Secondary Social Studies Teachers' Perceptions of Effective Technology Practice

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Abstract— **The problem addressed in this study was the exploration of present uses of technology in secondary social studies classrooms and secondary social studies teachers' perceptions of effective technology integration. This survey study examined teachers' and students' technology use, teachers' pedagogical practices, teachers' beliefs about technology and motivations when using technology, and teachers' definitions of effective integration of technology in secondary socials studies. This study serves to provide a framework for effective integration as articulated by teachers who determine how technology is utilized to support student learning of content.**

Keywords- technology; secondary education; social studies; technology integration; teacher beliefs

I. INTRODUCTION (HEADING 1)

In 1998, technology expenditures in K-12 public schools surpassed $5.2 billion [1]. By fall of 2000, 95% of America's public schools had access to the Internet [2]. In 2009, 97% of teachers had one or more computers in their classrooms creating a ratio of 5.3 students for every computer [3]. Billons of dollars were poured into technology with the hope that innovative use of technology would improve our schools. In 2011, approximately $2.9 billion dollars were spent on eLearning in K-12 education [4]. However, expensive digital technology alone does not necessarily affect classroom learning [5]. Simply adding new technological tools to the classroom or creating new platforms for traditional methods will not promote a revolutionary learning environment in which all students are successful [3].

For improvements in the educational process to be seen, technology must be utilized to its fullest potential and one that requires innovative change. "For educators, it is now time to take stock of what realistically needs to be done to maximize the potential of the Internet and its associated instructional technologies in our schools" [6]. To recognize the potential of technology, the processes of technology use should come under close scrutiny. In a paper on technology in K-12 education, Thornburg comments "How you use technology in education is more important than if you use it at all" [7]. With the ongoing expenditures on technology in education, a pertinent issue arises: Is technology being used effectively? Even more important is the identification of teacher factors associated with what research recognizes as effective use. This is the focus of this study.

Effective uses of technology vary among disciplines. Successfully integrating technology in social studies classrooms is a vital issue facing social studies educators [8], especially with the inconsistencies that exist in technology use. As Berson has noted, social studies educators have been reluctant to integrate computers into their curriculum and instruction [9]. In many social studies classrooms, technology is viewed as an extra resource and is not integrated as an essential component of the curriculum. Research [10] states that while social studies teachers are developing their computer skills, they are not using technology to its fullest potential to improve student learning. She points out that due to lack of technical expertise, teachers most often use technology for skill preparation rather that effectively integration technology in the social studies curriculum. Research on secondary social studies teachers' use of the Internet has indicated that those teachers who use the Internet in their classrooms tend to use it primarily for low-order information gathering. Rarely do teachers have students engage in activities that employ the Internet in significant ways that harness the potential benefits of the medium [11].

Vanfossen conducted a qualitative study of Internet use and barriers to use in secondary social studies classrooms in the state of Indiana [11]. In this study, Vanfossen identifies the most significant barrier to implementing technology in social studies as the lack of teacher training in how to effectively use technology in social studies classrooms. Approximately half of the teachers surveyed rarely used technology in their social studies classrooms. To successfully use technology, teachers need training that focuses on the ability to use technology to teach social studies in meaningful ways.

Limited research exists on the effective integration of technology in social studies classrooms. Vanfossen recognizes that in spite of the potential that technology offers in enhancing the social studies curriculum, little research exists for identifying the use of technology in secondary social

studies classrooms [11]. In an article discussing the role of technology in social studies instruction, other researchers too recognize the lack of empirical research in technology integration in the social studies curriculum [12]. They call for continued research to expand technology use within the social studies curriculum.

Cassutto states, "The Internet is the leading edge of a revolution in… secondary education" [13]. The reformation of education and student academic achievement in the technological age depends on how teachers perceive technology and the manner in which they integrate technology into students learning. Appropriate training and professional development are essential in providing teachers will the skills necessary for implementation of instructional technology; yet these need to target underlining motives. Much research is needed for the successful adaptation of instructional technology in the global classroom and one in which epistemological beliefs of teachers are considered and used to promote effective use of technology.

