

Instructional Connections:

Linking Technology to Curriculum

EDU699 Capstone Project

Professor York

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Abstract

As new technologies continue to evolve and saturate educational institutions, teachers continue to struggle with integrating technology into instruction (Schrum & Levin, 2013). An analysis of literature was conducted to evaluate the implementation of technology in the classroom as it pertains to professional development (PD), teacher self-efficacy and the role of administrators. Following this analysis will be a proposal to connect technology to content-specific units of study and curriculum at Region 18 school district in Old Lyme, Connecticut. This suggested resource and final product will serve as the deliverable for the culminating capstone project in Post University's Master of Education program with a concentration in Instructional Design and Technology. **Keywords:** PD, Instructional Technology, Integration, Leadership, Administration, Self-efficacy.

Rationale and Literature Review

This project seeks to bridge the gap between technology and the extent to which it is delivered effectively in the classroom. Many teachers are reluctant to learn new technology due to reasons such as an absence of technical and administrative support, low confidence levels and lack of time. Through the proposed resource to be discussed, the author seeks to leverage existing and new technologies that are relevant and content-specific to units of study and curriculum. This topic is worthy of being a capstone project selection because it seeks to alleviate stress and reluctance among teachers at Region 18 school district in Old Lyme, Connecticut and empower them to leverage technology that enhances instruction and ultimately improves student learning.

It is envisioned that this resource could eventually house exemplar teacher ideas and projects that could be accessed and shared throughout the district. A blogging element could also be embedded to allow for real time discussion between teachers. All elements, existing or future, will serve to alleviate the stress in learning new technology and exploring which tools might be the most appropriate to foster improved instruction and student learning.

The literature selected for this review is a culmination of studies that address the conditions under which many of today's teachers are expected to integrate technology into the classroom. Unfortunately, many educators are not confident or well-prepared to infuse new tools into their daily lesson plans. For this reason, the literature review for this project is focused around three crucial components that allow for sound integration to occur: PD, teacher self-efficacy and the role administrators play in supporting technology and creating a culture where all teachers and students can thrive.

Professional Development

It has been regarded that “Effective professional development can provide teachers a new set of experiences, skills, resources, and knowledge that will support them as they implement the ideas they have studied in the field” (Sugar & Tryon, 2014, p. 54). As it pertains to technology however, classrooms and teachers that have more hardware and software available to them does not guarantee enhanced instruction (Inan & Lowther, 2009). In fact, there have been many documented shortcomings with current PD practices that impede the use of technology and in turn effect student academic growth and teacher self-efficacy. According to Inan and Lowther (2009), only 34% of eighth grade students scored at or above levels of proficiency in reading and mathematics nationally and at the state level (p. 137). Alarming statistics such as this are often attributed to the teacher’s inability to integrate technology into the classroom. The national response has also been disappointing: “A 2009 report on United States trends reveals that only 20% of states require technology training or testing for recertification or participation in technology related professional development” (Inan & Lowther, 2009, p.138). With minimal support for teachers on the national or state level, many districts have attempted to structure and deliver PD on their own encountering many obstacles along the way.

In a study that gathered data from 1,382 Tennessee public school teachers it was determined that several variables affect how well teachers integrate technology: teacher age and years of experience, technical support, computer availability, administrative and community support, teachers attitudes and beliefs, and teacher computer proficiency and readiness (Inan & Lowther, 2009, 145). Interestingly, the key findings revealed that teacher attitude, beliefs and readiness had a positive influence on their ability to integrate technology

into their classrooms (Inan & Lowther, 2009). It is also necessary to note that there was a positive relationship between the amount of support from administration and community and teachers attitudes and beliefs toward technology (Inan & Lowther, 2009).

