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A Case Study of Middle Schools Teachers' Perceptions of the Use of Classroom Websites

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COLLEGE OF EDUCATION

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Abstract

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MEd, Kennesaw State University, 2007

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Abstract

Research has confirmed the benefits of incorporating technology, such as course websites, within public school classrooms to enhance student learning. However, many teachers do not incorporate technology or class websites. The purpose of this case study was to investigate technology integration within classroom websites to enhance student learning. Guided by the theory of constructivism, the concerns-based adoption model, and the technological pedagogical content knowledge framework, the research questions focused on teachers' perceptions of how a classroom website influences teaching practices and the key benefits of technology integration. Data were collected from 12 certified teachers in 2 middle schools who were identified as utilizing well-developed websites in their instruction. Interviews and websites were used to collect data, which were coded using inductive analysis of categories recorded on a matrix and reviewed for common themes. The participants indicated that technology integration within a classroom website benefited teaching practices and enhanced student learning through communication, personalized learning, and the development of 21st-century skills. The findings from this study were used to create a 3-day professional development for the local district to provide technology integration support for middle school teachers. Implications for social change include helping educators integrate technology through the development and use of classroom websites to enhance student learning.

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Dedication

This project study is dedicated to my late brother, Mark, who was big in body, personality, and sense of humor. I could not have asked for a better brother, and I wish he was here to share in my joy. He believed in me and was such an encouragement to me. He is missed by all who had the privilege of knowing and loving him.

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I would like to thank God for giving me the strength to complete my doctoral journey. This amazing journey would not have been possible without the unfaltering support of my professors, family, friends, and colleagues.

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I would like to thank my family. I could not have completed my doctoral studies without the love and support of my husband, Eric, and my son, Tyler. To my husband, your never-ending belief in me, patience, and love during this journey has been pivotal in my success. I want to thank my son for his ability to make me laugh even when I was under a lot of stress. I want to acknowledge and thank my Mom and Tom, John and Rose, Kim and Christian, and Peter and Kristi for their unwavering belief in me. I want to thank my in-laws as well. I am blessed to have family through marriage that is so loving and supportive. I want to acknowledge and thank Mom and Dad Mau, Bob and Jackie, and Michelle and Kyle.

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Section 1: The Problem

Introduction

Teachers need to be technologically literate to teach in the 21st century (Richardson, 2013). Due to globalization and technological advancement, jobs of the future will be open to thinkers and innovators. Pink (2005) stated that the future belongs to those who think, create, and recognize patterns. An increasing number of leaders in business, government officials, and educators have agreed that students must possess 21st-century skills to be successful in today's world (Ohler, 2013; Zhao, 2013). Furthermore, evidence in published research by numerous institutions indicated the importance of innovation and creativity. The Partnership for 21st Century Skills (P21; 2011) has developed a framework of necessary components for 21st-century teaching and learning. A graphic representation of all components illustrates desired student outcomes and the support systems necessary to achieve these outcomes (Figure 1). The arches of the rainbow represent the desired student outcomes, and the pools at the bottom represent the support systems.

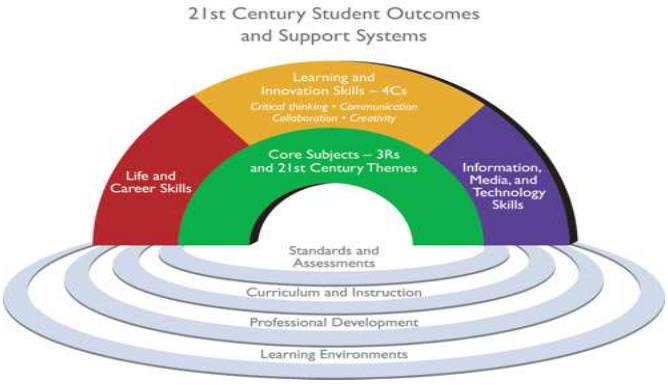

Figure 1. The 21st-century student outcomes and support systems. From *Framework for 21st Century Learning*, by P21, 2011. Retrieved from http://www.p21.org/storage/documents/1._p21_framework_2-pager.pdf. Reprinted with permission.

P21 stressed the interconnectedness of skills in innovation and technology with curriculum and instruction. The International Society for Technology in Education (ISTE; 2013) stated that merely being able to use technology is no longer adequate in the world; rather, students must acquire skills to investigate, learn, and analyze through technology use. It is imperative that educators prepare young people to function globally with technological expertise (Richardson, 2013). The classroom website is one vehicle that can coordinate all of the students' investigations, learning activities, and enables them to analyze their progress and function productively in the classroom, and later globally. Classroom websites were the technology tool this project study focused on to explore the necessary support that ISTE stressed is vital to ensuring the learning benefits possible.

Numerous research studies have confirmed the benefits of incorporating technology in classrooms to enhance learning. A classroom website can be the hub of many innovative and successful learning technologies. Woo, Chu, and Li (2013)

investigated the use of a wiki for collaborative writing in a Chinese primary school in Hong Kong. Through a mixed-methods approach, findings indicated a significant increase in content level comments, a significant improvement in students' group writing, and an increased ease in communicating through technology (Woo et al., 2013). Another example comes from Taiwan where Tsuei (2012) conducted a quasi-experimental design research on the use of computer-supported collaborative learning tools through a peer-tutoring system called G-Math. The G-Math system facilitates tutoring strategies in mathematics learning with math objects, guiding sentences, peer rating, feedback, and reward mechanisms. Students in the experimental groups showed significant gains in overall math scores, self-concept, and intrinsic goal orientation (Tsuei, 2012). Deaton, Deaton, Ivankovic, and Norris (2014) conducted a qualitative case study in the United States among 42 biology students who used iPad videos in their course. The researchers investigated the implementation of a stop-motion animation video activity using iPads to support students' understanding of cell processes. Data from pre- and posttests confirmed students' beliefs of deeper understanding of content, as correct responses increased by 58.53% (Deaton et al., 2014). In addition, the use of iPads benefited students by allowing easy access to the classroom websites and resources, increased opportunities for meaningful discussion with peers, increased creativity, peer evaluation, and effective technology use (Deaton et al., 2014). Technology clearly enhanced learning in these studies.

When focusing on students' emotional response to technology, research conducted in Southeast Australia focused on students' views as they engaged in the

technological process of designing, making, and evaluating recycling devices. Campbell and Jane (2012) conducted interviews and observations to gather data. Results showed that students clearly identified motivation as one of the strongest elements of technology activities. Interestingly, children participants ranked "personal satisfaction" ahead of "fun" (p. 9).

Research has indicated that the effective use of technology in education enhances learning and promotes the development of 21st-century skills in all levels of classroom settings ranging from elementary to university level courses. For example, research conducted on university campuses indicated the benefits of technology infusion in preservice teacher courses. Kim and Ryu (2013) conducted an experiment on a web-based formative peer assessment system used in a private Korean university. A total of 122 pre-service teachers participated in this study. Results indicated that the web-based formative peer assessment system group showed significantly higher metacognitive awareness and increased levels of reflection. These innovations are web- and technology-based and thus orchestrated by a teacher and his or her classroom website.

Technology can provide innovative solutions to the nation's educational shortcomings in terms of learning, personal satisfaction, and at all levels. However, for all the progress schools have made, there has been no coherent plan for understanding the most effective and engaging uses of technology (Aesaert, Vanderlinde, Tondeur, & van Braak, 2013). ISTE (2013) has completed important legwork in creating standards for teachers (ISTE Standards T), which are a framework for how technology integrates into the learning process. The U.S. Secretary of Education Arne Duncan (2011) stated that

teachers must use the ISTE Standards to become leaders of technology in schools, work with colleagues to integrate technology, and investigate emerging technologies that will help students learn.

Research has indicated the importance of integrating technology in the classroom and that teachers must be the leaders in using it. A classroom website provides an innovative method for teachers to integrate technology in their classrooms (Stanford, Crowe, & Flice, 2013). Through effective professional development, teachers can discover how to use their classroom website to integrate technology and enhance teaching practices (Gunn & Hollingsworth, 2013).

Definition of the Problem

Stakeholders at the U.S. Department of Education are in full support of all states raising standards to reflect knowledge and skills necessary to compete in the 21st century. Duncan (2011) stated that $350 million awarded to states to help assess students on college and career readiness. Unfortunately, many educators have not been integrating technology effectively in their classrooms to prepare students for success in the 21st century (Prensky, 2013). According to Duncan, although many schools have a plethora of technology, teachers are operating in the 20th-century classroom model. Duncan further stated that technology use is an *add-on* to lesson plans rather than an essential component to planning and teaching.

The problem prompting this study was the disconnect between the adopted National Education Technology Standards (ISTE, 2013) and the integration of technology in the classroom. The ISTE (2013) has developed standards for students,

teachers, administrators, coaches, and computer science educators. The standards will support teaching and learning in the digital age. Schools in Norway, Costa Rica, Malaysia, Japan, Australia, Philippines, Micronesia, Korea, and Turkey are among the countries working to adopt the ISTE Standards for technology frameworks. The Common Core State Standards, currently implemented across the United States, require students to make complex decisions concerning technology use (Heick, 2012). Furthermore, the National Assessment of Educational Progress is in the process of creating the first assessment on Technology and Engineering Literacy (TEL), which will be used in 2015 (National Center for Educational Statistics [NCES], 2012). Leaders in school systems and organizations across the globe understand the importance of technology integration. Leaders continue to seek awareness and implementation of technology standards.

Despite advancements in technology standards, technology integration in the classroom proceeds at a much slower rate. The University of Chicago Consortium on Chicago School Research found that less than 60% of students in the Chicago public schools regularly used the Internet for schoolwork (Ehrlich, Sebring, & Sporte, 2013). Findings from two major reports by The NCES (2010) indicated minimal usage of available computers:

- 97% of teachers had one or more computers in their classroom every day,
- 54% had access to computers that could be brought into their classrooms,
- 96% of all these computers had Internet access,

- the ratio of students to computers was found to be 5.3 to 1; yet, less than half of the teachers surveyed stated frequent computer use during instructional time.

Research findings asserted that adoption of technology standards does not ensure effective computer integration within the classroom.

Research confirmed that the lack of technology integration in classrooms is worldwide. Aesaert et al. (2013) conducted a study examining the national educational technology curriculum of Norway, Flanders, and England. All three countries' technology plans stressed higher-order thinking skills and information processing using technology. Results indicated that a government-developed technology curriculum did not guarantee implementation in individual schools, and the lack of digital competencies led to the *digital divide* in their respective countries (Aesaert et al., 2013). Additionally, a research study on the information and technology (ICT) skills of 15-year-old Chilean students found that although half of the students could search, organize, and manage digital information, only a third of those students could produce their own ideas, and only a fifth could create digital representations (Claro et al., 2012). Similarly, a study conducted on Italian adolescents found that most of the students were able to perform a variety of technical tasks on the computer (Calvani, Fini, Ranieri & Picci, 2012). However, when asked to perform more complex tasks involving logic, distinctions, and inferences, the students were unable to do so (Calvani et al., 2012). Research studies worldwide revealed that students lacked the technology skills necessary to perform complex tasks needed to develop 21st-century skills.

There has been a discrepancy across the globe between the national technology standards and the reality of infusion in classrooms. Countless research studies (Campbell & Jane, 2012; Deaton et al., 2013-2014; Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, & Sendurur, 2012; Kolikant, 2012; Levin & Schrum, 2013; Parr & Ward; 2011) confirmed that students' technological abilities lack the 21st-century skills of creativity, critical thinking, communication, and collaboration. In many current educational settings, technology supports what occurs in the classroom rather than transforms learning (Aslan & Reigeluth, 2014). Aslan and Reigeluth (2014) further stated that teachers need support with technology tools that will assist with planning, personalized instruction, unique assessments, and record keeping. Although leaders in business and education have agreed that current technology integration is not preparing students to function effectively in the 21st century, questions remain concerning how to adequately incorporate technology in the classroom.

A classroom website is an efficient tool to meet the ever-increasing demands of education (Stanford et al., 2010). Research indicated numerous uses of classroom websites to assist teachers to enhance learning:

- tailor instruction to meet specific needs of students (Stanford et al., 2010);
- target 21st-century skills through collaboration, media literacy, interpersonal skills, and problem-solving (Tingen, Philbeck, & Holcomb, 2011);
- incorporate Web 2.0 tools (Dappolone, 2013);
- blended instruction (Tucker, 2013);
- choice in learning (Ertmer et al., 2012);

- attachment of links and establishment of a classroom forum (Kolikent, 2012); and
- create meaningful assessments (Herandez-Ramos & De Le Paz, 2009).

Although research has been clear on the benefits of a classroom website to assist teachers in technology integration, Asland and Reigeluth (2014) discovered that teachers refused to use technology because it added complexity to their job. In many secondary schools, integration of technology into the curriculum is a luxury, not a necessity (Harushimana, 2008). Furthermore, Husbye and Elsener (2014) found that some educators viewed technology as a distraction rather than a resource and were unaware of the benefits of technology integration for instructional purposes to meet the needs of their students.

There are untapped resources that all educators can incorporate in their classroom website to graduate students who are globally competitive for work (Harushimana, 2008). Schneckenberg, Ehlers, and Adelsberger (2011) conducted research on a 30-hour course in which various Google applications (apps) incorporated into the classroom website enhanced its effectiveness. Google calendars, Google Docs, and Google Apps Picasa Image Integration provided assignment information, presentation reviews, and choice in learning assignments. The course website included blog entries, wikis, and videos. Findings indicated a substantial shift from teaching to learning in the classroom. Students appreciated collaborative learning sessions, peer feedback, and resources (Schneckenberg et. al, 2011).

Recent research highlighted that elementary classroom websites are more interactive and engaging than most middle or high school websites (Tingen et al., 2011).

This is unfortunate as middle grade students pursue 21st-century technologies more than any other age group (Downs & Bishop, 2012). Collaboration with teachers, principals, and students at three middle schools in Vermont allowed Downs and Bishop (2012) to explore engaging learning through technology integration. Students reported that learning in a technology-rich environment allowed them to use familiar technologies in new ways, created opportunities for collaboration and creativity, and provided organizational tools.

In light of research indicating the benefits of a 21st-century classroom website, the site for this study included two middle schools in a large district in north Georgia. The state of Georgia has adopted the ISTE (2013) standards for teachers (Standards T), and the district has developed a technology plan. Yet, the problems of disconnect between adopted standards and integration in the classroom were identified in this school district. Anecdotal conversations, including specifics shared in the next section, with school leaders at the proposed sites clarified concerns over unused technology equipment, lack of technology integration for student learning, and incomplete or nonexistent classroom websites. Although the district had required all teachers to create a classroom website linked to the official school website, neither specific guidelines for the website nor assistance for teachers were available. Anecdotal conversations from teachers indicated that although many had created a classroom website, teachers were unclear how to use websites to enhance student learning.

The local problem that prompted this study was the lack of understanding of teachers at two middle schools in north Georgia on how to integrate technology through classroom websites to enhance student learning. Sixty-five percent of middle school

teachers were unaware of the Web 2.0 tools that do not require significant funding to incorporate (K. Cunningham, personal communication, September 2014). The teachers did not know how to use these Web 2.0 tools to create and develop an interactive website (K. Cunningham, personal communication, September 2014). Anecdotal conversations from teachers indicated a desire to investigate new technology tools to use in their classrooms.

Web 2.0 tools "highlight a capacity for high user engagement, intellectual rigor, frequent updating, and collective knowledge sharing based on an underlying technological infrastructure of blogs, wikis, podcasts, photosharing, RSS feeds, social bookmarks, and the like" (Fahser-Herro & Steinkuehler, 2010, p. 56). What is emerging is a culture of learners with broad access to many inexpensive media production tools (Fahser-Herro & Steinkuehler, 2010). This study involved an investigation of a variety of Web 2.0 tools—including blogs, wikis, videos, peer-evaluation tools, calendars, and collaboration tools—media literacy, and critical thinking. Focus of this study was on the implementation of Web 2.0 tools within a classroom website to enhance teaching practices and technology integration.

Rationale

Evidence of the Problem at the Local Level

Leaders in one of the largest suburban public school districts in the state of Georgia developed a 3-year technology plan; implementation occurred March of 2012 and continued through 2015. The mission of the school system is to prepare 21st-century students flourish and succeed in a diverse world through cooperation of home, school,

and community. The initiation of the technology plan included a "gap analysis" in which data were collected by various stakeholders of the district. Stakeholders found gaps in successful integration of technology:

- need for updated desktop and laptop computers,
- need for updated printing technology and solutions,
- increased access to computers and mobile devices for all students,
- need for a document management system,
- need to upgrade the components of the wide area network (WAN) and the local area network (LAN) infrastructure,
- need for upgrade of in-school accounting system,
- technology training for administrators, teachers and students, and
- quality training for teachers and how to measure integration of technology.

Through the integration of technology, the district called for students to demonstrate 21st-century skills: (a) flexibility and adaptability, (b) initiative and self-direction, (c) social and cross-cultural interaction, (d) productivity and accountability, (e) leadership and responsibility, (f) ICT literacy, (g) critical thinking and problem solving, and (h) creativity and innovation. The district required documentation to determine evidence of technology integration among teachers.

This research study was conducted in two of the middle schools within a school district in northern Georgia. The middle schools under study had technology, but it fell short of the requirements for technology training of staff members outlined in the district plan. Three laptop carts, 17 computers in the media center, three student computers in

each classroom, promethean boards in a little more than half of the classrooms, and six classroom sets of clickers were available. However, with enrollment close to 1,500 students, many of these items remained unused by the majority of the teachers due to lack of availability.

In addition, the instructor technology technician (ITT), who is responsible for all hardware and software maintenance for the entire building, did not have time to conduct professional development sessions for the teachers (personal communication, September 2014). This is not a unique problem in U.S. schools. Hsu and Kuan (2013) found technology support staff to be overwhelmed with fixing computers and maintaining networks rather than coaching teachers in the 386 schools investigated in Taiwan. Support staff, employed by school systems in Taiwan and the United States, struggle to find time to assist teachers in technology integration through professional development.

The one technology requirement mandated by administration in the district under study was that all teachers have a classroom website with lesson plan information, current syllabus, and contact information. However, teachers would manage their own sites without written guidelines. Anecdotal conversations from teachers at both middle schools provided evidence that there was a problem with website development. Lack of guidance, little assistance from the ITT, and time constraints were some of the reasons they gave for incomplete or nonexistent websites. Tingen et al. (2011) conducted a study investigating whether classroom websites supported 21st-century skills for students. Findings suggested that classroom websites were not meeting the needs of the 21st-century student, and that most teachers were self-taught in terms of website development (Tingen et al., 2011).

Educators have a tool (classroom website) to support productive teaching and learning. However, many educators lack the knowledge and support to create powerful classroom websites.

Although a detailed technology plan was in place per the district, stakeholders at the schools identified clear gaps in successful integration of technology and gaps in applying 21st-century skills to learning, as evidenced in the failure rates. Stakeholders expressing concern over gaps in technology integration included district leaders, educators, parents, and community leaders. Anecdotal conversations from principals at the site indicated concern over perceived lack of technology integration during classroom observations. In addition, principals confirmed the district's intention to devise an evaluation tool for technology integration to enhance student learning. Through this project study, strategies to eliminate the discrepancy between district, state, and national technology plans and technology integration in the classroom were explored. Specifically, this study looked at strategies to assist teachers in creating and developing an evolving classroom website as a tool to integrate current technologies and assist educators with the ever-increasing demands of education.

Evidence of the Problem from the Professional Literature

Incorporating technology in classrooms is one of the current topics of discussion for leaders in education, business, and government. Student learning is no longer confined to brick and mortar buildings, as many classrooms come equipped with various types of technology such as laptops, whiteboards, audio and visual capabilities, and

software (Aslan & Reigeluth, 2013). Student use of the Internet opens the doors to learning without the constraints of time or location (Schneckenberg et al., 2011).

Past research verified that effective technology integration improves academic success through personalized learning, developing a sense of community, cooperative learning, flexible learning, and real-world problem solving (Gunn & Hollingsworth, 2013). However, with all the technology available for classroom use, there are questions concerning the integration of these tools to affect teaching and learning. There is a widening gap in the use of technology inside and outside of the classroom (Downes & Bishop, 2012; Hall, 2010). Although technology is readily available for classroom use, teachers often struggle with technology implementation in their instructional practices.

Effective technology integration in the classroom is critical in the 21st century. Unfortunately, educators have been passive in recognizing the necessity of digital literacy in the classroom (Fahser-Herro & Steinkuehler, 2010). Educators have been unwilling to embrace social networking (Taranto & Abbondanza, 2009). They also lack the digital skills necessary to infuse Web 2.0 technologies in their classrooms (Taranto, Dalbon, & Gaetano, 2011). Hall (2010) argued that the Achilles heel of technology is the lack of understanding of what it takes to help teachers incorporate technology in their classrooms. Levin and Schrum (2013) investigated award-winning schools and districts to see how they improved student learning using technology. Results indicated that simply requiring teachers to add technology to their teaching or changing the curriculum does not make a difference. All stakeholders in education must work together to

implement technology integration in the classroom to enhance student learning (Levin & Schrum, 2013). This project study incorporated this strategy.

Although countries around the world have created national technology curriculum and spent millions of dollars on technology for the classroom, findings from numerous research studies indicated a lack of real change. Greenhow, Walker, and Kim (2010) conducted a study on low-income students in upper Midwestern United States. The findings indicated that the majority of the students were consumers of the Internet using only simple communication and presentation technologies. Similarly, Brown (2009) conducted a study in three high school technology education classrooms in Indiana. The results revealed a lack of technology literacy and problem-solving skills (Brown, 2009). Dawson's (2012) study of a statewide action research project in Florida found that teachers used technology for remediation and finding information. Findings from the study indicated that teachers were not fully embracing technology for digital communication, collaboration, and engagement (Dawson, 2012).

Further, Bang and Luft (2013) examined the technology use of 95 beginning secondary science teachers from five states over a 5-year period. Bang and Luft discovered that the teachers used technology to assist traditional modes of teaching and learning rather than for inquiry-based learning. Finger and Houguet (2009) found that 3 years after technology education became a requirement in New Zealand, 22% of the teachers had little understanding of the technology curriculum. Although technology education has been taught for over 10 years in Sweden, there is only one document to assist teachers (Finger & Houguet, 2009). Furthermore, although the Solomon Islands

and Australia have incorporated technology into their curriculum, research has shown that these teachers have little knowledge of technology or technology education (Finger & Houguet, 2009).

In light of the disparity between national curriculums, state and local technology plans, and current integration in the classroom, researchers have sought to identify the reasons why integration is not up to 21st-century standards. Stakeholders must work together to remove barriers and promote sustained change in technology integration. Trends have emerged in the literature identifying factors that impede technology integration in the field of education. These trends include lack of time, access, beliefs, culture, and professional development.

