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Abstract

The social studies teacher preparation program described in this article is a 5th-year Masters of Education degree and licensure program—a graduate program preceded by a 4-year history or social science education degree offered by the College of Liberal Arts. The social studies graduate program aims at preparing teaching candidates to learn knowledge and skills necessary to plan and teach technology-rich lesson plans and resource units. Teaching candidates are required to apply new technology skills to actual classrooms, while collaborating with cooperating teachers. The program is designed to be compliant with the National Council for the Social Studies (NCSS) Program Review, which is a component of the accreditation process implemented by the National Council for the Accreditation of Teacher Education (NCATE). As a member of the NCATE Board of Examiners and auditor for the NCATE Program Review, the author is acutely aware of the current role played by educational technology in the assessment of given units or programs, as well as in specific candidate assessment for the preparation of PK-12 classroom teachers.

Keywords: social studies, technology resources, NCATE, ISTE, PK-12

Integrating Technology into Secondary Social Studies Curricula

The author adheres to a conceptual framework championed by his university, which specifies that all education candidates should develop proficiency with technology prior to internship. The Wright State University College of Education and Human Services (2011) state the following:

Technology is reaching into our lives more everyday. The fields of education and human services are no exceptions to that reality. The College of Education and Human Services offers a wide variety of services to support technology and to provide both students and faculty with the tools they need to take advantage of technological explosions in your fields of study. Extensive use of new technologies is apparent throughout the College - from state of the art electronic classrooms to video conferencing facilities that make teaching and learning more effective ("Technology in the College of Education and Human Services," para. 1)

The Wright State University College of Education and Human Services conceptual framework explicitly identifies technology as one of the six facets (or strands) that encompass the intellectual philosophy adopted by those that comprise the college. The conceptual framework includes the following assertion: "The technology strand represents the Unit's commitment to assuring professional educators/leaders/counselors and candidates are knowledgeable and able to make thoughtful, appropriate applications of technology to add value to the learning process" (para. 2).

The Integrated Social Studies Program of Study

Candidates in the social studies program must satisfy three criteria: (a) pass PRAXIS II social studies content, (b) enter the graduate social studies program with a minimum grade point average (GPA) of 2.7 and maintain a graduate GPA of 3.0., and (c) enter the graduate social studies program without having received a grade of less than a "C" in any history or social science course.

The University offers courses using the quarter model. The fall, winter, and spring quarter (student teaching) are all quarters in which the candidates take a social studies methods course. Candidates begin the program with several required foundations and special education courses. Candidates must complete an assessment and practice classroom management during the summer. Candidates join their social studies cooperating teacher in late August through September for the regulation 5-day school week. Candidates then intern and teach for 3 days in the public schools from September until mid-March. During this period, candidates are taking Masters of Education (M.Ed.) and licensure courses. Candidates lead teach social studies from March until the end of the scholastic semester in June.

The College of Education requires all candidates to own a laptop computer. Thus, candidates learn computer technology and are required to use the technology in the classroom. The Education Resource Center at the University provides projection hardware to public schools that lack this technology. Teaching candidates are required to apply new technology skills in collaboration with cooperating teachers in actual classrooms. In some cases, the teaching candidates are introducing classroom teachers to a technology-rich curriculum. In other cases, master teachers reinforce the technology skills of the teaching candidates.

Examples of Lessons and Assignments

During the three quarters that candidates take social studies methods courses, various assignments and lessons are modeled. Lesson plans and units require technology-rich learning opportunities. The lesson plan format requires the candidates to focus on the use of technology in the classroom.

The Resource Unit requires a technology-rich unit, in which “at least four [lessons] contain a ‘rich’ use of technology for teaching social studies. This unit should engage students and have them actively participating. The technology should be integrated as seamlessly as possible.” In addition, the candidate must provide at least 20 media or technology resources from eight categories.

The NCSS provides an [Online Teacher's Library](#). NCSS also provides a guide for using [Podcasts](#) as an instructional tool. The NCSS [PASS Series](#)—which represents Powerful and Authentic Social Studies—is an example of an effective use of technology in the K-16 classroom. This series provides social studies educators with professional training in curriculum design, assessment, and instruction in a standards-based environment. It offers a systematic approach to teaching social studies based on widely accepted standards for top quality social studies programs.

