This article examines ways in which graduates of an online teacher certification program integrate technology into social studies instruction. With dramatic growth in the number of online teacher certification programs, educators are faced with how to ensure their graduates incorporate effective teaching strategies, including technology, into classrooms. Research over the past decade indicates that teachers do not integrate technology within social studies instruction in meaningful ways, beyond traditional approaches to teaching (Ravitz & Wong, 1999; Van Fossen & Shively, 2003, 2009). Results from this study indicate that online teacher education graduates, who have access to technology within their schools, find meaningful ways to integrate such technology into social studies instruction. Teacher educators must conduct more research, and receive more funding, to follow online teacher education graduates. Today’s new generation of tech-savvy students deserve teachers who can competently integrate technology into all content areas.

Key Words: Content integration, Online program, Research, Social studies, Teacher education, Use of technology within instruction,
Introduction

The large demand for teachers throughout the USA created a trend to certify future teachers through post-baccalaureate programs, instead of through traditional university-based teacher education programs (Esprivalo, Harrell & Harris, 2006; Turner, 1998). With this new trend, many universities began to offer online post-baccalaureate programs to meet the needs of students not served through traditional teacher education programs. Online education is impacting instruction, university policy and practices, and the complete fabric of higher education (Duncan & Barnett, 2009; Li & Irby, 2008; Vonderwell & Turner, 2005; (Lujan & Dolence, 1998; McGrail, 2005; Rowley). Many researchers describe online teacher education programs; although the literature is inconsistent (Bulpett & Friedman, 2007; Li & Irby, 2008; Gibson & Hererra, 1999; Patton & Hines, 2001; Truman-Davis & Hartman, 1998). When closely analyzing the research available, many of the reports describe web-supported programs, not those programs delivered completely online (Esprivalo Harrell & Harris, 2006). Program evaluation is an essential element of designing and delivering online programs. Researchers explain that program evaluation and revision are an important part of distance education (Willis, 1993; Hew; 2004; Verduin & Clark, 1991), so distance educators must analyze what is effective and ineffective about their programs. Program evaluation is important as online teacher education programs continue to grow. Despite such growth, few research projects document the successes of new teachers who are graduates of online programs, and similarly, few studies follow teacher certification graduates into their first year of teaching (Becker & Ravitz, 1999; Bruce, 1997; Dodson, 2000; Maloch & Kinzer, 2006; McGrail, 2005). Recent research indicates that focused and purposeful teacher education programs can impact graduates’ teaching during their first years in the classroom (Wright & Wilson, 2009; Maloch, Flint, Eldridge, Harmon, Loven., Fine, Bryant-Shanklin., & Martinez, 2003; Maloch & Kinzer, 2006). This article examines online teacher education graduates’ use of technology integration in social studies instruction.

Literature Review

Technology Integration in the Classroom

Integrating technology into classroom instruction is a major component of current educational reform (ISTE, 2004), and a component of No Child Left Behind Title II Part D: Enhancing Education Through Technology Legislation (Bush, 2002). Traditional teacher education programs typically require students to complete one technology class, although integration of technology throughout educational methods courses is not always a requirement. Universities are working to infuse technology skills into teacher education programs, and many are doing so effectively (Wright & Wilson, 2009; Baker, 2005; Collier, Weinburh & Rivera, 2004). Teacher educators can reach a large number of future teachers, and show them the importance of integrating technology into all aspects of their coursework, including: creating and presenting lesson plans, WebQuests, and virtual field trips throughout the curriculum. There is little research; however, following new teachers into public school classrooms, or documenting ways in which these new teachers use the strategies taught them in their teacher certification programs (Wright & Wilson, 2009; Becker & Ravitz, 1999; Brooks & Kopp, 1999; Bruce, 1997; Dodson, 2000; Maloch & Kinzer, 2006; McGrail, 2005).
Social Studies Teachers' Use of Technology