II. Research Design

The problem addressed in this study was the exploration of uses of technology in secondary social studies classrooms and secondary social studies teachers' perceptions of effective technology integration. This study examined reported teachers' and students' technology use, teachers' pedagogical practices, teachers' beliefs about technology and motivations when using technology, and teachers' definitions of effective integration of technology in secondary socials studies. The purpose was to develop a framework of associated teacher attributes and effective technology use.

The research design for this study utilized survey methods. The purpose of survey research is to generalize from a sample to a population so that inferences can be made about some characteristic, attitude, or behavior of this population [114, 15, 16, & 17]. Survey design was the preferable type of data collection procedure for this study because the researcher was interested in describing the association between views of and uses of effective integration of technology of a large group. This study focused on identifying the patterns that exist in secondary social studies teachers' epistemological beliefs and how these inform their reported uses of technology. This plan included the identification of the problem, focus of the study, research questions, and the survey design.

Based on the research design for this study, testing for concurrent, convergent, construct, internal, and external validity, and reliability through the cross-validation of responses from three waves of data collection, triangulation of data through multiple measures, formation of constructs from existing research, establishment of patters across a large-scale representative sample, use of existing valid and reliable instrumentation.

III. Prepare Your Paper Before Styling

The purpose of this study was to identify secondary social studies teachers' beliefs about technology and how they describe effective technology integration. The hope was to provide insight as to how and why secondary social studies teachers are integrating technology into the social studies curriculum and what teacher factors are linked effective applications. To gain a broad understanding of teacher attributes, a survey research design was utilized to pool a representative sample of the diverse teachers. The primary data source came from surveys and the secondary data source included teacher interviews. The survey was a cross-sectional form of data collection. Data were collected at one period of time using a questionnaire. To support validity and reliability of the findings, the survey was generated from existing reliable and valid instruments, pilot tested, and survey data were cross-validated using interview data.

Data were collected in two forms: postal mail and interviews. Data were collected using a questionnaire that was mailed to respondents a stratified sample. The purpose in choosing this method for the distribution of the questionnaire was to provide the opportunity to contact a representative sample of the population including non-technology users. The method selected was also cost effective. The cost of administering the survey was minimal in comparison to travel costs for interviewing a state sample. Using this method, the sample was accessible and data were convenient to collect.

The data-gathering tool employed in this study was the *Survey of Computers & Technology Perceptions & Practices of Secondary Social Studies Teachers*. The survey instrument was a questionnaire developed by adapting parts from two existing valid and reliable surveys: *Perceptions of Computers & Technology*, University of South Florida; and *Teaching, Learning, and Computing: A National Survey of Schools and Teachers*, University of California. Extensive procedures were followed in establishing the validity and reliability of these instruments. Permission of use was granted for both surveys.

The composite survey consisted of components of the existing surveys that were applicable to the constructs of this study. These components were adapted to specifically relate questions to secondary social studies instruction. The *Survey of Computers & Technology Perceptions & Practices of Secondary Social Studies Teachers* was pilot tested prior to distribution in a school system in North Carolina to confirm validity and reliability of the instrument.

The *Survey of Computers & Technology Perceptions & Practices of Secondary Social Studies Teachers* was four pages in length and was composed of mostly closed ended questions. The survey was divided into five sections. The first section was designed to generate a profile of respondents. Each of the following four sections was designed to focus on a specific research question. The focus of this study was the final research question: How do secondary social studies teachers define effective integration of technology in social studies?

The second method mentioned was teacher interviews. After surveys were returned and the data were analyzed, a purposeful sample of ten social studies teachers were interviewed to cross validate the findings and to insure reliability and validity of the survey data. The ten teachers selected were teachers from local school systems who effectively integrate technology. They were identified through administrative technology coordinators within local school systems. The purpose in selecting teachers in the vicinity of the researcher was allow for the identification of effective technology users who are knowledgeable in content and to reduce travel expenses. Moreover, the interviews were arranged to occur on the day in which the teacher participant had implemented an instructional lesson in which technology was utilized to teach social studies content.

