Mason, C., Berson, M., Diem, R., Hicks, D., Lee, J., & Dralle, T.(2000). Guidelines for using technology to prepare social studies teachers. *Contemporary issues in technology and teacher education, 1*(1), 107-116.

Guidelines for Using Technology to Prepare Social Studies Teachers

Cheryl Mason, *University of Virginia*
Michael Berson, *University of South Florida*
Richard Diem, *University of Texas-San Antonio*
David Hicks, *Virginia Tech*
John Lee, *Georgia State University*
Tony Dralle, *University of Virginia*

Social studies teacher education faculty members who effectively integrate technology in methods courses provide students opportunities to explore applications for the K-12 classroom and to consider how technology is changing the way we teach and learn. As social studies teacher educators, one of our roles is to model appropriate uses of technology for our preservice teachers. Take for example the scenario in which preservice teacher Rob Dent collaborated with a classroom teacher to develop a technology infused unit of study, called "Who Wants to Be a Pioneer?" (see http://k12.albemarle.org/murrayelem/white/frontier/). This student experienced designing and teaching a lesson using primary sources, while at the same time, he learned Web page development and design and classroom management techniques. Dent explains what technology skills he used in developing this project in videos 1 and 2.

This is just one example of preparing social studies teachers to use technology appropriately. We offer the following five principles as guides for the appropriate infusion of technology in social studies teacher preparation programs.

- Extend learning beyond what could be done without technology.
- Introduce technology in context.
- Include opportunities for students to study relationships among science, technology, and society.
- Foster the development of the skills, knowledge, and participation as good citizens in a democratic society.
- Contribute to the research and evaluation of social studies and technology.

Extend Learning Beyond What Could be Done Without Technology

Technology opens the door to learning social studies skills and content in ways impossible in the traditional classroom. The social studies teacher in today's classroom can use technology to extend learning opportunities for K-12 students. Teacher education faculty can most effectively take full advantage of technology by introducing students to activities in which skills and content are taught more actively and meaningfully. We caution, however, against using technology for technology's sake, and encourage faculty and preservice teachers to consider if the technology is

allowing them to learn in a way they could not without the technology or if they are at least learning in a more meaningful way.

One example of how we can use technology to prepare social studies teachers to extend learning in a meaningful way is by using digital archives, such as the ones found at the Virginia Center for Digital History. The Virginia Center for Digital History has developed a series of digital history projects including the award-winning Valley of the Shadow Project: Two Communities in the American Civil War, Virtual Jamestown, Race and Place: African American Community History, Presidential Recordings Project, and Dolley Madison Project. The Virginia Center for Digital History `s mission is to develop high-quality, well-researched, and reliable history materials for the World Wide Web and deliver them to schools, colleges, libraries, historical societies, and the general public.

Using the digital archives of primary sources available online through the Virginia Center for Digital History, students can conduct historical research to construct the significance of people and events in history. These materials provide students with the opportunity to access, manipulate, and interpret raw materials of our past. The Valley of the Shadow Project is a multimedia archive that follows two communities, one northern and one southern, through the experience of the American Civil War. It contains searchable and browsable newspapers, letters, diaries, photographs, military records, and census manuscripts from Augusta County, Virginia, and Franklin County, Pennsylvania. Researchers at all levels can explore the material and create authoritative historical accounts of the experiences of families, women, soldiers, immigrants, politicians, African Americans, and farmers during the Civil War years. Although the documents are organized chronologically as the years just before or during the Civil War, the archive contains rich material for teachers and researchers interested in exploring other important themes in American History, such as slavery, immigration, ethnic groups, women's lives, reform movements, economic development, and political culture.

Methods faculty can use archives such as these to model lessons that engage students in historical inquiry. For example, a lesson such as "Commemoration of the Gettysburg Battlefield" actively engages students in the construction and interpretation of American history. In this lesson, students are divided into expert teams to search for newspaper articles, letters, photographs, and maps that provide contextual information about the Gettysburg Address. Each expert team uses The Valley of the Shadow database search engines to locate primary sources that relate to the Battle of Gettysburg and the Gettysburg Address.

The students' searches will lead them to uncover primary sources recreating the story of Gettysburg. By allowing students to engage in authentic research, they are accessing and interpreting historical evidence typically reserved for the scholarly historian.