Lack of time. Due to the No Child Left Behind Act of 2001 (NCLB), standardized tests, and pacing charts, teachers are pressured to teach only the material on which their students will be tested (Berliner, 2009). As a result of growing pressure to raise test scores, teachers feel they do not have time to learn how to use technology, given their increasing workload, to help students master the concepts (Mouza, 2011). Consequently, teachers do not want to incorporate anything they feel will take away from time on task (Wetzel & Marshall, 2012).

Access. Studies have shown that limited access to hardware and software resources impede technology integration (Ertmer et al., 2012; Inan & Lowther, 2010). Although access has significantly increased (National Center for Education Statistics, 2010), there is still inequity in the distribution of technology, especially in lower-income areas (Greenhow et al., 2010). Ertmer and Ottenbreit-Leftwich (2010) found that

problems with network stability and lack of technological support significantly affected teachers' willingness to integrate meaningful technology in classrooms.

Beliefs. Teachers value technology when they believe it is useful to meet established instructional goals (Ertmer & Ottenbreit-Leftwich, 2010). Prestridge (2012) found that when educators in Australia believed that technology could be used to enhance their curriculum, they moved from technology as an add-on to using it in significant ways to construct knowledge. Pritchett, Wohleb, and Pritchett (2013) found that many certified educators in 2011were unaware of the benefits that technology offers to their practice. An increase in teachers' knowledge and comfort level in technology use has been shown to have a positive effect on teachers' beliefs (Ertmer & Ottenbreit-Leftwich, 2010).

Culture. Teachers are more willing to integrate technology in settings where they receive technology support, encouragement from administrators, and peer collaboration (Inan & Lowther, 2010). Administrative support through provision of ICT training and encouragement has been shown to have a positive effect on integration (Hsu & Kuan, 2012). Kopcha (2010) found that a "teacher-led community of practice" using technology within the school helped to support and sustain technology integration (p. 184). Without ongoing support and sustained use of technology for the development of 21st-century skills, teachers revert to traditional teaching (Prestridge, 2012).

Professional development. Research indicated that professional development must include critical components in order to be effective: (a) increase teachers' knowledge, (b) provide evidence of usefulness in specific content areas, (c) utilize tools in the professional development that will be used in the classroom, and (d) establish

communities of learners (Ertmer et al., 2012; Gunn & Hollingsworth, 2013). Findings from numerous studies have shown that fewer than 10% of teachers surveyed participated in more than 24 hours of professional development in a calendar year (Dash, de Kramer, O'Dwyer, Masters, & Russell, 2012; Harris, 2008).

Definitions

Twenty-first–century skills: Students must acquire skills to live and work productively. These skills include mastery of content as well as development of specific skills, expertise, and literacy (P21, 2011).

Digital divide: The Organisation for Economic Co-operation and Development's (2010) report on the effect of ICT in learning defined digital divide as differences in access to technology; however, a second digital divide is emerging. This divide refers to students' technological capabilities. There is a growing divide between students who use technology to perform critical thinking skills to complete complex tasks and those who use technology for simple tasks (Claro et al., 2012).

Digital immigrants: People who were already adults when technology was introduced for everyday use (Kolikant, 2012).

Digital natives: Young people who were born after technology was introduced for widespread use (Kolikant, 2012). Other terms used in literature to refer to this population are *millenials*, *netgeneration*, *instant messaging generation*, and *new millennium learners* (Calvani et al., 2012, p. 797).

Technology integration/infusion: The practice of using technology in teaching (Shieh, 2012).

Web 2.0: The technology infrastructure used to promote rigor, creativity, collaboration, and innovation. This infrastructure includes tools such as blogs, wikis, podcasts, and RSS feeds (Fahser-Herro & Steinkuehler, 2010).

Significance

Due to continuously emerging new technologies, professionals in the 21st century operate differently than in past centuries (Prensky, 2013). Police officers use online databases to search for valid driver's licenses and insurance, doctors examine unborn children by scanning a woman's abdomen, mechanics use computerized diagnostics to pinpoint where a vehicle needs servicing, and surgeons simplify procedures through laser technology (Ertmer & Ottenbreit-Leftwich, 2010). Citizens expect professionals to stay informed of the latest technologies, purchase current technologies, and use these technologies to offer services to the public. Educators fail to apply these expectations in the field of education. Teachers continue to utilize the same tools that have characterized education for the last century (Ertmer & Ottenbreit-Leftwich, 2010).

In the 21st century, technology is the "key to thinking about and knowing about our world" (Prensky, 2013, p. 23). Educators must transform thinking of technology as a supplemental teaching tool to technology as an essential teaching tool (Ertmer & Ottenbreit-Leftwich, 2010). Traditional modes of teaching are no longer adequate to meet the learning needs of today's digital natives (Gunn & Hollingsworth, 2012).

Standardized testing resulting from the NCLB Act of 2001 threatens creativity, which is at the core of 21st-century teaching and learning (Ohler, 2013). Zhao (2012) noted that countries that typically perform poorly on creativity markers have done well

on standardized tests. Obsession to improve test scores at the expense of innovation and critical thinking puts a country at risk of becoming a poor nation (Ohler, 2013).

Globalization demands citizens who can problem-solve, learn individually, and respond to situations in creative ways (Starko, 2013). Education must shift from students simply as consumers of knowledge to personalizing instruction to enhance students' strengths, providing opportunities for students to create products that are useful, and expanding students' learning globally through development of technology literacies (Zhao, 2013). Young people heading into adulthood will face ever-increasing challenges to make the world a better and safer place to live (Ohler, 2013). Creative ideas, entrepreneurship, and increasing digital literacies will help them face these challenges (Zhao, 2013).

This study may contribute to the body of literature by addressing the problems of disconnect between technology curriculum and current classroom integration by focusing on the tool that can both be better understood and enhanced in the short term, but also in the long term by adding new technology: the classroom website. This study explored teachers' perceptions of their current classroom websites and also asked them to consider pre-identified Web 2.0 tools that can be incorporated into a classroom website to enhance student learning and provide instructional integration for creating a 21st-century classroom. Additional lists of Web 2.0 resources will be shared with the teachers, but for the purpose of this study it was important to discuss the same Web 2.0 resources with each teacher. Upon completion of this study, all pertinent stakeholders will receive salient results. Results from this study may assist teachers at the local level in the development

and maintenance of their classroom website. Additionally, school leaders may use the outcome of this study to provide support for teachers implementing evidence-based approaches and strategies involving technology to address the educational needs of their students.

Guiding/Research Question

Research suggested that the field of education lags behind other professions in technology integration (Ertmer & Ottenbreit-Leftwich, 2010). Obstacles ranging from access issues to lack of knowledge that inhibits educators from using Web 2.0 technologies in the classroom (Prestridge, 2012; Shaltry, Henrikson, Wu, & Dickson, 2013). However, research also demonstrates that when stakeholders work together to integrate technology, there are documented increases in student learning (Gullen & Zimmerman, 2013). In the two schools under study, the only current technology mandate was for teachers to have a classroom website. Therefore, this study explored the investigation of innovative technology integration initiatives through classroom websites. It becomes necessary to probe Web 2.0 tools and how to effectively incorporate them into the classroom (Dappolone, 2013). Although the development of a classroom website can incorporate Web 2.0 tools necessary to prepare students for life in the 21st century, many teachers do not realize the power of a classroom website, nor do they know where to begin. Therefore, this study focused on teachers' perceptions of their current websites and also their perceptions of preselected Web 2.0 tools to enhance both their teaching practices and their technology integration. In alignment with the stated problem and purpose of this study, I developed the following research questions:

1. What are teachers' perceptions of using Web 2.0 tools in their classroom websites to interact with teaching practices?

2. What are teachers' perceptions of using Web 2.0 tools in their classroom websites to enhance technology integration in the classroom?

Review of the Literature

The review of literature is a synopsis of current and relevant literature regarding the topic of technology integration in the classroom. The purpose of the literature review is to identify and analyze research that can assist educators in their efforts to integrate technology into their classrooms and help students develop 21st-century skills. In an endeavor to thoroughly explore technology integration in the classroom, search efforts included the history of technology integration within the classroom, Web 2.0 tools, classroom websites, and research results of innovative technology integration in the classroom. In addition, search efforts included professional development to sustain technology integration within the classroom. The literature review begins with an examination of the learning theory of constructivism and how it relates to technology integration as the theoretical foundation of the study. The main sections of the literature review include technology integration in schools, professional development, and two specific professional development models, the concerns-based adoption model (CBAM) and technological pedagogical content knowledge (TPACK) framework. Lastly, the literature review includes a synthesis of how this literature supports and elucidates the necessity of professional development for effective technology integration by educators.

Theoretical Framework

As states and districts mandate technology integration in the classroom, educators must change how they teach. Change in teaching methods requires absorbing new ideas, taking risks, and investing time (Ertmer & Ottenbreit-Leftwich, 2010). Although educators may voice the benefits of technology use in the classroom, many are ill-equipped to take advantage of those benefits (Kolikant, 2012). A number of theorists in literature addressed technology integration and what it entails for educators. These theorists provided a framework for effective technology integration.

The theoretical framework for this study was constructivism. Constructivism is a learning theory to explain how knowledge links new information to prior knowledge within one's environment (Gordon, 2009). Theorists such as Piaget, Vygotsky, and Dewey advocated approaches of cognitive and social development that value inquiry learning. Inquiry learning involves students investigating a problem through data collection and conclusion testing (Powell & Kalina, 2009). Dewey (as cited in Pieratt, 2010) stated that teachers must know their students to design and facilitate proper learning experiences to obtain growth. The main idea of constructivism as it relates to this study is personalizing education through the use of technology to meet the needs of individual children.

Dewey (1938) promoted personalizing education in his book *Experience and Education*. Child-centered curriculum allows teachers to tailor activities that assist students in making connections between their world and the content (Pieratt, 2010). Furthermore, Dewey (1932) challenged teachers to go beyond the curriculum and

incorporate character education in lesson planning. Technology integration opens the door to cultures around the world, thus cultivating social sympathies and developing the ability of collaboration with others (Fishman & McCarthy, 2010). In the age of standardization, Dewey's (1938) ideas are difficult to implement. However, project-based learning, connecting students with other students around the world, and investigating real-world problem solving through technology are methods that meet Dewey's (1938) challenge to teachers.

Findings from research studies indicated that classrooms grounded in the theory of constructivism integrate technology in meaningful ways. Technology-enabled active learning (TEAL), initiated at the Massachusetts Institute of Technology (MIT) in 2001, was adopted by a high school in Taiwan beginning in 2006 (Shieh, 2012). TEAL, which features software for simulation and visualization, promoted the theory of constructivism. Students were encouraged to engage in learning by constructing knowledge through collaboration and problem solving. Shieh (2012) conducted a quasi-experimental study examining the impact of TEAL on student performance and teachers' practice in the Taiwanese high school. Results indicated that students had increased test scores, higher motivation, and confidence. Furthermore, teachers had increased belief in the constructivist theory of facilitating learning by innovative instruction through technology integration.

Additionally, Overbay, Patterson, Vasu, and Grable (2010) assessed the relationship between teachers' level of constructivism and their level of technology use. This study, conducted in 22 schools in North Carolina, was part of the IMPACT model,

an innovative framework for media and technology integration. Results indicated that teachers with more constructivist instructional practices (student-centered instruction) had a significant positive impact on technology use. The constructivist theory of teaching challenges teachers to create classrooms where students are inspired to think and to take ownership of their learning (Lamanauskas, 2010).

Dewey (as cited in Samuel & Suh, 2012) emphasized the importance of "education developed from within" rather than "formation from without" (p. 376). Dewey's (1938) ideas coincide with the demand for educational innovation in the 21st century. Web 2.0 tools have the potential to change education from a focus on curriculum mastery to a focus on learning outcomes. Schneckenberg et al. (2011) argued that this change of focus is necessary to prepare students to cope with business environments in the modern world.

Integration of Technology in School Curricula

The "typical" classroom has changed over the years, evolving from one-room schoolhouses to the construction of learning spaces. In Australia, "the campfire, cave, and watering hole" (Davis & Kappler-Hewitt, 2013, p. 24) represent physical and virtual spaces for students' personalized learning. Technology integration in the classroom continues to evolve. Listed below are a few important technological inventions that have impacted student learning:

- 1890- school slate and chalkboard,
- 1900- pencil, 1925-film projector,
- 1930- overhead projector,

- 1940- ballpoint pen,
- 1950- headphones,
- 1951- videotapes,
- 1959- photocopier,
- 1970- hand-held calculators,
- 1980- Plato computer,
- 1985- CD-Rom and graphing calculator,
- 1999- Interactive white boards,
- 2005- clickers,
- 2006- XO laptops,
- 2010- Apple iPads. (Dunn, 2011)

Technology has the power to engage and personalize learning experiences for students (Tucker, 2013). Numerous studies have indicated the benefits of incorporating technology into teaching and learning (Gunn & Hollingworth, 2013; Hernandez-Ramos & De Le Paz, 2009). Stakeholders must work together to remove obstacles to technology integration in the classroom (Patch, 2013).

Leaders around the world invest millions of dollars on educational technology. By 2004, China had spent $13.2 million on educational technology with projections of $35.5 billion (Okokok Report) by 2007. Ireland's second national technology plan estimated spending $163 million (Ireland Ministry of Education and Science) on educational technology (Lei, 2010). The United States invested $9.5 billion in 2012 (Center for Digital Education, 2012). Additionally, 93% of states rely on Investing in Innovation (i3),

Race to the Top (RTTT), Title I, and E-Rate to fund technology for schools. RTTT provided $4 billion into K-12 state-led innovation, and the i3 grant program contributed $148 million in 2011.

In addition, 89% of school districts are upgrading their networks, and 76% of districts are upgrading their capacity to support bring your own device (BYOD) initiatives (Center for Digital Education, 2012). President Obama recently disclosed ConnectEd. ConnectEd is an initiative to provide Internet service to 99% of the nation's students and renew efforts to increase teachers' skills in using technology. In an effort to involve all stakeholders, the President encouraged the private sector to continue the advancement of educational technology devices through innovative inventions (White House, 2013).

Educators are teaching in the midst of a technological revolution (Schneckenberg et al., 2011). Technological advancements, commonly called Web 2.0 tools, occur at an unprecedented rate (Taranto, Dalbra, & Gaetano, 2011). The Public Broadcasting System (PBS) Learning Media (2012) conducted a national survey and found that teachers reported a strong belief in the benefits of blended learning using technology. PBS Learning Media reported that 77% of teachers believed blended learning using technology increases student motivation, 76% of the teachers believed that blended learning reinforces instructional content, 76% of the teachers believed that blended learning addresses learning styles, and 65% believed that blended learning is useful to introduce new activities.

An example of innovative blended-learning is in classrooms using video and screencast to introduce content and flipped classrooms (Tucker, 2013). Flipped learning addresses the question of how to best use in-class time with students. Creating a digital library of videos and screencasts allows students to view lectures wherever they have Internet access and whenever they need information or clarification (Tucker, 2013). In their project-based flipped classroom model, Sams and Bergmann (2013) gave students a project and allowed them to view videos when the students determined they needed information. YouTube EDU has paired up with various education partners to provide more than half a million videos for classroom use, and TED-Ed had over one million views in its first week (Lawrence, 2012). In addition, Web 2.0 technologies such as blogs, wikis, podcasts, and video sharing are cost effective and user friendly. Web 2.0 technologies are successful in engaging students in learning and assisting teachers in collaboration with other colleagues around the world (Pritchett et al., 2013).

Powerful technological resources are available for educators to engage students, enhance understanding, expand creativity, and elevate problem-solving skills. However, the PBS Learning Media (2012) national survey found that although 91% of teachers reported having Internet access, only 22% said that they had the right level of technology. In addition, the Center for Digital Education's (2012) technology innovation report found that 98% of schools reported problems with technology integration. Problems stemmed from Internet or network congestion, network hardware that limits connectivity, limited or no bandwidth for wireless access, and dwindling IT staff to support technology expansions. In addition, a *New York Times* report discovered disappointing uses of

innovative technology in the classroom and poor data collection methods evaluating technology use on student learning (Center for American Progress, 2013). Millions of dollars have been invested on technology for educational purposes, yet teachers continue to struggle with meaningful integration (Duncan, 2011).

Professional Development Models

A framework that has implications for professional development on the topic of technology integration is the CBAM (Hall & Hord, 2006). This model applies to anyone experiencing change. Stakeholders in modern educational area experience change in technology integration. Hall and Hord (2006), along with other professionals, developed CBAM to identify and assess stages of concern aligned with change. Several assumptions are associated with the CBAM model: (a) focus on where people are and the questions they are asking; (b) change is a process that changes over time; (c) innovations vary extensively; (c) when change occurs, certain outcomes will probably occur as well; (d) change occurs in practice after change occurs in the person; (e) change includes thought and implementation; and (f) anyone can be a change agent (Hord, Rutherford, Huling, & Hall, 2006). Table 1 illustrates the seven stages of concern in the CBAM framework.

Table 1

Typical Expressions of Concern About an Innovation

Stage of Concern	Expression of Concern
6. Refocusing	"I have some ideas about something that would work even better."
5. Collaboration	"I'm looking forward to sharing some ideas about it with other teachers."
4. Consequence	"How will this new approach affect my students?"
3. Management	"I'm concerned about how much time it takes to get ready to teach with this new approach."
2. Personal	"I'm concerned about the changes I'll need to make in my routines."
1. Informational	"This seems interesting, and I would like to know more about it."
0. Unconcerned	"I think I heard something about it, but I'm too busy right now with other priorities to be concerned about it."

Note. From Hord, S.M., Rutherford, W. L., Huling, L., & Hall, G. E. (2006; revised PDF version uploaded on Lulu.com, 2014). *Taking charge of change*. Austin, TX: SEDL. Available from http://www.sedl.org/pubs/catalog/items/cha22.html.

Those who provide professional development to educators must consider what questions teachers have, how to develop training that will meet their needs, and how to continue to evolve professional development with their changing needs (Duran, Brunvand, Ellsworth, & Sendag, 2012). Furthermore, change takes time, and educators who desire to integrate technology into their instructional practices require continued support throughout the process (Duran et al., 2012). Professional development is a tool to sustain meaningful change within the classroom through technology integration (Burns, 2013).

In addition to CBAM, the TPACK framework (Figure 2) has implications for professional development of technology integration. TPACK framework presents an

innovative method to prepare educators for teaching and learning with technology. TPACK, developed by Mishra and Koehler (2006), expands Shulman's (1986) Pedagogical Content Knowledge (PCK) framework. TPACK framework requires equal attention given to technology, pedagogy, and content.

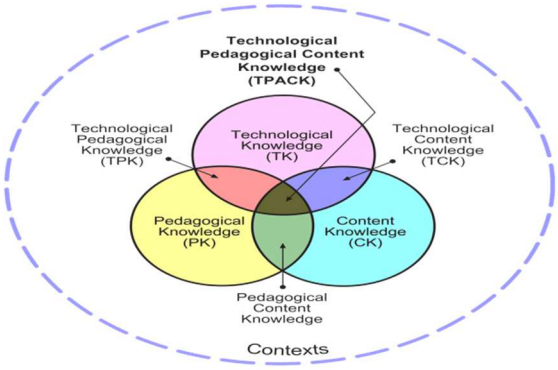

Figure 2. The TPACK framework. Reproduced by permission of the publisher@2012 from http://tpack.org.

The TPACK framework begins with learning goals and then selecting resources, activities, and digital tools to meet the learning goals. TPACK avoids previous mistakes of focusing on the technology rather than on how to approach content with these technologies (Wetzel & Marshall, 2012). Evaluation of professional development must consider how well teachers are prepared to use technologies in content-specific ways (Pierson & Borthwick, 2010).

The creators of the CBAM and the TPACK frameworks are concerned with change and how it affects educators and their practice. If educators are to prepare students to succeed in the 21st century, real change must occur in the classroom (Shatry et al., 2013). Technology infusion resulting in learning cannot occur if teachers are not involved in ongoing effective professional development (Gunn & Hollingsworth, 2013).

Looking at the different theoretical foundations presented, one can conclude that the neglect of technology integration is due to the significant pedagogical change it requires teachers to make in their classrooms. Technology integration requires educators to investigate, not only the latest technology, but also how to use that technology within their specific content areas to improve student learning (Ertmer & Ottenbreit-Leftwich, 2010). Research showed that in order to enact change in teachers' professional practice, sustained professional development is required. Harris (2008) stated that a minimum of 30 hours is required for such change, and Haman (2010) argued that sustained and measured professional development is necessary. Dash, de Kramer, O'Dwyer, Masters, and Russell (2012) found that an average of 49 hours of professional development resulted in significant gains in student achievement. Although there is some discrepancy in literature on the number of hours needed to produce change in educators' professional practice, numerous studies indicated that professional development offered to teachers has fallen far short of what is required for technology integration in today's classrooms (Haman, 2010). Fewer than 10% of teachers surveyed in numerous studies have participated in more than 24 hours of professional development in a calendar year (Dash et al., 2012; Harris, 2008). The shortcomings of current professional development stem from unavailability or rigid scheduling (Dash et al., 2012), short-term workshops rather than sustained learning (McMeeking, Orsi, & Cobb, 2012), a focus on how to use the technology rather than how to teach with the technology (Duran et al., 2012; Mouza, 2011), and ineffective evaluation methods (Dawson, 2012; Ham, 2010; Pierson & Borthwick, 2010).

Effective technology integration in education will not occur without appropriate professional development. Duran et al. (2012) used Guskey's (2002) definition of professional development, "systematic efforts to bring about change in the classroom practices of teachers, in their attitudes and beliefs, and in the learning outcomes of students" to point out the ineffectiveness of today's professional development (p. 315). The two reasons why professional development is ineffective is a lack of understanding of what motivates teachers to attend professional development and how change occurs in teachers (Duran et al., 2012).

The one change needed in teachers' practices that has come to the forefront is increased technology integration. Burns (2013) stated that professional development must enable teachers to incorporate technology into their curriculum in a powerful way. Gresalfi and Cobb (2011) conducted a study of how teachers become motivated to improve their classroom practice. The results showed that in order to help teachers advance, refine, or revise perceptions about effective instruction, the context of their perceptions is necessary. Overbaugh and Lu (2008) conducted a quantitative study based on CBAM on teachers' stages of concern towards instructional technology integration. The purpose of the study was to investigate whether a 6-week professional development course on technology integration would cause initiate change in teachers' instructional practices. The professional development included facilitators from the teachers' local school systems who understood the teaching environments of the participants. Results indicated that although teachers gained confidence in their ability to integrate technology, some concerns about how technology will impact their teaching remained.

Teachers benefit from relevant and meaningful professional development (McMeeking, Orsi, & Cobb, 2012; Polly & Hannafin, 2010). Polly and Hannafin (2010) studied a learner-centered professional development framework. The results showed an increase in teachers' pedagogical knowledge, technology integration, and ownership of their learning. McMeeking, Orsi, and Cobb (2012) conducted a quasi-experimental study on the effects of a professional development program on mathematics achievement of middle school students. Results showed that professional development is more beneficial to a teacher's practice when it is tied to his or her specific content area. When teachers reflected on their own mathematical learning it helped them to understand their students' struggles with content, increased their self-efficacy, and allowed them to choose professional development that is relevant to their own classroom (McMeeking et al., 2012).