While considering the obstacles that may prohibit extensive use of technology in the classroom, it is also necessary to investigate how districts are attempting to solve some of these problems. Martin, Strother, Beglau, Bates, Reitzes, & Culp (2010) evaluated a PD program introduced by the state of Missouri that encouraged administrators and teachers to infuse technology while emphasizing inquiry-based learning, communication and collaboration. The authors from this study conclude "... PD that makes an explicit connection between technology and specific types of instruction that have been shown to be effective can establish a viable chain of reasoning in which technology use can be linked to changes in student learning" (Martin et al, 2010, p. 54). PD and training that was offered as a result of this initiative enabled teachers to draw closer connections between specific technology and the actual content they were responsible to teach. This program's requirements varied but allowed for a two-year experience affording 90-250 PD hours for each teacher and was in alignment with the National Educational Technology Standards for Teachers (NETS). The authors concluded that "... long-duration, ongoing coaching and support, and close connection to practice are essential for PD to have an impact" (Martin et al, 2010, p. 71). Further, instructional specialists were leveraged to instruct PD sessions and make explicit connections to instructional practice and content areas. Positive feedback from participants was acquired in the success of the initiative prompted other states to adopt similar practices.

Further evidence that supports the need for specific teacher PD as it relates to using new technology with students is expressed through D'Arcy, Eastburn, & Bruce's 2009 study. An

evaluation occurred with the students of these authors at the college level to determine whether different media and technology use had an effect on different learning styles. Although the study focused on the variables of gender and major as it pertained to learning style, the findings supported that a diverse exposure to technology allowed for deeper understanding and connection to the content for the students (D'Arcy, Eastburn, & Bruce, 2009). This literature is significant because it accents the importance of enabling teachers through focused PD to learn new ways to integrate different types of tools, software and hardware to accommodate different learning styles.

Additional lessons can be learned from an article by Schrum and Levin (2013) which investigated eight schools across the United States with various backgrounds across socioeconomic status, public and private institutions, school size and geographic location. While many of these institutions experienced similar obstacles to integrating technology there were specific characteristics that yielded positive results from PD. While some districts used early release time or professional days to deliver training, there was in many cases an attempt to create the most relevance between the tools being discussed and curriculum. "Some districts use professional development as a sort of 'YMCA of technology integration' and create a menu of voluntary learning opportunities available on different days and different times of day... differentiation is essential to make professional development as user-friendly and customized for individuals as possible" (Schrum and Levin, 2013, p. 40). The authors also stressed the value of summer PD and professional learning communities (PLCs) which enable teachers to share information and mentor one another.

Teacher Self-Efficacy

A second and equally significant component of this capstone project revolves around the concept of building confidence and empowering teachers to use technology with instruction. Potter and Rockinson-Szapkiw (2012) advocate for a mentor supported approach to PD. Fully aware that “Learning activities should be applicable and learning activities should extend into real world experiences and should be related” the authors realize the value of relevant training. Lawless and Pellegrino are referenced in a 2007 study for identifying the value of instruction that is modeled with a connection to actual practice. It is also agreed upon by the authors that a formal mentoring program comprised of teachers could foster communication, collaboration and over time, confidence. Novice teachers could be coupled with more experienced elder teachers to help foster dialogue around the use of technology and its implementation. Beginning and younger teachers are more likely to have experience with technology and demonstrate higher levels of self-efficacy integrating technology. Conversely, “...teachers’ years of experience have been found to negatively affect computer proficiency and technology integration” (Inan & Lowther, 2010, p. 24). So in essence, the newer teachers could provide technical assistance and mentorship to the more experienced or veteran teachers. Not only does this concept foster a collaborative effort, it helps to build confidence along the way.

Potter & Rockinson-Szapkiw (2012) further support the formation and utilization of professional learning communities (PLC’s). Their research expresses many benefits of PLC’s including the increase in teacher self-efficacy due to collaborative time with peers to investigate and learn new technologies. It was identified that teachers felt more comfortable to “...take risks and try new teaching strategies (using technology)” (Potter & Rockinson-Szapkiw, 2012, p. 24).

Building this type of confidence in teachers is crucial to empower teachers to feel comfortable enough to actually use various tools in their lesson planning and units of study. It is well-documented that teacher attitudes about using technology are directly related to the degree to which technology is actually used in the classroom. Potter & Rockinson-Szapkiw (2012) state “Using technology in the classroom requires a shift in thinking for teachers who believe they are the dispensers of all knowledge” (p. 25). Teachers that identify more with lecturing and teacher-centered instruction are less likely to incorporate technology into their instruction (Potter & Rockinson-Szapkiw, 2012). In opposition, teachers that prefer more student-center instruction and learning tend to take more risks using technology to enhance instruction and in turn increase self-efficacy. Even further, “teachers who encourage students to work together to apply new learning are more likely to engage in development activities that further enhance professional growth” (Potter & Rockinson-Szapkiw, 2012, p. 25).