Research indicates few teachers use technology in the area of social studies on a consistent basis (Bulpett & Friedman, 2007; Berson, 1996; Bolick, Berson, Coutts, & Heinecke, 2003; Berson & Balyta, 2004; Shively & Van Fossen, 2009; Wilson, Wright, & Peirano, 2007; Wright & Wilson, 2005). Despite the popularity of the Internet, few teachers also use it in social studies instruction (Friedman, 2007; Cuban, 2000; Becker, Ravitz & Wong, 1999; Van Fossen, 2000) Of those teachers using the Internet regularly, their traditional approach to teaching has not changed (Van Fossen, Shiveley, 2003). There are a number of reasons why teachers do not use technology to teach social studies on a consistent basis. Many teachers, for example, want to use such technology, but the technology is not available at their school (Wright & Wilson, 2005), or they find that they can deliver the same teaching experience in a more traditional format (Whitworth & Berson, 2003; Wilson, et al, 2007). Teachers who integrate technology do not necessarily do it on a consistent basis (Bauer & Kenton, 2005). Similarly, a longitudinal five-year survey of College and University Faculty Assembly (CUFA) members (Bolick, Berson, Coutts, & Heinecke, 2003) found that regular use of technology within social studies methods courses was infrequent. Their findings are consistent with the research literature that describes social studies faculty members as using technology only occasionally for instruction (Bulpett & Friedman, 2007; Clark, 1992; Parker, 1997).

As a result of the lack of technology integration in socials studies, the College and University Faculty Assembly (CUFA) issued a set of guidelines for using technology within social studies teacher education (Mason, Berson, Diem, Hicks, Lee, & Dralle, 2000), offering five principles to guide the integration:

- Introduce technology in context.
- Include opportunities for students to study relationships among science, technology, and society.
- Foster the development of the skills, knowledge, and participation as good citizens in a democratic society.
- Contribute to the research and evaluation of social studies and technology.

Using these guidelines, teacher educators may encourage social studies teachers to reconceptualize ways in which technology is integrated into classroom instruction, so teachers might better understand the importance and potential for technology within their content area.

Recent Technologies and Delivery Approaches

Integrating technology into social studies curriculum and pedagogy is a complex process, as noted by researchers for more than a decade (Brush & Saye, 2009; Mason, et al, 2000; Wilson & Wright, 2010; Wilson, 2003). Over the past few years, researchers published many examples of ways in which social studies teachers integrated technologies and delivery approaches into their classrooms. Podcasting, using Internet applications, and video-gaming, are all ways in which social studies teachers currently are integrating technology within their classrooms. Because the list of technologies is ever increasing, we highlight three of the most commonly used recent technology approaches, as discussed below.

Podcasting

iPods are one of the hottest selling forms of technology since 2007. Apple’s The Beat Goes On conference documented that more than 119 million iPods were sold worldwide as of October 2007 (Trier, 2007). What is unique about an
iPod is that students can listen to, or view, a podcast through an online video. According to *The Economist*, a podcast is about ‘time shifting’ since students can listen to material presented at any time of the day, at one’s own convenience (Trier, 2007; Lacina, 2008). Innovative examples of this technology were developed by researchers at the University of Kentucky and The College of William & Mary (Call, Swan, & Hofer, 2009). They developed the Econocast (http://www.econocast.org/), an innovative clearinghouse for podcasting in the Kindergarten-12 economics classroom. Beyond the podcast clearinghouse, the site also offers a production process to guide teachers in recording and editing podcasts, and a way to host and share podcasts. Research studies also have examined how individual classrooms integrate podcasts into instruction (Lipscomb, Guenther, & Perry McLeod, 2007; Vincent, van’t Hooft, 2007). Lipscomb, Guenther, & Perry McLeod (2007), for example, document how a fourth grade social studies class created their own podcast in their study of Westward Expansion. Using the children’s book, *Dear Levi* (Woodruff, 1998), the students collaborated in small group to create podcasts. Within the podcasts, they created news talk shows as though they were on a journey across the country. With podcasts widely available on the Internet, including detailed information on how to teach students to create their own podcasts, learning content in the social studies classroom is enhanced.

**Internet Applications**

Class discussions within any classroom are essential in learning the course content. Class discussions about historical events, or historical characters, are important in understanding and analyzing texts and time periods. As documented through research, encouraging students to read before class, and to participate in class discussion, can be a challenge (Burchfield & Sappington, 2000; Swan, 2009). Over the past decade, social studies teachers and teacher educators used the Internet to facilitate online discussions about social studies content. Some educators used the Internet to forge relationships between U.S. students and students across the globe, as a means for encouraging culturally responsive teaching (Lacina, 2002; Lacina & Sowa, 2005). Other educators used the Internet to provide a means for formative assessment for student online discussions (Swan, 2009). Many educators also use virtual field trips (VFT) as a way for students to visualize the daily life and work of people from the past (Lacina, 2004; McEachron, 2001). One study examined the benefits of using VFT to get a “real world angle” on the topic under study through virtual interaction with others from other parts of the world, state, country, and so on (Zanetis, 2010), allowing the students to gain “real world” experience in addition to learning will help them be both more engaged and likelier to retain that information. It is also proposed that virtual curriculum-based field trips may prove useful career development for those students with disabilities. Learning occurring on field trips can affect life-long decisions beyond the classroom (Elleven, Wircenski, Wircenski, & Nimmon, 2006). Virtual field trips provide the opportunity for students to apply their knowledge to real-life situations and interact with experts in their field of interest. Tying classroom learning to reality helps students to transition into the working world more easily and to have a more efficient, lasting learning experience.