Candidate and teacher websites have become excellent technologies that assist candidates and teachers with the development of their technological acumen. Today free online software provides opportunities for candidates and teachers to launch educational websites.

Technological advances such as the SMART Board offer candidates and teachers some important technological advantages. Not all school districts have chosen to have SMART Board access, and unfortunately, learning this important tool without access in classroom teaching can lead to a skillset loss. Several of the packaged lessons for the SMART Board are impressive. The [Jeopardy Template](#) offers a fun means to technology-rich learning, the [Wheel of Fortune Review Game](#) can be adapted to a variety of social studies lessons, and the [Inventions of the Industrial Revolution](#) lesson provides an interesting strategy to teach [NCSS Standard 8 Science, Technology, and Society](#). (See Appendix A for more examples of technology resources.)

Following an intense year of integrating technology into the social studies classroom, the candidates have worked toward developing a unique skillset. If the candidates transition into teaching the following year, one can be confident that they will continue to use these skills.

Essential Technology Skills

The [National Council for the Accreditation of Teacher Education](#) (NCATE, 1994) and the [International Society of Technology in Education](#) (ISTE, 1996) recommend fundamental concepts and skills needed by all prospective teachers for applying technology in educational settings. The original ISTE (1996) indicators have since been updated; however, the longitudinal study presented herein is based on those presented by ISTE in 1996.

The following are ISTE guidelines related to technology in professional education programs:

- Professional studies culminating in the educational computing and technology literacy endorsement prepare candidates to use computers and related technologies in educational settings. All candidates seeking initial

certification or endorsements in teacher preparation programs should have opportunities to meet the educational technology foundation standards

- Professional studies in educational computing and technology provide concepts and skills that prepare teachers to teach computer/technology applications and use technology to support other content areas
- Professional preparation in educational computing and technology literacy prepares candidates to integrate teaching methodologies with knowledge about use of technology to support teaching and learning.

The NCSS *Standards for Social Studies Teachers* (2000) stated that all social studies teachers at all levels should provide developmentally appropriate experiences as they guide learners in the study of technology. The prospective teacher should (a) address social, ethical, and human issues; (b) use productivity tools; (c) use telecommunications and access information; and (d) use technology to research, problem solve, and develop products.

The NCSS *Social Studies Curriculum Guidelines* (1971) demonstrated foresight by including an appendix of “Essential Skills for Social Studies: Acquiring Information,” when it spoke to the need for technical skills.

Specifically with respect to social studies, Lee (2008) has provided a set of guidelines for effectively integrating technological pedagogical content knowledge into a social studies context. These guidelines include the following:

- Locating and adapting digital resources for use in the classroom
- Facilitating students’ work in nonlinear environments
- Working to develop critical media literacy skills among students
- Providing opportunities to utilize the presentational capabilities of the Web to motivate and encourage students
- Using the Internet to extend collaboration and communication among students
- Extending and promoting active and authentic forms of human interaction and technology enabled social networks (Lee, 2008, p. 130)

Problem Statement

The author has been involved in several state and federal technology grants, with the purpose of these grants being to infuse technology into the secondary social studies methods course. The main conceptual issue is encompassed in the following question: How might the secondary social studies methods course infuse various technological skills that are necessary for teaching in settings that provide rich technology environments?

The study focused on necessary technological skills for emerging social studies teachers.

Given two social studies methods courses and a social studies student teaching seminar, would the social studies candidates acquire the necessary technological skills to function adequately in the classroom?

Participants

The sample consisted of 284 secondary social studies candidates during the years 1998 to 2009. During this study, all candidates were given pre- and post-technologies inventories. None of the secondary candidates had taken a formal technology course from the University. The study proposed to measure pre- and post-technology skills. The same professor had the same candidates for two social studies methods courses as well as a concurrent student teaching seminar.

Research Design

On the first day of the first methods class, all candidates were given the technology inventory instrument. On the last day of the second social studies methods course, the final inventory was administered to the candidates. The survey (see Appendix B)—Basic Technology Indicators—was adapted from ISTE’s (1996) National Educational Standards for Teachers.