In another study by Archambault, Wetzel, Foulger & Williams (2010) that took place at Arizona State University, teacher confidence also increased. In a project designed to help professors learn how web 2.0 tools could be leveraged to enhance instruction to students, the authors concluded that 42% of instructors that participated in this experience began to see themselves more as facilitators of learning rather than just disseminators of information (Archambault, Wetzel, Foulger & Williams, 2010). Teachers received eight hours of PD through hands-on exploration and dialogue that served to stimulate ideas how technology could be linked to different topics and the value of doing so. All had the opportunity to learn about Google docs, audio and video related products as well as web-based resources like social media that might assist. The ultimate goal of the training was for teachers to collaboratively create one unit of study that embedded new learning with web 2.0 tools.

The results were notable from the participants themselves as well as from survey data collected from students. Teachers learned how to create online surveys from the research team that delivered the PD and looked carefully for feedback pertaining to the use of social media tools and how it affected teaching and learning for students. There was tremendous support and praise for the use of collaborative tools such as Google docs that allowed for students to simultaneously edit documents and peer review each other's work. One instructor in particular noted "Through this workshop, I increase the use of innovative technologies by allowing students to take over class, teach, and work with each other to explore topics and gain their own understanding using technologies" (Archambault, Wetzel, Foulger & Williams, 2010, p. 7). Overall, teachers who participated in this training expressed notable changes in their teaching and delivery of content as a result of infusing web 2.0 tools as well as a heightened sense of confidence (Archambault, Wetzel, Foulger & Williams, 2010).

Teacher self-efficacy is also clearly examined in Polly & Hannafin's 2010 analysis and study of learner-centered professional development (LCPD). "During LC PD, teachers become increasingly motivated when tasks are built on prior knowledge, aligned to their personal interests and beliefs, and encourage ownership of their learning (Polly & Hannafin, 2010, p. 563). Selection of types of training by teachers, including technology, promotes ownership and leads to higher levels of confidence (Polly & Hannafin, 2010). Specific studies referenced by these authors, including one by the United States Department of Education, stress the concept of creating PD that is content-specific and relevant to curriculum.

Polly and Hannafin further examine how training must be continuous and as ongoing as possible. The authors note, "Teachers often require sustained, extended time to incubate ideas, internalize beliefs, and refine the associated practices" (Polly & Hannafin, 2010, p. 564). This

allocation of time allows for teachers to identify and select appropriate training and potential technology that can be used to improve student learning. In turn, this reliable and consistent learning can build confidence in teachers and provide more learning-centered opportunities for the students. In addition, opportunities for teachers to reflect on instruction and the degree to which technology is utilized and valued is essential to building self-efficacy and ownership (Polly & Hannafin, 2010).

Administrative Support

This capstone project also identifies the importance of support from administration in creating meaningful and relevant opportunities to learn new technology. Berrett, Murphy and Sullivan (2012) outline the role of administrators in Grove unified school district with a focus on how leadership impacts the integration of technology at four middle schools. Data was collected qualitatively via interviews with various administrators, teachers and specialists. Open ended questions allowed for dialogue and expression of ideas and impressions.

Administrators are more frequently asked to take on new district-wide initiatives that seek to merge technology with instruction. Not always knowing where or how to begin due to inexperience or low confidence levels, administrators often flounder in the delivery of these initiatives and in the process create a less inviting and supportive culture for teachers to learn. Berrett, Murphy and Sullivan (2012) illustrate some of these challenges suggesting that new initiatives are often not tested for a particular school district and the implementation process isn't always supported. The needs of students also change frequently which means opportunities for PD need to constantly be reevaluated to ensure the needs of the teachers are being met and that any training is relevant to instruction.