**Video-gaming**

Video games have been debated in regard to students’ recent decrease in reading and writing abilities (Steinkuehler, 2008, 2010). Video games can be used to identify what a child enjoys and excels at doing. According to Stein-
kuehler (2008), for example, it is a mistake to base the child’s performance on activities that adults feel are interesting, rather than looking at how the child performs in his or her own areas of interest. Rather than considering video games as a detriment to learning, it could be viewed as an exposure of what the child finds intriguing. Gros (2007) also claims that video games can be a positive learning environment for students because that gaming: is user-centered; can promote challenges, engagement, cooperation; and helps develop problem-solving skills. Research demonstrates that playing video games will likely enhance certain skills if the game specifically addresses the enhancement of that skill. According to McClurg & Chaille (1987), for example, three grade levels: fifth, seventh, and ninth graders were tested in the area of cognitive skill improvement as a result of gaming. They reported that all the groups showed improved mental rotation, a spatial skill, as a result of playing two computer games. Gros (2007) also found that video games appear to sharpen some skills critical to learning such as the ability to read images like pictures and diagrams, and effectively utilize divided visual attention (keeping track of different things at the same time). It is also proposed by Gros (2007) that gaming can be utilized within the school context. Having video games in school includes the benefits of reducing boredom and frustration, as well as providing a new, challenging, and stimulating learning environment. Gaming is essential to the core idea of learning (Gee, 2007). Learning must occur because if games are challenging, yet not too hard, they are essentially doable. He goes on to describe them as “pleasantly frustrating” which is a motivational tool. Finding the gamers’ “outer edge of their competence”, or identifying how the gamer can truly perform is the motivational element. Gaming also helps the gamer learn basic strategies that can be applied and built upon to solve much more challenging problems later in the game. Strategic thinking such as this is fundamental to learning, in that it is a step-by-step process continually building on itself. Gee further points out the learning of historical people and facts that occurs as a result of gaming. In the game Rise of Nations, for example, learners are exposed to historical dates, places and people as they use strategy to build and manage an empire (Gee, 2007). With the constant change in technology and society, there should be a shift in how we are teaching our students. If students are familiar with technology and have an interest in embracing it, it is our responsibility as educators to utilize that technology and student interest to help facilitate learning and encourage our students.

Context

With dropping enrollment at State University (a pseudonym), a rural teaching institution in the South, university administrators and faculty reconsidered ways to recruit, teach, and train future teachers. In 1999, State University received a Telecommunications Infrastructure Fund (TIF) grant to develop and deliver an online teacher certification program to post-baccalaureate students seeking initial teacher certification in grades Kindergarten-8. The Post-Baccalaureate Initial Certification Program (PBIC) at State University provided an alternative route to certification under No Child Left Behind (2001). In 2001, State offered its first few online classes. Over a two year period, course development increased from nine courses to a complete program, including nineteen web-based courses.

State University used the WebCT platform, and evaluated all online courses for principles of good practice (Chickering and Gamson, 1987). These principles of good practice emphasized the importance of encouraging an active learning environment, communicating high expecta-
tions, and providing ongoing, immediate feedback to students. An integral part of the course design and delivery was ongoing technology training for all instructors. In order to teach in the online program, instructors were required to hold distance education certification through the university’s office of instructional technology. The basic requirement included completion of the following courses:

- Introduction to WebCT (1 hour)
- Gradebook (1.5 hour)
- Manage Files (1.5 hour)
- Course Content (1.5 hour)
- Quizzing (2 hours)
- Assignment Tool (1 hour)
- Communication Tools (1.5 hour)
- Student Presentations (2 hours)

Throughout the training, the instructional technology staff demonstrated ways to actively involve students within an online class by showcasing successful online classes and the instructors who developed and taught such courses. Technology training and certification prepared instructors for the basic format of teaching a WebCT class; however, the resources provided by the university enabled instructors to greatly advance their technological skills and ways to facilitate an active and engaging online learning environment. State University provided laptop computers, ongoing training either individually or in a group setting, and a $1,000 stipend for each online class an instructor taught. Students enrolled in the program received a free laptop computer for check-out until program completion.

