Technology Use, Women, and Global Studies in Social Studies Teacher Education

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Abstract

This paper, which won a best paper award at the 2004 annual conference of the Society for Information Technology and Teacher Education, is a report of findings related to the introduction of technology in a course, entitled Women of the World, in a master's degree program in the teaching of social studies. Recent academic research and journalistic commentary have pointed to a gender gap in technology use. The authors address this problem by infusing technology into an interdisciplinary course focused on women's lives within a global context. By employing technology to teach innovative curriculum dealing with the status of women worldwide, the course attempts to motivate students, most of whom are women, to use technology in teaching. This strategy has succeeded by linking digital technology with powerful social studies content that holds considerable relevance to future teachers' professional and personal lives.

Numerous reports have been issued over the last decade about the failure of schools, colleges, and industry to forge connections between women and computers. *Tech-Savvy*, a report published by The American Association of University Women (AAUW) in 2000, documented the degree to which girls find the "computer culture" to be an unattractive one. Research conducted by the UK's National Training Organisation (NTO), reported in *The Guardian* (Haughton, 2002), showed young women's views of employment in the information communications industry to be "uniformly negative." The American press has regularly run features about the nonparticipation of girls in school computer classes. "Computer Classes Lack Key Feature: Girls' Faces," one in a series published by the *Sacramento Bee* (DeBare, 1996), quoted Jo Sanders, director of the Computer Equity Expert Project: "Usually starting around the middle school years and puberty, girls start to get a message that computing is for boys…. They get the idea that computing is male, and then it becomes a self-fulfilling prophecy."

Strategies to combat the computing gender gap have been advanced by teachers' groups, such as the National Education Association (NEA). Speaking for its members at a press conference reported in the *Chicago Tribune* (Fountain, 1998), NEA's Don Cameron commented on both the digital divide and the gender gap in technology use:

> Not only must we integrate technology into our classrooms and provide more resources to schools in low-income areas, we must recognize that boys and girls approach technology in different ways.... As educators we must develop strategies and programs to encourage girls.

The Anita Borg Institute for Women and Technology (IWT, 2005), an academic and industry group, has articulated a mission "to increase the impact of women on all aspects of technology" and "to increase the positive impact of technology on the lives of the world's women." IWT sees these agendas as "two sides of the same coin." In *Tech-Savvy*, the AAUW (2000) recommended that technology be infused across all disciplines and school subject areas, that engaging and relevant activities and topics be selected in these areas, and that content applications be developed for using technology to teach specific subjects.

This paper documents the efforts of a social studies teacher education program to respond to the recommendations made by AAUW and other groups, through strategic use of technology in a preservice, master's level course on teaching about the world's women. To this end, the following contextual factors were considered: Teachers today are overwhelmingly female. Most teacher education programs pay little attention to gender as part of their formal curriculum. Most accredited programs do, however, pay some attention to technology. What seems to be needed, if change in classrooms is to be encouraged, are models of content applications pertinent to subject matter of potential interest and concern to women preparing to become social studies teachers. By capturing their interest in some of the ways technology can enhance teaching and learning in social studies, we hope to make it more likely that graduates of our program will introduce technology in their own social studies classrooms.

The Problem

Technology can, at least in theory, have a "profound effect" on social studies, a subject traditionally dominated by transmission-oriented teaching. Technology use can create more student-centered, constructivist approaches to the subject than have characterized the field in the past (see Doolittle & Hicks, 2003, for a review of the term *constructivist* as used within technology-oriented social studies teacher education; for an earlier perspective on this subject, see White, 1995). As Goodson and Mangan (1995) have shown, some secondary-level school subject cultures are more willing than others to incorporate technology into their instruction. Their study found that history and geography teachers were among those teachers most resistant to changing their traditional modes of instruction to accommodate the use of computers in classrooms. Given traditional patterns, the incorporation of technology typically demands reconfiguring practice on a variety of levels. It is perhaps not surprising, then, that many social studies teachers have failed to embrace the use of technology.