The authors note how crucial it is for leaders to create a shared vision for all school members, including students and community, if successful adoption is to occur. Administrators and leaders "... in the process of change need to recognize that the transformation to a technology rich environment happens gradually, allow time for it, and be supportive of the professional growth of all participants" (Barrett, Murphy & Sullivan, 2012, p. 203). Foremost, leaders must create an environment and culture that is conducive to learning, collaboration and communication for all teachers and staff members. It is also imperative for administrators to model the use of technology appropriately and continuously. Whether it's using Microsoft products such as PowerPoint, audio or video to enhance delivery, or other web 2.0 tools to foster engagement or creation, the leaders of educational institutions must model desired behavior (Barrett, Murphy & Sullivan, 2012).

Data from the study was collected from Principals at all four middle schools as well as the district technology specialist who was responsible for the implementation of technology district-wide. Coding was used to identify the different schools and positions and interviews were conducted according to various rubrics of questions. Open-ended questions were used with participants to stimulate dialogue. The results were mixed as two of the schools were deemed struggling due to lower levels of teacher motivation and ill-prepared administrators to model technology and implement a clear vision or plan.

An additional theme illustrated by Potter and Rockinson-Szapkiw (2012) explains how crucial it is to create common planning time for teachers by department, grade level or content area so new technologies can be explored. With many new teacher initiatives such as the Common Core State Standards (CCSS) and new teacher evaluation systems and expectations in place, it has become increasingly challenging to create and allocate continuous blocks of time

for teachers to receive training and appropriate guidance. Pan and Franklin (2011) conducted a study of 559 teachers to assess the degree to which teachers' self-efficacy, PD and administrative support affected the integration of web 2.0 tools. One of the main findings from this research was the level of frustration from teachers and students who expressed their dissatisfaction. High-end internet security, firewalls and school policies prevented the use and exploration of social media and other technology resources that were blocked (Pan & Franklin, 2011).

Project Implementation: Connecting Technology to Content

In effort to accommodate teachers at Region 18 school district, a website is being created that offers various tools and software directly related to specific content areas at each grade level. For example, a sixth grade social studies teacher could locate their section and have a concise list of software, tools and ideas that could be used to enhance and supplement instruction specific to that curriculum. Initially, the middle school curriculum map (Appendix A) will serve as the guiding document to make the connection between the specific units of study and the most appropriate technology for social studies in grades six through eight. A concise and user-friendly list of suggested technology will be available along with an example of a final product, pertinent resources to get started (tutorials, etc.), ideas for class projects and links to CCSS and International Society for Technology in Education (ISTE) standards that could be covered by using that specific tool.

The plan is to build out and model this resource at the middle school first and then eventually do the same for k-5 and the HS. A collaborative team will be assembled to work on this project including the Instructional Technology Specialist, the media specialists throughout the district, the technology facilitators in the district and the Director of Curriculum. The initial

stages of development are currently underway with valuable contributions and direction from teachers. The following questions will serve to guide the construction of this resource:

- How can Region 18 best prepare teachers to use technology and satisfy ISTE standards with students?
- How can Region 18 best prepare students to utilize different kinds of technology to meet ISTE standards prior to graduation?
- What are the most appropriate resources to use as it pertains to curriculum, CCSS and the ISTE standards?

The administrative team at Region 18 has been debriefed at length regarding the value of this resource and the direct link to enhancing instruction and empowering teachers. The resource is expected to be introduced to teachers in the fall of 2014 by the Instructional Technology Specialists. In turn, the administrators will make it an expectation that teacher's utilize one piece of technology each semester from the created resource. It is envisioned that the tools and software will change and evolve over time as input from teachers will guide the direction and value of this resource. It will be the task of the Instructional Technology Specialists to ensure that all of the ISTE technology standards are addressed for each grade level each year as well as allowing students the opportunity to use different types of technology rather than just the same few tools. The assessment and evaluation component of using this resource for instruction will be more of a focus and priority after the first year of implementation.

The following links and screenshots offer a sampling of the web-based resource:

<http://region18techintegration.weebly.com/>



Region 18 Technology Integration

Home
K-5
6-8
9-12
Lesson/Project Ideas
Teacher Utilities
Tools By Category

Welcome to the Region 18 resource page for technology integration. You will find tools, examples of finished products, and ideas for class projects here. Your feedback for ways to make this more useful to you is always welcome.