A. Selection of Survey Respondents and Interviewees

From the review of literature a narrow frame for study was identified due to the variability of technology use among the disciplines taught in public schools. This study concentrated on the specific environment in which technology use is being evaluated: secondary social studies classrooms. The power that technology offers at enhancing the delivery of social studies content varies among the various levels of instruction. This is directly related to the cognitive development of students and the depth of content covered in K-12 instruction. Since technology offers much more depth to secondary social studies, this study focuses on this narrow frame of reference to control for variability.

The target population of the study was defined as all secondary social studies teachers in North Carolina. A list comprising all schools in North Carolina was obtained from the state department of public instruction (NCDPI). Therefore all high schools in North Carolina were selected from the database and used as the sampling frame. Teachers in each school in the sampling frame were contacted through their principals and social studies department heads.

A multistage sampling procedure was employed to identify the sample. In the first stage, high schools in the sampling frame were selected from a list of all schools in the NCDPI database. There is no standard grade level composition of all high schools in North Carolina, consequently a purposeful selection of schools was made. The criteria for selection were based on grade levels within schools. The key grade levels acknowledged for secondary social studies instruction are grades nine through twelve, because these grades contain the content recognized by the NCPDI as secondary social studies courses. Thus all schools, which included those grade levels, were selected. The total sampling frame was comprised of 326 high schools.

The second stage of the sampling procedure was to stratify the sampling frame of schools according to size. This was based on the categories established by the North Carolina High School Athletic Association. There are four categories: 1A, 2A, 3A, and 4A. The purpose in this stratification was to control for bias that could have arisen if only rural or urban schools were selected. Technology integration may vary among schools and regions within the state. Also technological resources vary among schools within each of the size classifications due to the distribution of economic resources. Thus schools were stratified into two socio-economic categories based on each school system per pupil expenditures for two school years prior to the survey administration. These categories were divided into two equally distributed categories: high and low per pupil expenditures. To create a conceptual framework for all social studies educators, the sample population must be representative of all schools in the state of North Carolina. A random selection of 13 schools from each socio-economic category was made using a table of random numbers. A total of 26 schools were selected from each of the four size classifications. All secondary social studies teachers in each of the 104 schools identified in the sample were surveyed. Structuring the sampling procedure in a stratified sample reduces the normal sample variation, thereby producing a sample that is more likely to reflect the population [17]. The number of secondary social studies teachers in each school surveyed was dependent upon the size of the schools that were randomly selected.

After surveys were returned and the data were analyzed, a purposeful sample of ten social studies teachers were interviewed to cross-validate the findings. The ten teachers selected were teachers from local school systems who effectively integrate technology. They were identified through administrative technology coordinators within two local school systems. Administrative technology coordinators from each county were asked to identify five secondary social studies teachers that are advanced technology users and frequently use technology in their instruction. The purpose in selecting teachers in the vicinity of the researcher was to allow for the identification of effective technology users who are knowledgeable in content and to reduce travel expenses. These ten teachers were contacted to gain permission for an interview. Once permission was granted, an interview was scheduled at the interviewees' convenience. The interviews occurred following a lesson in which the teacher had used technology. The data reported in this paper are a cross-section of open-ended survey responses and interview data. Emergent themes reported based on a constant comparative method in which codes, categories, patterns and themes surfaced though multiple readings of qualitative data.

IV. RESULTS

The survey was a cross-sectional form of data collection. Data were collected at one period of time using a questionnaire. Three attempts were made to collect data. Surveys were mailed to the sample at three week intervals for follow-ups. To check for representativeness, teaching experience and computer experience scores were compared for the three groups [phase 1 (n=191), phase 2 (n=26), phase 3 (n=88)] and there were no significant differences [(F (2, 305)=0.972, p=0.380) and (F (2, , 305)=0.286, p=0.752). 305

surveys were collected from secondary social studies teachers, representing sixty schools across the state of North Carolina. A response rate of 58% was achieved.