Findings

The findings of the study indicated a greater technological sophistication by candidates since 2005, but several concerns remained. With regard to the 30 specific indicators in Part 1 of the survey, 100% of candidates in the longitudinal study indicated little or no knowledge or experience with Part 1 (Technology Indicators, items 1, 6, 9, 10, 14, 16, 17, 24, 25, 26, 27, and 30; see Appendix B for complete list of items). That is, 100% of the students responded *somewhat disagree* or *disagree*. Actual university classroom experience confirmed that the students had limited technology skills. By the end of the two social studies methods courses, 100% of the candidates responded *strongly agree* to all of the technological indicators. The two social studies methods courses had demonstrated an impact on student learning.

With regard to the 30 specific indicators in Part 1 on the survey, 100% of the candidates in the longitudinal study responded *strongly agree* with Part 1 (Technology Indicators, items 2, 3, 4, 5, 7, 8, 11, 12, 13, 15, 18, 19, 20, 21, 22, 23, 28, 29; see Appendix B for complete list of items).

While two of the social studies methods courses provided cross platform (Personal Computer [PC] and Macintosh [MAC]) resolution to those indicators that required the greatest consideration, attention was also given to those indicators with which students had indicated mastery.

The two social studies courses integrated specific problem solving and coursework that would involve all 30 technology indicators over two quarters. Rather than teach the courses in a specific computer lab, the courses were taught in a wireless electronic classroom. Students were required to bring laptops to each class, and time was allocated to cross platform (PC and MAC) resolution so that candidates might exhibit technological skills in any setting regardless of platform.

With regard to the 24 specific indicators in Part 2 of the survey, 100% of the candidates in the longitudinal study indicated little or no knowledge or experience with Part 2 (Technology Indicators, items 31 through 54; see Appendix B for complete list of items).

The two social studies courses integrated specific problem-solving approaches and coursework that would involve all 24 Part 2 technology indicators over two quarters. Part 2 indicators have vital considerations for all practicing social studies teachers. These indicators are not on the same level with the skill-based indicators of Part 1. The Part 2 indicators will continue to raise questions throughout the careers of the social studies students.

With regard to the 24 specific indicators in Part 2 of the survey, 100% of the candidates by the end of the two social studies methods courses in the longitudinal study indicated *strongly agree*. That is, the candidates recognized that these 24 indicators may continue to be problematic, but the candidates indicated that they were ready to function in the classroom with these indicators.

Conclusions

The study indicated that two social studies methods courses could infuse technological skills toward technology considerations. The author concludes that a generic technology course was not necessary for the students to learn technological skills.

Clearly the richness of the technology aspect of the methods courses required much more professor preparation planning and time, and also involved supplemental lessons taught by technologists. The ongoing demand of NCATE Program Reports, federal and state assessments, curricular redesign, and ongoing university course alignments require course and professor time as well.

Modern technology skills and instruction greatly exceed the expectations of those in the past decade. The author concludes that the social studies program of study should incorporate a specific high-level technology course; thus allowing for technology skills to be "infused" in the social studies methods courses.

While the author concludes that the technology infusion is successful, the time demands of current technology and program assessments lead the author to conclude that basic technology skills are best taught in an independent technology course and then finely tuned in the social studies methods course.

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Appendix A

Some examples of candidate's PowerPoint Lessons are located at http://cehs.wright.edu/~rhelms/Portfolio_Pages/PPT/PPT_SEC.htm

Candidates are encouraged to review and to borrow ideas in developing their own classroom lessons. Candidates' lessons that illustrate state and NCSS standards may be viewed at http://cehs.wright.edu/~rhelms/Portfolio_Pages/PPT/SocStdy_SEC.htm.

Candidate resource units are available at http://cehs.wright.edu/~rhelms/Portfolio_Pages/PPT/RUsec.htm.

Global education units are available at http://cehs.wright.edu/~rhelms/Portfolio_Pages/PPT/GlobalEducationalUnits.htm.