Much the same can be said about the problem of gender in the teaching of social studies. Despite the enormous impact of the feminist revolution on the discipline of history, as evidenced by changes in course offerings at the college level and in books and journal publications, school-based social studies has made only minimal adjustments to its

subject matter to reflect the fact that half the world's population is female. Secondary-level textbooks in American and world history, for example, remain dominated by political and economic history focused on the "great men" of the past. An occasional sidebar on a prominent woman such as Joan of Arc or the progress of women's suffrage worldwide, can be found in many mainstream textbooks, but overall attention to women's lives and concerns remains rather shallow.

According to research by the American Association of Colleges of Teacher Education, few teacher education programs provide much coverage of the role gender plays in the educational process (Blackwell, Applegate, Earley, & Tarule, 2000). This is certainly an ironic finding, given the fact that the vast majority of teachers today are women. In a key report on this subject published more than 10 years ago, the AAUW (1992) pointed out the many ways in which schools "shortchange" girls. Although there has been some progress since then, there is still a gender gap in the areas of mathematics and science, as there is in technology. Other problems, such as sexual harassment in schools (Stein, 1999), also persist. In short, gender can play a prominent role in students' experiences of schooling. Despite this reality, though, teacher education preparation continues to ignore this important subject.

Introducing Technology in the Women of the World Course

The Program in Social Studies at Teachers College, Columbia University, offers a course that is unusual in the world of teacher education, as far as we can tell. Margaret Crocco, a member of the program's faculty, created the course, Women of the World: Issues in Teaching, 10 years ago, in order to give sustained attention to teaching about gender within a cross-cultural social studies framework. The course became part of the program's regular offerings for its students, most of whom are enrolled in the preservice program and working toward New York State secondary certification. A content-oriented elective, this course and others like it at Teachers College are distinguished from counterparts offered in the graduate programs at Columbia University because they combine considerations of school-oriented social studies content with considerations of pedagogy. New York State demands of prospective social studies teachers solid preparation in global history and geography, along with American history and geography, economics, and civics. Women of the World helps meet New York State certification requirements and is also aligned with National Council for the Social Studies (1994) curriculum standards.

As technology has become more significant in teacher education over the last 5 years, Women of the World has expanded its focus to include an evolving technological dimension. The word "evolving" is used here to suggest that our understandings as instructors about the best means of infusing technology into the course have changed over time. We have altered our approaches based on ongoing feedback solicited from students, as well as survey data about technology skills and use generated in preservice courses throughout the program.

Technology infusion in the Program in Social Studies received a significant boost from the award of two technology grants to Teachers College in 2000 by the U.S. Department of Education. Together, these Preparing Tomorrow's Teachers to Use Technology (PT3) Catalyst and Implementation grants encouraged widespread, renewed emphasis on adapting technology to specific subject cultures in the departments associated with teacher preparation. At the same time, the college hired an educational technology specialist, Judith Cramer, who has worked closely with the Program in Social Studies over the past 3 years to assess and address its needs for greater attention to technology in the preservice master's program. Changes have occurred in both methods and content courses offered by the program. Most recently, the program purchased a mobile laptop

laboratory containing 20 iBooks, a facility which has made possible further incorporation of computers into course offerings.

A key philosophical component of the Program in Social Studies' approach to teacher preparation is our belief that intelligent use of technology in social studies classrooms can produce more engaging, student-centered teaching. Given this conceptual framework, no more compelling place for introducing technology existed at the start of this process of adaptation than the Women of the World course. Among many rationales that could be offered for technology integration in this course, by far the most compelling was the opportunity it presented to use technology to interrupt patriarchy. From an immediate, practical standpoint, our aim was to empower women to use technology as future social studies teachers. As evidenced by national and state standards for teacher preparation—those promulgated, for example, by the National Council for the Accreditation of Teacher Education (NCATE), or the New York State Department of Education—facility with technolo gy has become an essential skill for teachers today. Women teachers lacking proficiency in this arena are at a disadvantage in the always competitive social studies teacher market.