The TPACK framework is an emerging method to prepare educators to teach and learn with technology. Based on Shulman's (1986) theory of teaching as a blend of content knowledge and pedagogical knowledge, TPACK adds technological knowledge in order to meet the demands of 21st-century teaching and learning. Mouza (2011) conducted a study, grounded in the theory of TPACK, on professional development centered on technology-based case development. This type of professional development allowed teachers to create, implement, and reflect on experiences from their own classrooms. Additionally, the professional development helped teachers develop strategies as to when, where, and how to use technology in their particular setting. Results for teachers included understanding the importance of technology integration,

developing a willingness to try new things, utilizing new resources, and reflecting on their practice.

The TPACK framework helps teachers connect technology with teaching practices (Walker et al., 2012; Wetzel & Marshall, 2012). Wetzel and Marshall (2012) conducted a qualitative study on how a sixth grade teacher showed evidence of the TPACK framework in her classroom. Findings indicated that the teacher integrated technology in the content and pedagogy through project-based learning. The researchers also concluded that using the TPACK framework in professional development may help teachers connect technology with the content and strategies used in the classroom. A quasi-experimental study conducted by Walker et al., (2012) compared the impact of two technology-related professional development models. One of the professional development models focused exclusively on technology, and the other professional development model focused on the TPACK model. Although both professional development models showed large gains in pre-posttests, the TPACK model participants had larger gains in knowledge, attitude, and actions.

There are very powerful results of professional development when facilitators focused on the needs of teachers as they integrated technology into their classrooms (Richardson, 2013). Archambault, Wetzel, Foulger, and Williams (2010), conducted a professional development project at Arizona State University. The project focused on an overview and demonstration of Web 2.0 tools, time to plan curriculum-making use of a chosen Web 2.0 tool, time to plan for action research, and time to share curriculum plans. TPACK was the theoretical framework model used, and findings suggest the benefits of

using Web 2.0 tools in meaningful ways in the classroom. Results from the professional development project also indicated that educators developed a more student-centered approach to teaching when using such tools.

Implications

The power of technology is nearly useless if not integrated effectively in teaching (Richardson, 2013). According to Duncan (2011), research indicated that students who benefit from effective teachers integrating technology in the classroom learn more than students who have only one or the other. In addition, Duncan (2011) stated that great teachers use technology to personalize lessons to engage their students. However, research also indicated that many teachers either do not know how to incorporate technology or do not know where to begin (Brown, 2009). Although the U.S. Department of Education has adopted the ISTE Standards for teachers and students, many teachers fail to integrate technology effectively (U.S. Department of Education, 2012). Since middle school students seek 21st-century technology more than any other age group, their teachers must integrate technology (Downs & Bishop, 2012). To meet the needs of these learners, especially low-level learners, technology must play a significant role in the educational process (Gunn & Hollingsworth, 2013).

A key transition in the evolution of technology integration is the transformation of students from passive learners to active users (Richardson, 2013). However, recent studies showed that only 23% of teachers feel confident integrating technology in their classrooms, as technology presents information rather than promotes problem-based learning (Moeller & Reitzes, 2011). Teachers are more likely to use technology to

promote critical thinking, creativity, communication, and collaboration when they receive sustained professional development in technology integration. The professional development must be content-specific, collaborative, and provide technical support (Bebell, O'Dwyer, Russell, & Hoffman, 2010; Ertmer & Ottenbreit-Leftwich, 2010; Innovative Teaching and Learning Research, 2011; Vega, 2013).

Technology continues to evolve, and classrooms continue to infuse innovative solutions to improve students' learning (Taranto et al., 2011). The need for better educational outcomes and the necessity to prepare students to live and work effectively in the 21st century requires a shift in how educators teach and assess their students (Sams & Bergmann, 2013). Implications from the study assist in this shift. The study provides insight into how teachers use classroom websites to meet the needs of their students. Secondly, the study provides a guide of Web 2.0 tools to incorporate into a classroom website to influence instructional practices. Thirdly, the study increases positive change in educators seeking to promote 21st-century skills in their teaching, lessons, and projects.

Recommendations may include revising the district's professional development to meet the needs of teachers as they seek to increase technology integration in their classrooms. Results of the study may produce a professional development plan on the topic of classroom websites. The professional development may entail developing strategies on when, where, and how to integrate technology in teachers' current instructional settings. Furthermore, results from the study may produce a "how to" guide to assist educators in website creation and maintenance.

Summary

The goal of education is to improve learning and prepare our students to be productive in the world. It is essential in all fields of work to be technologically literate. Educators have the opportunity to provide occasions for their students to delve into real-world problem solving, work with others collaboratively, and communicate on a global level through the use of technology. Technology integration provides unique opportunities to prepare students to investigate global problems and create innovative solutions, to interact with diverse cultures around the world, to develop collaborative skills, and become effective workers in the 21st century. Section 1 examines scholarly literature to understand technology's role in education, innovations in technology available for today's classroom websites, components necessary for technology integration to enhance student learning, and inhibitors to competent technology integration.

Section 2 provides a blueprint of how to collect and analyze data. Included in this description are the methodology, the research design, site and participant selection processes, and methods for collecting data. The overall goals and limitations of the project study, the analysis methods, and the steps taken to provide ethical treatment of all participants are also included in this section.

Section 3 provides a detailed description of the project, discusses how the project addresses the problem stated in Section 1, presents the goals of the project, and affirms the rationale for choosing this particular project. Additionally, this section details how the project addresses and offers viable solutions to the problem outlined in Section 1, how it

fits with the methodology in Section 2, the choice of project genre, evidence from the literature supporting this choice, and the implementation of the project. Finally, this section lists the evaluation methods for the project and justifies with particular detail the implications of the project for social change.

The fourth and final section covers reflections and conclusions from my perspective. This section pays particular attention on the strengths and limitations of the study. Further, this final section details how scholarship plays a valuable role in project study, impact on social change, and implications for future research.

Section 2: The Methodology

Introduction

I elected to use qualitative research design to investigate classroom websites as an instructional strategy to integrate technology in the classroom to enhance student learning. The goal of this entire project study was two-fold: (a) to investigate teachers' perspectives on the use of websites to influence instructional practices to meet the needs of students, and (b) to use this research study's findings and primary sources in the literature to design a professional development plan to guide teachers as they integrate technology. The qualitative case study design enabled me to collect data that provided assistance with answering my two research questions:

1. What are teachers' perceptions of using Web 2.0 tools in their classroom websites to interact with teaching practices?
2. What are teachers' perceptions of using Web 2.0 tools in their classroom websites to enhance technology integration in the classroom?

Qualitative research seeks to understand peoples' experiences in an information-rich manner (Merriam, 2009; Patton, 2002). Findings from this study provided rich descriptions from the participants' perceptions on the use of technology integration in their classrooms to enhance student learning.

This project study used a qualitative approach rather than a quantitative approach. Quantitative research design is not conducive to in-depth interviews with participants (Merriam, 2009). Through interviews, I was able to obtain valuable knowledge of how teachers integrate technology in their classrooms to enhance student learning. This

research takes place in a real-world setting and "captures and communicates someone else's experience of the world in his or her own words" (Patton, 2002, p.47). A case study design provided rich descriptions from the participants' perspectives of the use of technology integration to enhance student learning.

Qualitative research focuses on fully understanding the phenomenon (Stake, 1995; Yin, 2009). The notes I obtained from interviews and documents provided an incontestable description for analysis and final reporting (Stake, 1995). Upon completion of this study, I have obtained a deeper understanding of the power of technology integration in the classroom. Additionally, I have produced a product that may assist teachers with integrating technology in their classrooms to enhance student learning.

Research Design

This project used case study research to examine teachers' perceptions on the use of technology integration to meet the needs of their students. Stake (1995) stated that "the real business of case study is particularization, not generalization" (p. 8). Case study researchers take a particular case and examine it to understand its characteristics and uniqueness. The case study design provides a systematic view of "contemporary phenomenon within a real-life context" (Yin, 2009, p. 3). It typically focuses on a single phenomenon such as a program, event, or activity (Hancock & Algozzine, 2011). The case for this study was the phenomenon of technology integration through classroom websites to enhance student learning. The project examined the classroom websites in the natural context of the middle school where they are used. Case study research develops an in-depth understanding of the case by collecting data from multiple sources and

perspectives (Creswell, 2012; Hancock & Algozzine, 2011). Therefore, this study utilized case study research design using interviews and documents (Glesne, 2011; Yin, 2009). In this case study, interviews were used to provide participants' perspectives on the use of technology integration in their classroom websites to enhance student learning (Patton, 2002). Documents also provided rich information for this case. The documents in this study were primarily electronic documents for which viewing on a computer screen or printing helped analysis. The documents included (a) the main website interface, (b) all of the links or tools available on the main website interface, (c) any links or Web 2.0 tools on subpages to the main website interface, (d) for each tool or link that has been used by students one or two de-identified student examples of that work, and (e) teacher-generated fake examples of tools the teacher uses for progress monitoring were examined (Patton, 2002; Yin, 2009). To summarize, the data collection systematically looked at all aspects of the classroom website, small samples of de-identified student work when available, and teacher-generated fake progress monitoring examples.

As education policies continue to develop and undergo revisions, teaching 21st-century skills is no longer a choice but a necessity. This necessity, along with my interest in technology integration through the use of classroom websites, prompted this intrinsic case study (Merriam, 2009; Stake, 1995). Case study research is descriptive in nature. It seeks to explore and understand a phenomenon (Creswell, 2012; Merriam, 2009). Furthermore, it is used to answer "how" and "why" questions (Yin, 2009). In contrast, quantitative research design seeks explanations, scientific proof of cause and effect, and testing of hypotheses (Creswell, 2012; Stake, 1995). Stake (1995) stated that "the two

principle uses of case study are to obtain the descriptions and interpretations of others" (p. 64). I used the case study design to gather significant data on teachers' perspectives of the use of classroom websites to enhance student learning. This work may contribute to the literature assisting educators as they integrate technology in their classrooms.

Participants

For this research study, I selected two suburban middle schools in Georgia. Participants were selected from teachers currently on staff for the 2015-2016 school year. I chose these two schools because of easy access to available data. Glesne (2011) stated that many researchers seek to conduct studies in their own institutions due to easy access, pre-established rapport, research useful to professional life, and reduced amount of time. The middle schools chosen were part of a school district that has a student enrollment of approximately 100,000 students housed in 137 schools and centers. At the time of this research, the district employed about 13,500 full- and part-time employees.

Criterion for Selecting Participants

The first step in identifying participants for this study was purposeful sampling and the use of a criterion-based selection process. The point of criterion sampling is to choose cases that are information rich to provide useful data for the study (Patton, 2002). Four criteria were used to identify possible cases for this study:

- an established classroom website linked to the schools' site (Tingen et al., 2011),
- integrated for use in classroom instruction (Harushimana, 2008; Tingen et al., 2011),

- updated on a regular basis (Harushimana, 2008; Tingen et al., 2011), and
- promoting 21st-century skills such as the use of Web 2.0 tools and problem solving skills (Harushimana, 2008; P21, 2011; Tingen et al., 2011).

The two middle schools under study had a staff of approximately 75 members who had a classroom website. Access to each website was available to the public through links on the official school websites. Once this study generated a list of classroom websites that met this criterion, purposeful sampling was used to choose the participants. In qualitative research, purposeful sampling allows the researcher to choose the cases that reflect the purpose of the study and provide the most useful data (Merriam, 2009; Stake, 1995; Yin, 2009). Because the purpose of the study was to investigate classroom websites that integrate technology into the classroom, purposeful sampling was necessary to choose participants whose websites met the criterion established for the study.

In case studies, "sample selection occurs first at the case level, followed by sample selection within the case," (Merriam, 2009, p. 82). Generally, due to the massive amounts of data collected when conducting a case study, a case should not include more participants than can be richly explored by the researcher (Yin, 2009). Therefore, this case study included 12 participants. This provided time to delve deeply into the interviews and documents for rich description. Patton (2002) addressed the strengths and weaknesses of purposeful sampling in qualitative research. Patton (2002) stated, "What would be *bias* in statistical sampling, and therefore a weakness, becomes intended focus in qualitative sampling, and therefore a strength" (p. 230). The logic of purposeful sampling is in the choosing of information-rich cases from which the researcher can learn

a great deal (Yin, 2009). However, the researcher must be cautious concerning bias, selectivity, and generalization (Glesne, 2009; Patton, 2002; Stake, 1995; Yin, 2009). Obtaining a demographic cross-section of teachers decreased the limitations of purposeful sampling for this case. In qualitative case study design, the researcher is constantly seeking to know the case both extensively and intensively through cross-section analysis. Therefore, I investigated demographics such as years of teaching, subject area taught, race, sex, and age of participants to obtain a sample that provided a deep understanding of the case (Stake, 1995; Yin, 2009).

Procedures for Gaining Access to Participants

I submitted an IRB application to Walden University requesting permission to conduct the case study. Additionally, I submitted an application to the district research office requesting permission to conduct the study in two middle schools within the district. Following approval to conduct research from Walden University (IRB Approval No. 09-03-15-0274356) and the school district, I scheduled a meeting with the principal of each middle school to explain the details of the study and requested permission to conduct the study. Following permission, an e-mail invitation was sent detailing the study and expectations of the participants and researcher. Once participants responded with intent to participate, a meeting was conducted to answer questions and clarify details of the study. I scheduled interview times, sent a follow-up e-mail to participants confirming interview times, and thanked participants for participating in the study before and after the study.

Methods of Establishing a Researcher-Participant Working Relationship

In this study, I interviewed the participants. Based on these interviews, I identified themes and wrote results that informed the project. I made every effort to ensure that the participants were informed of every step of the research process and were comfortable with the process. Patton (2002) stated that qualitative research begins with the assumption that "the perspective of others in meaningful, knowable, and able to be made explicit" (p. 341). The purpose of this study was made clear to the participants. I provided an environment in which the participants were able to respond to the interviews "comfortably, accurately, and honestly" (Patton, 2002, p. 341). In addition, member checks gave participants the opportunity to inspect data collection and analysis. Member checks, also called *respondent validation*, were a method of soliciting feedback on findings from some of the participants (Merriam, 2009). This method eliminated misunderstandings on the part of the researcher and identified researcher bias. Participation is always voluntary; therefore, rescheduling or cancelling interviews was acceptable at any time.

Measures of Ethical Protection of Participants

The case study design obligated me to protect the rights of the participants. Yin (2009) stated that this obligation involves gaining informed consent, avoiding deception, protecting the privacy of participants, and protecting from harm. After IRB and site approval, I obtained consent from each participant. I scheduled a meeting with potential participants and discussed all aspects of the study. This discussion included the purpose of the study, the collection and analyzing of data, and the publication and use of results.

Participants were not required to consent and could have withdrawn at any time. I scheduled the interview times. However, if the participants found the scheduled time to be inconvenient, they rescheduled as needed.

All study notes, transcripts, and analysis were available for participants to view. This step ensured that no deception occurred during any phase of the data collection or analysis. The final product was available for participants to view before completion. The privacy and confidentiality of those who participated in the study occurred at all times. This study used pseudonyms so that participants did not find themselves in any undesirable position, and all documents gathered were labeled with a number that corresponded to the pseudonym given to each participant. Participants did not do anything that caused them physical or emotional harm. At any time, the participants were free to refrain from answering any questions during their interview and rescheduled if necessary. Furthermore, the study did not affect current or future employment at the middle schools under study.

Data Collection

After a researcher identifies the research questions, the process of data collection begins to address the questions posed (Hancock & Algozzine, 2011). Qualitative researchers play an active role in the data they record through questioning and social interaction (Glesne, 2011). If the researcher does not prepare effectively, it jeopardizes the entire study (Yin, 2009). Furthermore, Yin (2009) lists five required skills necessary for smooth data collection. The researcher must ask good questions, be a good listener, exercise flexibility, understand issues studied, and avoid bias (Yin, 2009, pp. 69-72). “All

researchers have great privilege and obligation: the privilege to pay attention to what they consider worthy of attention and the obligation to make conclusions drawn from those choices meaningful to colleagues and clients" (Stake, 1995, p. 49).

This study employed two primary data collection tools: open-ended interviews and document review. Yin (2009) described case study as relying on "multiple sources of evidence, with data needing to converge in a triangulating fashion" (p. 18). This study used multiple sources to collect data in an effort to deeply understand teachers' perceptions on the use of technology integration within their classroom websites.

Instrumentation

Interviews

Stanford University developed an interview protocol checklist to conduct research (Stanford Institute for Higher Education Research, 2003). The checklist included 7 components: (a) heading, (b) instructions to the interviewer, (c) key research questions to ask, (d) probes to follow key questions, (e) transition messages for interviewer, (f) space for comments, and (g) space for reflective notes. This interview protocol checklist was developed and used for a student assessment project conducted by the National Center for Postsecondary Improvement (NCPI) headquartered at the Stanford Institute for Higher Education Research. The project explored the ways in which institutions are committed to improvement. A pilot study conducted at 3 sites in 1997-1998. During 1998-99, the project study selected 7 campuses to participate. The project involved multi-institutional longitudinal and cross-sectional data on current practices, survey data, and individual campus case studies and focus groups. All research information is available on the

National Center for Postsecondary Improvement website (Stanford Institute for Higher Education Research, 2003).

An interview protocol is necessary to conduct interviews (Creswell, 2012; Jacob & Furgerson, 2012). Jacob and Furgerson (2012) listed eight tips to follow as an interview is being conducted: (a) collect the consent forms, (b) use some type of recording device, (c) interview in quiet, semi-private place, (d) schedule uninterrupted block of time, (e) express genuine care, concern, and interest for person being interviewed, (f) use basic counseling skills, (g) keep it focused, listen, and (h) end with your script. According to Patton (2002), the purpose of interviewing is to understand the other person's perspective. Thus, interviewing assumes that the perspective of others is important, attainable, and stated explicitly.

One of the greatest challenges in conducting interviews is to create questions that participants consider worth answering and those that provide understanding, insight, and dissipate ignorance (Glesne, 2011). This type of questioning leads to guided conversation rather than rigid queries (Yin, 2009). However, this does not mean that the case study researcher is not prepared with questions prior to the interview. A strong advanced plan with questions developed that move away from simple yes and no answers and probes that evoke good responses is mandatory (Patton, 2002; Stake, 1995).

Based on the literature and interview protocol forms, I formulated interview questions to develop a deep understanding of technology integration through the use of classroom websites. I validated the interview protocol by aligning the interview questions with the research questions using a design alignment tool (see Appendix G). The design

alignment tool matches each research question with the instrument used to collect the data and the specific questions within the instrument that address each research question. I triangulated data through the use of interviews and document review. This study used two triangulation protocols. Patton (2002) refers to *data source triangulation* as the act of validating a study based on multiple interpretations of the same phenomenon (p. 112). I obtained data source triangulation through multiple teachers' perspectives on classroom website use. Additionally, Patton (2002) recognizes *methodological triangulation* as another triangulation protocol (p. 114). Methodological triangulation was obtained through interviews and document review. Further, re-interviews were conducted with participants in an effort to glean new information and clarify any misunderstandings. Member checks removed any further misunderstandings or biases on my part as the researcher.

Document Review

In addition to conducting interviews, I collected documents. Documents collected may be public or private in nature (Yin, 2009). All websites at both middle schools link to the school site for public viewing. The collection of data from the participants' websites were from public documents. Using the document review checklist, I collected specific artifacts, including components of the websites, communication avenues, and documentation illustrating the use of 21st-century skills. Collection included paper and visual documentation. The documents in this study were primarily electronic documents in which viewing on a computer screen or printing helped analysis. The documents included a variety of items: (a) the main website interface, (b) all of the links or tools

available on the main website interface, (c) any links or Web 2.0 tools on subpages to the main website interface, (d) for each tool or link that has been used by students one or two de-identified student examples of that work and (e) teacher-generated fake examples of tools the teacher uses for progress monitoring will be examined (Patton, 2002; Yin, 2009). To summarize, document collection includes all aspects of the classroom website, small samples of de-identified student work when available, and teacher-generated fake progress monitoring examples.

Documents provide information that may have occurred before the evaluation began (Patton, 2002). The document review checklist (see Appendix C) was an important tool used to guide and provide consistency across participants' document analysis. The document checklist investigated how participants are using their classroom website to meet the needs of their students. The checklist addressed the research questions in an effort to provide further detail of specific components in websites used by teachers to meet the needs of their students. I included a section to take notes and provide additional information that clarified data obtained in the interviews with participants. I was organized, yet open to "unexpected clues" (Stake, 1995). Finally, member checks ensured that I did not influence data collection (Lodico, Spalding, & Voegtle, 2010). I sent a copy of the transcripts to the participants for review.

Once granted permission occurred, data collection was conducted during the 2015-2016 school year. Preliminary analysis of website documents using the document review checklist occurred before the interviewing process. I began each interview using the process of member checking to have participants review the basic description of their

website. I interviewed each participant using the interview protocol, and used the process of coding the data followed by member checking interviews to obtain further information and remove misunderstandings.

Role of Researcher

I have been working at one of the middle schools since it opened in 2004. Therefore, I am a colleague of all teachers that were selected to participate in the study. In addition, I am currently the mathematics department chairperson for the school and a member of the leadership team for the school. The leadership roles I hold will prove beneficial to the study as fellow colleagues respect and support me. Furthermore, I am well acquainted with the mathematics department chairperson at the other middle school participating in this study. I followed the guidelines that Creswell (2012) suggested on how to limit bias when writing reports. These guidelines stress using language that "avoids demeaning attitudes, including biased assumptions and awkward constructions that suggest bias because of gender, sexual orientation, racial or ethnic group, disability, or age" (p. 277). During the interview process, I limited bias by withholding personal opinions related to the study.

Data Analysis

I collected qualitative data for the study. Interviews and documents provided the data for this study. This study took place in two middle schools in Georgia. This study purposefully selected participants from a population obtained from a list of set criteria. The goal of this study was two-fold: (a) to investigate teachers' perspectives on the use of websites to influence instructional practices to meet the needs of students; and (b) to use

this research study's findings and primary sources in the literature to design a professional development plan to guide teachers as they create and maintain a website for their classroom. In connection with the purpose of this study I proposed the following research questions:

1. What are teachers' perceptions of using Web 2.0 tools in their classroom websites to interact with teaching practices?
2. What are teachers' perceptions of using Web 2.0 tools in their classroom websites to enhance technology integration in the classroom?