Students can uncover artifacts such as a newspaper article announcing the prohibition against removing bodies from the Gettysburg battleground during August and September due to health risks to wounded soldiers and local citizens. A transcription of this article from August 12, 1863, may be read, as well as a scanned copy of the actual paper. The students may also search the photograph archive to discover images of the battlefield in 1863 and images of Gettysburg, Pennsylvania, today. In their searches, students will discover not only three-dimensional, geographically accurate maps of battlefields and regions, but also battlefield movies of virtual reality worlds. These movies provide an animated view of the battle over time. Additionally, students will locate soldiers' letters that describe the situations they endure, as can be seen, for

example, in Samuel Potter's letter to his wife, dated July 20, 1863, and September 5, 1863.

Once the students have identified the significance of the primary documents they have located, they are asked to hypothesize why Lincoln wanted to commemorate the Battle of Gettysburg 3 months after the event? Directed by the teacher, expert groups share information from their examination of materials, which leads students to uncover the significance of the Gettysburg Address. Modeling a lesson such as this one for preservice teachers allows them to experience learning beyond what could be done without technology.

Introduce Technology in Context

Preservice teachers must not simply acquire skills that make them proficient at using technology, but also learn how to use technology to make their teaching better than it would be without it. Therefore, preservice instruction enabling teachers to integrate technology seamlessly into lessons is more productive than technology instruction that merely teaches preservice teachers how to use specific computer skills. For example, preservice teachers should not learn how to create PowerPoint presentations or Excel spreadsheets merely with the goal of mastering the technology. Rather, preservice teachers should create PowerPoint presentations that aid in direct instruction of a particular social studies lesson or spreadsheets that help illustrate statistical data significant to the social studies student.

To further illustrate this distinction, it is useful to consider an actual example of a preservice teacher who learned technological skills that enhanced her classroom instruction. Nicole Tucker, a preservice elementary teacher in the Curry School of Education at the University of Virginia, helped develop a digital history archive, *Race and Place: African American Community Histories*, as an undergraduate student in one of her history classes. *Race and Place* contains primary source material on slavery and emancipation, Reconstruction, and the era of Jim Crow segregation in the South. Tucker specifically contributed a rich segment of the archive that details the politics of disenfranchisement. Although Tucker took an instructional technology course as an undergraduate, she says she learned most of her technology skills when she had a specific educational goal of creating the archive and making it usable in K-12 classrooms.

Before Tucker began creating the archive, she researched many educational websites and digital archives, in order to make her work as helpful and easy to use as possible. Tucker learned to program in HTML (hyper-text markup language), to scan primary documents with a scanner, and to edit images in programs like Adobe Photoshop. Although some of these skills had been covered in her earlier instructional technology class, Tucker says she mastered HTML, scanning, and image editing by applying these applications to her tasks of creating educational materials and preparing lessons for classroom instruction. Using these skills, Tucker created lessons utilizing her *Race and Place* materials for high school social studies classes. Video 3 contains excerpts of an interview with Tucker, in which she explains her experiences learning technology for specific educational purposes. In addition, Tucker can be seen in Videos 4, 5, and 6 explaining her lesson using *Race and Place* to high school students.

When preservice teachers enter the classroom, they will rely heavily on teaching strategies and methods acquired while in their teacher preparation courses. Therefore, if teachers are to use technology in the classroom, it is important that they receive appropriate technological training

in methods and other education courses. Appropriate training focuses on integrating various types of technology to make lessons better, rather than learning technology simply to acquire technological skills.

Include Opportunities for Students to Study Relationships Among Science, Technology, and Society

Internet technology has had an overwhelming impact on schools and families. Access to the web has reached critical mass, and as current initiatives strive to overcome the barriers to access often referred to as the "digital divide," (as defined by US Department of Commerce, National Telecommunications and Information Administration, 1999) continued growth will contribute to challenges for educators and parents, as children and young people go online. Although the force of this impact is immense, the rising computer culture is not fully understood.

Science and technology have a complex interrelationship with society. While technology is the impetus to advancements in human development, technologies also contribute to the perpetuation of existing imbalances and inequities in power and diffusion of knowledge.

Despite the dramatic rise in Internet users, new technologies have contributed to a global race for knowledge (see Mark Malloch Brown and Richard Jolly's Human Development Report, 1999), which has enticed resource rich countries to add technological pursuit of knowledge to their goals, while developing countries remain poorly connected. Precautions have been secondary to the investment in technological breakthroughs; however, the impact of these applications is largely unknown. The capacity for development in the United States has been intensely focused on school-age children. Yet, widespread implementation of children's participation in these initiatives has been further complicated by the paucity of information on children's use of the Internet and the great demand for awareness (see Media Awareness Network's Web Awareness: Knowing the Issues, 2000).