Other aspects of globalization are available at http://cehs.wright.edu/~rhelms/Prof_Pages/Globalization.html.

Candidate presentations on aspects of diversity are viewed at http://cehs.wright.edu/~rhelms/Portfolio_Pages/PPT/ed_301/ed301studpres.html.

Appendix B

Please complete the following survey by selecting one of the choices (indicating your best estimate of your skill or knowledge level) about each of the technology or social studies related indicators.

Survey Key:

A = Strongly Agree

B = Somewhat Agree

C = Neutral

D = Somewhat Disagree

E = Strongly Disagree

Part One: Technology Indicators

As an education student I currently have the following knowledge, skill or ability:

1. Solve common printing problems
2. Use advanced features of a word processor (tables, headers and footers, macros, table of contents, columns, etc.)
3. Copy a graphic from a Web site
4. Create and use bookmarks/favorites

5. Cut, copy, and paste text both within an application and between multiple open applications
6. Merge information from a database into a word processing document (mail merge)
7. Download and decompress files
8. Subscribe and unsubscribe from a mailing list (listserv)
9. Scan a document
10. Create a Web page
11. Create and maintain backups
12. Open a file from a floppy disk or a local or network hard drive; save a file to a floppy disk or
13. to a specific location on a local or network hard drive
14. Configure computer to connect with network
15. Reduce, enlarge, or crop a graphic and convert graphics from one file format to another
16. Format/initialize a disk
17. Setup computer system and connect peripheral devices
18. Record an audio file or digitize a video clip
19. Access a specific Web page (URL) and search the Web using a variety of tools
20. Install application software
21. Create an electronic presentation
22. Manage names and groups in an address book
23. Create, copy, move, rename, and delete folders
24. Send e-mail messages and send/receive attachments
25. Use formulas and/or functions in a spreadsheet
26. Create a graph from spreadsheet data
27. Allocate memory to an application (Mac only)
28. Start up and shut down the computer; open and close an application/program; insert and eject a removable disk (floppy disk, CD-ROM)
29. Create a report (query/find request) in a database and sort the results
30. Correct a locked-up computer

Part Two: Professional Preparation Performance Profile

As an education student I currently have the following knowledge, skill or ability:

32. Identify the benefits of technology to maximize student learning and facilitate higher order thinking skills
33. Differentiate between appropriate and inappropriate uses of technology for teaching and learning while using electronic resources to design and implement learning activities

34. Identify technology resources available in schools and analyze how accessibility to those resources affects planning for instruction
35. Identify, select, and use hardware and software technology resources specially designed for use by PK/12 students to meet specific teaching and learning objectives
36. Plan for the management of electronic instructional resources within a lesson design by identifying potential problems and planning for solutions
37. Identify specific technology applications and resources that maximize student learning, address learner needs, and affirm diversity
38. Design and teach technology-enriched learning activities that connect content standards with student technology standards and meet the diverse needs of students
39. Design and peer teach a lesson that meets content area standards and reflects the current best practices in teaching and learning with technology
40. Plan and teach student-centered learning activities and lessons in which students apply technology tools and resources
41. Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information resources to be used by students
42. Discuss technology-based assessment and evaluation strategies
43. Examine multiple strategies for evaluating technology-based student products and the processes used to create those products
44. Examine technology tools used to collect, analyze, interpret, represent, and communicate student performance data
45. Integrate technology-based assessment strategies and tools into plans for evaluating specific learning activities
46. Develop a portfolio of technology-based products from course work, including the related assessment tools
47. Identify and engage in technology-based opportunities for professional education and lifelong learning, including the use of distance education
48. Apply online and other technology resources to support problem solving and related decision making for maximizing student learning
49. Participate in online professional collaborations with peers and experts
50. Use technology productivity tools to complete required professional tasks
51. Identify technology-related legal and ethical issues, including copyright, privacy, and security of technology systems, data, and information
52. Examine acceptable use policies for the use of technology in schools, including strategies for addressing threats to security of technology systems, data, and information
53. Identify issues related to equitable access to technology in school, community, and home environments
54. Identify safety and health issues related to technology use in schools
55. Identify and use assistive technologies to meet the special physical needs of students.

Author



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