In qualitative research, there are no fixed formulas to follow for data analysis. Furthermore, there is no particular moment when analysis begins (Glesne, 2011; Stake, 1995; Yin, 2009). Collection and analysis are simultaneous, and analysis becomes more intense as data collection is completed (Merriam, 2009). Yin (2009) stated that 4 principles underlie good research: (a) analysis should indicate that the researcher has studied all data and covered the research questions, (b) analysis should address any rival interpretations, (c) analysis must focus on the most important issue of the study, and (d) the researcher should use his/her own *prior, expert knowledge* in the study (Yin, 2009). In summary, the researcher's primary task in analysis is to come to understand the case (Stake, 1995).

The first step in analysis of the study was to organize the data (Creswell, 2012; Merriam, 2009; Patton, 2002). Due to the large amounts of information gathered, I developed a table organizing data according to type (Miles & Huberman, 1994). Transcription prepares the interview data for analysis. Transcription is the process of

converting recordings or fieldnotes into text (Creswell, 2012). This study used printing, enlarging, and labeling of picture documentation when needed. Each participant had their own identical file which contained the interview transcriptions, coding lists and memos, fieldnotes, document analysis tool lists and memos, print-outs of classroom website primary interface, and lastly print-outs of any webpages that were unusual or specifically related to the research questions. I listed each participant's pseudonym in the top right corner of the data and color-coded all information so that it clearly stayed with the correct participant.

Next, I began the process of thematic analysis of the data. Thematic analysis entails a "repetitive, ongoing review of accumulated information in order to identify recurrent patterns, themes, or categories" (Hancock & Algozzine, 2011, p. 67). Data coding is an important aspect of thematic analysis. Coding entails reading and examining all the data while jotting down key words and phrases (Glesne, 2011). In this study, reading data numerous times utilized the process of coding as I wrote the codes in the margins of the data source. Patton (2002) referred to coding as *inductive analysis*, the process of discovering patterns and themes that emerge out of the data. I created a matrix of categories identified through coding and placed evidence from my sources of data in the appropriate category. In addition, I included the frequency events occurred in the data (Miles & Huberman, 1994). Throughout data analysis, I kept in mind the *case* of technology integration through classroom websites and the goals of the study when determining which themes and patterns answered the research questions (Patton, 2002;

Stake, 1995). I re-examined the data again making note of any outcomes that were unique. I also put the information in a logical order (Miles & Huberman, 1994).

At this point, the analysis moved slightly from inductive to deductive. As I began to reach the point of saturation in my data, I checked whether categories in my matrix "fit" with all data collected (Merriam, 2009; Patton, 2002). At the end of the process I identified several major themes. Throughout the data collection and analysis process, I kept a research notebook. Glesne (2011) stated that this notebook must include a table of contents, fieldwork plans, interview questions, interview notes, and a reflexive journal.

I ensured accuracy of my findings through a number of strategies. I wrote a rich description of the participants' experiences. Yin (2009) stated that writing good descriptions makes the readers feel as though they are a participant in the experiences. This study identified the themes or "big ideas" of the data. I created a frequency table to record the mention of each theme by the participants. The frequency table enhanced the descriptive nature of the study and explained learning from the study. I ensured internal validity using member checks. Interpretations drawn from the data and any discrepancies identified were addressed through member checks and re-interviewing (Creswell, 2012; Merriam, 2009; Patton, 2002; Stake, 1995). Furthermore, triangulation of data is another strategy to ensure accuracy and trustworthiness of the study. Triangulation refers to the use of multiple methods, sources, investigators, or theories to confirm the findings of the study (Merriam, 2009; Patton, 2002). I triangulated the data obtained from interviews and documents. At each step of the data analysis process, a colleague reviewed the transcripts, the coding, and the identification of themes. Member checks helped to ensure

accuracy and assist in eliminating researcher bias. Yin (2009) described member checks as "reviewing the draft" as a way to corroborate the evidence that will be presented in the case study (p. 182).

Limitations

Trustworthiness includes understanding and addressing the limitations of the study. Limitations are "factors that may affect the results of the study that are generally beyond the control of the researcher" (Hancock & Algozzine, 2011, p. 77). The strength of qualitative research is to provide rich descriptions of the phenomenon studied through purposeful sampling (Patton, 2002). However, Patton (2002) further stated that purposeful sampling is a weakness as it limits generalization. Because qualitative research is social in nature, some limitations may occur due to unavailability of people, places, or documents. I identified and removed biases identified through member checks and triangulation. It was my responsibility to detail the nature of the data to my readers. Rich description becomes meaningful through my analysis and interpretations (Glesne, 2011).

Data Analyses Results

The research findings for this study were based on middle school teachers' perceptions of classroom websites. I investigated 12 teachers' perceptions on how using Web 2.0 tools within their classroom websites interacts with their teaching practice and enhances technology integration in the classroom. The research questions and the Stanford Interview Protocol served as frameworks for the four interview questions.

Participants' responses to the interview questions, along with the collection of documents, generated the data collected for this study.

Interview Background: How long have you been in your present position? What is your highest degree? What is your field of study? Briefly describe your role as it relates to student learning. I wanted to know the years of teaching experience, level of education, and the current teaching position of each participant.

Interview Question 1: How does having a classroom website influence your teaching practice? I wanted to know how middle school teachers' classroom websites benefited them as a professional and how it benefited their students. Interview Question 1 corresponded with Research Question 1.

Interview Question 2: How does a classroom website tailor instruction to meet specific needs of students? I wanted to know what specific technology was integrated into middle school teachers' classroom websites for remediation, enrichment, lesson planning, and assessment. Interview Question 2 corresponded with Research Question 1.

Interview Question 3: What are the key elements of technology integration within your classroom website? I wanted to know what specific Web 2.0 tools are being utilized in middle school teachers' classroom websites. Interview Question 3 corresponded to Research Question 2.

Interview Question 4: How does having a classroom website promote life and career skills? I wanted to know how middle school teachers' classroom websites promote 21st-century skills. Interview Question 4 corresponded with Research Question 2.

The data generated as a result of this study were gathered from 12 middle school teachers with a variety of schooling and teaching experiences. Table 2 illustrates the demographics of all participants in this study.

Table 2

Demographics of Participants

Participant	Degree	Grade Level/Subject	Years of Experience
1	MBA	7th Grade Science	13
2	Masters	7th Grade Science/Technology	3
3	Masters	8th Grade Science/Technology	3
4	EdD	6th grade Language Arts	33
5	Masters	8th Grade Social Studies	15
6	EdD	6th Grade Social studies	8
7	Specialist	8th Grade Mathematics	13
8	MBA in Business Masters in Education	6th Grade Language Arts	4
9	Specialist	6th Grade Social Studies	6
10	Bachelors	8th Grade Language Arts	6
11	Masters	6th Grade Mathematics	1
12	Masters	6th Grade Mathematics	6

Perceptions of the Influence Classroom Websites Have on Teaching Practices

In this section, I address the first research question: "What are teachers' perceptions of using Web 2.0 tools in their classroom website to interact with teaching practices?" The information provided was obtained from participants' responses

specifically to Interview Question 1, which asked participants how a classroom website influenced their teaching practice, and additional information was provided by responses to Interview Question 2, which asked participants how a classroom website tailors instruction to meet specific needs of students.

During the interviews, all 12 participants agreed that the use of technology within their classroom website does interact with their teaching practices. Participant 1 stated that his classroom website enhances the entire learning experience for the teacher and students. Participant 2 stated that her website has made teaching easier because students have access to all materials needed for class within her website. Participant 2 reflected: "My website has changed the way I think about teaching." Participant 3 and 11 stated that they are able to operate a flipped classroom through the use of their websites. Participant 4 mentioned that she no longer has paper copies of her units and week's plans, but rather creates her plans directly on her website. Participant 4 reflected: "I have taken my teaching experiences to a higher level. My website is innovative, interactive, and useful." Participant 5, 7, and 8 mentioned how a website keeps them organized. Participant 5 reflected: "Everything I do in class is on my website." Participant 7 reflected: "As I continue to explore what tools are available, I can do even more with my website in the future." Participant 6 and 12 stated that their website has positively influenced their teaching practices. Participant 9 stated that her website has helped her to differentiate her lessons for her students. Participant 10 and 11 specifically mentioned how their website has improved their ability to assess their students. Participant 11 reflected: "The assessments that I put on my website help to provide diagnostic feedback and to monitor

student progress." Overall, the teachers all agreed that their website influenced their classroom teaching with several different aspects of teaching mentioned including unit and lesson plans, student materials, student assessment and differentiation.

All 12 participants agreed that their website has enhanced their teaching practice by improving communication among all stakeholders. Furthermore, all 12 participants stated they place all information related to their respective classes on their websites to keep students and parents informed. Participant 1 through 3 specifically mentioned using Edmodo, a social learning network, to provide all necessary materials for students to access. Participant 1 reflected: "Through Edmodo, assignments, projects, and assessments are distributed and collected with ease and efficiency within my website." Participant 4 reflected: "Students do not have an excuse for not knowing what is happening in class." Participant 5 reflected: "I created a website that is a resource for parents and in all honesty would allow a student to do well without ever entering my class." Participant 6 through 11 specifically mentioned using their websites to keep parents informed of what is going on in their child's classroom. Participant 11 reflected: "My website is helpful when planning as students and parents are able to discuss which topics the child understands and others in which they may need further practice and exploration." Participant 12 reflected: "My website helps parents to understand the concepts being taught so that they can help their child at home." In summary, while some teachers began their websites to inform parents, all teachers say that they now provide all of the materials that students and parents need to be successful in the classroom - even if

they are not in class. This keeps everyone informed and may be helpful during episodes of student illness.

During the interviews, additional information was provided by responses to Interview Question 2, which asked participants how a classroom website tailors instruction to meet specific needs of students. All 12 participants agreed that within their classroom website they have provided the necessary tools needed for all the ability levels of their students to be successful in their classes. Specific tools mentioned by all twelve participants include: a calendar of events and due dates, downloadable copies of class power points and materials, links to provide additional practice, and links for enrichment. Participant 1 reflected: "My website allows students to master concepts at their own pace and in a manner that best suits their learning styles." Participant 2 reflected: "Information videos are great for lower-level learners, English language learners, and general students to watch any time they need to." Participant 3 reflected: "I give a lot of open-ended assignments and use problem-based learning in the classroom. Electronic resources within my classroom website allow me to direct student learning easily." Participant 4 and 6 stated that their website tailors instruction by providing personalized instruction through a variety of learning activities and games to motivate their students. Participant 5 reflected: "My website is designed to provide all the materials students need to teach themselves." Participant 7, 8, 10, and 11 all stated that they place content-related resources on their websites in order to provide additional academic support for their students. Participant 7 reflected: "My level one and two students can do drills to practice the basics and focus on prerequisites, whereas my level three students can do enrichment

activities." Participant 9 reflected: "My website encourages self-directed learning as it creates active participants rather than passive learners." Participant 12 reflected: "My website is used to extend my lessons by offering my students ways to continue their learning at home." In summary, the teachers do indeed provide website tools that different ability students can self-select and use to improve their learning experiences.

Perceptions of the Influence Classroom Websites Have on Technology Integration

In this section, I address the second research question: "What are teachers' perceptions of using Web 2.0 tools in their classroom website to enhance technology integration in the classroom?" As a reminder, Web 2.0 tools are those that are interactive providing students with hands-on learning instead of only eyes-on learning. The information provided was obtained from participants' responses specifically to Interview Question 3, which asked participants what are the key elements of technology integration within their websites, and additional information was provided by responses to Interview Question 4, which asked participants how their classroom website promotes life and career skills.

During the interviews, all 12 participants agreed that they have key elements of technology within their classroom website. There were four key elements mentioned by the participants: a calendar, informational videos, Web 2.0 tools, and assessment strategies. Participant 1 through 6 specifically mentioned a calendar as a key element for their websites. Participant 3 reflected: "The use of a calendar allows me to offer a flipped classroom for my students. Students and parents are fully aware of what is being covered in class each day, what videos and informational text must be viewed or read at home,

and when assignments and projects are due." Participant 5 reflected: "My website contains a calendar that is updated weekly with classroom events." Participant 6 reflected: "The calendar on my website keeps me and my students organized."

Another key element of technology integration specifically mentioned by participants 3, 5 through 8, 11, and 12 was the use of informational videos to promote learning. Participant 3 and 11 mentioned using informational videos to assist them in operating a flipped classroom. Participant 3 reflected: "I assign content-related videos linked on my website as homework assignments. This allows me the opportunity to have a flipped classroom for my students." Participant 5 reflected: "I use informational videos to provide an opportunity for all my students to expand what I have or will present in class." Participant 6 and 7 stated that videos can help students to exceed expectations. Participant 8 reflected: "The informational videos are on what we are covering in class to give students a different way to learn the material." Participant 12 reflected: "I use screencasts and wikis to give me the opportunity to post a video of myself going over a topic for the students to watch at home." In summary, teachers use videos (either of themselves or others) to flip their classroom, to enhance student learning, and to help parents keep their students on track.

In addition, another key element of technology integration in their classroom websites mentioned by participants 4, 5, and 7 through 12 was the linking of specific Web 2.0 tools to their website to enhance learning. All participants stated that their website had a variety of sites linked for practice. There was, however, variance among

the participants as to where they were linked on their websites and what types of tools were used: blogs, voki, interactive games , and online quizzes.

Participants 4, 8, and 11 have a class blog. Participant 4 reflected: “My website makes use of a blog to provide students the opportunity to blog about books they have read either as a requirement for our class or on their own.” Participant 8 commented: “There is a link to my class account to Glogster which is another tool I use to have students blog about books that we are reading in class.” Participant 11 reflected: “I have a class blog which I use to assess student knowledge.”

Participants 5, 8, and 11 have included the use of a voki, a free web application that allows users to create speaking avatars. Participant 8 reflected: “I use a voki to communicate upcoming assignments to the students.” Participant 11 reflected: “The use of a voki on my website motivates my students and keeps them engaged.”

Participants 4, 7, and participants 9 through 12 all mentioned the use of interactive games to reinforce learning and increase student engagement and motivation. Participant 4 reflected: “I have fun links on my site to motivate my students.” Participant 7 reflected: “Several game links have different levels to meet the needs of all students.” Participant 9 commented: “All of my interactive links provide students with creative ways of learning and this motivates my students.” Participant 10 reflected: “I also have games which motivate my students to learn and practice in a fun way.”

Lastly, participants 1 through 3, 7, and 9 through 11 mentioned the use of assessment strategies within their classroom website. Participants 1, 2, and 3 stated that one of their class requirements is to take online quizzes, which are linked to their

websites. Additionally, participant 3 mentioned linking resources to their websites specifically dedicated to help students with the open-ended question format. Participants 7, 9, 10, and 11 stated that their websites have links to online quizzes to help students assess themselves. Participant 7 reflected: "I have links to online quizzes where students can assess themselves for mastery of concepts." Participant 9 reflected: "I am able to constantly assess my students through my website without using paper but through technology such as, Quizlet, Kahoots, Clickers, Socrative, and USA Test Prep." Participant 11 reflected: "I have links to formative assessments and progress monitoring sites to evaluate my students, and through my website I also provide assessments for my students to evaluate their own learning." Online quizzes allow for more frequent and timely assessments, which are automatically graded by the technology, freeing the teachers' time and energy.

A unique contribution came from Participant 5 who mentioned two key elements included in her website: one dedicated to her colleagues and one dedicated to her students. Participant 5 reflected: "I have spent the better part of my career putting together resources that I and the county can use in the teaching of our subject. I have a page on my site dedicated to my colleagues to use." In addition, participant 5 has nineteen pages specifically dedicated to extra credit projects for his students. Participant 5reflected: "I have included numerous extra credit opportunities for my students to extend their learning and improve their grade."

Interview responses to Interview Question 4 asked how their classroom website promoted life and career skills? During the interviews, most participants agreed that their

classroom website promotes skills that will help their students in the future. Participants 2, 3, 6, 11, and 12 stated that their classroom website helps their students to develop the necessary technology skills to function in today's world. Participant 2 reflected: "My website teaches the students how to navigate various pages, save and submit documents, and use general technology terms." Participant 3 commented: "Most information is now available in the online format. Insurance, job postings, college applications, and the like are all using websites to drive their information. Therefore, the navigation and effective use of such sites is a needed skill." Participant 6 reflected: "When students interact with my classroom website, they are learning media literacy, critical thinking, collaboration, and problem solving." Participant 11 reflected: "My classroom website promotes life and career skills by aiding students with becoming more organized. It allows students to learn basic computer skills and encourages collaboration with others." Participant 12 said the classroom website helped students in, "building familiarity with technology in a controlled educational setting and being able to utilize technology for enhanced communication builds skills that translate across all professions."

Moreover, participants 1, 2, 6, 7, and 10 stated that their website promotes life and career skills necessary to succeed in the 21st century. Participant 1 reflected: "Students develop skill sets that include computer literacy, social networking savvy, and IT knowledge, all of which hold high value in the current marketplace. Participant 2 reflected: "As 21st-century teachers it is our responsibility to ensure that students learn these life and career skills and this can be accomplished through a classroom website." Participant 6 commented: "I definitely think a classroom website promotes 21st-century

skills when integrated into the classroom on a consistent basis." Participant 7 reflected: "Through my website I integrate strategies that allow students to give feedback, use thinking skills, and to work with other students collaboratively." Participant 10 reflected: "There are many parts of my website that promote 21st-century skills as I strive to prepare my students for the future success. For example, one link assists students with needed vocabulary as they prepare for high school and college."

In addition, participants 3, 4, 5, and 10 stated that their website promoted life and career skills as students take ownership of their learning. Participant 3 reflected: "I am teaching my students to collaborate with their classmates and take charge of their own learning through skills developed through my website." Participant 5 commented: "My website promotes the life skill of discipline and motivation for one's own learning." These participants see their students as independent learners because of technology.

Lastly, in the interviews participants 4, 6, 7, and 9 stated that a classroom website promotes life and career skills by increasing their students' ability to collaborate and problem solve effectively. Participant 4 reflected: "My website develops communication skills through blogging and collaboration through peer viewing of others' work." Participants 6, 7, and 10 stated that their website promotes problem solving by linking real-world problems for their students. Participant 9 reflected: "I have a project 'The Living Wall' on my website which focuses on human rights as I want my students to understand world issues." These teachers want their students to be global citizens.

Three Identified Themes

Each participant used their classroom websites in similar ways to interact with their teaching and technology integration. Through further analysis across the cases, I identified three common themes that spotlighted similarities among these 12 middle school teachers: communication, personalized learning, and 21st-century skill development. These are illuminated in the next three sections.

Communication. The first theme that emerged from the data was the importance of communication among all stakeholders. Participants expressed the importance of teacher to student, and teacher to parent communication. Furthermore, participants conveyed the benefits of using their classroom websites to communicate all aspects of what is going on in the classroom. Participant 3 reflected: "Students are aware of assignments ahead of time. Parents are in the 'know' as well. I have a parent code so they can view all their child's assignments and grades online." Participant 5 reflected: "I have set up a separate e-mail for my parents with an agenda for the week and a link to my website." Participant 7 commented: "My classroom website influences my teaching practice because I can communicate with my students, parents, and stakeholders outside of the classroom." Participant 11 reflected: "A classroom website allows me a streamlined way to increase communication amongst all stakeholders." Teachers were satisfied with the communication function of the website for the teacher, the students, the parents, and any other stakeholders.

Personalized learning. The benefits of personalized learning through a classroom website was the second theme that evolved from the data. All 12 participants stated

unequivocally that the ability to meet the needs of all levels of students in their classroom was of utmost importance to them. Participants 1through 3, 9, and 12 use specific links on their websites to allow students to work at their own pace. Participant 3 reflected: "Students can assess information on their own time and at their own pace." Participant 4 commented: "A classroom website tailors instruction to meet specific needs of my students by providing personalized instruction and addressing the various learning styles of my students." Participants 5 through 7, 9, and 10 mentioned the benefit of linking enrichment sites to their websites for their gifted students. All twelve participants mentioned linking sites for additional information, practice, or assessment. Participant 8 commented: "Some of the links on my website are 'how to' videos, power points, slides, prezis, and practice worksheets." Participant 12 reflected: "Students who have a tough time grasping the concept in class can go to the website where resources are provided for them to independently explore the topic and become more comfortable with it." Participants 1, 7, 8, and 11 specifically mentioned linking a variety of sites to meet the various learning styles of their students. Participant 7 reflected: "I have various types of students with different learning styles (i.e. auditory, visual, kinesthetic, etc.) and levels of understanding that can benefit from my website." Participant 11 commented: "The choices on my website are based on my students' different unique learning styles." Teachers were concerned on reaching both students who needed additional clarification and students who had different learning styles.

Twenty-first–century skill development. The final theme was the development of 21st-century skills. All 12 participants perceived the development of life and career

skills as a critical piece to their students' success in the future. Participants acknowledged the importance of developing technology skills and media literacy in their students. Participant 4 commented: "A classroom website promotes life and career skills by displaying interactive texts and sophisticated software applications." Participant 12 reflected: "The ability to use technology in a meaningful way is an essential skill that is and will continue to be coveted in the job markets of the future." Teachers were enthusiastic about the impact of their websites on students' future prospects.

Participants 5, 8, 10, and 11 mentioned the development of effective communication and collaboration among students as an important component of a classroom website. Participant 8 reflected: "Through my website I hope to help my students with the skills to make them better readers, writers, and speakers." Participant 10 stated that she has links on her website ('Break down' and 'Fix it up' strategies) to assist students with writing to promote communication. Participants 5 and 11 utilize blogging to increase communication and collaboration among their students.

Lastly, problem solving was another 21st-century skill that participants want to develop in their students. Many of the participants mentioned using real-world problems to develop 21st-century skills with their students. Participant 7 stated that he includes real-world application problems where students must use problem solving and critical thinking skills to answer them. Participant 10 commented that she has a page on her website dedicated to posing and solving human rights issues.

Summary of Findings

As documented in this section, data from interviews and documents were used to identify common patterns and themes. The research questions were used to gain insight into the topic of classroom websites. The summary of findings in the next sections is grouped according to the research questions that guided the project study. This section concludes with the discussion of the themes.

Research Question 1

Research Question 1 asked, "What are teachers' perceptions of using Web 2.0 tools in their classroom websites to interact with teaching practices?" To answer this question, data were collected to explore participant's perceptions of using Web 2.0 tools in their classroom websites to interact with teaching practices.

Participants' perceptions of using Web 2.0 tools in their classroom websites indicated that these tools interacted with their teaching practices in very positive ways. Participants expressed ease in communication with all stakeholders, and the ability to organize content material efficiently. The participants believed it was critical to meet the needs of all levels of students through linked material. All participants noted various pages within their classroom website that meet the needs of their students through reinforcement, enrichment, or self-assessment.

Research Question 2

Research Question 2 asked, "What are teachers' perceptions of using Web 2.0 tools in their classroom websites to enhance technology integration in the classroom? To answer this question, data were collected to explore participants' perceptions on the use

of Web 2.0 tools in their classroom websites to enhance technology integration in the classroom.