According to the National Center for Education Statistics, 95% of public schools and 63% of classrooms are connected to the Internet. While many educators would agree that the Internet provides an extraordinary opportunity for enriching teaching and learning, they also hear about the dangers or risks of cyberspace.

Immersion of children and youth into the computer culture elicits many questions focusing on the enhancement of this context for promoting teaching and learning. Concerns include issues of how children will be transformed by this interaction, what role moral reasoning has in cyberspace, whether a deeper sense of identity is fostered, and how prepared the young are to manage the risks found online.

Among the risks is the access of inappropriate information. The risk of accessing pornography usually gets the most attention in the media, but there are other inappropriate sites. These include sites that sell guns, drugs or alcohol; that advocate illegal activity; that risk the privacy of youth; that promote violence and hate; that are devoted to cults; that provide instruction for building bombs; that contain obscene information; and that promote racist propaganda. Online advertising can also be problematic for young people who have difficulty discriminating between content and ads. Young people often lack critical evaluation or judgment skills to discern good from bad or what is safe from what is a risk. Online resources, including Cyberangels, SafeKids, and the Office of Educational Technology, are available to assist parents, teachers, and students in

responding to problematic online experiences, but more direct instruction in preventative online procedures has often been overlooked (Berson & Berson, 1999; Berson, Berson & Ralston 1999).

Aside from accessing offensive content online, students also may engage in problematic online behaviors. Computer misconduct can be more tempting in an environment that at least appears to be anonymous and devoid of standard rules of conduct. The computer culture facilitates maturation of youth who can presume status and power regardless of age online. The risk of this interaction is the isolation and depersonalization of young people, while becoming members of a global community with little adult regulation of movement and behavior.

Although educators have begun teaching the concepts of global understanding, multicultural respect, diversity, and tolerance, the global access via the Internet is not automatically accompanied by global understanding. Children may lack instruction in prosocial behaviors online that may assist them in interacting with individuals across the global community. These skills may combat students' loss of perspective that other opinions can be viable or at least should be addressed in a respectful manner. The development of prosocial actions include several classes of behavior, including: (a) positive social interaction skills such as cooperation, sharing, kindness, helping, showing affection, and verbalizing feelings; (b) self-regulation and achievement behaviors such as persistence, independence, responsibility, and a willingness to tolerate minor delays; and (c) creative fantasy and imaginative play. (Calvert, 1999, p. 209).

"Children tend to personalize computers and accord them intelligence, wisdom, and authority" (Healy, 1998, p. 192). We can celebrate students' opportunities to make connections with people around the world, but the concept of community necessitates a foundation in values, empathy, and human interrelationships. The cyberworld can confuse the human-computer interface and thus impact prosocial development. Sherry Turkle's (1995) analysis of young people's experiences suggested that real and virtual interactions are complementary but diverse processes.

> The new practice of entering virtual worlds raises fundamental questions about our communities and ourselves...For every step forward in the instrumental use of a technology (what the technology can do for us) there are subjective effects. The technology changes us as people, changes our relationships and sense of ourselves....There is no simple good news or bad news. (Turkle, 1995, p. 232)

Foster the Development of the Skills, Knowledge, and to Participate as a Good Citizen in a Democratic Society

In the closing of his presidential address at the 1999 National Council for the Social Studies (NCSS) Annual Conference in Orlando, Florida, Richard Theisen succinctly captured the essence of the social studies: "We have a mission, the education of children and young adults for citizenship." (see Richard Theisen's presidential address in its entirety, 1999) While Theme 10 of the National Standards focuses on Civic Ideals and Practices, the standards make clear that teaching the knowledge, skills, and dispositions of citizenship permeates all ten themes. (See the National Council for the Social Studies' Ten Themes, 1994) It is important for social studies teachers to realize that preparing students to take on the role of citizenship is an ongoing process. Because of available interactive technologies such as the Internet, the social studies classroom has the potential to revitalize the traditional notions of citizenship education that focus on "the documents and procedures of republican government, the accomplishments of our country and typically adopts an assimilationist rather than multicultural view of history" (Cogan, Grossman, & Lei, 2000, p. 50). However, research continues to suggest that despite the perceived potential

of software and, in particular, the Internet, many social studies teachers rarely utilize such tools as part of the process of educating future citizens (Berson, 1996; Erhman & Glenn, 1991; National Assessment of Educational Progress [NAEP], 1999).