From the perspective of a course on global women, technology can also be seen as one of the most powerful tools available to women today to interrupt the inheritance of patriarchy. As a creative, connective force, technology like the Internet and World Wide Web can put women in touch with other women across the globe, making visible and immediate extensive knowledge about their lives, struggles, rights, and histories. Such connections facilitate collective assessments and insights into patriarchy's impact in diverse cultural contexts. The software used in the course offers teache r education students varied means of manipulating and displaying this data effectively through semantic maps, graphic organizers, and timelines, all of which help illuminate matters of relationship, causality, and sequence for young students in social studies classrooms.

Course texts include Gerda Lerner's major contributions to historical theorizing about the origins of patriarchy: *The Creation of Patriarchy* (Lerner, 1985) and *The Creation of Feminist Consciousness* (Lerner, 1992). In the former work, Lerner lays out what Mary Beard once called the "long history" of patriarchy in Western civilization, its deep roots, silent hegemony, and strong tentacles. In *The Creation of Feminist Consciousness*, Lerner demonstrated that breaking through patriarchy requires women's education about their situation and concerted, communal, organized action to oppose this inheritance. As Lerner suggested in this book, only through shared understandings of how patriarchy has shaped human societies can women begin to come together to change traditions of relationship and power, which have defined them as lesser than men and limited their possibilities for human action, self-determination, and creativity. Education is pivotal to creating feminist consciousness, according to Lerner, as well as to bringing about social change. Mastering the tools of technology adds tremendous value to education by bringing knowledge of myriad topics related to the world's women within close reach of most students today. Social studies teacher educators have pointed to the singular benefits of technology in global education (e.g., Merryfield, 2000; Zong, 2002), especially as a tool for gathering up-to-date information about regions of the world and for communicating directly with individuals in distant places.

These benefits help address two formidable challenges in teaching global studies: the difficulty of finding appropriate, readily available course materials, especially materials that are not outdated by the time they enter the classroom, and the problem of moving American students away from ethnocentric thinking about world events (Gaudelli, 2002). If young students are able to access worldwide newspapers in English online, for example, perspective-taking about global issues and events becomes a far more

manageable process. Those looking at feminist issues, in particular, can use the Internet and educational software to make connections across time and space that reveal ways in which the world's women share problems, but often differ about the most appropriate means of addressing those problems.

Strategy

In Women of the World, we make the assumption that (a) women are capable of mastering the use of technology; (b) that technology can bring "added value" to the social studies classroom; and (c) that women social studies teacher educators who use technology intelligently can be beneficial role models for future teachers, female and male. We also built our strategy around the notion that education in technology will empower women but only if women are motivated to learn about it. In other words, technology can potentially create the very conditions Lerner calls for as necessary in creating feminist consciousness: education that illuminates the history of patriarchy and its continuing impact on women's lives and concerted action by women to change these conditions.

Thanks to the PT3 grants and 3 years of experimentation in merging technology into the Program in Social Studies, we learned valuable lessons about what works and what does not work. We discovered, first, that cutting-edge digital applications were of little interest to student teachers in New York City (NYC)—land of the digital divide (and many other divides, as well). We must emphasize the discontinuity between facilities at Teachers College, which include excellent technology resources, and facilities in the NYC public schools, which present a strikingly different picture. Though a few schools are well equipped with hardware and software, the vast majority have only one, or perhaps two, computers in classrooms. Often these computers lack Internet access or are not working at all. Even in schools where computer lab space is available, student teachers and practicing teachers tell us that these facilities tend to be monopolized by science, mathematics, and computing classes. Many NYC public school students do not have access to a computer at home.

Given all these hurdles, motivating NYC social studies teachers to go to the trouble of introducing technology into their classrooms can be a challenge. These teachers need to see tangible results, results that demonstrate the "added value" of using technology—it helps a teacher do something new, or it helps a teacher do something better than could be done without the technology—with a minimum of expense, fuss, and time on their part or their students' part. Thus, technology-based lessons must be highly focused, to accomplish one or both of these aims within a limited timeframe. In our preservice courses, we recognized that we could help our students succeed within these rather severe limitations by drawing on technological skills they may have already acquired or by focusing on technology that does not require extensive in-class preparation time.