Participants' perceptions on the use of Web 2.0 tools in their classroom websites to enhance technology integration indicated that using various tools in their classroom websites did increase technology integration in the classroom. Findings indicated that participants made use of interactive sites within their classroom websites to reinforce skills, to provide additional information to content being taught in the classroom, and to enrich students who have mastered the concepts. Further, participates stated that Web 2.0 tools such as blogs, vokis, and interactive games increased communication skills and motivated the students. In addition, participants emphasized the importance of using technology integration within their classroom websites to promote life and career skills. This was accomplished through media literacy, increased ability to navigate through the classroom website, and interactive sites which provided real-world problem solving and collaboration.

Discussion of Themes

The themes that emerged from the data indicated that middle school teachers believe that communication, personalized learning, and 21st-century skill development are important elements of their classroom websites. These were clearly distinguished themes supported by many quotes from the data as documented above.

Communication was the first theme identified by middle school teachers. All participants stressed the ability to communicate to all stakeholders is very important. This communication occurs through use of calendars, posted assignments and projects,

rubrics, lesson plans, and other tools incorporated within a classroom website. Participant 4 commented that stakeholders do not have any excuses for not being aware of what is going on in the classroom.

Personalized learning was the second theme identified by middle school teachers. Participants indicated the importance of meeting the needs of all their students regardless of their level of learning. Technology integration through their classroom website has given them an opportunity to meet their students' needs through additional instructional materials, interactive sites for additional practice, and enrichment activities as well. Furthermore, participants indicated the importance of providing a variety of activities that coincide with the learning styles of their students. Teachers used their websites as a means of implementing differentiated instruction in ways that regular classroom practice would not have. For example, the constant availability of self-assessment tools made students aware of and in charge of their own learning progress.

Development of 21st-century skills was the last identified theme by middle school teachers. The participants stressed that teaching not only included the current year's curriculum but was also preparing their students for the future. Through the teachers' classroom websites, they help students develop communication, collaboration, and problem solving skills. In addition, participants indicated the ability to assist their students with media literacy and basic technology skills, which are a necessity in our world.

This study can highlight to other teachers these three themes that the participants see as benefits of a website that regular classroom practice cannot achieve. The results of

this study may also assist teachers as they strive to integrate technology into their classrooms because it provides a list of components teachers have found useful, and even one teacher's website dedicated to helping other teachers create classroom websites. The data may have more credibility to other teachers that I may share the information gathered because it is a systematic investigation from a real-life context. Indeed, the data include many proven strategies implemented by middle school teachers within their classroom websites. Since more pressure is placed on modern day educators to update curriculum and teaching styles to reflect 21st-century skills, the results of this study may provide practical information for teachers to promote modern skills in their instructional practices through the use of their classroom websites.

Section 3: The Project

Introduction

Section 3 describes the project that was constructed to address the problem identified in Section 1. This section includes the project goals and provides justification for the project based upon the data collected and analyzed in Section 2. Additionally, this section provides a rationale for the project and supports the project by a review of literature. Steps for implementation of the project, a timetable for implementation, and a plan for evaluation are included in this section. Lastly, this section includes a discussion on the implications for social change that the project is intended to produce. The appendices furnish documents related to the proposed project.

Description and Goals

This proposed professional development opportunity will educate teachers on classroom websites and provide them with the skills necessary to develop their classroom website. In this study, I interviewed 12 teachers from two different middle schools to determine their perceptions of classroom websites. Findings suggested that a classroom website interacts with teaching practices productively and enhances technology integration within the classroom. However, there are teachers who are unaware of how to use their classroom website to improve communication among stakeholders, provide personalized learning for their students, and develop 21st-century skills in their students. Leadership from the buildings and district office is highly likely to support professional development that provides the skills and tools necessary to use a classroom website

effectively. Leadership support is due to current trends, but also because of the findings from this project study.

The proposed professional development plan offers teachers a professional development based on a model outlined by Potter and Rockinson-Szapkiw (2012). It is also informed by constructivist and adult learning theories. The district of the two schools under study offers a training session for website use, but the professional development provided in this project expands on that. The more intense elements necessary for effective professional development for technology integration must include how-to instructions on technology uses, application of technology to individual teaching contexts, and mentor-support for integration (Lau & Yuen, 2013; Peeraer & Van Petegem, 2012; Thomas et al., 2012; Walker, et al., 2012). This professional development opportunity will go beyond the district single-day training to include these three additional components: how-to, individualized to teacher, and mentoring. All three components will be used in each of the three sessions and also during in the week time between meetings.

The days of the professional development are described in detail in the following section. To provide an overview, the first session will share the how-to knowledge for tools study participants shared in their websites to improve communication, personalized learning, and 21st-century skills. Between the first and second session, peer and instructor mentoring will occur on a blog as teachers try to implement tools. The second session will organize participants into grade level and subject groups to individualize instruction. In constructivist discussions, participants will integrate their own understanding of first

session tools and the research themes with the new tools they tried during the last week. Mentoring will continue in the interim on the blog. The third session will continue to facilitate the how-to, individualization, and mentoring of participants toward the purposes of websites identified by the expert teachers using websites: communication, personalization, and 21st-century skills. These three themes will organize the activities of the first and second days, but the emphasis on purpose of the tools will be emphasized on the final day. Thus, all three components of professional development and all three themes from the study will be incorporated into the professional development.

Professional Development Description

This project will take place on three professional development workdays that are spaced a week apart, preferably at the beginning of the school year. The spacing between the three professional development days provides teachers an opportunity to integrate technology within their classroom websites before each new session. The project will take place in the computer lab at each of the two schools under study.

The first day will consist of viewing award-winning classroom websites, a guest speaker, a facilitator-guided computer lab session, and a follow-up session in the computer lab. In the first session, the facilitator will share award-winning classroom websites with the teachers. The tools shared will be based on those provided by study participants, but to protect the confidentiality of participants their actual websites will not be shared. The guest speaker (professional learning consultant) will discuss Web 2.0 technology integration in the classroom. The facilitator will then guide the teachers to participate in the blog set up for the workshop, view teachers' posts to the blog, and

discuss how a blog could be used in their classroom setting. Teachers will use the blog during the week between sessions to ask questions, view answers, and share tools or insights.

The second session will allow the teachers to pair up with subject area colleagues to help personalize and increase the relevance of discussion to their contexts. In these groups, teachers will discuss and integrate their new knowledge of the Web 2.0 tools, the ideas presented by the guest speaker, and their recent implementations within their classroom websites.

During the last session, teachers will pair up with subject area colleagues to integrate technology that is grade-level and content appropriate. This is based on the need for context specific development.

Project Goals

The goal of the project is to investigate how classroom websites interact with teaching practices and increase technology integration. Emphasis will be placed on the themes identified in the interviews: communication to all stakeholders, personalized learning, and 21st-century development. The literature review in Section 1 identified the benefits of technology integration in the classroom to enhance teaching and student learning. The project could assist teachers as they develop and maintain their classroom websites. The project could also assist teachers as they strive to communicate with stakeholders, personalize learning for all their students, and develop 21st-century skills in their students. After completing the proposed project, the participants should be able to

effectively use their classroom website to enhance their teaching practice and student learning through increased technology integration.

Rationale

The project was chosen because the literature review in Section 1 showed that the field of education is lagging behind other professions in technology integration. Teachers lack adequate professional development needed to increase the knowledge and skills necessary to integrate technology within their classrooms. The project framework was also chosen because the data analysis in Section 2 indicated that a classroom website can be used to interact with teaching productively and to increase technology integration to enhance student learning.

The data analyzed in Section 2 indicated that teachers in the two schools under study integrate technology through their classroom websites, increase communication among all stakeholders, personalize learning for all their students, and increase 21st-century skills in their students. The data analysis indicated that a variety of tools are available to teachers to benefit their teaching practices and effectively meet the needs of their students; therefore, this project fits in with the data collected. It aims to provide teachers with a repertoire of Web 2.0 tools for integration within their classroom websites and sessions to investigate the tools with assistance when necessary.

This professional development project framework was chosen for three reasons. First, it involves a session by an expert in technology integration to inform teachers of Web 2.0 tools available for integration within a classroom website. Secondly, it provides sessions in which teachers are involved in training on how to use the Web 2.0 tools. By

allowing teachers time to explore technology tools in a computer lab and during the time between sessions with a mentor available for assistance, teachers can comfortably explore and practice integrating tools to meet grade and content-specific needs. Thirdly, follow-up sessions give teachers time to meet with colleagues to share, discuss, and gain how-to information about the Web 2.0 tools they either have or would like to implement within their own classroom websites.

The project addresses the previously stated problem in several ways. The problem identified was a lack of technology integration by teachers in their classrooms. The literature review in Section 1 indicated that a classroom website is an effective platform to integrate technology. Data collected indicated that a classroom website interacts positively with teaching practices and increases technology integration. Utilizing a guest speaker with expertise in classroom website development and use would be an effective way to educate teachers on tools available for use within a classroom website. The problem is further addressed through directed sessions to introduce teachers to various Web 2.0 tools, and assisted sessions where teachers are grouped with colleagues to explore and integrate content-specific tools within their classroom websites. The goal is to educate teachers on Web 2.0 tools, provide mentoring and assistance as teachers learn how to use these tools, and allow teachers time and mentoring to integrate these tools within their classroom website for immediate use in their individual classrooms. This project may assist teachers as they seek to integrate technology in their classrooms to enhance teaching and learning.

Review of the Literature

In this project study, I have determined that technology integration within a classroom website benefits teaching practices and enhances student learning through communication, personalized learning, and the development of 21st-century skills. The project will consist of a 3-day professional development to increase teacher awareness of the benefits of classroom websites and assist teachers in website development. The 3 professional development days will be spaced a week apart to provide teachers time to implement tools into their classroom websites.

In order to develop my project, I conducted a review of literature related to my project framework (professional development specifically geared towards technology integration), and the content of my project (communication with stakeholders, personalized learning, and the development of 21st-century skills). The first section of the review delves into the research on project content: professional development for technology integration. As part of the focus on professional development, the second section addresses the needs of adult learners. The third section changes focus to the content of the project by investigating the research on key elements of effective classroom websites. This section has subsections that each look carefully at the research around the themes identified by this project study: communication, personalization, and 21st-century skills. All of these resources informed the professional development project.

The literature review for the proposed 3-day professional development focuses on how to best implement professional development that promotes effective technology integration in the classroom. The literature emphasizes how adults learn. It also focuses

on the key elements of effective classroom websites: communication among all stakeholders, personalized learning, and 21st-century skill development.

The literature review made use of peer-reviewed articles and various databases: ERIC, Education Research Complete, Thoreau, SAGE publications, EBSCOHost, and ProQuest Central. The following search terms were used: *Classroom websites, technology integration, personalized learning, 21st century skills, professional development, adult learning,* and *Web 2.0 tools.* I was able to reach saturation for the literature review through the databases and Boolean phrases listed above.

Professional Development for Technology Integration

Prior research indicated a gap between teachers and students in technology adoption for classroom use (Potter & Rockinson-Szapkiw, 2012; Shu & Franklin, 2011). Professional development has been shown to consistently influence the increase of technology integration in the classroom (Lau & Yuen, 2013; Li, & Choi, 2014; Peeraer & Van Petegem, 2012; Potter & Rockinson-Szaphiw, 2012; Shu & Franklin, 2011; Thomas et al., 2012; Walker et al., 2012). However, traditional "sit and get" training or one-time workshops will not produce effective technology integration in the classroom (Lau & Yuen, 2013). Factors have emerged in the literature identifying ingredients of effective professional development for technology integration. These factors include administrative support, collaboration, engagement with content-appropriate technology, and inclusion of follow-up activities.

Administrative support. Effective use of technology does not necessarily occur with the availability of technology in schools. Administrative support for promotion and

implementation of effective professional development ensures that the school's goals for technology integration occur in the classroom (Potter & Rockinson-Szapkiw, 2012). When administrators understand the benefits of technology integration and provide training, resources, and support, teachers are more willing to integrate technology (Shu & Franklin, 2011). Furthermore, teachers are more willing to try new technologies and take risks when they have the support of their administration (Li & Choi, 2014; Potter & Rockinson-Szapkiw, 2012; Thomas et al., 2012). Authentic collaboration between administration and teachers about effective technology integration provides teachers with a say in the process of planning professional development opportunities, the acquisition of technology tools to benefit their classrooms, and how to solve real school needs (Li & Choi, 2014; Stanfield, 2014; Thomas et al., 2012). Based on the importance of administrative support presented in the literature, I will enlist the help of the administration in both schools under study for the planning and implementation of the 3-day professional development plan.

Collaboration. Effective professional development for technology integration represents a mutual professional learning opportunity. Tech-savvy teachers can provide mentoring to those teachers who are less knowledgeable, which provides opportunities for both teachers to gain professional knowledge (Potter & Rockinson-Szapkiw, 2012). Mutual professional learning through collaboration seems to offer the best hope of continuing technology integration in the classroom (Peeraer & Van Petegem, 2012). Collaboration within professional development provides a safe place for teachers to practice, fail, and try again with technology integration (Stanfield, 2014; Thomas et al.,

2012; Wagner, 2013). Professional development promotes "collaborative instructional decision-making while simultaneously encouraging open-mined consideration of new instructional methods, tools, and resources" (Lau & Yuen, 2013, p. 605). Additionally, professional development provides teachers with the opportunity to reflect with their peers on best practices, barriers and how to overcome them, and potential uses of the technology (Stanfield, 2014; Walker et al., 2012). To meet teachers' needs for collaboration, I have set aside specific times on all three days of the professional development for collaboration among teachers to plan for technology integration.

Engagement with content-appropriate technology. Effective professional development for technology integration provides time not only for teachers to practice with technology tools, but also training on how to teach with the tools in individual classrooms (Duran et al., 2012). Quality professional development must support school goals with respect to curricular needs, model instruction using technology, connect to practice, and include inquiry-based learning (Peeraer & Petegem, 2012; Potter & Rockinson-Szapkiw, 2012). "The opportunities for 'hands-on' work linked to teachers' experiences produce a sense of efficacy" (Yin, Olson, Olson, Solvin, & Brandon, 2015, p. 58). When teachers feel confident using technology and believe implementation will increase student learning, sustained use of technology tools will occur (Lau & Yuen, 2013; Thomas et al., 2012; Walker et al., 2012). Teachers need time to learn new tools, talk among themselves, and plan how to use technology in their classrooms (Wagner, 2013).

Follow-up activities. Research soundly supports professional development oriented as a learning community that features content focus, active learning, and collaboration over time (Curwood, 2013; Lau & Yuen, 2013; Peeraer & Van Petegem, 2012; Wagner, 2013). Teachers need ongoing technological and pedagogical support as they use new tools in their classrooms (Duran et al., 2012; Potter & Rockinson-Szapkiw, 2012; Walker et al., 2012). Additionally, teachers need follow-up teacher-to-teacher discussions about implementing new technology in their classrooms (Yin et al., 2015). Carving out time for these discussions is integral to the transformation of learning and technology integration (Wagner, 2013). Follow-up sessions include newly acquired knowledge related to teachers' current experiences, participation in their own learning, and opportunities for reflection and feedback (Thomas et al., 2012). "Educators must be trained in ways in which they themselves constitute part of a larger learning and professional community for the purpose of exchanging perspectives, resolving dilemmas, and confronting uncertainty in transforming classroom practice" (Peeraer & Van Petegem, 2012, p. 1042). Shu and Franklin (2011) stated that as teachers continue to participate in professional development sessions, they increase their willingness to implement technology in their classrooms.

In the framework for the 3-day professional development plan, I have allotted time for afternoon follow-up sessions for teachers. On the first day of the professional development, the purpose of the follow-up session is to plan for technology use in the classroom the following week. The second and third day sessions will involve time for teachers to share experiences and further plan for each week of trying out new

technologies. Teachers will work together according to grade level and content area to increase proximity to continuing follow-up within their teaching interests.

Adult Learning

Andragogy is the theory of adult learning. The andragogical model adheres to several assumptions of adult learners: (a) The need to know, (b) The learners' self-concept, (c) The role of the learners' experiences, (d) Readiness to learn, (5) Orientation to learning, and (e) Motivation (Knowles, Holton & Swanson, 2011). Each of these are subheadings below. These assumptions of adult learning coincide with current literature on effective professional development for sustainable technology integration within the classroom. They also provide a theoretical framework for the design of the 3-day professional development plan.

The need to know. Adults need to see the value of learning something before learning it (Knowles et al., 2011). Facilitators of professional development for technology integration must help teachers understand the value of incorporating technology in their classrooms (Curwood, 2013). The methodology of "Technology Mapping", which establishes the connection of a technology tool with content and pedagogy, is an essential component of professional development for teachers (Peeraer & Van Petegem, 2012). When professional development aims to improve educational practices through open-minded consideration of new instructional methods, tools, and resources, sustained implementation of technology tools will occur in the classroom (Lau & Yuen, 2013). This project provides multiple spiral opportunities to connect tools, content, and pedagogy.

The learners' self-concept. Adults have a self-concept of being responsible for their own decisions and being self-directing learners. Adults resent when they feel others are imposing their wills on them (Knowles et al., 2011). Research indicated that teachers do not adopt technology innovations when they are "top-down, administrative driven and lacking the essential element of giving teachers enough say in the process" (Thomas et al., 2012, p. 446). Li and Choi (2014) found that teachers are reluctant to change when forced to follow top-down regulations that deprive them of ownership in the implementation process. Duran, Brunvand, Ellsworth, and Sendag (2012) stated that teachers benefit from learning in environments that are student centered and build on their strengths, knowledge, and interests. Differentiation is a key component to effective professional development; therefore, professional development should support varied levels of technology proficiency and allow all teachers to grow (Wagner, 2013). Professional Development "should support and develop educators' identities as fluent users of advanced technology, creative and collaborative problem solvers, and adaptive, socially aware experts throughout their careers" (Curwood, 2013, p. 95). Stanfield (2014) stated that through learning communities, teachers become aware of their strengths and weaknesses while using new technologies and become more willing to share where they need additional assistance.

The role of learners' experiences. The emphasis of adult education is on experiential techniques. These techniques tap into the experiences of the learners before and within the professional development (Knowles et al., 2011). Professional Development must help teachers examine their attitudes, beliefs, and habits towards

technology and open their minds to new approaches (Walker et al., 2012). Professional development for technology use should include a combination of workshops and mentoring to train teachers for technology use (Duran et al., 2012). Furthermore, professional development for teachers should take into account their prior knowledge, use context-based authentic projects, and include collaborative opportunities (Potter & Rockinson-Szapkiw, 2012). Teachers will adopt a new practice if they are convinced that it will benefit their students' learning and will work well in their classroom situation (Li & Choi, 2014). The project will include repeated opportunities to experience, share, and reflect on the technologies teachers have used and are now engaging in implementing.

Readiness to learn. Adults will learn what they have to "in order to cope effectively with their real-life situations" (Knowles et al., 2011, p. 65). *Readiness to learn* can be encouraged through experiential learning opportunities. "Before teachers can make informed pedagogical decisions about technology, they must first know how to access, operate, and innovate with ever-changing digital tools" (Curwood, J., 2013, p. 92). The opportunities for 'hands-on' learning linked to teachers' content leads to efficacy (Yin et al., 2015). Increased efficacy leads to increased willingness to learn and integrate technologies in the classroom (Walker et al., 2012). As teachers encounter evidence of increased student learning and engagement as a result of technology integration, they are motivated to seek experiences of technology practice and use (Duran et al., 2012). This project is based upon research documenting the important aspects of classroom websites from local teachers with exceptional websites. The relevance to the professional development teachers is thus very high and valued by the administration.

The clarity of useful tools for specific reasons (communication, personalization, and 21st-century skills) will also contribute to the teachers' willingness to learn.

Orientation to learning. Adults are motivated to learn if they perceive that the learning will help them perform tasks or deal with problems in their life situations (Knowles et al., 2011, p. 65). If teachers believe in the benefits of technology in teaching, they may persevere through the challenges of learning new technology (Yin et al., 2015). Learning activities should be applicable, expand into real-world experiences, and should be relevant (Potter & Rockinson-Szapkiw, 2012). Duran, Brunvand, Ellsworth, and Sendag (2012), found that when professional development focuses on student learning, teachers study how technology fosters collaboration among students, promotes authentic problem solving, and how students take ownership of their learning. Because of this the professional development was designed to be directly connected, not just applicable, to the teachers' own classroom websites.

Motivation. The most effective motivators are internal such as, increased job satisfaction, self-esteem, and quality of life (Knowles et al., 2011). When teachers see the results of implementing professional development strategies in their teaching practices, they are more likely to continue learning and integrating the strategies (Yin et al., 2015). "Providing teachers with flexibility to try new concepts and ideas motivates, empowers, and challenges them to become better educators who are equipped with new skills to engage their students in learning" (Stanfield, 2014, p. 35). Duran, Brunvand, Ellsworth, and Sendag (2012), found that when a technology tool has broad application across the curriculum and grade levels, teachers were motivated to continue to use the tool in their

classrooms. As a result, the student blogging site was included as the first tool to try. Additionally, Peeraer and Van Petegem (2012) found that teachers were motivated when they participated in well-designed professional development with facilitators who are experts in implementation. To ensure this, the facilitator will both express her knowledge, website, and research and also use a guest speaker who already does high quality professional development on technology integration.

Key Elements of Effective Classroom Websites

The content of the 3-day professional development plan will primarily focus on the three themes identified through data analysis: communication among stakeholders, personalized learning, and 21st-century skill development. Professional literature corroborated the importance of these themes and how technology enhances teaching practices. Additionally, literature provided evidence of effective technology integration through studies conducted on the use of specific Web 2.0 tools. Johnson (2013) highlighted Charlotte Danielson's Framework for Teaching (2007) as a framework to guide teacher professional development and evaluation. The four domains in the framework not only provide a guide for the 3-day professional development for this project, but also corroborate the relevance of the themes identified in the interviews. There are four domains in the Framework: (a) Professional Responsibilities, (b) Planning and Preparation, (c) Classroom Environment, and (d) Instruction (p. 84-85). Professional Responsibilities corresponds with the theme of communication, Planning and Preparation and Instruction correspond with the theme of personalized learning, and Classroom Environment corresponds with the theme of development of 21st-century skills.

Communication. In Charlotte Danielson's Framework for Teaching (2007), the domain of Professional Responsibilities highlights the teacher using technology integration to communicate with parents and students through a variety of tools. These tools are: (a) an online grading and reporting system shared through a portal, (b) an online posting of upcoming assignments and projects well ahead of due dates, (c) current classroom information on the class website, (d) online tools such as e-mails, blogs, and social networks updated on a regular basis, and (e) using collaborate online tools to communicate with colleagues (Johnson, 2013, p. 85). In the project study all of these tools were used, but many of them were integrated within a single classroom website.

The relationship between parental involvement and student achievement has been widely studied. Students who have active parent participation are more likely to achieve success in school and have fewer behavior problems (McCormick, Cappella, O'Conner, & McClowry, 2013; Rodriguez, Collins-Parks, & Garza, 2013). Although parents and teachers place a high value on proactive parental involvement, lack of involvement may be due to time constraints, inadequate education, or language barriers (Boeglin-Quintana & Donovan, 2013; LaRocque, 2013; Olmstead, 2013).