A. Barriers to Use

For effective integration to occur schools must have an environment that promotes and supports teachers' technology use. Before technology can be use effectively, barriers to use must be overcome. The respondents identified barriers to use as: access to resources, curricular constraints, and the lack of technological skills to effectively use technology.

1) *Access to Technology*

Access to resources was defined as no technology resources, lack of access to computers, lack of frequency of access to resources, limitations of a single classroom computer, lack of and consistently of Internet access, and the need for current resources. First schools need the technological resources before the conversation of effective use can begin. A teacher commented, "In order to effectively integrate technology in our classrooms, we must first have the tools. The only computer I had for the first year I taught was the one I brought from home."

SES categories were evaluated in comparison with computer access scores and significant differences were identified [(F (1, 305)=5.808, p=0.017). Schools with lower per capital expenditures were less likely to have technological resources. This can be summarized in the following teacher's statement, "I would use more technology if I had it in my school. There are on average 25-29 kids in my class with one outdated computer. We have one computer lab for 720 students; we are only now in the process of getting it on line. The date has been moved back once again. I have three teachers in my department with Tandy computers. How can they help their students with technology?"

The second and third barriers to use were related. The second barrier identified by teachers was the lack of access to computers. Fourteen percent of respondents did not have access to computers. A teacher commented, "Personally, I wish I had access to more computers, or a laptop so that I could integrate technology on a daily basis. With recent events, the Internet and technology have been a valuable resource." The third barrier was identified as the lack of frequency of access to resources. Of the eighty-six percent who had access to computers, eighty-eight percent used the computers for only one hour per week. Even though a large percentage of schools had computers available for classroom, teachers' access to these resources was limited. Teachers recognized that either the computers were not available due to classes being scheduled in these rooms or that teachers had limited access to the computers due to the student/computer ratio. A teacher stated, "To effectively integrate technology in classroom, every student must have access to the technology! However, our lab is full most of the time and access is very limited to computers in our school."

2) *Limitations of Technology Use*

Additionally, teachers recognized the limitations of the technology that was present in their schools. These barriers to use according to teachers were the limitations of a single classroom computer, lack of and consistently of Internet access, and the need for current technological resources. Sixty-six percent of the teachers reported that they had 1-2 computers in their classrooms. Twenty-seven percent of the respondents had no classroom computers, while seven percent of the teachers had access to three or more computers in their classrooms.

Several teachers, like the following quote from teacher interviews, expressed frustration in dealing with only one classroom computer. "I think it is very important to integrate technology into the social studies classroom because we are in the technology age and it would certainly provide valuable training. The problem is trying to deal with logistics (one computer for 28 students)." Many teachers reported no Internet access, as identified by this comment, "I feel it is a must to have technology integrated in social studies classes. But this school does not have the Internet connection, but in a few select classrooms. It is impossible to use technology when you don't have it!" Teachers also express concerns with the lack of consistency in access to the Internet. This was directly related to the technology resources in use. A teacher stated, "It has been my experience that unless you have the quantity and quality equipment necessary to involve all students, technology has a limited effect on learning." Many teachers reported concerns about the reliability of Internet access. For example, in the teacher interview the follow comment occurred, "I had planned to use the Internet today to access some primary sources, but when we began the lesson we couldn't get online. What am I suppose to do? How I can I plan to use technology when there's no guarantee that it will work? I'd just rather go with hardcopies and resources that I can count on."

The constraints in using technology that teachers reported were mandated curriculum requirements, time, and the lack of advanced technological skills. Curriculum requirements included the need to cover content tested on the state-level standardized assessments and the limitations of time due to the breadth of material in the social studies curriculum. A teacher commented, "My school is on the 4 x 4 system. I teach U.S. History, which has an EOC [End of Course] test. Because of the vast amount of information students are supposed to learn in a limited amount of time, and the emphasis put on EOC scores, this leaves very little time to integrate technology." Another teacher stated,

> I wish I knew how to use technology. Given the time constraints, I don't usually have enough time to review websites much less learn out to use some online software. I suppose this is an excuse, but it's hard enough to cram 400 years of important history into 18 weeks. Furthermore, I feel limited in what I can do. For example, I would love to use the program Inspiration or

> create websites with my class. However, I don't have the time to teach both how to use the program as well as whatever historical lesson I'm teaching that day.