We settled on several practical yet potentially creative software programs for the Women of the World course (e.g., Excel, Inspiration, Timeliner, and Netscape Communicator for creating WebQuests). We looked for digital tools that are attractive, easy to learn, inexpensive, and therefore, generally accessible, and adaptable to a wide variety of topics and settings. We designed projects for the students in which the use of digital tools enabled significant skill dimensions in the teaching of social studies: the organization of complex data, the uncovering of misconceptions in thinking about social studies topics, the understanding of relationships between historical narrative and other forms of representation, such as literature, chronology and change, and cause and effect. As indicated before, we also brought a set of strong values to this enterprise that dictated the

need for these technology applications to enhance the constructivist, student-centered pedagogy we wish to foster in our teacher education program.

By design, then, rather than push the technological envelope, we emphasized the creative work of conceptualizing with technology tools of the sort that our students might find in the urban schools where they would be doing their student teaching and getting their first jobs. Our several years' experience incorporating technology content into a variety of courses in the Program in Social Studies had gradually disabused us of the notion that cutting-edge applications would make their way into NYC high school classrooms. Instead, what was innovative in our approac h was to use software and Internet tools with material on the world's women.

Assumptions and Methods

At every point we used our kit of digital tools to enhance teaching about the world's women. In introducing these tools in a class that meets for 100 minutes once a week over the course of 15 weeks, we assumed basic familiarity with the computer and standard software packages like Microsoft Office. With 20 to 25 students enrolled in each of the past 3 years (90 to 95% of whom were female), basic computing was a challenge for only a few. This represents a significant improvement from even 5 years ago when some students, typically middle-aged women, were unfamiliar with ordinary functions like email. We told students on the first day of class that they would be obliged to use computers both for in-class work and out-of-class assignments. We reminded them that Teachers College offers a full array of technology workshops free of charge for preservice students. These workshops could help them "get up to speed" on specific procedures—email, for instance, would be necessary for participating in online discussions about course content—and could also be taken to supplement in-class instruction on software, such as Inspiration, Timeliner, and the various multimedia tools they would need to carry out class assignments.

Each year, Cramer provided a one-session introduction to the software programs, Inspiration and Timeliner. Crocco modeled Inspiration, a semantic mapping tool, by leading students in a brainstorm on Africa. This activity served as an introduction to a unit on African women that began with discussion of the many misconceptions Americans tend to have about the complex histories and cultures of the African continent. Students also gained exposure to Inspiration through other social studies classes in which Cramer demonstrated digital tools. Crocco also discussed WebQuests each year, but in years 1 and 2 she referred students to models on the Internet, including those archived on Bernie Dodge's Web site (http://webquest.sdsu.edu/webquest.html). By the third year, Crocco had created her own WebQuest on the novel *Shabanu* (Staples, 1992), one of the course readings. Students accessed the *Shabanu* WebQuest on Crocco's Web site (http://www.tc.columbia.edu/faculty/crocco). This classroom experience provoked a lively discussion about controversial aspects of the novel, especially in light of another required course reading, Chila Bulbeck's (1997), *Re-orienting Western Feminisms*.

Actual time spent on in-class instruction with the software was minimal. Demonstration copies of Inspiration, provided by the publisher, facilitated student use of this software at home. Students found it, as well as Timeliner, the Microsoft Office suite, and various Web authoring tools in all the Teachers College computer labs. Support, reinforcement, and extension of skills all took place outside of class, through workshops or on-demand help in the labs, or in other social studies courses. In short, we assumed a range of student skill levels, gave a modicum of training in class, and left these adult students to find any additional support they needed on their own.

Student Work

The projects devised for students in the course employed these digital tools in diverse ways but always for the purpose of enhancing course material and outside research about women's lives in a global context. The midterm project called for an oral history with two women of generations different from the students' own that would place these individual lives within a historical context. Several students chose to map their subjects' lives with Timeliner.

End of term projects gave students various options requiring the use of some form of technology and allowing for differing student interests and comfort levels with computers, as well as the variety of disciplinary backgrounds represented in the course. Over the years, students have enrolled from programs in Art Education, English Education, International Education Development, and Music Education, among others. The fact that students read a number of novels in the class reflects the emphasis on interdisciplinary instruction in social studies classes today, especially at the middle school level.