Literature confirms the benefits of using digital technologies to deal with issues inhibiting parental involvement. Setting up a classroom website provides parents with updated accessible information such as, class news, assignments, links to supplement content, and school information (Olmstead, 2013; Sullivan, 2013). Additionally, blogs, wikis, and e-mails provide parents with the two-way communication needed to pull information on an as needed basis (Olmstead, 2013). Sullivan (2013) focused on using

Google Voice, embedded in a classroom website, to share and receive recordings for timely communication between teachers and parents. Online textbooks, links to educational websites that include games and videos, and teacher-created materials all linked to a classroom website provide parents with the tools needed to assist their child's learning at home (Olmstead, 2013). Zimmerman, Gamrat, & Hooper, 2014) studied using digital postcards as a way for students to communicate with their parents. Peters and Hopkins (2013) incorporated the use of Prezi presentations in parent-teacher conferences to dramatically increase parental attendance and provide students the opportunity to share with their parents what they are learning in class. When school and family function as genuine partners, there is reciprocity among teachers, families, and students (Olmstead, 2013). During the professional development sessions the facilitator will be sharing a multitude of tools and ways that they can be used, as well as encouraging teachers to consider many options to find the right tool for their needs to communicate with parents and students.

Participants emphasized using their classroom website to keep parents informed. Literature confirmed the importance of communication, an identified theme, obtained from the interviews. Therefore, I will include training during the 3-day professional development on the use of digital technologies to increase communication between the classroom and home.

Personalized learning. One expectation of teachers is to create differentiated learning opportunities to accommodate the varying needs of all the students in their classroom. One of the many benefits of planning for differentiation is that teachers

become aware of their students' strengths and weaknesses (Stanford et al., 2010). Children are pursuing their interests and passions using technology, therefore educators must address the needs of these learners using new technologies (Richardson, 2013). Literature indicated new technologies such as videos, gaming, blogs, and wikis help teachers decrease the achievement gap. Furthermore, these formats increase motivation, help students to make connections between different content areas, and increase expertise in technology use (Stanford et al., 2010).

Techniques. There are two domains of Charlotte Danielson's Framework for Teaching (2007) that have techniques helpful to teacher as they personalize their classroom instruction. First, the domain of Planning and Preparation highlights the teacher using technology to plan and prepare lessons through a variety of techniques. A teacher using these techniques (a) creates assignments which match students' technology abilities, (b) uses digital resources provided by the district, (c) designs learning activities using available resources, uses digital resources to differentiate instruction for varying levels and preferences, and (e) assesses student work (Johnson, 2013, p. 84-85).

There are different techniques used to develop instruction in the domain of Instruction. A teacher developing actual instruction could (a) use the classroom sound amplification system, if available, (b) use technology to display visual images and videos, (c) use interactive whiteboard to engage students, (d) encourage students to use online resources for research, and (e) use technology to help students to produce their own work (Johnson, 2013, p. 85).

Classroom configurations. *Flipped learning* or *flipped classroom* refers to using in-class time for application activities rather than lecture or direct instruction (Goodwin & Miller, 2013; Gullen & Zimmerman, 2013; Sams & Bergman, 2013). Teachers create or link videos to provide overviews of upcoming units, to pose questions, to illustrate how-to lessons, or to provide prerequisites for future learning (Sams & Bergman, 2013). Gullen and Zimmerman (2013) found that operating a flipped classroom provided stronger awareness of individual student progress and provided students the opportunity to review the lesson as many times as needed. Additionally, the flipped classroom allows for increased one-on-one time with students for more feedback and immediate correction of misconceptions (Goodwin & Miller, 2013). Sams and Bergman (2013) indicated that videos, textbooks, worksheets, and other activities became optional resources rather than required assignments in the classroom. Goodwin and Miller (2013) stated that a flipped classroom allows teachers to place a whole unit or semester worth of lectures online, enabling students to accelerate.

Videos. Literature highlighted other ways to use videos aside from a flipped classroom to enhance student learning. Wyss and Watson (2013) developed a volume of podcasts and interviews with STEM professionals to inform middle-school students about STEM career options. Sauignano, Williams, and Holbrook (2013) had students create a video that was designed to market an app they created. The project required the use of algebra, music, physics, and artwork. Results indicated an increase in self-directed learning and student motivation. Schafer-Southard and Hofer (2013) redesigned a project on monarchs from the ages of Absolutism and Enlightenment to include video and audio

software. Differentiation between gifted and regular classes occurred in requirements and in the software used. Results indicated students actually sought out more information and facts, engaged in learning, and scored significantly higher on the assessment.

Types of tools for personalization. Graphic novels are another Web 2.0 tool used to enhance learning. Boerman-Cornell (2013) used graphic novels to help students learn reading skills. Using text and images closely integrated together, students develop skills needed to read websites. Additionally, not all graphic novels are novels; many are nonfiction and can be used by teachers in almost any discipline (Boerman-Cornell, 2013).

Blogs, podcasts, and wikis are Web 2.0 tools which provide teachers with many opportunities to differentiate with technology. A blog is a simple webpage consisting of text, hypertext, photos, videos, or other media referred to as posts. Teachers often use blogs to engage students in writing and publishing (Dappolone, 2013; Kist, 2013). Podcasts are a series of audio or video digital media files that listeners can subscribe to, and wikis are webpages designed to enable contribution and modification of text to create collaboration (Stanford et al., 2010).

Gaming is another technology tool participants use in their websites to motivate their students. Ault, Craig-Hare, Frey, Ellis, & Bulgren (2015) used an online rate-based multiplayer game, *Reason Racer*, to engage middle school students in scientific argumentation. Results indicated that students who played *Reason Racer* showed a significant increase in confidence and motivation to engage in science. Additionally, students used higher order thinking skills to make judgements, ranked evidence, and determined the strength of reasoning. Siko and Barbour (2013) had their students use

technology to create their own games around content. Results indicated that students increased in focus and engagement, increased in creativity, and scored significantly higher on the end-of-unit assessment. Morales (2013) used *Dragon Box*, a game focused on balancing algebraic equations, to help her students build the foundation to solve equations. Tromba (2013) used *Minecraft* in his classroom to build teamwork among his students and to develop their programming skills. Physical science lessons, scale modeling, and spatial mathematics are some of the content areas covered using this game.

Literature indicated creative uses of iPads for personalized learning in the classroom. Conn (2013) used a class set of iPads to implement a unit in which students observed feeds from webcams placed inside the habitats of animals living in the wild and in captivity. Results indicated increased excitement and engagement. The webcams provided students choice in learning as they researched a variety of animals. Furthermore, the hands-on, independent exploration provided teachers with opportunities to differentiate learning (Conn, 2013). Deaton et al. (2014) used iPads to implement a stop-motion animation video activity to help students understand cell processes. Results indicated an increase of 58.53% from pre to posttest results. Additionally, students valued their ability to conduct Web-based searches, create their own animations, and use a variety of apps.

Participants for this study highlighted using a variety of Web 2.0 tools to enhance teaching and learning in their classrooms. An increase in the motivation of their students was another benefit highlighted in the interviews and literature. In light of this, I will focus on the Web 2.0 tools shown to increase student motivation and learning in the

professional development project. I will provide teachers with opportunities to explore Web 2.0 tools and share ways to use these tools in their classrooms.

Twenty-first–century skill development. In Charlotte Danielson's Framework for Teaching (2007), the domain of The Classroom Environment highlights the teacher using technology to create a positive learning environment through a variety of techniques. Teachers using these techniques (a) demonstrate a positive attitude towards technology use in the classroom, (b) use technology to help students "publish" their work, (c) use technology to facilitate collaboration, (d) create rules for technology use, and (e) monitor student use of technology (Johnson, 2013, p. 85).

The National Council of Teachers of English has revised the definition of 21st-century literacies to include proficiency with technology tools, the ability to manage, analyze, and synthesize simultaneous streams of information, and the ability to design and share information for multiple purposes to global communities (Richardson, 2013). Prensky (2013) stated that "in the 21st century, technology is the key to thinking about and knowing about the world" (p. 23). Kist (2013) mentioned that preparing students to thrive in today's society is more than just an employment issue; it is also a quality of life issue.

Educators are expected to prepare students to successfully operate in society (Aslan & Reigeluth, 2013). Therefore, educators must guide students to complete projects, solve real-world problems, resolve group conflicts, and produce exceptional work (Aslan & Reigeluth, 2013). The need for students to develop content knowledge has always been important in education, but what has changed is the access to content and

authentic exploration through technology (Kereluik, Mishra, Fahnoe, & Terry, 2013). Ohler (2013) indicated that teachers should accept artistic skill as a foundational literacy, teach the grammar of new media, teach creativity and critical thinking together, and provide students opportunities to innovate using technology.

Prensky (2013) asserted that K-12 study should focus on three critical areas: "Effective Thinking, Effective Action, and Effective Relationships" (p. 26). Effective Thinking includes creative and critical thinking covering subjects such as math, science, logic, persuasion, and storytelling (Prensky, 2013). Web 2.0 tools such as illustrative storytelling, games, simulations, conducting surveys, and the creation of tools support this thinking (Ault et al., 2015; Baker, 2013; Bull, 2013; Colwell & Hutchison, 2015; Kopcha, Otumfuor, & Wang, 2015; Morales, 2013; Schaen & Zydney, 2014). Effective Action includes persistence, entrepreneurship, and project management (Prensky, 2013). Web 2.0 tools such as design tools, CAD/CAM and other software, and simulations allow students the opportunity to improve their communities, country, and the world (Casolaro, 2013; Mishra, Yadav, & the Deep-Play Research Group, 2013; Savignano et al., 2014; Siko & Barbour; 2013). Effective relationships focus on relationships in the real world and in the virtual world (Prensky, 2013). Web 2.0 tools such as blogs, wikis, and social media help students to positively relate to others in a variety of situations (Duran et al., 2012; Konstantinidis, Theodostadou, & Pappos, 2013; Pokey, Crowe, & Flice, 2010; Wyss & Watson, 2013).

Participants highlighted the importance of 21st-century skill development in the interviews. Development includes the skills of communication, collaboration, and

creativity. Literature confirmed that educators must focus on preparing students to function globally through technology integration.

Implementation

In order for technology integration to increase in the classroom, professional development must allow time for teachers to view and interact with the technology. In addition, time for collaboration with colleagues to plan for integration in the classroom is vital. Implementation of this project will involve the following steps: (a) obtain permission from the administrator at each school under study, (b) plan for the 3-day professional development sessions, (c) ensure that the sessions include viewing Web 2.0 tools, interaction with Web 2.0 tools, and collaboration with colleagues, and (d) evaluate results of the professional development opportunity. First, it is important that administratrators support the professional development opportunity. Teachers are more likely to integrate technology if their leaders encourage and support their efforts.

Administration will provide the location, equipment, and funding. Equipment will consist of a computer lab and a Promethean Board for the Power point presentation. The proposed professional development opportunity was determined by the data from the interviews with the middle school teachers. This project is a 3-day professional development collaboration opportunity consisting of morning sessions introducing teachers to a variety of Web 2.0 tools available for classroom use, and afternoon sessions for interaction with Web 2.0 tools. Each day will conclude with a follow-up session for sharing and discussion. I will contact a guest speaker, who is a technology expert, for the morning session on the first day. In addition, I will ask teachers who participated in my

study to assist me with the sessions. I will prepare a PowerPoint presentation, prepare materials, prepare a sign-in sheet for participants, obtain name tags for participants, arrange for refreshments, and develop an evaluation to provide feedback.

The third step will be to conduct the professional development opportunity incorporating the three aspects of an effective professional development model: (a) technology operation, (b) technology application, (c) integration with mentor support (Potter & Rockinson-Szapkiw, 2012). The final step will be that of evaluation. Both formal and informal evaluations will be used to determine the impact of each session. I will use a formal evaluation after the 3-day professional development opportunity.

Potential barriers could include teacher resistance to the opportunity. In addition to teacher resistance, frustration with technology equipment or tools may prove to be a barrier among some participants. Additionally, administration may not be able to fund the project. The timetable may also be a barrier. The school may not be able to provide three days of professional development with a week between each day.

Proposal for Implementation and Timetable

The implementation of this project could occur during the 2016-2017 school year. In order to implement the project, the following actions must take place.

- I will hold a meeting with the administrator at each school under study to present the project (May 2016).
- Upon approval of the professional development opportunity, I will schedule the 3-day professional development opportunity at each school under study (June 2016).

- I will contact the staff at each middle school under study via e-mail and inform them of the 3-day professional development opportunity (June 2016).
- I will conduct the 3-day professional development opportunity on Saturdays when school is in session during the week (August 2016).

Roles and Responsibilities of Student and Others

I will be the primary person for the development and implementation of the project. The administration at both schools under study will provide assistance by providing a location for the professional development opportunity. I will contact a guest speaker who is familiar with facilitating professional development for technology integration to assist me with this opportunity. I will also contact teachers who participated in my study to assist me with various sessions throughout the 3-day professional development opportunity. I will use the administration at both schools under study to gain a list of teachers who struggle with technology integration and obtain their contact information.

Project Evaluation

The goal of this project is to provide a professional development opportunity that will investigate how classroom websites interact with teaching practices and increase technology integration. Teachers can gain the knowledge and skills needed to effectively integrate Web 2.0 tools into their classrooms to enhance student learning. The opportunity will be successful if teachers increase technology integration in their classrooms. Feedback will be gathered on each day of the professional development opportunity. Methods may include surveys, informal discussions, and written responses.

Additional feedback will be gathered several months after the teachers have participated in the 3-day professional development opportunity. The follow-up survey will ask teacher participants to evaluate the quality of the professional development opportunity after they have had time to integrate Web 2.0 tools within their individual classrooms. I will use the feedback to prepare for future professional development opportunities. This information will be reported to all stakeholders at each school under study in a scheduled meeting following the 3-day professional development.

The professional development will include a goal-based evaluation that will yield an opportunity to determine if the goals of the 3-day professional development have been met. Teachers will be asked to complete a survey on the effectiveness of the 3-day opportunity. This would be an indication that the workshop met its goals. I will use the evaluation to determine if any changes need to be made to the professional development. The surveys would provide data that could be used to obtain monies to conduct future professional development opportunities.

Implications Including Social Change

The literature review and input from teachers indicated that professional development that addresses the themes of communication among stakeholders, personalized learning, and 21st-century skill development through technology integration was the best project to pursue. While the focus of this project was on two middle schools, research shows that professional development for teachers is critical for effective technology integration. This professional development model can serve as a model for other schools in the district, as well as all over the world. Additionally, teachers in this

school may be able to share learned skills with other teachers. Achieving social change at a larger level is possible if other school districts implement effective professional development opportunities on technology integration to enhance teaching practices and student learning.

Conclusion

The project was chosen based on the perceptions of middle school teachers on using their classroom websites to effectively integrate technology. A 3-day professional development opportunity was developed to be used as a vehicle for change. In this section I described the rationale for choosing this method as the best tool for providing technology integration support for teachers. The literature review was undertaken to better understand how theory was used to design, plan, and implement this project. I also discussed the implementation of the project and the means that will be used to determine if the professional development opportunity met the goal of educating middle school teachers about technology integration in the classroom.

The 3-day professional development plan was developed because there was a need to help and support middle school teachers as they use their classroom websites to integrate technology. In addition to benefiting the teachers, there may also be an increase in student engagement and learning. Using the perceptions of middle school teachers who are integrating technology in their classrooms, I have been able to design a professional development opportunity to share with the two middle schools under study.

The proposed project for this study is a 3-day professional development plan which provides teachers with opportunities to view and interact with Web 2.0 tools and

collaborate with colleagues on when and how to use these tools in classrooms. Additionally, the plan is designed to take place with a week between each professional development day to provide time for teachers to implement the tools in their classrooms. Furthermore, follow-up sessions provide teachers the opportunity to share the benefits and struggles of implementation in their classrooms the week prior to the session.

In Section 4, my reflections and conclusions culminate the project's strengths and limitations. Additionally, this section includes an examination of myself as a scholar, practitioner, and project developer. Lastly, this section concludes with the project's impact on social change and implications for future research.

Section 4: Reflections and Conclusions

Introduction

In Section 4, I have included my reflections on the project study, the format chosen for professional development for middle school teachers, and the process of conducting an effective 3-day professional development opportunity. I begin with the strengths and weaknesses of the 3-day professional development opportunity for middle school teachers. Next, I address how I would approach the project differently if given the opportunity, an analysis of what I learned about myself, and an overall reflection on the importance of the project. I conclude this reflection with a discussion of the potential impact this project could have on social change and future research.

After the data were collected, coded, and analyzed, the findings revealed that a classroom website can positively interact with teaching practices and enhance technology integration within the classroom. Findings indicated that classroom websites are a valuable tool to assist teachers with communication with stakeholders, personalized learning, and 21st-century skill development. The teachers interviewed agreed that many teachers who struggle with technology integration would benefit from professional development. To increase the school and school district's awareness of the needs of teachers who struggle with technology integration, a 3-day professional development opportunity was designed. The 3-day professional development opportunity will provide teachers with morning sessions to explore specific Web 2.0 tools and afternoon collaborative sessions to integrate Web 2.0 tools within their classroom websites.

Project Strengths

There are many strengths that this project offers that are not provided by the district's classroom website handbook for the two schools under study. The district's handbook cannot provide the type of interaction and collaboration that is needed for teachers who struggle with technology integration. The 3-day professional development opportunity includes morning sessions geared towards exposure to a variety of Web 2.0 tools for integration in the classroom. This is followed by afternoon sessions that provide teachers the opportunity to collaborate with colleagues on when and how to use Web 2.0 tools in their classrooms. Furthermore, each day concludes with a follow-up session. The follow-up session provides teachers with the opportunity to share the benefits and struggles of technology integration in their classrooms. Additionally, teachers who participated in the study will be asked to mentor the teachers in the afternoon sessions as they explore and integrate Web 2.0 tools within their classroom websites. This 3-day professional development opportunity incorporates the three aspects of an effective professional development model: (a) technology operation, (b) technology application, and (c) integration with mentor support (Potter & Rockinson-Szapkiw, 2012).

There are a few limitations that have been pointed out in the literature and highlighted by the teachers who were interviewed. The first limitation will be the time needed to implement the project. This 3-day professional development opportunity requires a week between each professional development day to allow teachers the opportunity to integrate technology in their classrooms. Additionally, this project requires

the use of a computer lab for each session. Scheduling use of a computer lab may prove difficult as computer labs are in high demand at the middle schools under study.

My recommendations for the remediation of the limitations are to use a teacher workday for one day of the 3-day plan. This would allow more teachers the opportunity to participate. If teacher workdays are not an option, morning and afternoon sessions covered on consecutive days during grade level or content level meetings is an option. Use of the computer lab can be addressed by booking the lab in advance to ensure that it will be available when needed. Although the logistics of this 3-day professional development opportunity may prove difficult to implement, this opportunity is designed to help teachers who struggle with technology integration to gain confidence and use technology to enhance their teaching practices.

Recommendations for Remediation of Limitations

Information from participants interviewed helped to guide me in the formulation of a 3-day professional development plan on technology integration. The professional development opportunity will educate teachers on Web 2.0 tools and how to integrate these tools within a classroom website. However, the project could have been addressed in other ways. One recommendation for addressing the project differently would be to extend the district's handbook on how to create a classroom website. This information could be used as a guide for teachers as they continue to develop their classroom websites.

Another recommendation for addressing the project would be to establish a long-term online collaborative community for teachers. The online community would include

blog posts for sharing and discussion, links to Web 2.0 tools, and teacher-created materials. This online community would include specific pages designed to meet the needs of all content areas. Providing support in this capacity may alleviate resistance by teachers who struggle with technology integration.

Finally, including more follow-up sessions on an individual basis could be advantageous but resource intensive. For example, simply reviewing each participant's website 2 months after the professional development sessions end would enable the teacher to get direct feedback on his or her progress and assistance for future improvements. This would take a large amount of time, however, that would likely be uncompensated.

Scholarship

As I reflected on this project study, I realize I have gained a great deal of knowledge about my topic. I developed my skills as a researcher, writer, and communicator. Through collaboration with colleagues on the discussion posts, I grew as a student and educator. I have developed a great respect for the online learning culture. The activities and assignments required discipline, collaboration, and research. I have critically examined my role as an educator and reflected on my own teaching practice. Additionally, my time management skills were enhanced as I balanced responsibilities between my coursework, my job, and my family. I gained confidence in my scholarly writing skills and in my ability to complete the project study with each new class.

Furthermore, I learned scholarship through my coursework and feedback from my professors and peers. My experiences with my coursework taught me how to think

critically, write in a scholarly way, and conduct research effectively. My experience from the feedback received from my professors and peers taught me to value others' perspectives. Additionally, I improved my research skills as I read and analyzed journal articles, periodicals, and books to develop research questions and select theories to support my research. I discovered how to collect and analyze data. During data analysis, I discovered how to identify emerging themes, how to code the data, and how to interpret the findings. Finally, I gained experience in planning a 3-day professional development opportunity that will provide a solution to a local problem.

Project Development and Evaluation

As I planned for and designed my professional development opportunity, I realized that the needs of my participants were critical. With this in mind, I was able to tailor the professional development opportunity according to what was most effective for the participants to maximize their learning. Through the creation of this professional development opportunity, I was able to describe the methods used, and I was also able to use frameworks to critically examine the sessions to determine how well I respected the needs of teachers as they integrate technology.

I have reflected on the question of how well I planned the professional development opportunity. A professional development opportunity must produce positive results, and as a facilitator, I must be able to provide evidence of the results. It is my responsibility, as the planner of this professional development opportunity, to make sure that all monies spent on resources yield the greatest impact possible. To assess this impact, I will inquire into the attitudes of the participants about the sessions, measure the

knowledge of Web 2.0 tools gained by the participants, and measure the behavior changes to technology integration by the participants.

Analysis of Self as Scholar, Practitioner, and Project Developer

I consider myself to be a scholar, practitioner, and project developer because I am developing and implementing a professional development opportunity for middle school teachers that will positively impact teaching practices. As a scholar, I realize that learning should never end. I value the opportunity I have to conduct literature reviews, collect and analyze data, and develop professional development opportunities.

I am a better teacher as a result of participating in Walden University's doctoral program. My research on technology integration has allowed me to pursue my passion and personal goal of developing my classroom website. I can speak and write with clarity and confidence due to the research I have conducted. As a practitioner-scholar, I am able to apply valid theory to my project study. The results of my research helped me to develop new insights into the complexity of technology integration within the classroom. Using a case study as my research design has given me insight into the strengths and weaknesses of qualitative research.