Grade 6 social studies sample: <http://region18techintegration.weebly.com/social-studies-6th.html>

Social Studies (6th Grade)

Software/Tools



Google Earth

Suggested Unit/Lesson: Geography, Capital City Scavenger Hunt

- [Click here for potential lesson plan](#)
- [Quick tips](#)

Possible Student Outcomes/Projects

Google Earth allows students to explore places in 3-D to discover geographical features, historical sites and more.

- [CCSS](#)- Varied based on assignment
- [ISTE](#)- 2.A, 2.B, 3.C, 3.D



Suggested Unit: South America

- [Click here for example](#)
- [Quick Tips](#)

Padlet is a web based tool for collaborating, note taking etc. Customizable bulletin boards jazz up research and ease discussion. Students can research cultures with an e-pal and report their respective findings.

- [CCSS](#)- Varied based on assignment
- [ISTE](#) 2.A, 2.C, 3.B, 3.C, 4.B

Grade 7 social studies sample: <http://region18techintegration.weebly.com/social-studies-7th.html>

Social Studies (7th Grade)

Software/Tools



Suggested Units: Mesopotamia

- [Click here for example](#)
- [Quick Tips](#)

Possible Student Outcomes/Projects

Timetoast is a place to make timelines on the web. Students can create an interactive timeline based on a person, event, significant period of time or invention.

- [CCSS- ELA-Literacy.W.6.2](#)
- [ISTE - 2.B, 3.B](#)



Suggested Units: Ancient Greece/Rome

- [Click here for example](#)
- [Quick Tips](#)

Use *Fakebook* to chart the plot of a book, the development of a character, a series of historical events, the debates and relationships between people, and so on. Students can create a "Facebook" page using a person or event from history.

- [CCSS- Varied based on assignment](#)
- [ISTE- 1.B, 4.B, 6.A, 6.B](#)

Grade 8 social studies sample: <http://region18techintegration.weebly.com/social-studies-8th.html>

Software/Tools



Suggested Units: Various, flexible. Possibilities include branches of U.S. government, election process, etc.

- [Click here for example](#)
- [Quick Tips](#)
- [iPad app preview](#)

Possible Student Outcomes/Projects

Snapguide is a free iOS app and web service for those that want to create and share step-by-step "how to guides". Students can create a 'how to' about the process whereby a bill becomes a law, how we elect the President, etc.

- [CCSS - Varied based on assignment](#)
- [ISTE - 1.A, 2.B, 3.B, 3.C, 5.A, 6.B](#)



Suggested Units: Various, flexible. Possibilities include how a bill becomes a law, the Bill of Rights, etc.

- [Click here for an overview](#)
- [Video tutorial](#)

WeVideo is an online video creation platform for video editing, collaboration, and sharing across iPhone, iPad, Android, Chromebook, MAC and PC. Students can create or import videos to illustrate ideas or events.

- [CCSS - Varied based on assignment](#)
- [ISTE - 1.B, 2.A, 2.D, 4.A, 6.D](#)

Project Evaluation

This project's deliverable was conceived through a collaborative effort and received thorough examination and review by teachers, administrators and the technology team including two Instructional Technology Specialists. Periodically, members of this contingent would meet to discuss, explore and construct various components of the web-based resource with the sole purpose of helping teachers integrate technology in the classroom. Since this resource is not fully prepared for implementation district-wide, a personal self-assessment was designed and utilized to evaluate the entire process and scope of this project (Appendix B).

As many technology tools and resources offer ideas and opportunities for student growth, few are created in accordance with curriculum and specific units of study. The central strength of this project aligns the social studies curriculum for grades six through eight at Region 18 school district. Throughout the development phase of this project, teachers representing all grade levels were consulted for input regarding design, layout, level of difficulty, appropriateness of tools as well as ideas on how to encourage its use. All input was valued, reflected upon and incorporated to ensure teacher needs were met.