Teachers also reported their concerns over the fact that technology use can be very time-consuming for both teachers and students. A teacher commented, "Technology is useful, but its use is time consuming and not always applicable. I get lost in the content or learning the tool and forget about the time. I look up and wow an hour has gone by..... However, in many cases it [technology] can be a useful teaching tool."

The final category that teachers reported as a barrier to use was the lack of technological skills. Based on responses, data were subcategorized into three areas: lack of professional development, need for administrative support, the need for technology coordinators or technology experts in each school. Teachers identified that even if resources were available, some would not be able to use them due to their lack of technological experience. Seventy-one percent of the teachers reported using technology for four or less years, while 22% reported having used computers for 5-9 years. Only 7% indicated over a decade of experience with technology.

3) *Professional Development*

Teachers recognized the need for more professional development to develop their technological skills. A teacher commented, "I teach history so I'm a bit behind the times. I want to do better – I'm just too pathetic in the realm of technology." Another teacher stated, "I am not successful in integrating computer use in the classroom. I personally do not have knowledge or skills to effectively integrate technology in the classroom." Many teachers commented that although their school system offered technology courses, these were not applicable to classroom use or content specific integration. Teachers reported frustrations with lack of administrative support with technology hardware, software, or personnel. Teachers identified that when using technology they needed assistance from technology experts. Many schools did not have qualified experts on staff. A teacher reported, "We would be able to do things beside video if we could access information. We have a very inadequate facility with technology directors who are clueless to the possibilities of what we could do."

B. Definition of Effective Technology Integration in Secondary Social Studies

Teachers were asked to define effective integration of technology in secondary social studies. From teachers' responses a framework for effective integration was generated. This framework consists of the ten overarching themes defined as:

a) effective technology integration enables instruction that goes beyond the confines of the traditional classroom,
b) extends learning beyond what could be done without technology,
c) prepares students for the office of citizen in the twenty-first century,
d) enhances learning by offering access to resources that are not available in traditional classrooms,
e) enhances the content of the social studies, alters the nature of learning,
f) promotes and supports student learning, increases communication among students, teacher, and the global community, and
g) positively effects student learning, and encourages technology use.

1) *Effective Integration*

The effective integration of technology in secondary social studies enables instruction that goes beyond the confines of the traditional classroom was further explained by the following constructs that emerged from teacher responses:

a) affords students opportunities to extend their learning into their homes,
b) builds students cognitive skills to promote independently learning,
c) assists in addressing deficiencies of students, and
d) allows for the presentation of material to reach a wide range of learning styles.

Technology provides students access to resources in their homes that were not available to historically in classrooms were only accessible in libraries. This was evident in comments such as, "Technology affords students opportunities to work independently and extend their learning into their homes. They are more motivated to learn more since information is so easily accessible. They also take pleasure in locating new sources of information beyond those I recommend."

Teachers also identified that technology use promotes independent learning though the development of students' cognitive skills. Evidence is presented in one of the interviewee's statements,

> "To effectively integrate technology, it is equally important to create an environment where students can think for themselves and realize technology is a tool for research and evaluation of information. They also have be to able to decipher the credibility of the source of information and determine if the information is accurate. Technology use in schools builds students' cognitive skills and promotes independently learning."

Teachers reported that technology use provided resources for students to address their deficiencies. These deficiencies were identified as either physical disabilities or learning disabilities. A teacher commented, "Technology enables students who have deficiencies to produce better quality of work and to be more successful academically. Students who have both cognitive and physical disabilities have access to resources to allow them to be competitive.