Furthermore, my coursework at Walden University has broadened my perspective on a variety of issues. Course readings, qualitative and quantitative research, global awareness, program evaluation, and research have contributed to my development as a scholar. I have been able to apply the knowledge and skills I acquired in my coursework to my teaching practice. My colleagues and students have benefited from my research. In addition, the discussion boards provided a platform for scholarly discourse. The exchange

of critical thinking, ideas, and encouragement was immensely helpful to my development as a researcher.

I have been teaching for 22 years, and throughout my career I always look for new and innovative ways to enhance my teaching practice and student learning. I have had many opportunities to be a leader in my school. I have held a position of leadership in my department for many years, which requires me to lead monthly meetings and assist in providing workshops. However, this project study is the most important project that I have undertaken. As the project developer, I created a 3-day professional development opportunity. I was able to use my research to develop a professional development plan that will produce positive social change. I believe this project will benefit all teachers as they strive to integrate technology within their classroom websites.

The Project's Potential Impact on Social Change

The district of the two schools under study requires all teachers to have a classroom website. A handbook has recently been developed by the district to assist teachers in creating a classroom website. However, participants revealed in the interviews that the handbook offered little assistance and is not user friendly. Furthermore, the district has implemented a 3-year technology plan by which all teachers are required to integrate technology in their classrooms. Teachers are left to their own devices to create and maintain a classroom website and integrate technology within their classrooms. Literature indicated that teachers need professional development specifically geared towards technology integration. Teachers need to interact with Web 2.0 tools, collaborate with colleagues, and practice integrating Web 2.0 tools with mentor support. If

successful, this professional development opportunity has the potential to increase technology integration among middle school teachers, increase their confidence to expand their classroom website, and increase their willingness to explore Web 2.0 tools to enhance their teaching practice.

Implications, Applications, and Directions for Future Research

When I began my coursework at Walden University, I was unclear of the direction I would take. However, as I worked my way through the courses my focus became clearer. My personal goal of increased technology integration in my classroom coincided with the contribution that I wanted to make. Although I realized that there was a need for professional development specifically geared towards technology integration, how to develop the professional development was still unclear. It was with the collaboration of 12 middle school teachers that the design of a professional development opportunity began to take shape.

The professional development opportunity has the potential to help all teachers. Through the use of this 3-day professional development opportunity, applications that are meaningful for teachers can be achieved. Research into professional development focusing on technology integration is needed. Studies on how to support teachers as they develop and use their classroom website offer a good direction for future scholars. This professional development opportunity can be used by researchers to gain the information they need from middle school teachers on technology integration within the classroom. Additionally, this opportunity can assist teachers as they integrate Web 2.0 tools within their classroom websites to interact with their teaching practices.

Conclusion

As I reflect on my doctoral studies at Walden University, I can say that I am a scholar, practitioner, and project developer. I have learned how to conduct research. As a lifelong learner, I have become a leader of change. My research has provided the knowledge and skills I needed to develop the best professional development opportunity to meet the needs of teachers as they integrate technology in their classrooms. The success of the project will depend on my ability as the facilitator to implement key adult learning principles and a variety of technology tools in the delivery of the professional development opportunity. From this study, I can conclude that the two middle schools under study have the foundation of effective professional development to increase technology integration, discover Web 2.0 tools for use in the classroom, and develop a classroom website.

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Appendix A: Project

"Using Your Classroom Website to Meet the Needs of Your Students"

Program Goals

A. Educate teachers on classroom websites and give them an opportunity to view award-winning websites.

B. Educate teachers on a variety of Web 2.0 tools available for classroom website use.

C. Provide teachers with necessary skills to develop their classroom website.

D. Provide teachers with the opportunity to collaborate with peers while developing their classroom website.

E. Provide teachers with support as they develop their classroom website.

F. Provide teachers with a brochure to further expand their technology base.

Program Outcomes

A. Teachers will understand the value of a classroom website to enhance student learning.

B. Teachers will be exposed to a variety of Web 2.0 tools that can be incorporated within a classroom website.

C. Teachers will spend time exploring award-winning websites and develop their own classroom website.

D. Teachers will collaborate with peers incorporating content-appropriate material/tools within their classroom websites.

E. Teachers will volunteer to share accomplishments within their classroom websites as a culminating activity.

Program Objectives

A. As a result of the exposure to a variety of classroom websites, teachers will be able to identify the benefits of classroom websites to enhance their teaching practices.

B. As a result of exposure to a variety of Web 2.0 tools, teachers will be able to incorporate these tools into their own classroom website.

C. As a result of time spent exploring award-winning websites, teachers will obtain ideas to apply to their own classroom website.

D. As a result of time spent with peers, teachers will incorporate content-appropriate materials/tools within their classroom websites.

E. As a result of the professional development workshop, teachers will share accomplishments within their classroom websites with all the participants.

Sources for Participants

Websites:

- http://kidblog.org/home
- http://stripgenerator.com
- http://goanimate.com
- www.wikispaces.com
- www.readconmigo.org
- www.livehiveapp.com
- www.zunal.com
- www.skyward.com
- www.popcorn.webmaker.com

- www.knowmia.com
- www.forallbadges.com
- www.quizlet.com
- www.studyboost.com
- www.studyblue.com
- www.wallwisher.com
- www.todaysmeet.com
- www.voicethread.com
- www.polleverywhere.com
- www.socrative.com
- www.edu.glogster.com
- www.docs.google.com
- www.primarypad.com
- www.showme.com
- www.educreations.com
- http://wwild.coe.uga.edu/pptgames/
- www.appliedclub.org
- www.appliedclub.org/phs/our-apps

Social Studies

- https://docsteach.org
- http://www.newseum.org/todaysfrontpages/
- http://www.si.edu/apps/SmithsonianMobile

- http://www.bestedsites.com/museumlinks.html

Language Arts

- www.straightace.com
- www.wordie.net
- www.tagul.com
- www.mind42.com
- www.diigo.com

Science

- http://www.robotslab.com/#gsc.tab=0
- www.conradawards.org
- www.uzinggo.com

Mathematics

- http://dragonbox.com/
- http://www.teachjunkie.com/math-subject/roll-cover-bump-cool-math-games/
- http://www.topappreviews101.com/function-mystery-machine-ipad-app-17408.html
- http://www.webmath.com/gpoints.html
- http://algebraicthinking.org/tech

Target Audience

Middle School teachers

Format

A variety of techniques that include:

- Demonstration activities
- PowerPoint presentations
- Informal question and answer sessions
- Follow-up sessions
- Collaborative groups
- Summarizing sessions

Timetable

The 3-day professional development opportunity can take place any time of the year; however implementation should take place in August or September. Planning should begin by the end of spring semester in order to ensure administration has time to effectively plan for the workshop and provide the necessary technology needed.

Materials and Equipment

1. Name tags for participants
2. Pencils and paper
3. Audio-visual equipment
4. PowerPoint Presentation
5. Computers or laptops
6. Evaluation Forms

Day 1: "Using Your Classroom Website to Meet the Needs of Your Students"

Time	Activity
8:00-8:30	Continental Breakfast
8:30-9:15	Facilitator will guide the participants in the following: • Opening Remarks (PowerPoint Slide 1) • Introductory "icebreaker" activity (PowerPoint slide 2) ➢ This group activity will build rapport among the participants.
9:15-10:00	Facilitator will guide participants in the following: • Purpose of the workshop- "The purpose of this workshop is to obtain the tools needed to develop your classroom website to meet the needs of your students." • Learning outcomes of the workshop- "The learning outcomes will be teachers better equipped to integrate Web 2.0 tools into their classroom websites to develop teaching practices and enhance student learning." • Viewing of award-winning websites which incorporate Web 2.0 tools (some examples listed below) ➢ http://myfunteacher.com/winners.htm#sites ➢ http://lovetwoteach.gotop100.com ➢ http://www.mrsgoldclass.com/Awardwinners.htm
10:00-10:15	Restroom Break
10:15-11:30	Facilitator will introduce guest speaker for today's training session. • Guest speaker will be a professional learning consultant with experience in Web 2.0 technology integration in the classroom. ➢ Specific Web 2.0 tools that do not require funds to incorporate into the classroom website ➢ Sites appropriate for classroom use that are user friendly ➢ Demonstration of Web 2.0 tools in use
11:30-12:30	Lunch on your own

Day One Continued Afternoon	
Time	Activity
12:30-1:00	Facilitator will guide participants in the following activity in the computer lab: • Participants will be introduced to http://kidblog.org/home (PowerPoint slide 3) • Facilitator will direct the participants to the blog set up for the workshop. • Participants will be asked to write a short post on a Web 2.0 tool (introduced by guest speaker in morning session) that they would like to incorporate into their classroom website. • Participants will view the posts and discuss how to use the blog in their classroom.
1:00-2:30	Follow-up session in the computer lab: • Participants will explore Web 2.0 tools introduced by the guest speaker in the morning session. • Participants will pair up with grade level colleagues to discuss Web 2.0 tools that would be grade and subject area appropriate. • Participants will incorporate a tool(s) into their classroom website. • Facilitator will monitor progress in lab and assist when needed.
2:30-3:00	Debrief session • Participants will share the tool(s) that they incorporate into their classroom websites and how the tools will be used to develop their teaching practice and enhance student learning. • Question and Answer session

Day 2: "Using Your Classroom Website to Meet the Needs of Your Students"

Time	Activity
8:00-8:30	Continental Breakfast
8:30-9:00	Facilitator will guide participants in the following : • Introductory activity Day 2 (PowerPoint Slide 4) "Generate a list of words related to what we learned last time." • Facilitator will write in taxedo bubbles and turn it into concept map with discussion. • With this activity facilitator will introduce participants to taxedo.com and illustrate how to use this tool in their classrooms. Share file and allow participants to manipulate.
9:00-10:00	Facilitator will guide participants in the following: • Participants will be introduced to http://stripgenerator.com (PowerPoint slide 5) • Participants will practice creating a short comic-strip. • Participants will be introduced to http://goanimate.com (PowerPoint slide 5) • Participants will practice creating an animated video. • Volunteers can share their comic-strip or animated video with the group and discuss how they could integrate this Web 2.0 tool in their classrooms.
10:00-10:15	Restroom break
10:15-11:30	Facilitator will guide participants to view the following sites which provide resources to assist teachers with technology integration: • Wikispaces Classroom www.wikispaces.com • Graphite www.readconmigo.org • LiveHive www.livehiveapp.com • Webquest www.zunal.com • Mobile Learning Platform www.skyward.com • Create Web videos www.popcorn.webmaker.com • Technology for teaching

	www.knowmia.com
Day 2 Continued Afternoon	
Time	Activity
11:30-12:30	Lunch on your own
12:30-1:00	Facilitator will lead discussion on how the following tools can be used in the classroom and incorporated into a classroom website: • Stripgenerator • Go!Animate • Wikispaces • Graphite • Live Hive • Webquest • Mobile Learning Platform • Web Videos • Technology for Teaching
1:00-2:30	Follow-up session in the computer lab: (PowerPoint Slide 4) • Participants will explore Web 2.0 tools introduced in the morning session. • Participants may choose to pair up with grade level colleagues to discuss Web 2.0 tools that would be grade and subject area appropriate. • Participants will incorporate a tool(s) into their classroom website. • Facilitator will monitor progress in lab and assist when needed.
2:30-3:00	Debrief session • Participants will share the tool(s) that they incorporated into their classroom websites and how the tools will be used to develop their teaching practice and enhance student learning. • Question and Answer Session

Day 3: "Using Your Classroom Website to Meet the Needs of Your Students"

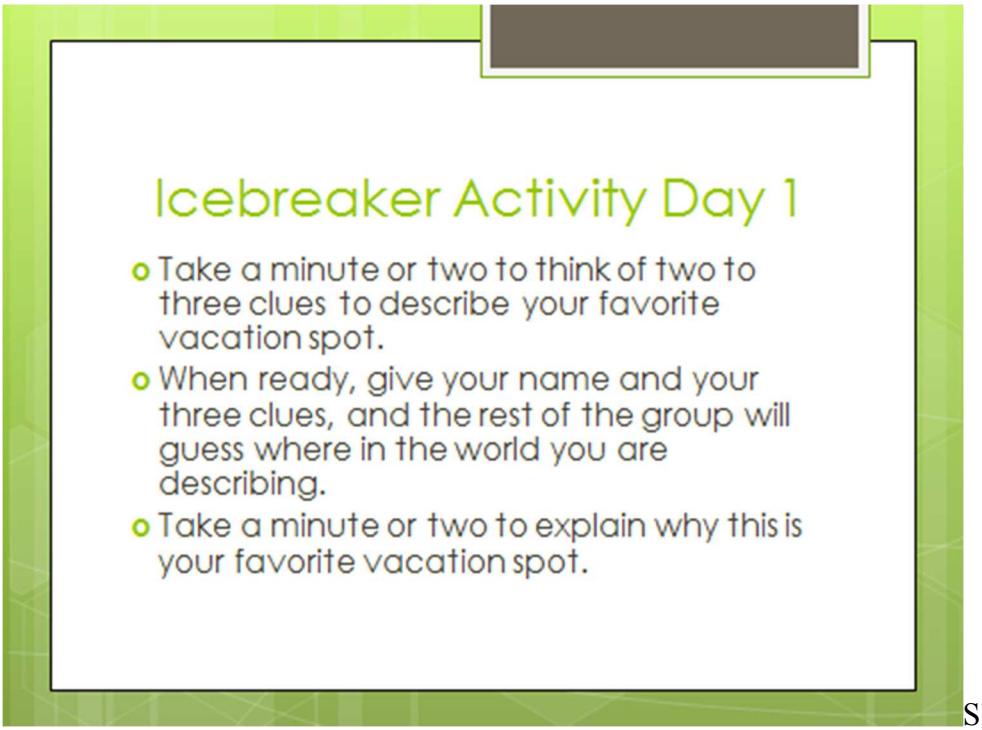
Time	Activity
8:00-8:30	Continental Breakfast
8:30-9:00	Facilitator will lead participants in the following activities: • Introductory Activity Day 3 (PowerPoint Slide 6) • Facilitator will introduce digital badges openbadges.org badg.us forallbadges.com toolness.github.io/Chicago-badge-studio/studio.html • Facilitator will illustrate digital badge use by creating a badge to highlight the accomplishments of participants during the first two days of the professional development. • Facilitator will lead discussion on use of digital badges in the classroom.
9:00-10:00	Facilitator will share Web 2.0 tools that can be used in the following content areas: **Social Studies** ➢ DocsTeach.org ➢ Today's Front Pages ➢ Smithsonian Mobile ➢ Museums of the World **Language Arts** ➢ www.straightace.com ➢ www.wordie.net ➢ www.tagul.com ➢ www.mind42.com ➢ www.diigo.com **Science** ➢ RobotsLAB (launched the Box) ➢ www.conradawards.org ➢ www.uzinggo.com **Mathematics** ➢ http://dragonbox.com/ ➢ http://www.teachjunkie.com/math-subject/roll-cover-bump-cool-

	math-games/ ➢ http://www.topappreviews101.com/function-mystery-machine-ipad-app-17408.html ➢ http://www.webmath.com/gpoints.html ➢ http://algebraicthinking.org/tech
10:00-10:15	Restroom break
10:15-11:30	Facilitator will guide participants in viewing the following sites which provide resources to assist teachers with technology integration. These sites coincide with the themes that emerged from the data collection: (a) communication, (b) personalized learning, and (c) development of 21st century skills. (PowerPoint Slide 7) • Online Community for teachers, students, and parents: www.edmodo.com • Flashcards: www.quizlet.com www.studyboost.com www.studyblue.com • Share comments, feedback, and links in a protected space: www.wallwisher.com www.todaysmeet.com www.voicethread.com • Selected response or open-ended question: www.polleverywhere.com www.socrative.com • Design an online poster: www.edu.glogster.com • Collaborate while writing/shared journal www.primarypad.com www.docs.google.com • Create a video lesson: www.showme.com www.educreations.com • Game design: http://wwild.coe.uga.edu/pptgames/ • Developing Apps: www.appliedclub.org www.appliedclub.org/phs/our-apps

Day 3 Continued Afternoon	
Time	Activity
11:30-12:30	Lunch on your own
12:30-1:00	Facilitator will lead participants in a question and answer session on the Web 2.0 tools that were presented in the two morning sessions.
1:00-2:30	Follow-up session in the computer lab: • Participants will explore Web 2.0 tools introduced in the morning sessions. • Participants may choose to pair up with grade level colleagues to discuss Web 2.0 tools that would be grade and subject area appropriate. • Participants will incorporate a tool(s) into their classroom website. • Facilitator will monitor progress in lab and assist when needed.
2:30-3:00	Debrief session • Participants will share the tool(s) that they incorporated into their classroom websites and how the tools will be used to develop their teaching practice and enhance student learning. • Question and Answer Session


Welcome!
Professional Development Workshop
"Using Your Classroom Website to Meet the Needs of Your Students"
Day 1

Slide1



Slide 2

Slide 3

Slide 4

Slide 5


Introductory Activity
Day 3
Digital badges can be used to:
State learning objectives
Show evidence of learning
Create levels- related badges
Create metabadges
Badg.us
Forallbadges.com
Openbadges.org
Toolness.github.io/chicago-badge-studio/studio.html

Slide 6


Resources for Teachers
Day 3
Three themes emerged from the data:
Communication with all Stakeholders
Personalized Learning
21st Century Skill Development
Explore sites that coincide with the themes.

Slide 7

Professional Development Opportunity
"Using Your Classroom Website to Meet the Needs of Your Students"
Handout

Day 1

Websites:

- http://kidblog.org/home

Day 2

Websites:

- http://stripgenerator.com
- http://goanimate.com
- www.wikispaces.com
- www.readconmigo.org
- www.livehiveapp.com
- www.zunal.com
- www.skyward.com
- www.popcorn.webmaker.com
- www.knowmia.com

Day 3

Websites:

- www.forallbadges.com
- www.quizlet.com
- www.studyboost.com
- www.studyblue.com

- www.wallwisher.com
- www.todaysmeet.com
- www.voicethread.com
- www.polleverywhere.com
- www.socrative.com
- www.edu.glogster.com
- www.docs.google.com
- www.primarypad.com
- www.showme.com
- www.educreations.com
- http://wwild.coe.uga.edu/pptgames/
- www.appliedclub.org
- www.appliedclub.org/phs/our-apps

Social Studies

- https://docsteach.org
- http://www.newseum.org/todaysfrontpages/
- http://www.si.edu/apps/SmithsonianMobile
- http://www.bestedsites.com/museumlinks.html

Language Arts

- www.straightace.com
- www.wordie.net
- www.tagul.com

- www.mind42.com
- www.diigo.com

Science

- http://www.robotslab.com/#gsc.tab=0
- www.conradawards.org
- www.uzinggo.com

Mathematics

- http://dragonbox.com/
- http://www.teachjunkie.com/math-subject/roll-cover-bump-cool-math-games/
- http://www.topappreviews101.com/function-mystery-machine-ipad-app-17408.html
- http://www.webmath.com/gpoints.html
- http://algebraicthinking.org/tech

Appendix B: Open-Ended Interview Questions

Introductory Protocol (Stanford Institute for Higher Education Research, 2003)

To facilitate my note-taking, I would like to audio tape our conversations today. For your information, only researchers on the project will be privy to the tapes which will be eventually destroyed after they are transcribed. You must sign a form devised to meet our human subject requirements. Essentially, this document states that: (1) all information will be held confidential, (2) your participation is voluntary and you may stop at any time if you feel uncomfortable, and (3) I do not intend to inflict any harm. Thank you for your agreeing to participate.

I have planned this interview to last no longer than one hour. During this time, I have several questions that I would like to cover. If time begins to run short, it may be necessary to interrupt you in order to push ahead and complete this line of questioning.

Introduction

You have been selected to speak with me today because you have been identified as someone who has a great deal to share about using technology on this campus. My research project as a whole focuses on the improvement of teaching and learning with technology, with particular interest in understanding how classroom web pages can enhance learning. My study does not aim to evaluate your techniques or experiences. Rather, I am trying to learn more about teaching and learning, and hopefully learn about faculty practices that help improve student learning on campus.

Interviewee Background

How long have you been …

_____ in your present position?

Interesting background information on interviewee:

What is your highest degree? _____

What is your field of study? _____

Briefly describe your role (office, committee, classroom, etc.) as it relates to student learning.

Probe: How are you involved in teaching, learning, and assessments?

1. How does having a classroom website influence your teaching practice?

Probe:
What benefits as a professional:

- Lesson planning?
- Flipped classroom?
- Discovery of latest Web 2.0 tools?
- Communication to stakeholders?
- Organization?
- Assessment strategies?

What benefits to students:

- Choice in learning?
- Motivation?
- Mastery of concepts?
- Information?
- Links?

2. How does a classroom website tailor instruction to meet specific needs of students?

Probe: What specific technology is integrated in your website for:

- Remediation?
- Enrichment?
- Lesson planning?
- Assessment?

3. What are the key elements of technology integration within a classroom website?

Probe: Does your website make use of:

- Blogs
- Wikis
- Informational videos
- Links for instructional use
- Assessments
- Peer evaluation tools
- Display student products
- Calendar
- Rubrics

4. How does a classroom website promote life and career skills?

Probe: How does your classroom website target 21st century skills through:

- Collaboration?
- Critical Thinking?
- Media Literacy?
- Problem solving?
- Communication?
- Creativity?

Post Interview Comments and/or Observations:

Appendix C: Document Review Checklist

Website (#_____)	Notes
1. What specific parts of your website interact with teaching practices? • Remediation_____ • Enrichment_____ • Lesson Planning_____ • Assessments_____ • Motivation for students_____ • Mastery of concepts_____ • Choice in learning_____ • Information_____ • Links_____ 2. What specific parts of your website enhance technology integration in the classroom? • Blogs_____ • Wikis_____ • Informational videos_____ • Links for instructional use_____ • Assessments_____ • Peer evaluation tools_____ • Display student products_____ • Calendar_____ • Rubrics_____ • Collaboration_____ • Critical Thinking_____ • Media Literacy_____ • Problem solving_____ • Communication_____ • Creativity_____	

Appendix D: Permission Letter from P21

XXXX 10/20/14

Good morning Deborah,

Thank you for your email. Our materials and educator resources, including The Framework for 21st Century Learning, are free for educational purposes. We are happy to grant you permission to use P21 materials, as long as no P21 materials and references are used to imply P21 endorsement. Please see our full terms of use here: http://www.p21.org/our-work/use-of-p21-content

Thank you for citing P21 and linking to our website - www.P21.org.