The challenge in preparing social studies teachers to use technology begins by highlighting how technology can be used to encourage inquiry, perspective taking, and meaning making and thus facilitate "civic learning, deliberation, and action" (Cogan et al., 2000, p. 50). This begins with demonstrating the power of technology to support specific social studies activities and projects that together center on the development of children's (a) "personal civic beliefs," (b) "capacity for social and public action," (c) "ties to their localities and the world outside," and (d) "awareness of past present and future" (Cogan et al., 2000, p. 50). Providing such examples of what is possible when teachers within their social studies classrooms utilize emerging technologies is a vital first step in preparing teachers to fulfill *the* mission of the social studies.

Development of Personal and Civic Beliefs. As Cogan et al., (2000) noted, teaching the personal dimension of citizenship in terms of developing a "coherent moral dialogue between ourselves and the world" is a difficult task in any social studies classroom (p. 50). However, an examination of the power of the Internet to disseminate multiple perspectives helps prepare social studies teachers to not only explore and harness the power of the Internet, but also develop an understanding of the responsibilities and consequences for which they must prepare their students when navigating, participating, and interacting with others on the Web. An excellent lesson designed to develop on-line research skills while allowing students to examine current perspectives on controversial issues in the context of the Bill of Rights is The Bill of Rights in Current Events. The lesson clearly explicates strategies for navigating the Web. While practicing such strategies through locating current issues, students complete a matrix in order to evaluate the web sites in terms of their authority and accuracy. Such activities provide a solid foundation for discussing the nature of the Internet while introducing students to the importance of learning to become discriminating and responsible consumers of, or producers on, the Internet.

Capacity for Social and Public Action. Currently there are many sites that provide opportunities for students to engage in social and public action. Project Vote Smart can be used to enhance the more traditional form of social and public involvement found in many social studies classroom, in terms of developing political literacy and encouraging political participation. Through Project Vote Smart, students can quickly locate historical documents, government representatives, and current issue statements of candidates running for political office. Teen Hoopla provides teachers with a powerful resource to encourage social and public action. Teen Hoopla connects students to local, national, and international activist sites that allow students to either organize community action projects or join such international organizations as Greenpeace, Habitat for Humanity, or Amnesty International. Teen Hoopla highlights the potential of the Internet to heighten students' awareness of such local and global issues as environmental pollution, while providing teachers and students with avenues, ideas, and plans for social action.

For example, from the Teen Hoopla Web site, a class can access Scorecard, which is a free and easily accessible source for environmental information. To access data that identifies local polluters within a community, all that is initially required of students is their zip code. Once information is gathered as to who and what is polluting the community, Scorecard provides a range of ideas and avenues for taking action. This includes examples of how to write letters to the EPA, how to access environmental discussion lists, and details of local environmental groups. If teachers and students choose to develop a more concerted plan of action, the

Constitutional Rights Foundations provides a short nine-step-guide, designed to empower teachers and students to plan and implement civic action projects within their local communities. Such a plan could then support students' ongoing action projects within the social studies classroom against local polluters identified through Scorecard.

Development of Ties to their Localities and the World Outside. In this era of globalization, the Internet provides social studies teachers the opportunity to expose their students to multiple perspective and contexts beyond the textbook through participation in many telecollaborative projects. The Internet also offers the social studies teacher the chance to participate in many telecollaborative projects that can quickly and efficiently organize links between students in different towns, states, and nations. A number of sites, such as the United Nations Cyber School Bus, the Global School House Collaborative Learning Projects, Unicef Voices of Youth Project, Eduplace projects, and the International Education and Resource Networks Projects offer a diverse range of projects and project archives that are clearly defined in terms of scope, sequence, and time to complete. Through regularly accessing such sites, social studies teachers have the opportunity to bring their students into many projects that go well beyond the confines of the traditional social studies classroom.