The purpose of this study was to assess ways in which graduates of an online teacher certification program integrated technology into their classrooms. The author asked two research questions to guide the study:

1. How do pre-service teachers view technology integration in the area of social studies?

2. According to online program graduates, how does technology integration impact their teaching?

Methods

Participants

All of the participants in this study completed the online post-baccalaureate initial certification program (PBIC) at State University. Throughout a two year time period, 64 students enrolled in an online social studies course participated in a weekly discussion board, in which they discussed ways to integrate technology in the content areas of social studies and reading/language arts. From that group, 58 of the students were female and eight were male.

A follow-up survey was sent to program completers to better understand if, and how, they integrated technology into their classroom. The author sent the surveys through e-mail, and a link was included that connected to the survey (see Survey in Appendix). The survey was created using Survey Monkey an online survey tool. Fifty-one percent of the survey respondents completed the online survey. Lack of participation was due to various factors, such as incorrect e-mail addresses. In some instances, the participant’s e-mail account was full and the message could not reach the participant. From the group of participants completing the survey, 97% of the students were female, and 95% were certified to teach early childhood through grade four. The program participants represented the overall population of the teacher education program at State University, which was composed primarily of female, early childhood majors.
At State University, the author taught 100% online. She sought to integrate technology instruction within the context of the social studies methods course she taught, while following ISTE (2004) recommendations for successful technology integration within social studies. During online discussions, in which participants discussed ways to integrate technology and teaching, the author took on the role of class facilitator. She posted a weekly open-ended question to guide technology and teaching discussions. She then asked questions to probe for critical thinking and analysis. The weekly discussions helped pre-service teachers plan and deliver a virtual field trip, in which they integrated social studies, literacy, and technology.

**Data Analysis**

The author, and her research assistant, analyzed data from this project using a categorical method (Glaser & Strauss, 1967; Lincoln & Guba, 1985). The data included: discussion board responses, chat room sessions, field notes, and an open ended survey. The data were coded and analyzed as the author and her research assistant attributed a code to a sentence, paragraph, or section. The research questions and research literature guided this process (Merriam, 1998). After the coding was completed, the researchers merged elements that were similar to form categories (Strauss & Corbin, 1990). Lastly, the study findings were compared to the research literature.

**Virtual Field Trips**

Virtual field trips (VFT) were an instructional method used by the author to show students how to plan and integrate technology instruction into the social studies/literacy curriculum. In the traditional campus based social studies methods class, pre-service teachers learned the importance of making social studies instruction fun and interesting by incorporating hands-on activities into lessons. Field trips to local historical sites in east Texas took place and lesson plans were designed to teach local history. Virtual field trips offer an alternative format for rural schools that remain isolated from historical sites, or when the time or money is not available to tour a historical site. Virtual field trips also allow students the opportunity to tour a place that is not normally accessible to a class.

The author began this project by asking students to first examine the Texas Essential Knowledge and Skills (TEKS) for social studies and reading/language arts, which are the state standards mandated by Texas. Then, the author told the students to begin thinking of ways in which they can develop an on-line virtual field trip, which would include lessons plans integrating social studies/reading language arts, focusing on a historical site from their local area. The author created a section in WebCT, showcasing example VFTs, providing a holistic grading rubric for the assignment, and providing a place where students could post all drafts of their project. Ongoing peer and instructor feedback was an important aspect of designing and creating the VFT. Student virtual field trip topics ranged from chicken farms, rural east Texas cemeteries and historical markers, to a historic Opera House and Oil Museum. Students used a variety of technologies to create their virtual field trip project.

Teachers in public school classrooms need the resources available to integrate technology into instruction—and the planning time to effectively integrate it.
Online Discussions

Throughout the semester, students participated in an ongoing discussion board conversation in which they discussed technology and instruction, and ways to plan and deliver a virtual field trip. The students viewed video clips from Achieving a Vision of Edutopia, published by George Lucas Educational Foundation (2003) throughout the semester to learn ways teachers integrate technology into their curriculum. Some examples of the video clips shown included: “A Fantastic Super Use of Technology,” “Geo-Literacy: Forging New Ground,” and “Eager to Learn: Integrated Studies in Hawaii.” All of these video clips highlighted teachers throughout the USA effectively integrating technology into content study, specifically social studies and literacy instruction. After each video clip, the class critically discussed the teaching methodology and ways to enhance teaching through technology.