As with any district-wide initiative, however, the amount of time to create a resource such as this is consuming and often laborious. The process of reviewing curriculum can also be a challenge as it precipitates ample discussion which can sometimes be a deterrent to achieving the task at hand. This reality, coupled with different viewpoints and personalities further hindered the growth of this resource. But, probably the most difficult task was to complete all final components of this project within the eight week timeframe. Small parts were completed each week and shared electronically for others to review and give feedback. Although the process took substantial time, this collaborative effort supports several of the M.Ed program

outcomes and expectations and also serves as a sound model to teachers and students who work in teams.

The self-assessment in Appendix B outlines the author's successes and struggles this project offered. Specifically noteworthy was the challenge of maintaining the deadlines for project component submissions and drafts to the professor. Putting together the various pieces of the deliverable as well as the final paper required substantial time, organization and commitment, all of which the author could have improved upon. Further, the resource may not be fully completed until a much later date than anticipated and this may affect the planning for and delivery of PD. Alternatively, the final paper and deliverable was completed thoroughly and has already received positive feedback from teachers within the district. The research section probably serves as the greatest strength of the paper as it creates the context and expressed need for a practical solution for teachers and students.

Discussion and Reflection

Contribution to Education

This capstone project contributes to the author's educational growth but more importantly identifies a specific need in alleviating stress and confusion with technology for all teachers in Region 18 school district. Creating a web-based resource that identifies and clarifies specific technology tools that can be leveraged for use in the classroom can empower teachers to use more technology with students. In the process, teacher self-efficacy is projected to improve as well as collaboration amongst staff to share how technology is used and discussion of different tools worthy of exploration. The author further envisions an opportunity to showcase student work through this resource providing further opportunities for teachers to communicate and collaborate effectively. As Region 18's instructional technology specialist,

the author also values this resource because it will provide cohesion and consistency among staff as they search for new technology and seek to infuse it into instruction.

Contribution to Personal Skills

The introduction of this resource will require a detailed plan of delivery to all teachers and administrators. As the value of this initiative is outlined and understood, it will be imperative that additional members of the district champion and support the purpose of this resource so it can be used appropriately and consistently at all grade levels. It is anticipated that in the fall of 2014 this resource will be introduced and expectations set by the administrative team will go into effect concurrently. This contributes to the development of the author's personal skills as it will require considerable communication and collaboration with teachers and administration throughout the district. This project will also provide clarity and definition to the role of the Instructional Technology Specialist which is a new position for the district.

Project Outcomes

The challenge in finding the most appropriate information to support this project were two-fold: 1) there is a tremendous amount of content related to PD and technology. Sifting through and narrowing down this material across several databases including EBSCO Host, ERIC, iCONN and Google Scholar took a considerable amount of time and patience. 2) Finding specific data applicable to primarily the k-12 that supported making stronger connections of technology to actual curriculum and content was challenging as well. These articles were selected for their content and perspective but also because they are all peer-reviewed and clearly delineated

their purpose with abstracts. The author further attempted to locate articles that gave perspective from a varied source of groups such as teachers, students and administrators.

The following M.Ed. program outcomes and concentration goals were addressed and satisfied in this capstone project:

- ✓ ***Students will develop expertise in designing and delivering instruction to support the achievement of a diverse population of learners of all ages in a variety of settings (e.g., public education, private education, charter schools, corporations, eLearning, et al.).***

This project utilized a website to deliver PD to all teachers throughout the district to foster integration of technology. The website will eventually house tools for k-12 across all content areas. Alignment to CCSS and ISTE standards were included. For this capstone, however, only social studies for grades 6-8 were built out.

- ✓ ***Students will be able to identify and use current relevant technology in the service of better learning.***

This project examined a plethora of web-based resources, apps and tools to help improve instruction. A host of technology tools that allowed for investigation, research and the creation of an end product were explored. Blogs, twitter feeds, research and conversation with peers provided insight to new tools and software. Each tool used in the website was carefully selected for appropriateness and alignment to specific grade level content.

- ✓ ***Students will demonstrate an understanding of creativity and innovation as applied to education.***

This project's website was designed in part to foster the use of technology tools to create a product to demonstrate understanding. The variation of tools selected reflect this creativity and innovation. Bloom's Taxonomy was referenced to help provide context in the selection of tools.