Technology allows students to create a product that they are proud of and one that is atheistically pleasing." In addition, technology use in the social studies allows for the presentation of material to reach a wide range of learning styles. Teachers reported, "Employing technology in instructional methods allows for the presentation of material to reach a wide range of learning styles. Students has access to tools to creatively present their ideas in unique ways." "The integration of technology allows teachers and students to utilize a variety of methods to introduce new material, make presentations, reinforce ideas and provide tutoring." "It means that the information is more complete and instruction applies to wide variety of learning styles."

2) *Extends Learning*

The second construct of effective integration of technology in secondary social studies identifies that technology use extends learning beyond what could be done without technology. Technology use in the social studies enhances teacher preparation and improves teacher efficiency. Many teachers commented that technology use saved time in their preparation of materials and production of student projects. A teacher commented, "To use technology as a tool for teaching, I use it to support the materials that I have. I use technology a lot for currents events. Using technology takes countless hours away from our work time." Teachers also recognized that technology has improved their effectiveness by allowing access to current events and other relevant information to the social studies curriculum. This is summarized in this teacher's comment, "I have found that the use of technology to access vital information for my social studies classes have increased my effectiveness as a teacher. I am able to provide them with web page addresses to explore and to do their research projects." Teachers feel that one of the strengths of effective technology integration is that technology enables students to see a connection between past and present. A teacher stated, "Using technology allows the teacher to bring events that happened in the past as life for students in the present." In addition, teachers reported that technology use allows for quicker access to information to generate a currency of information. A teacher commented, "History is happening every day. The Internet gives us minute-by-minute reports. I pull up ABC, CBS, NBC, CNN and Fox and show how each network presents a certain story."

3) *Citizenship Preparation*

The effective integration of technology in secondary social studies prepares students for the office of citizen in the twenty-first century by fostering the development of the skills, knowledge, and participation of citizens in a democratic society and developing students' technological skills to be competitive in the global economy. Teachers recognized the need to use technology to provide real life experience for students. This is in support of the national goals for the social studies as presented by the National Council for the Social Studies. A teacher reported that, "Technology is made to perform well-defined tasks. Just as reading and writing are means to solve problems and to accomplish pragmatic jobs, technology is driven by the need to address real life conflicts with thoughtfully developed, media enhanced solution. To use technology on a regular basis is another way to motivate students to learn and to make the classroom a more rounded, real life, experience to students." Teacher report that technology use in necessary for the development of students technological skills which will enable them to be competitive in the global economy. A teacher commented, "I think it is very important to integrate technology. The main issue at hand is to help the students learn. Technology gives the students more information and styles of learning. If we do not use technology we also fail to prepare our students for the job market."

4) *Content Access*

The effective integration of technology in secondary social studies enhances learning by offering access to resources that are not available in traditional classrooms. Instructional technology and the Internet offer access to a plethora of resources that exceed the limitations of a textbook. A teacher commented, "Technology can be used to access information on any major topic discussed in U.S. History or other special science course. It is an invaluable tool that allows students to gain extensive incite on a wide range of material." Teachers reported a benefit of technology use as the access to primary sources, maps, and other resources not available in the classroom or school library. Teacher recognized that effective integration of technology enables research essential to the social studies disciplines. A teacher stated, "For me to effectively integrate technology into my social studies classroom, I must guide students to supplement their knowledge, through research, using technology; and, to formulate, and present their premise by using various forms of this same technology." Teachers identified that technology teaches skills necessary for understanding the disciplines of the social studies, such as research in history, sociology, anthropology, geology, etc. Use of primary sources, research to generate opinion and opposing viewpoints reinforce the skills utilized by experts in the social studies.

5) *Enhance Content*

The effective integration of technology in secondary social studies enhances the content of the social studies. Teachers reported that social studies is often perceived by their students as a boring subject, but technology use promotes a new image of social studies as an engaging curriculum. A teacher commented, "Using technology 'livens up' social studies and engages students in the curriculum." Effective integration of technology introduces technology in the context of the curriculum. A teacher defined effective integration as "using technology in a practical manner—to teach the content. In many cases technology can be a useful teaching tool to enhance student learning of the subject matter." Technology use in the social studies links issues covered in the standard course of study. A teacher reported, "Effectively integrating technology enhances the learning of required materials based on the Standard Course of Study. Students can effectively

learn through the use of research to create power point presentations."