Results

Online Teacher Certification Students: Technology and Instruction

The following narrative describes, in detail, themes emerging from this study. Each theme is discussed, while student data to support the theme is reviewed. The first analysis describes pre-service teachers’ view of technology while they were enrolled in the on-line social studies methods course.

More opportunities for learning about history

Throughout the year, pre-service teachers explained that technology allows students and teachers to learn about places they cannot visit. Pre-service teachers said they learned much more about local history as a result of the VFT project. Most of the pre-service teachers noted ways they would use the Web to teach research skills, and learn more about history. Angie explained how virtual field trips give students more opportunities to learn about history.

[Virtual field trips] give students the opportunities to go places they may not get a chance to visit in real life, especially for students to see places they would not be able to see in rural areas.

Angie’s viewpoint is based in her experience living in rural east Texas. Angie lived in an area known in east Texas for its family chicken farm businesses. At the beginning of the semester, she was not sure how she could find historical sites or local history in her area of the state; however, after we discussed what was important to her and to her community, she designed an elaborate historical VFT highlighting the history of the chicken farm business in her family, connecting history, reading/language arts to the state standards.

Other pre-service teachers noted that they learned more about history through their local library, and others mentioned that technology brought history learning to life for students, since many of the pre-service teachers explained that social studies was often a dull subject for them in school. When asked how one could use technology to enhance a social studies lesson, Amy wrote:

I’ve been introduced to many websites that would supplement traditional curriculum – everything from maps to statistics concerning voting patterns to information on cultures around the world. In addition, I want to take advantage of using virtual field trips to transport my students far beyond the city limit signs. Virtual field trips are
fabulous and I can’t wait to introduce my students to them! When students are interested, they will learn, and I plan to use every avenue open to me to create that interest.

Some students mentioned they teach in schools where more than one field trip is not financially possible for their school; however, they noted that virtual field trips provide a way for students to learn about places that they may never visit, and most importantly, make social studies more interesting.

**Lack of technological skills**

Lack of technological skills was a theme throughout each semester. Pre-service teachers noted that their lack of experience with technology and lesson planning caused them much frustration and stress. Most of the students explained they had limited exposure to technology, other than in their required technology class. With merely one basic technology class, most were unsure about how to integrate technology into classroom instruction. Stacy, for example, explained, in her discussion posting below, why she does not feel prepared to use technology. As she said,

I don’t have much knowledge about using technology in the classroom for social studies. This class is the first exposure I have had. I haven’t observed any teachers using technology to teach social studies. I was told by my stepmother who just went back to teaching that she has used the internet to let her students look up topics for social studies. She said her kids loved it. I think virtual field trips are a great idea because it allows children to see places they are learning about that are too far away for them to visit in person. I am a little nervous about building my own virtual field trip because I haven’t done anything like it before but I’m sure it will be fun.

The majority of the students expressed a lack of experience with technology, and this lack of experience appeared to make them insecure about using technology. Jane, for example, replied to Stacy’s message by posting two messages:

Jane to Stacy

I too am a bit nervous about this virtual field trip. It is my first opportunity to do a project so big. I think it would be a good resource in the classroom.

Jane posted again, asking for clarification and directions on how to begin lesson planning using technology.

I have not experienced any technology teaching in SS [social studies], except what we are doing in this class. I am quite nervous about this assignment. I am just building my computer skills. As we decide on TEKS and visit historical sites in our area, we should then take digital pictures and use them on our presentation site? Look at the examples given and the rubric. Is that correct? I think this idea would be good to use in the classroom. It would add more meaning and insight to the subject area being discussed.

The author responded to Jane’s posting by encouraging her not to feel nervous, and she clarified the questions related to lesson planning.

Jane:

No need to be nervous! :) I know this is a new experience for many people. I
hope that you will feel more comfortable with using technology after this project. You are correct. First, examine the TEKS. Second, learn about historical areas in your local area. Based on the grading rubric and examples (under Class Project Examples) create your own virtual field trip. I’ll check this board during the week for any questions you might have.

Other students noted they have little experience with technology personally, but they knew teachers who integrated technology. Buffy posted that, she too, was nervous, but she found technology exciting and she hoped to integrate in her future classroom.