- ✓ ***Students will develop and demonstrate leadership thinking in critical areas of interest within their field.***

This project demonstrated leadership through significant dialogue and planning with members of the technology and curriculum departments as well as administrators. Numerous meetings were conducted to allow for the planning and implementation of this website. Input from teachers yielded valuable feedback and allowed for necessary dialogue around curriculum, pedagogy and outcomes.

- ✓ ***Students will be able to integrate appropriate technology in a diversity of educational settings, including schools, universities, corporations, non-profits and government agencies.***

All technology for this project was carefully examined by a collaborative instructional team that attempted to link technology to curriculum and units of study. This deliverable will be used at grades 6-8 to start and eventually shared districtwide. Significant PD will occur for teachers outside of the classroom to empower them to use the suggested tools with students.

- ✓ ***Students will be able to assess, budget, and evaluate education technology.***

All technology for this project was carefully examined by a collaborative instructional team that attempted to link technology to curriculum and units of study. Technology outlined in the website was filtered and scrutinized by all participants for applicability, ease of use, accessibility and direct relation to specific units of study. Attention was given to fiscal responsibility and budgeting as it pertained to the purchase of software and tools.

Use of Technology

Creating a Weebly website required a slight learning curve for the author. The most challenging component anticipated was the identification of specific tools as they related to content and units of study. For this reason, a collaborative team consisting of the technology team members, the Director of Curriculum and Technology and selected teachers served as the

filter to ensure quality control for all technology tools considered. It was necessary to incorporate the skills learned throughout this M.Ed. program to locate authentic, valid and reliable information from the internet in search for the most appropriate technology.

Concluding Remarks

Schrum & Levin (2013) suggest "...the use of technology can only be effective if teachers themselves possess the expertise to use technology in a meaningful way in the classroom" (p. 38). This capstone experience has afforded the opportunity to examine how technology impacts learning in our schools. With tremendous advancements occurring at an accelerated pace, it is crucial that our schools are well-equipped to utilize technology that fosters a student's ability to think, create and learn. Building and sustaining an environment for teachers that promotes communication, collaboration and self-efficacy will continue to be a challenge for administrators. The continued effort to provide technology resources directly-related to curriculum will also serve to enable teachers to integrate technology and promote new learning for all students.

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Appendix A

Sample of Region 18 Middle School Social Studies Curriculum Map:

SOCIAL STUDIES		6 - Sonic Social Studies	6 - Sapphire Social Studies	7 - CHI Social Studies	7 - X Social Studies	8 - Social Studies	8 - X Social Studies
November	Wk 2	Canada The History of Canada	Geography Interacting with our Environment	China: Holidays and Festivals Language symbols and speech	African History	Foundation Cont.	Japan: Culture
	Wk 3	Canada Cultures of Canada	Geography Interacting with our Environment	Japan: Geography	African Culture By Regions	The American Constitution Great Ideals, 3 Branches, Flexible Constitution	Japan: Culture
	Wk 4	Canada Cultures of Canada	Canada Physical Geography	Japan: History	African Culture By Regions	The Bill of Rights Reasons, Historical Applications, Current Applications	Southeast Asia: Geography
December	Wk 1	Canada Native Peoples Project Rotation	Canada Physical Geography	Japan: Education	African Culture By Regions	The Legislative Branch Organization, Powers, Lawmaking	Southeast Asia: Ancient Kingdoms
	Wk 2	Canada Native Peoples Project Rotation	Canada Shaped by its History	Japan: Housing Fashion	African Culture By Regions	The Executive Branch The President, Powers and Roles, Executive	North and South Korea: Overview
	Wk 3	Canada Native Peoples Project Rotation	Canada Shaped by its History	Japan: Religion/Arts	Africa Today / Current issues	The Executive Branch Regulatory and Independent Agencies	Southern Asia: Geography
	Wk 4	Vacation	Vacation	Vacation	Vacation	Vacation	Vacation
January	Wk 1	Canada Provinces Province Report	Canada Cultures of Canada	North and South Korea Politics	Civil Rights Interdisciplinary Unit Vocab, Early Events	The Judicial Branch Federal Court System and Supreme Court	Civil Rights/Holocaust Interdisciplinary
	Wk 2	Canada Provinces Province Report	Canada Cultures of Canada	Southeast Asia: Geography	Civil Rights Interdisciplinary Unit Bus Boycott, Selma March	Electing our Leaders Two Party system, nominations, Electoral College	Civil Rights/Holocaust Interdisciplinary
	Wk 3	Canada Provinces Province Report	Canada Provinces Province Report	Southeast Asia: Ancient Kingdoms	Civil Rights Interdisciplinary Unit Historical Figures, Major Events	Overview of Russian and Soviet History	Civil Rights/Holocaust Interdisciplinary
	Wk 4	Canada Vancouver Island Trip	Canada Provinces Province Report	Southern Asia: Geography	Civil Rights Interdisciplinary Unit Research	Russian Geography	Civil Rights/Holocaust Interdisciplinary