6) *Alters Learning*

The effective integration of technology in secondary social studies alters the nature of learning: instructional methods, classroom environment, and learning processes. Teachers reported that technology use affected the classroom structure by allowing more student-centered, hands-on activities. A teacher commented, "It is an irreplaceable tool for discovery and learning. The students receive immediate responses in areas of interest. It is also a wonderful supplement to my style of teaching. I am a traditional facilitator and the addition of Internet use provides an opportunity for a more diverse learning experiences. Additionally, teachers identified that effective integration of technology facilitates interactive learning. A teacher stated, "The effective use of technology in the classroom would have students using computers in the classroom to assist in specific assignments and expand their research capabilities. Students would not be 'passive' participants in any activity involving technology." According to teachers' responses, effective integration of technology encourages discovery learning. The following teacher comment summarizes teachers' views about the potential of technology, "Using technology effectively means to employ computers for the enhancement of student knowledge and interest. It should be a highway to academic and personal discovery of our world."

7) *Motivation to Learn*

The effective integration of technology in secondary social studies promotes and supports student learning by motivating students, providing variety, and promoting meaningful learning. Teachers responses identified that integrating technology can be an effective and fascinating tool. A teacher commented, "Technology in the class motivates the students. It serves as a way to get the students interested. The use of Internet in the class could give endless information to students." Teachers reported that technology makes class interesting and challenging. They recognize that to effectively integrate technology, "it is necessary to incorporate a variety of fun, interesting assignments that require the use of technological means to gather information." Teachers identified that technology can be a useful tool to promote meaningful learning through accessing, interpreting, and evaluating information; "moreover, the 'product" that can result from technology integration has great potential value for student learning."

8) *Increase Communication*

The effective integration of technology in secondary social studies increases communication among students, teacher, and the global community and promotes global awareness. Teachers reported that technology use enable their students to communicate with classrooms across the world. A teacher commented, "Technology is becoming the future in education. When using the computer/Internet, it gives them the opportunity to learn and feel involved in the society, which has become so impersonal." In addition, teachers reported that the Internet offers students access to resources to stay informed of world issues and current events. A teacher stated that technology use "fosters within students the awareness of available resources and the global world we live in."

9) *Personalize Learning*

The effective integration of technology in secondary social studies positively effects student learning by personalizing instruction and building students' cognitive understanding. Teachers reported that technology enables students to see connections of social studies concepts to their own lives. In addition, teachers stated that technology use provides students to pursue areas of personal interest through the individualization of instruction. A teacher commented, "Technology allows the student to expand his knowledge in all studies. It is an open road—providing unlimited access to resources necessary for his immediate success, as well as, future success in life." The effective integration of technology according to teachers' responses, promotes technology as a primary tool for accessing, interpreting, and evaluating information. It is a tool to "provide students the opportunities to better demonstrate their knowledge, which enhances retention of key concepts and promotes higher-level thinking."

10) *Increase Technology Use*

The final construct of effective technology integration in secondary social studies identified by teachers is that effective integration of technology encourages technology use through the frequency of technology use in the curriculum. Teachers reported that "technology exists as an effective tool and should be an often-used tool in social studies education." For students to become efficient in technology use, teachers identified the need for students to use technology weekly and to use it in the context of the social studies. A teacher commented, "Technology should be used at least weekly to keep students aware and up-to-date with technology they'll be using soon. Using the computer on a regular basis will enhance and improve social studies instruction."

V. CONCLUSIONS

The twenty-first century affords both opportunities and challenges for social studies educators. American youth need to develop technological skills to be competitive in the workplace and in the emergent global economy. The growth and importance of technology in all phases of our lives suggests the need for technology to be promoted in the social studies curriculum. As identified by a teacher in this study, "Teachers have a job to not only teach their subject classes, but to integrate other areas into instruction as well. New technology offers exciting opportunities for students, and it needs to be taken advantage of by educators. It should be used at least weekly to keep students aware and up-to-date with technology they'll be using soon." Yet, there remain barriers inhibiting attainment of these goals.