I don’t have much experience. The teachers where I sub (elementary) do not use it much either. There is a computer lab and the teachers are aware and taking classes themselves to try and integrate tech. in their classes. They are trying. It’s like teaching old dogs new tricks. My son’s social studies teacher (5th) is having them pretend to be a “Famous American.” They had to look up their character on the internet and do a report and speech on the one they chose. So, little by little, the teachers are learning how to integrate. What wonderful opportunities are available now!!!! As to virtual field trips, I think they are a great tool to use in class. Especially if you choose to visit there also! The students have something to look forward to and know what to expect. I plan to use them and although I’m a little nervous about doing my own, I have a location planned and need to get started!

Although the vast majority of the pre-service teachers noted they had experienced limited exposure to technology, they maintained a positive attitude toward technology, and hoped to learn more ways to integrate technology into classroom instruction. Mary’s posting, for example, illustrated the apprehension many of the pre-service teachers had toward teaching using technology.

Yes, I will use technology in the classroom. I do feel we need training on how to do that. I myself have never taught so I am not only apprehensive about teaching but also using the technology to teach. Do we let them research specific sites? Do we pick the subject? Do we let them do the search engine with controlled areas of course? How do we actually DO IT? Those are the questions I have.

Teacher educators can more fully impact online graduates’ use of technology within the public school classrooms when training and professional development on how to use technology is ongoing from teacher education course work and extended into teacher inservice professional development.

"
Most importantly, pre-service teachers expressed that they view technology as a great learning and teaching tool in the classroom, even though most had limited experience observing teachers integrate technology in the classroom.

**Limited experience planning lessons**

Students who struggled to create a virtual field trip often also struggled with lesson planning. Of those who struggled, many began planning by trying to find an activity they thought would be fun, instead of first examining the Texas Essential Knowledge and Skills (TEKS) for standards students must master in each grade level. Many of the students noted that they did not feel comfortable writing lesson plans, even though they recently completed an online class that taught them how to develop lesson plans. Unlike a face-to-face traditional educational methods course where a college instructor can model ways to lesson plan and deliver lessons, an online methods course is limited to a written description of how to create and deliver a lesson plan. In some instances, there are good online video clips that show exemplary lessons being delivered (such as through the George Lucas Foundation). It is unclear if pre-service teachers can deliver an effective lesson in an online course, since face-to-face contact between the online students and their instructor does not often occur. Face-to-face classes were not possible since the Program was advertised as an online program. Students like Laura expressed their difficulty in planning a lesson. Laura explained:

My problem is really identifying a good objective. It’s supposed to be about what the goal of their learning is, right? Please help, I’m kinda stuck here.

Laura’s difficulty with writing a lesson plan and identifying an objective is not unique among pre-service teachers, or even first year teachers. The problem in an online teacher certification program, however, is that students like Laura may never see a teacher deliver an effective lesson, since such students often are hired by school districts once they complete their on-line program and pass the state mandated teacher’s test. The theme of lesson planning was interwoven through the discussions concerning technology. Possibly, there was a direct connection between the two since lesson planning was taught online, through viewing video clips of teaching and example lesson plans. There was not a long-term or extensive public school field experience tied to the PBIC Program, and for that reason, lesson planning may be difficult for many students, since they merely read and discussed how to write and teach in an online environment.

**Program Completers: Technology and Instruction**

The second analysis below describes program completers’ use of technology in the classroom. Of those students who completed the online survey, 17 graduates (53% of the respondents who answered this question) of the online program explained that they integrate technology into classroom instruction regularly. Those teachers integrating technology into classroom instruction use a variety of methods in their classrooms. The most popular among this group was to use web pages to teach students how to conduct research. Many of these same teachers stated that they also use the Web to find lesson plan ideas and resources for their classroom. Teachers noted they used the following types of technology in their classroom:
Participants explained that technology impacts students learning in various ways.

**Technology as a visual text**

Many of the teachers explained that integrating technology into classroom instruction enables them to better meet the needs of visual learners in their class. One teacher explained:

Many students are visual learners and all learners can benefit from seeing concepts, etc. When they can see an example of things we discussed in text, it comes to life for them. Some things just seem more fun – vocabulary words on a power point with clip art, can hold some students attention a bit better. To be able to see the President take his oath of office was very inspiring for many students.

