25 in-service teachers, 25 pre-service teachers, 5 faculty members, and 3 field supervisors. They collected surveys with Likert scales pre and post program, journal entries, projects, and electronic portfolios with participant reflections. The participants spent four months learning how to use various technologies and four months designing, revising, implementing, and evaluating these techniques in their schools (Taylor & Duran, 2006).

Taylor and Duran (2006) also advocated using constructivism as a foundation for using technology in the social studies classroom because history is seen as too boring and disconnected from students' lives. Teachers found the use of technology to be a highly interactive activity. Teacher participants reported that students had a greater interest in research and topics after exploring electronic sources. Teachers used technology more after participating in the MITTEN project. The researchers also claimed that technology has the potential to positively affect achievement on standardized tests. They wrote that the U.S. Department of Education reported that the higher use of Internet and computers was correlated with higher scores on the National Assessment of Educational Progress tests (Taylor & Duran, 2006). The final article of this

TECHNOLOGY IN SOCIAL STUDIES

literature review found mixed results on the effectiveness of using technology in a constructivist manner and resulting student achievement on standardized tests.

Research on Student Achievement and Technology

Heafner and Friedman (2008) used a quasi-experimental design to find out to what degree the use of wikis in social studies classrooms foster constructivist learning and the long term effects on learning. They set up two classrooms with the same teacher. One class created wikis to construct their own learning experience while the control class was taught using the teacher's normal pedagogical methods. The classes were eleventh grade U.S. history. The researchers used observations, teacher interviews, unit and post test scores, and student questionnaires. In addition, student interviews were conducted eight months later to determine the long term effects of the study. The interviewed students were a stratified sample with five students from each class of varying academic performance levels. The classes were studying World War II. The wiki class created wikis with several web pages that had to include certain major topics. Within the pages they had much freedom of what specifics to include. They also had to include several pictures. The wiki class had increased attendance and assignment completion. Students could review each other's wiki pages, so they had more social interactions with peers and with the teachers (Heafner & Friedman, 2008).

Students in the control class scored higher on the standardized tests that were taken at the end of the unit. However, student motivation, engagement, and interest in learning social studies were much higher for the wiki class. Also, the post tests and interviews conducted with students eight months later showed that the wiki class retained knowledge much better than the control class. Academic level did not matter, only which class the students were in affected their retention of the material. In addition, all the students in the wiki class remembered the project

TECHNOLOGY IN SOCIAL STUDIES

and made connections through the project. The wiki class demonstrated a broader understanding of World War II over the long term, and there was a more positive impact on their long term learning. However, the teacher involved in the study commented that in order to ensure that student performance on standardized tests are high, she would not be able to afford this much time to such a project in the future (Heafner & Friedman, 2008).

Discussion

There needs to be more empirical studies involving student learning and achievement with technology use in the social studies. A common theme among many of the theoretical and empirical articles in this literature review was that standardized testing hinders the effectiveness of technology use in the classroom. If the purpose of social studies is to prepare students for their role as citizens in a democratic society, standardized testing does not adequately measure this aspect of student learning. None of the authors claimed that social studies should be an exercise in memorizing facts and dates of historical events, although they did write that this is what standardized testing mostly tests. There is a massive amount and variety of technology available to social studies teachers, but the challenge is how to use it effectively to promote student learning while still passing those standardized tests. Perhaps there is a way that teachers can do both. Research could be done on integrating technology in effective ways such as was done in the wiki study, but in smaller amounts. Teachers cannot feasibly take weeks out of the school year for one unit, but they could assign smaller projects of a similar nature. Theoretically, students could learn the material traditionally and have a constructivist inquiry based learning experience through smaller and shorter projects that integrate technology. Technology must work to make teaching and learning better in order for teachers to make the effort to fully integrate it into their classrooms.

TECHNOLOGY IN SOCIAL STUDIES

References

- Crowe, A.R. (2006). Technology, citizenship, and the social studies classroom: Education for democracy in a technological age. *International Journal of Social Education*, 21(1), 111-121.
- Doolittle, P.E., & Hicks, D. (2003). Constructivism as a theoretical foundation for the use of technology in social studies. *Theory and Research in Social Education*, 31(1), 72-104.
- Hammond, T.C., & McGlenn-Manfra, M. (2009). Giving, prompting, making: Aligning technology and pedagogy within TPACK for social studies instruction. *Contemporary Issues in Technology and Teacher Education*, 9(2), 160-185.
- Heafner, T.L., & Friedman, A.M. (2008). Wikis and constructivism in secondary social studies: Fostering a deeper understanding. *Computers in the Schools*, 25(3), 288-302.
- Hostetler, A.L. (2009). Democratic citizenship in a global society: Purposeful use of technology in social studies classrooms. *Ohio Social Studies Review*, 45(1), 51-58.
- Ray, B., & Coulter, G.A. (2010). Perceptions of the value of digital mini-games: Implications for middle school classrooms. *Journal of Digital Learning in Teacher Education*, 26(3), 92-100.
- Shriner, M., Clark, D.A., Nail, M., Schlee, B.M., & Libler, R. (2010). Social studies instruction: Changing teacher confidence in classrooms enhanced by technology. *Social Studies*, 101(2), 37-45.
- Swan, K., & Hicks, D. (2007). Through the democratic lens: The role of purpose in leveraging technology to support historical inquiry in the social studies classroom. *International Journal of Social Education*, 21(2), 142-168.
- Taylor, J.A., & Duran, M. (2006). Teaching social studies with technology: New research on

TECHNOLOGY IN SOCIAL STUDIES

collaborative approaches. *History Teacher*, 40(1), 9-25.

Wright, V.H., & Wilson, E.K. (2009). Using technology in the social studies classroom: The journey of two teachers. *Journal of Social Studies Research*, 33(2), 133-154.