Appendix B: Capstone Project Self-Assessment *(adapted from Daria Prestone, Post University)*

ELEMENT	Exemplary	Proficient	Needs Some Improvement	Not Satisfactory	POINTS
PROCESS:					
Adheres to schedule and timeline of project	3 points	2 points Appropriate and timely communication with professor occurred. Draft submissions and schedule of project completed mostly on time.	1 point	0 points	2/3
Shows evidence of learning and professional growth	3 points Exemplary effort is clearly demonstrated through project implementation. Project shows application of previous professional knowledge in conjunction with new skills mastered from the M.Ed. program.	2 points	1 point	0 points	3/3
Demonstrates personal and professional value in the project	3 points Student clearly demonstrates professional and personal value and growth in the project. Project fully addresses current needs in educational organization.	2 points	1 point	0 points	3/3
PRODUCT:					

<p>Demonstrates competence in the M.Ed. program</p>	<p>3 points</p> <p>At least 3 M.Ed. objectives are met in combination with core principles from Instructional Design and Technology concentration.</p>	<p>2 points</p>	<p>1 point</p>	<p>0 points</p>	<p>3/3</p>
<p>Project shows ability to apply learned concepts</p>	<p>3 points</p> <p>Knowledge and research attained in the M.Ed. program are clearly evident in the project and applied in the paper.</p>	<p>2 points</p>	<p>1 point</p>	<p>0 points</p>	<p>3/3</p>
<p>Project is of sizeable commitment and demonstrates Master's level work</p>	<p>3 points</p> <p>Project demonstrates considerable challenges requiring a significant effort and commitment from the student. Project consists of many components that serve to enhance overall purpose.</p>	<p>2 points</p>	<p>1 point</p>	<p>0 points</p>	<p>3/3</p>
<p>PRESENTATION:</p>					
<p>Research process and proper implementation</p>	<p>3 points</p> <p>An extensive and applicable research/literature review is conducted to support the project. The implementation of the project occurs in a logical order and conclusions are drawn that support the project's purpose.</p>	<p>2 points</p>	<p>1 point</p>	<p>0 points</p>	<p>3/3</p>

<p>Writing style and APA format</p>	<p>3 points</p> <p>The paper and presentation are written in a clear and professional manner and adhere to APA guidelines. Citations and references are used appropriately and are in correct APA format.</p>	<p>2 points</p>	<p>1 point</p>	<p>0 points</p>	<p>3/3</p>
<p>Project Design and Layout</p>	<p>3 points</p> <p>Presentation/website is designed in a clear and appropriate manner for intended audience. Layout is clean and simple and interface is easily navigable and user-friendly.</p>	<p>2 points</p>	<p>1 point</p>	<p>0 points</p>	<p>3/3</p>
<p>Presentation ready for broad audience and publishable</p>	<p>3 points</p>	<p>2 points</p> <p>The project is web-based and accessible for all learners however the resource may not meet the need of all learners. The resource has not been completed in its entirety and this may affect roll-out timeline to district.</p>	<p>1 point</p>	<p>0 points</p>	<p>2/3</p>
<p>TOTAL POINTS</p>					<p>28 /30</p>