Other teachers responded similarly, by explaining that children love technology, and lessons integrating PowerPoint are a way for students to take notes, while at the same time capturing their attention. Many other teachers explained that technology helps make concepts clearer to students. Another teacher wrote, “Technology can help to explain certain topics better through a visual explanation. It can allow students to be interactive with their learning.” In all, these teachers found technology an effective method for scaffolding instruction, since it provided a way to more clearly explain concepts and ideas to students by presenting a visual picture.

**Technology engages and motivates students**

Teachers explained that technology is a motivator in the classroom, since as one said “students love the computer and always want to go to it.” Many teachers explained that students view technology as a reward, and students look forward to spending free time working on a classroom computer. One teacher explained her students’ excitement to learn about simple machines using the computer, such as a pulley.

The kids love to do anything involving technology! For example, we used the internet to learn about simple machines a few weeks ago and the kids couldn’t wait until it was time to get back on the computer and learn!

Several other teachers said that computers engage students since they use technology every day after school. A middle school teacher said,

It motivates the students to want to learn because computers are what the students have become accustomed to at home. Therefore, many of them have a lot of confidence in dealing with computers. I use the virtual online field trip in class while we are reading Lupita Manana. The students get to see some of the places that the book speaks of, and it helps them to understand the novel better.

A kindergarten teacher described the technology as motivating children, even very young children. She said, “The technology helps to engage the children. My kindergarteners were fascinated with how we could turn a circle inside George’s home and look around.” Teachers who
use technology in the classroom described tech-
nology as a way to interest students in a content
area, and particularly with the older students, it
is a way to build on students’ prior background.

**Technology as a research tool**

The third theme emerging from ways that
teachers integrate technology into classroom
instruction was in the area of using the Web to
research topics within a curriculum unit. Many
teachers noted that they use the Web to research
ideas on different cultures, to find lesson plan
ideas, or to plan lessons. One teacher said,

Preparing for lessons is a time con-
suming process. Computers can help
by allowing teachers to revise and edit
lesson plans more effectively. This
gives me more time to work with stu-
dents on student centered activities.

In particular, teachers described their use of the
Web as a tool to teach on different cultures, or
to research different cultural groups in prepara-
tion for teach a lesson. One teacher wrote,

> It [technology] really allows my stu-
dents to become citizens of the “global
community”. Technology allows my
class to gain exposure to new cultures
and to new ideas. Next year I want to
continue to use technology in my So-
cial Studies. I want the kids to have
online pen pals, and maybe even on-
line lessons with other teachers from
other countries (maybe?). I also want
to use it with the music I’ve integrated
in my class.

Another teacher said that students use the com-
puter to learn about different cultural customs
and foods.

When we are studying the different
cultures, the students are able to use
the computer to read about different
customs and foods that the cultures use
and they are able to view pictures. I
think it really helps when they are able
to see things from another perspective
besides just reading about it in a book.

The data analysis confirmed that technology
was a research tool for both teachers and stu-
dents. Teachers found technology beneficial
since students can see visuals and graphics to
learn new ideas and information, instead of
merely reading about different cultural groups in
a textbook. Teachers also found that technology
saves them time when they can find on-line
lesson plans, or when they use technology to
revise and refine lesson plans. This finding was
consistent with the research literature about
social studies and Internet use. According to
Shively and Van Fossen (2009), between 2003-
2004 more than a dozen articles in leading social
studies journals such as *Theory and Research in
Social Education*, *The Social Studies*, and *Social
Education* were related to Internet use in class-
rooms. These articles typically described informa-
tion about websites and use of the online sites for
primary sources while teaching history; or for
information on new social studies curriculum
material. These researchers (2009) found few
research studies documenting Internet in social
studies classrooms and the impact the technology
had on students. Their study found that teachers
may use the Internet, but the use of the Internet
does not change their traditional approach to
teaching social studies within their classrooms
(2009).

**Teachers who do not use technology**

Fifteen participants said that they do not in-
tegrate technology into classroom instruction,
and of that group, 12 were not currently teach-
Many of the respondents, who do not currently teach, explained ways in which they plan on using technology once they have their own classroom. Most of these respondents did not describe why they were not teaching, and so it was not clear if they could not find a job, or if they decided they did not want to teach. One respondent said that she was called back to military duty. Several respondents noted that they are stay-at-home mothers, and do not plan on teaching until their children are older.

The three program completers who did not integrate technology explained that their school did not provide adequate computer equipment. As one respondent said,

The school does not have adequate facilities to do so. The lab is in the library and it is too much of a hassle to sign up weeks in advance and then you have to deal with students using the library while we are in the lab.