The role of technology in the social studies curriculum in the twenty-first century is still undefined but perhaps this is a byproduct of limitations of infrastructure and professional development. Furthermore, conversations

concerning technology use in schools are led by those curricula that tend to favor technology use. These are the subjects that are being pushed to the forefront of curriculum development. The continued limited role of technology in social studies may be an indicator of the lagging role social studies plays in national policy. Perceptions of social studies teaching remain traditionalist and rightly so. Data from this study indicate limited views of technology as a revolutionary force in shaping how social studies is taught. Granted there are many barriers beyond teacher control; however, teachers are still an important part in this process. When access barriers are overcome, how will social studies teachers embrace technology to redefine praxis?

For social studies to be at the forefront of curriculum development in education, secondary social studies teachers must develop a well-educated citizenry who are empowered with both cognitive and technological skills to become informed decision makers and productive and competitive workers. It is imperative that secondary social studies teachers seek ways of using technology to improve instruction, so that social studies is not overlooked. As one teacher wisely stated, "The social studies classroom is continually changing. I believe that to prepare students in the 21st century that technology is vital. Bridging the past with the present is imperative with an ever-changing society. We have to be a part of the change and ask our students to use technology in a way that can help them in their future jobs and careers."

Thus, how to integrate technology successfully to enhance the social studies curriculum becomes a pertinent issue. From this study, I recommend that this can be addressed by examining the constructs that define effective integration, in which technology applications:

a) enables instruction that goes beyond the confines of the traditional classroom,
b) extends learning beyond what could be done without technology,
c) prepares students for the office of citizen in the twenty-first century,
d) enhances learning by offering access to resources that are not available in traditional classrooms,
e) enhances the content of the social studies,
f) alters the nature of learning,
g) promotes and supports student learning,
h) increases communication among students, teacher, and the global community, and
i) positively effects student learning, and encourages technology use.

To promote technology use in secondary social studies, teachers, administrators, and university faculty need to focus their efforts on the areas of integration that promote student learning. This framework can subsequently be used to guide decisions on important components of technology instruction in secondary social studies. Moreover, professional development needs to targeted these constructs and utilize content-specific curricula to model effective applications in secondary classrooms.

Even before the dialog of the role technology in secondary social studies can begin, deficits identified as technological barriers must be addressed. Teachers must have consistent and reliable access to technological resources. These resources must be current and operative. Additionally, teachers need support in using these resources. Teachers much develop the technical skills to effectively employ technology. To accomplish this, they need training, professional development, and technical support within the school. Frustrations identified by teachers can be summed by this comment, "To use technology effectively, Social Studies teachers first need programs geared solely for Social Studies; second, they need intense training in the software and advanced technologies. PowerPoint and spreadsheets teachers know but what about Web 2.0 tools? Teachers need time and training to learn these technologies so they can in turn, teach them to their students. Lastly, they need more than just two computers in the class." Once these barriers to use are addressed then the conversation of the role of technology in secondary social studies to enhance the quality and effectiveness of instruction can continue.

The value of these findings and conclusions are the importance of addressing teachers as implementers of technology and factors in shaping, not only how technology is used, but also whether or not it is used. Teachers' views of effective technology usage provide evidence of the potential for and limitations of technology for teaching social studies. Much research is still needed to guide the implementation of technology in secondary social studies. Technology has been the greatest advance in teaching social studies in recent years and expenditures are pouring into technologies. However, there has been a severe lag in addressing the perceived challenges and needs of practicing teachers. Hardware availability, complementary texts and curriculum have been slow to make use of available technology and software that can truly impact learning outcomes. Integrating teachers' beliefs and perceptions into theoretical formations which inform instructional decision-making for technology-mediated learning is an important part of research in this field that is too often missing from the technology research literature [18]. This study serves to provide a framework for effective integration as articulated by teachers, but more in-depth research is needed to thoroughly understand how to support teachers in redefining their praxis as one in which technology integration is an essential component.

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