Please let me know if you have any other questions,

Lizzette

Appendix E: Permission Letter from SEDL

ADVANCING RESEARCH
SEDL
IMPROVING EDUCATION

SEDL License Agreement

To: Deborah Mau (Licensee)
8740 Lake Drive
Snellville, GA 30039

From: Nancy Reynolds
Information Associate
SEDL
Information Resource Center—Copyright Permissions
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Austin, TX 78723

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Date: October 27, 2014

Thank you for your interest in using **Figure 3.1: Stages of Concern: Typical Expressions of Concern about the Innovation** published on page 31 the SEDL publication *Taking Charge of Change*, revised ed., published in 2006, 2nd printing, 2008, revised PDF version uploaded on Lulu.com, 2014, and written by Shirley M. Hord, William L. Rutherford, Leslie Huling, and Gene E. Hall. You also have asked to use the ***Stages of Concern Questionnaire*** (SoCQ 075) published by SEDL and written by Archie A. George, Gene E. Hall, and Suzanne M. Stiegelbauer in 2006 as Appendix A, pages 79-82 in *Measuring Implementation in Schools: The Stages of Concern Questionnaire*, in electronic format as SEDL's *Stages of Concern Questionnaire (SoCQ) Online* accessible from http://www.sedl.org/pubs/catalog/items/cbam21.html on the SEDL website, and published in *Taking Charge of Change*, on pages 48-49.

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Thank you, again, for your interest in using **Figure 3.1: Stages of Concern: Typical Expressions of Concern about the Innovation** and the ***Stages of Concern Questionnaire (SoCQ 075)***. If you have any questions about this License Agreement, please contact me at 800-476-6861, ext. 6548 or 512-391-6548, or by e-mail at nancy.reynolds@sedl.org.

Sincerely,

Nancy Reynolds
Nancy Reynolds for SEDL

October 28, 2014
Date signed

Agreed and accepted:

Signature: Deborah Mau

10/27/14
Date signed

Printed Name: Deborah Mau

Appendix F: Permission for TPACK Framework

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Appendix G: Design Alignment Tool

Study Problem and Purpose (Must align with all rows.)	**Research Questions** List each research question (RQ) in a separate row below.	**Data Collection Tools** List which instrument(s) are used to collect the data that will address each RQ.	**Datapoints Yielded** List which specific questions/variables/scales of the instrument will address each RQ.
	RQ 1: **What are teachers' perceptions of using specific parts of their classroom websites to interact with teaching practices?**	Interview Questions	**1. How does having a classroom website influence your teaching practice?** **Probe:** What benefits as a professional? Lesson planning? Flipped classroom? Discovery of latest Web 2.0 tools? Communication to stakeholders? Organization? Assessment strategies? What benefits to students? Choice in learning? Motivation? Mastery of concepts? Information? Links? **2. How does a classroom website tailor instruction to meet specific needs of students?** **Probe:** What specific technology is integrated in your website for: Remediation?

			Enrichment? Lesson planning? Assessment?
	RQ 2: **What are teachers' perceptions of using specific parts of their classroom website to enhance technology integration in the classroom?**	Interview Questions	**3. What are the key elements of technology integration within a classroom website?** **Probe:** Does your website make use of: Blogs Wikis Informational videos Links for instructional use Assessments Peer evaluation tools Display student products Calendar Rubrics **4. How does a classroom website promote life and career skills?** **Probe:** How does your classroom website target 21st century skills? Collaboration? Critical Thinking? Media Literacy? Problem solving? Communication? Creativity?

Appendix H: Interview Responses

Participants 1-4

	Participant **1**	Participant **2**	Participant **3**	Participant **4**
1. How does having a classroom website influence your teaching practice?	-"I prefer to think of my classroom website as a virtual classroom" -"It facilitates and enhances the entire learning experience for both teachers and students" -Stakeholders have access to syllabus, past lecture notes, class calendar with ability to subscribe Handouts, contact info -Edmodo (social learning network) assignments, projects, assessments are distributed and collected with ease and efficiency	-Made teaching a lot easier -Students have access to all materials, can check grades, submit all documents (class is paperless), virtual class discussions, parents have access to all above mentioned items -"It has changed the way I think about teaching"	-I use Edmodo as an online classroom with access through my website -I operate a flip classroom which allows me to post assignments ahead of time -This allows students to work at their own pace -I am a more organized person electronically than on paper so my classroom is more organized now -Parents are also in the "know" as well. I have a parent code so they can view all their child's assignments and grades online	-I no longer keep a paper copy of my lesson plans. I create my week's plan on my website -Everyone can access my lessons- students, parents, and administrators -"Students do not have an excuse for not knowing what is happening in class" -Students can print handouts from my website -I display sample student work and projects completed in class on my website -"Students and parents can view what good work looks like -I can communicate with parents- my website keeps them informed -"I have taken my teaching experiences to a higher level- my website is innovative,

				interactive, and useful
2. How does a classroom website tailor instruction to meet specific needs of students?	-Allows students to master concepts at their own pace and in a manner that best suits their individual learning styles -downloadable copies of class presentations and additional complimentary teaching aids provide students with plenty of reinforcement options	-Students can work at their own pace and meets the needs of all students in different ways -Students who need additional instruction or reinforcement can go to website for resources or class presentations -Videos are great for lower-level learners, ESOL, and general students -Link to video so that students can watch any time they need to	-I give a lot of open-ended assignments and use problem based learning in the classroom- electronic resources like my website allow me to direct student learning easily and indirectly -Information is available to students when needed -Students can access information on their own time and at their own pace -I post videos, power points, and articles for student use to assist them with their learning (teachertube, Dan Meyer, etc.)	-"A classroom website tailors instruction to meet specific needs of my students by providing personalized instruction -addressing the various learning styles -creating new opportunities for students (blogging about what they are reading) - and adding variety (quizlet/jeopardy) -I use Socrative for assessments -Literacy terms are posted on my site -I also have fun links on my site to motivate my students
3. What are the key elements of technology integration within a classroom website?	-Dynamic, varied content -attractive, useful, interesting websites- students want to use it -increases computer literacy	-Students know where to find warm-ups and where to submit -Model and practice consistently to use website correctly -Information is clear and easy to	-Students have access to all assignments due and what they are missing -I use links to articles and videos, calendars, rubrics, and student	-My website makes use: -blogs -calendar (shows assigned due dates, upcoming events) -links to reference materials (online library of resources directly

	-teachers must model website use regularly -presentations -rubrics -videos -links -calendar -assignments, projects, assessments	find -assignments -informational videos -helpful links	collaboration tools -This allows me to offer a "blended/flip type classroom" for my students -Students and parents are fully aware of what is expected, what topics are being covered in class, what assignments are due, and how the student is doing in my class -Students can learn on their own time with all the resources that I have given them on my website	linked to my site) -newsela -flocabulary -activelearn -ace -mybrainshark -USAtestprep -readworks.org -class dojo
4. How does a classroom website promote life and career skills?	-students develop skill sets that include computer literacy, social networking savvy, IT knowledge- all of which hold high value in the current marketplace	-Our society is moving towards a virtual experience in learning -"Many students do not have access to technology at home so it is our job not only to teach them content, but help them develop computer literacy" -Website teaches students how to navigate various pages,	-"Most information is now available in the online format. Insurance, job postings, college applications and the like are all using websites to drive their information. Therefore the navigation and effective use of such sites is a needed skill" -"I am teaching my students to collaborate with	-A classroom website promotes like and career skills by displaying interactive texts and sophisticated software applications -Develops communication through blogging -Develops collaboration through peer viewing of other's work -Media literacy through website navigation -Taking ownership

		save and submit documents, and use general technology terms -"As 21st century teachers it is our responsibility to ensure that students learn these life and career skills through using a classroom website"	their classmates and take charge of their own learning through skills developed through my website"	of learning

Participants 5-8

	Participant **5**	Participant **6**	Participant **7**	Participant **8**
1. How does having a classroom website influence your teaching practice?	-"I created a website that is a resource for parents and in all honesty would allow a student to do well without ever entering my class" -I have set up a separate email for my parents with agenda for the week and a link to my website -Everything I do in class is put on my website -A website keeps me organized -I have all my teaching resources organized on my website for every unit I teach -I have spent the better part of my career putting together resources that I and the county can use in the teaching of our subject -I have a page on my site dedicated to my colleagues to use	-Positively influenced my teaching practice -"I am able to communicate with parents and students easily" -Great way for parents to stay informed on what's going on in their child's classroom -Resources I've provided not only benefit students, they also benefit parents as well	-"My classroom website influences my teaching practice because I can communicate with my students, parents, and stakeholders outside of the classroom" -It is organized in a way to benefit those looking for certain components from my class -My website is a tool for students to find homework assignments, useful websites, vital information, and links to worksheets -If students are absent they can go to my website to see what was missed -I also feel that as I continue to explore what tools are available, I can do more with my website in the future	-I use my classroom website as a way to communicate with both my students and the families outside of the classroom -Classroom expectations clearly spelled out on website -Showcase class activities that students have done throughout the year -Weekly lessons posted so that parents know what we are doing and students can go back and review -Calendar for absent students -Website helps keep me organized- helps me go paperless -My classroom is more active and engaging -My teaching has become "learner-centered"

2. How does a classroom website tailor instruction to meet specific needs of students?	-"My website is designed to provide all materials students need to teach themselves" -I have virtual classroom videos, hot links, student blackline masters and test reviews to help my students -I have a wide array of materials to help with understanding the material for my students -I have many extra credit opportunities on my website -I have tools to use for extra learning	-My website contains a calendar of important events -summary of week's objectives -links to other websites that students can use for enrichment, practice, and research -I teach gifted students and they really enjoy the links to the different enrichment websites	-"I have various types of students with different learning styles (i.e. auditory, visual, kinesthetic, etc.) and levels of understanding that can benefit from my website" -There are links where students can play games while learning -Links to view instructors teaching concepts -Links to online quizzes where students can assess themselves for mastery of concepts -Several game links have different levels to meet the needs of all students -"My level one and two students can do drills/basics and focus on prerequisites, whereas my level three students can do enrichment activities"	-My classroom website tailors instruction by giving students online access to notes, class materials, and assignment details -Uploads allow students and parents to easily follow the events of the class on their own and better handle deadlines -If students are having trouble with assignments I have helpful links -"I place content related resources on my website in order to provide my students with additional academic support" -Some of the links are "how to " videos, power points, slides, prezis, and practice worksheets

3. What are the key elements of technology integration within a classroom website?	-Calendar updated weekly with classroom events -Test reviews -Extra credit -GA stories (information for all students that expands what is presented in class) -Parent links -Left/Right/Center -Common Core Reading list -Videos -Hot links -Articles for help in understanding history	-Calendar -links to documents -links to educational websites -Page dedicated to excellent student work -My website helps to keep me organized	-As a math teacher, I stress that students need to practice math problems based on standards taught in class -Helpful websites/links are significant and can help students meet or even exceed expectations -They must practice consistently and efficiently -Students can use links as a tutorial to assess their understanding and gain more knowledge which affects student growth	-Informational videos -Vokis -Blog -Webquest -photo stories -The informational videos are on what we are covering in class to give students a different way to learn the material -I use Voki which is a voice tread Web 2.0 tool to communicate up-coming assignments to the students -There is a link to my class account to Glogster which is another tool I use to have students blog about books that we are reading in class -My website also contains several Animoto photo storybook trailers posted for students to get an idea of some great young adult books their peers are reading -I post webquest assignments

				online for students to work on collaboratively outside of class
4. How does a classroom website promote life and career skills?	-Link for how young gentlemen should act in public -Promotes self-learning -Problem Solving through extra credit -Life skill of discipline and motivation for one's own learning -Self-learning	-"I definitely think a classroom website promotes 21st century skills when integrated into the classroom on a consistent basis" -When students interact with my classroom website they are learning media literacy, critical thinking, collaboration, and problem solving skills	-My website promotes life and career skills through communication, critical thinking, and problem solving -I can refer students and parents to my website to gain additional information about my class -Students can move away from focusing on computational problems and gear themselves towards application problems as students must use problem solving and critical thinking skills to answer them -With the new state assessment, students must answer constructed response questions by justifying their answers -Students can use	-Through my website I hope to help my students with the skills to make them better writers, readers, and speakers -My students learn how to speak correctly through grammar practice and videos -My students learn how to read and understand what they are reading through my website resources -Through my website I integrate strategies that allow students to give feedback, use thinking skills, and to work with other students collaboratively

			skills and test-taking strategies learned for high school and beyond	

Participants 9-12

	Participant **9**	Participant **10**	Participant **11**	Participant **12**
1. How does having a classroom website influence your teaching practice?	-Provides information to parents and students -Enables students to keep abreast of what is going on -I use my website to remediate and enrich -It provides strategies and techniques to benefit my students -It helps me to differentiate my lessons -I provide the students choice in their learning through my website -I am able to constantly assess my students through my website without using paper but through technology such as Quizlet, Kahoots, Clickers, Socratic, etc.	-I keep parents and students informed through a calendar -I link class power points and attach documents to my website for student access -I can better meet my students' needs as a teacher by providing resources they will need to be successful -I have clearly stated expectations of what is required -I am able to assess my students using Quizlet and other links	-A website allows me a streamlined way to increase communication amongst all stakeholders -My students are able to utilize a wealth of resources on my site such as an interactive class calendar, video tutorials, lesson plans, and downloadable assignments -The site opens communication between students, parents, and teachers. -This becomes helpful when planning as students and parents are able to discuss which topics they understand and others which may need further practice and exploration -The flipped classroom allows me to differentiate lessons to meet my students'	-"Having a classroom website enables you to extend your lesson into the home environment" -Students can use the website as an at home resource that they can use and access independently -It opens up communication between parents and the teachers -It gives the teacher an opportunity to show and explain to the parents what their child is working on in school -It also helps the parents to understand the concepts being taught so that they can help their child at home

			unique needs and abilities and allow students to work at their own pace -The assessments that I put on my site help to provide diagnostic feedback and monitor student progress	
2. How does a classroom website tailor instruction to meet specific needs of students?	-My website encourages self-directed learning -It creates active participants instead of passive -My students can take responsibility for their own learning -My website provides individualized learning -It accommodates struggling learners because it provides access to resources -The students are motivated because through my website I provide my students opportunities for choice in their learning	-My website has links for all my students -I teach gifted students so I have information for enrichment activities related to my class projects -I have links to help students who are lower level with reading development skills -"I have noticed that my students do not have appropriate vocabulary skills for their age so I have many links for vocabulary development -I have links to improve grammar development -I have writing	-Links to online practice and progress monitoring performance sites and tutorials benefit students needing remediation -I provide choice in learning which keeps my students motivated and engaged in their assignments -The choices are based on my student's different unique styles -My website provides my students with resources they need to support learning -I have links to formative assessments and progress	-My website is used to extend lessons by offering students ways to continue their learning at home -My website includes a discussion board, links, and home based projects for students who understand the concept in school and need additional activities to do at home -Students who have a tough time grasping the concept in class can go to the website where resources are provided for them to independently explore the topic and become

		practice -I have a page in my website specifically dedicated for each type of writing we are working on at the time (i.e. narrative writing, expository writing, and so forth)	monitoring sites -I can assess student knowledge by reviewing responses to our class blog	more comfortable with it
3. What are the key elements of technology integration within a classroom website?	-The following resources are within my website: 1. Graphic organizers 2. Readworks.org 3. Flocabulary 4. Kahoots 5. Quizlet 6. USAtestprep 7. Activelylearn 8. Clickers 9. ACE 10. Classdojo 11. Socratic 12. Remind 13. Choice Boards -"All of these links provide my students with creative ways of learning and this motivates my students -I am constantly assessing my students without using paper	-Key elements within my website are the links to meet the different levels of my students -Each category has power points, instructional videos and other resources to meet the needs of all my students -I also have pages dedicated to my gifted students with all the information related to their projects -I use Quizlet (each student has their own account) to design questions to help me assess student learning and to help the students assess their own	-I have a class blog which I use to assess student knowledge -I have informational videos that I use to operate a flipped classroom -I have links for instructional use -I provide assessments for students to evaluate their own learning -I have peer evaluation tools -I make use of a calendar -I post assignments and rubrics on my website	-Screencasts and wikis give me the opportunity to post a video of myself going over a topic for the students to watch at home -Students are given the ability to control the speed of a lesson at a pace they are comfortable with -If they need to rewind and hear the instruction again, they have the freedom to do that -If students need more time to solve problems, they can pause the video and go at the pace that is best to their learning style -I have included numerous links to assist students

		learning -I have important links to help my students with the critical areas of reading, writing, and vocabulary -I also have games which motivate students to learn and practice in a fun way		in the practice they need to be successful and understand the concepts presented in class -I have challenge links to motivate my higher level learners
4. How does a classroom website promote life and career skills?	-My website promotes future learning -Technology -Real-world experiences -Life skills -Integrate into the curriculum -Student-centered	-There are many parts of my websites that promote 21st century skills as I strive to prepare my students for future success -I have study guides to prepare my students for the PSAT and the SAT -There is a link to assist my students with needed vocabulary as they prepare for high school and college "100 words for college freshman" -Links for writing to assist my students to promote communication skills (Fix it up strategies and Break down to write)	-My classroom website promotes life and career skills by aiding students with becoming more organized -It allows students to learn basic computer skills -My website encourages collaboration with others	-A classroom builds media literacy, a skill that is required for higher education and the work place -"Technology is not something that is going away and is the foundation of 21st century skill, so the more experience and exposure students have with technology, the better suited they will be solving the problems of the future" -Building familiarity with technology in a controlled educational setting and being able to utilize technology for enhanced

		-I also have a project “The Living Wall” which focuses on human rights as I want my students to understand world issues		communication and learning builds skills that translate across all professions -The ability to use technology in a meaningful way is an essential skill that is and will continue to be coveted in the job markets of the future

Appendix I: Sample Transcript

Interview with Participant 12

1. **Interviewer:** How does having a classroom website influence your teaching practice?

   Participant: Having a classroom website enables you to extend your lesson into the home environment. Students can use the website as an at home resource that they can use and access independently. It also opens up communication between parents and the teachers. It gives the teacher an opportunity to show and explain to the parents what their child is working on in school. Teachers can post photos or videos on the website showing the parents what their child did that day/week. Not only does it let the parents who are not able to be in the classroom feel like they are involved, but it also can help them understand the academic concept, and help their child at home.

2. **Interviewer:** How does a classroom website tailor instruction to meet specific needs of students?

   Participant: It can be used to extend lessons by offering students ways to continue their at home. Websites can have discussion boards, interactive portals, links, and home based projects for students who understand the concept in school, and need additional activities to do at home. Students that have a tough time grasping the concept in class can go to the website where you have provided resources for them to independently explore the topic and become more comfortable with it.

3. **Interviewer:** What are the key elements of technology integration within a classroom website?

   Participant: Screencast and wikis give the teacher the opportunity to post a video of themselves going over a topic for the students to watch at home. Students have ability to control the speed of the lesson at a pace they are comfortable with. If they need to rewind and hear instruction again, they have the freedom to do that. If they need more time to solve the problem, they can pause the video and go at the pace that is best for their learning style.

4. **Interviewer:** How does a classroom website promote life and career skills?

   Participant: A classroom website builds media literacy, a skill that is required for higher education and the work place. Technology is something that is not going away and is the foundation of 21st century skills, so the more experience and exposure students have with technology, the better suited they will be solving the problems of the future. Building familiarity with technology in a controlled educational setting and being able to utilize technology for enhanced communication and learning builds skills that translate across all professions. Being able to use technology in a meaningful way is an essential skill that is and will continue to be coveted in the job markets of the future.

Appendix J: Sample Document Review Checklist

Participant 5

Website (#__5___)	Notes
1. What specific parts of your website interact with teaching practices? • Remediation__x___ • Enrichment__x___ • Lesson Planning__x___ • Assessments___x__ • Motivation for students__x___ • Mastery of concepts___x__ • Choice in learning__x___ • Information___x__ • Links__x___	• Syllabus • Weekly classwork/assignments • Practice quizzes and study guides for students • Link to textbook and the workbook pages that coincide with text • Test review for students • "Understanding Georgia History" page for students with resources and links for each unit • Page with links to additional articles and activities to help students further understand the content • Natural History Day Project page with information for students on how to conduct research, sample topics, instructions, and rubric • Parent page with letter, information to sign up for email for communication • Tutoring times • Page dedicated to teachers only contains: 1. Virtual classroom link for presentations 2. Standards listed with a variety of links to materials teachers can use to enhance learning 3. Videos, readings, articles, activities, projects

2. What specific parts of your website enhance technology integration in the classroom? • Blogs_____ • Wikis_____ • Informational videos__x___ • Links for instructional use__x___ • Assessments__x___ • Peer evaluation tools_____ • Display student products_____ • Calendar__x___ • Rubrics_x____ • Collaboration___x__ • Critical Thinking_x____ • Media Literacy__x___ • Problem solving__x___ • Communication__x___ • Creativity__x___	• Voki "Mad Professor" • Sample citations so that students can correctly cite their work • Link: 50 Things Every Young Gentleman Should Know • Assessments students can take to practice for test • Rubrics attached for projects • Calendar with all assignments attached • Videos, links, readings, articles, maps, and other information for students • Project page with 30-40 ideas for students to choose from for units for the year: Maps, travel brochure, Eulogy, collage, model, scrapbook, letter, diorama, trading cards, political cartoon, newspaper article, etc. (wonderful choice in learning to cover all learning styles!)

Appendix K: Professional Development Evaluation Form

The purpose of this evaluation is to assess the effectiveness of the "Using Your Classroom Website to Meet the Needs of Your Students" professional development opportunity. This evaluation seeks to determine whether the presentation increased your knowledge of Web 2.0 tools and how to incorporate these tools into a classroom website, clearly stated the goals of the professional development, and invoked a desire to participate in a professional development opportunity. The information collected will be used to make changes to the professional development opportunity and create a timeline for technology integration activities.

Directions: Please circle the number that represents how you feel about the professional development opportunity.

1. Before the workshop, I was knowledgeable about Web 2.0 tools.

1	2	3	4	5
Strongly Disagree	Disagree	Neither	Agree	Strongly Agree

2. Before the workshop, I was knowledgeable about how to develop and use a classroom website.

1	2	3	4	5
Strongly Disagree	Disagree	Neither	Agree	Strongly Agree

3. After the workshop, I am knowledgeable about Web 2.0 tools.

1	2	3	4	5
Strongly Disagree	Disagree	Neither	Agree	Strongly Agree

4. After the workshop, I am knowledgeable about how to develop and use a classroom website.

1	2	3	4	5
Strongly Disagree	Disagree	Neither	Agree	Strongly Agree

5. The professional development approach was appropriate.

1	2	3	4	5
Strongly Disagree	Disagree	Neither	Agree	Strongly Agree

6. The presenter was knowledgeable.

1	2	3	4	5
Strongly Disagree	Disagree	Neither	Agree	Strongly Agree

7. The sessions were valuable and informative.

1	2	3	4	5
Strongly Disagree	Disagree	Neither	Agree	Strongly Agree

8. I will continue to integrate technology in my classroom this school year.

1	2	3	4	5
Strongly Disagree	Disagree	Neither	Agree	Strongly Agree

Directions: Use the space provided to respond to the open-ended questions.

9. How effective has the professional development been in identifying and supporting you and your needs?

10. Has the professional development been of benefit to you? If so, how? If not, what needs to change?

11. What new insights do you have regarding technology integration within a classroom website after participating in the professional development opportunity?

Suggestions or comments that you would like to add.