Other respondents said that they did not use technology since there is only one computer in their classroom, while others noted that they are too overwhelmed with being a first year teacher, so technology was not a priority.

**Discussion**

The results of this study indicated those teachers who use technology in their classroom employ a variety of methods. The data also indicated that many of the teachers employed technologies they learned from their online teacher certification programs, such as creating and using virtual field trips, and using the Web for research. When asked if they feel comfortable using technology in teaching, 100% of the teachers stated “yes.” This was important considering a large number of students discussed their lack of experiences in observing teachers using technology to teach social studies, and this also was important since many of the pre-service teachers noted their lack of technological skills.

Data collected from both the pre-service and in-service teachers confirmed that teachers who have access to technology integrated it into their social studies instruction. Unlike findings in the research literature over the past fourteen years (Berson, 1996; Berson & Balyta, 2004; Bolick, Berson, Coutts, & Heinecke, 2003; VanFossen & Shiveley, 2009; Wright & Wilson, 2005) that describe little technology integration in the area of social studies, these online teacher education graduates not only understood the importance of technology integration, but they found ways to connect technology projects from their online teacher education program to their own classrooms. Despite the use of technology integration, many of the teachers preferred teaching methods with which they had prior experience using over time, and as the research literature notes, teachers do not necessarily integrate technology on a consistent basis (Bauer & Kenton, 2005). Although teachers noted a variety of technologies used, most teachers used technology to search for websites appropriate to a curriculum unit (National Center for Educational Statistics, 2005; VanFossen & Shiveley, 2009), or they used technology to search for lesson plans. Since some teachers in this study did not have an adequate number of computers within their classroom or school, the lack of resources available may have contributed to the types of technologies they integrated within their classroom. These findings are similar to those of the National Center for Educational Statistics (2005) report, which found that lack of resources and professional development determined who and how such technologies were integrated.

These teacher education graduates strongly voiced that technology was a way to motivate and engage students. This finding was similar to
case study research study, which showed the benefits of using technology to increase student motivation (Heafner, 2004). Teachers in this study likewise explained the value of using technology to motivate and engage students. These teachers recognized that technology impacts most aspects of children’s lives.

**Instructional Implications and Conclusion**

Teacher educators may more fully impact online graduates’ use of technology within classrooms when training and professional development on how to use technology is ongoing from teacher education coursework and extended into teacher in-service professional development. This is especially essential in teaching an online teacher education class. Just as teacher education programs across the country emphasize the importance connecting theory to practice, and the necessity of clinical public school teaching experiences within teacher education, online teacher education programs need to find ways for their students to demonstrate that they can effectively integrate technology within content area instruction in a way that is meaningful. This task is often complex since some school districts have computers in each classroom; whereas others have none, and there are few teacher education programs that continually follow their teacher education students into their classroom after graduation from the program (Riley & Stern, 2004).

There are many ways in which classroom teachers can integrate technology into most any content area. We live in a wired world, with the Internet is widely available. It is essential for teachers to move beyond rote drill and practice Internet activities to using technology to encourage high level thinking and learning. Higher level thinking may be achieved through inquiry based learning classrooms including interaction between teachers and students, and student groups, as they are participating in a technologically based inquiry activity (Lacina, 2009). Teachers, for example, can use interactive white boards to demonstrate interactive compasses and graphs during a social studies lesson (Lacina, 2009). WebQuests are an inquiry based technological project appropriate for many content areas, with many freely available online to view and design: http://webquest.org/index.php. With a Web Quest, students learn to work collaboratively with their peers using technology, learning information that is relevant to a particular content area (Lacina, 2007). In this type of technological activity, students become responsible for their own learning as they use technology to complete a task. There are many ways in which teachers can integrate technology easily and fairly inexpensively. Teacher education programs need to do a better job of showing their students how to integrate within content instruction and of providing the clinical experiences of integrating the technology within those experiences.

Teachers need the resources available to integrate technology into instruction, and the planning time to effectively integrate it. As Riley and Stern (2004) suggest in their study of pre-service teachers using technology in a social studies methods course, collaborative projects between teachers, or pre-service teachers, may encourage teachers to form technological partnerships with others. Forming such a partnership enables teachers to plan ways to integrate technology more effectively, and efficiently, into the curriculum. To fully understand if online teacher certification programs are effectively preparing new teachers, teacher educators must conduct more research to follow online teacher education graduates. Technically-savvy students deserve teachers who can competently integrate technology into all content areas.
References

Print-based


Web-based