One such project that began in March 2000 is the Global Perspective: Quality of Life Project developed at Camrose Compsite High School in Alberta Canada. The project, while simple in design, serves as a powerful example of how technology can be used to encourage inquiry and enhance social interaction with fellow students and experts. The project begins with students (grade 10-12) working with the United Nations' Index of Human Development to explore and develop definitions and descriptions of the phrase *quality of life*. These definitions are emailed and posted on the project's Web page for all participants to evaluate in terms of their own life experiences. The final goal is for each school to email a report that includes a broad based finalized definition of the *quality of life*, along with a summary of student thoughts. Such an activity that offers the possibility of exploding ethnocentric conception of living conditions in many areas of the world would not be possible without the Internet.

Awareness of Past, Present and Future. The Internet also serves as a powerful tool for enhancing young citizens' understandings of the interconnectedness of the past, present, and future. Available technologies provide social studies teachers with the opportunity to undertake a major local history project that develops over a number of years. Students participate in organic and authentic living history projects, in which transcripts, analysis, and artifacts are stored and maintained within online collections and virtual community museums. An exceptional example of what is possible in the social studies classroom when technology is used to support the doing of history is the Bland County Historical Archives at Rocky Gap High School in southwest Virginia.

The Bland County History archives began in 1993, with students from the American History class collecting oral histories from the community that initially focused on memories of the 1930s. The local history and technology class then began to scan historical documents and photographs, save transcriptions as html, create a searchable database and thus create an online historical archive of their community. Through the use of available technologies, it has become an ongoing, durable and organic local history project. This place-based project currently has over 300 oral history interviews with transcripts, 80 cemetery catalogues, over 700 scanned photos, searchable databases for transcripts, cemeteries and photos in the online archive and an actual archives room with all the materials in an accessible and organized location. The melding of

technology and "history of place" at the community school level through the development of an online historical archive, has allowed Rocky Gap students to learn about the issues and concerns facing their community today through paying attention to and preserving stories and evidence of their community's past.

Contribute to the Research and Evaluation of Social Studies and Technology

Given the extent to which new technologies such as the Internet have influenced educational practice, it is imperative that researchers investigate how technology influences learning and teaching. These investigations should reflect recent changes in the nature and methods of research on technology (Honey, Culp, & Carrigg, 1999). While there is little empirical evidence that the use of technology improves student learning, the descriptive evidence of technology's affect on student social studies experiences is strong.

A review of this descriptive evidence suggests that technology can play an effective role in the social studies classroom. Social studies educators must be able to meet the demands of the electronic or knowledge age and must deal with the impact of technology on the development of society (Gooler, 1995). Within a democratic society, citizens need various types of knowledge; consequently, educators must assess how new technology driven forms of knowledge advance the purposes of social studies education. Concern about the social consequences of technology have driven some to suggest de-emphasizing technology in education (Stoll, 1999), while others have argued that effective instruction (particularly social studies education) must include a range of computer technology skills (Martorella, 1997). At a minimum, social studies instruction must account for the changes in society resulting from the use of technology (Glenn, 1990) and must consider the critical thought required for processing information generated by technology (Parker, 1991).

Technology can make more information available to students than ever before. The Internet, in particular, has dramatically increased the amount of information being used by teachers and their students (Becker, 1999). When used within an instructional strategy, the Internet supports National Council for the Social Studies' curriculum standards (Johnson & Rector, 1997). Technology also offers a new way for educators to use students' lived experiences as content for social studies instruction (Tally, 1996). Researchers should continue to evaluate the influence of technology on social studies, and should seek to provide exemplary models for the infusion of technology within social studies methods of instruction.

Implications/Conclusion

The five principles of infusing technology in social studies teacher preparation programs set forth at the beginning of this article are a minimal platform for the use of technology in social studies. If technology is truly to impact both pedagogical competence, as well as increase content knowledge in the social studies, the apex of the instructional delivery system —the instructor—must be the continual focus of these beliefs. As such, both professional development and research efforts must be at the forefront of infusing these principles, if instructional efforts involving technology and the social studies are to truly reform classrooms.

Using technology successfully requires a constant and consistent training program. This should begin as part of a preservice training program and continue throughout a teacher's instructional career. This is no longer a luxury but a necessity. A rule of thumb among those working with hardware and software systems is "In six months—no matter what system you have—its

obsolete." Put another way, the technology classes and training provided students at the undergraduate preservice level may not be applicable by the time they graduate and take their first teaching position.

As equally as important as training is the need for more research centering on the effects of technology in social studies classrooms. To date, there are no longitudinal studies at the elementary, middle, high school, or postsecondary environments by which to judge the effectiveness of technology on either student or instructional performance in the social studies. Much of the data are short term, single concept research analyses. There are no metacognitive studies involving technology and social studies as there are in mathematics, reading, and science.

The challenge then, over the next decade, will be to provide quality training to all social studies educators that incorporates the principles noted, here while gaining insight into the effectiveness of the medium and the message through research. Both parts of this balancing act are key. Otherwise, we may become a victim to what a Texas School Superintendent recently said about technology: "Sometimes I feel like I fell off the technology train and I can't catch up to it."

References

Becker, H. J. (1999). Internet use by teachers [Online]. Available: http://www.crito.uci.edu/TLC/findings/Internet-Use/startpage.htm

Berson. M.J. (1996) Effectiveness of computer technology in social studies: A review of the literature. *Journal of Research on Computing in Education, 28*(4), 486-499.

Berson, M. J., & Berson, I. R. (1999). Safe web exploration. In J. A. Braun & C. F. Risinger (Eds.), *Surfing social studies: The Internet book*. Washington, DC: National Council of the Social Studies.

Berson, M. J., Berson, I. R., & Ralston, E. (1999). Threshing out the myths and facts of Internet safety: A response to "Separating Wheat from Chaff." *Social Education, 63*(3), 60-61.

Brown, M. M., & Richard J. (2000). Human development report 1999. Retrieved February 23, 2000 [Online]. Available: http://www.undp.org/hdro/authors.html

Calvert, S. L. (1999). *Children's journeys through the information age*. Boston: McGraw-Hill.

Cogan, J.J., Grossman, D., & Lei, M. (2000). Citizenship: The democratic imagination in a global context. *Social Education, 64*(1), 48-52.

Ehman, L.H., & Glenn, A.D. (1991). Interactive technology in the social studies. In J.P. Shaver (Ed), *Handbook of Research on Social Studies Teaching and Learning* (pp. 513-522). New York: Macmillan Publishing.

Glenn, A. D. (1990). Democracy and technology. *The Social Studies, 81*(5), 215-217.

Gooler, D. D. (1995). Perspectives: Technology as content in social studies curricula for young learners. *Social Studies and the Young Learner, 7*(3), 27-30.

Healy, J. M. (1998*). Failure to connect: How computers affect our children's minds—For better and worse*. New York: Simon & Schuster.

Honey, M., Culp, K. M., & Carrigg, F. (1999). Perspectives on technology and education research: Lessons from the past and present [Online]. Available: http://www.ed.gov/Technology/TechConf/1999/whitepapers/paper1.html

Johnson, C., & J. Rector. (1997) The Internet ten: Using the Internet to meet social studies curriculum standards. *Social Education*, *61*(3), 167-169.

Martorella, P. H. (Fall, 1997). Technology and social studies: Which way to the sleeping giant? *Theory and Research in Social Education*, 511-514.

Media Awareness Network (2000). Web awareness: Knowing the issues. Retrieved March 6, 2000 [Online]. Available: http://www.media-awareness.ca/eng/webaware/home.htm

National Assessment of Educational Progress (1999). Results from the 1998 Civics Assessment. Retrieved January 30, 2000 [Online] Available: http://www.nces.ed.gov/nationsreportcard/civics/civ_new_results.asp

National Council for Social Studies. (1997). *National Standards for Social Studies Teachers*. Retrieved October 15, 1999, [Online]. Available: http://www.socialstudies.org/standards/teachers/home.html

Parker, W. C. (1991). *Handbook of research on social studies teaching and learning*. New York: Macmillian Publishing Company.

Stoll, C. (1999). *High-tech heretic*. New York: Doubleday.

Tally, W. (1996). Up against authentic history: Helping teachers make the most of primary source materials on-line. *Electronic Learning, 16*(2), 40-41.

Theisen, Richard (1999). Social studies education: A challenge, a choice, a commitment. Keynote Address, NCSS Annual Conference, Orlando, November 1999. Retrieved March 1, 2000 [Online] Available: http://www.socialstudies.org/conference/orlando/presaddress.html

Turkle, S. (1995). *Life on the screen: Identity in the age of the Internet*. New York: Simon & Schuster.

U.S. Department of Commerce (2000). Americans in the information age: Falling through the net. Retrieved February 16, 2000 [Online]. Available:

Contact Information:

Cheryl Mason
Curry School of Education,University of Virginia
405 Emmet St., 235 Ruffner Hall
Charlottesville, VA 22903