One option for the final project required preparation of a PowerPoint presentation or WebQuest on Buchi Emecheta's (2002) *The Bride Price*, a novel about the fate of a young girl whose fortunes take a disastrous turn after the death of her father. Another called for students to use Inspiration with a database or spreadsheet application to create new knowledge from information in Joni Seager's (2003) *Women of the World Atlas* and the United Nation's CyberSchoolBus Web site (http://www.un.org/Pubs/CyberSchoolBus). A third option invited students to make use of Timeliner software to create knowledge about the Julia Alvarez (1995) novel, *In the Time of the Butterflies*. Students were asked to create and integrate parallel timelines to explicate the structure of *In the Time of the Butterflies*, by comparing the "fictive events" portrayed by Alvarez and the "real events" of the Trujillo period in the Dominican Republic.

During the third year of the course, students were also required to participate in online discussions, which extended class time beyond the Teachers College standard of 100 minutes per week. Students were required to make three postings over the course of the semester on the following topics: (a) strategies for resisting patriarchy and getting beyond its legacy; (b) concrete ideas for teaching about African women; and (c) strategies based on various approaches in the readings for doing gender-sensitive global education. One response addressing the subject of teaching about African women gives a sense of the ways in which themes from the course have been assimilated by students:

> In teaching a unit on African women I think it would be helpful to zero in on a few specific questions/themes. Tackling a subject like "African women" is so broad, especially —as we were reminded in the video last week—because women in different African regions and countries (and within the same country) lead vastly different lives. I like the idea of hooking students by starting the unit with some blatantly stereotypical and common misconceptions (i.e., "Women in Africa live in rural communities and work in agriculture.") and then using these stereotypes, which could be generated by students' semantic maps, to formulate thematic and guiding questions. For example, "What role do women [in a particular country] play in the work force?" or, "What is a woman's earning power [in a particular country]?" The teacher could then divide the class into small groups and have each group investigate the questions within a specific country. The groups could do research-based and creative assignments, by, for example, writing a short story or a brief screenplay about hypothetical working women in their country. Groups could present their findings to the class, perhaps

in a "marketplace" where groups set up displays. The class could also compile a portfolio of their work which would include analysis of women in a number of countries.

In general I think it's important for students to put faces to theoretical questions. This could be accomplished by showing students videos and movies, and having them read women's poetry, letters, and memoirs.

The range and quality of students' project work in response to course requirements has been impressive. Several students have created WebQuests; others have used Excel and Inspiration to display data about complex topics, like women and violence worldwide. A number have developed elaborately articulated timelines about *In the Time of the Butterflies* and indicated how they would implement a similar project in their classes. Some students have gone well beyond the requirements. An English Education student created an entire Web site with accompanying WebQuest devoted to the topic of Culture vs. Human Rights, as exemplified thematically in *The Bride Price* and *Shabanu.* Several social studies students decided to use both Inspiration and Timeliner in their projects on the Alvarez novel. Each year *In the Time of the Butterflies* was the course reading most often selected for projects by students. Most social studies students thought that it would work well in their classrooms because many NYC public school students have Dominican backgrounds.

The high quality of student work bears out our initial assumption that women can use digital tools efficiently and creatively if they have sufficient motivation. To gauge how motivated our students would be to use these tools in their teaching after they left us, we conducted surveys in the second and third year of our technology integration initiative with the Women of the World course. The surveys were also intended to help us address the specific issue of differing skill levels among entering students, which we had encountered and had attempted to respond to in the first year of our technology integration efforts in the Program in Social Studies as a whole. Student responses to questions about technology use posed in the surveys have been overwhelmingly positive.

Student Attitudes

The survey given to students at the end of the Women of the World course contained five questions about technology that were embedded in a series of questions about the required readings, video presentations, and matters of class format. This approach was used to distract students from thinking that the focus of the study was exclusively technology, which might have skewed the results. Students were instructed not to put their names on these surveys and encouraged to give honest answers that would help instructors improve the course overall.

The survey queried students about the projects they had selected, their evaluation of the support they had received for the technology components of these projects, their sense of the technological mastery they had achieved, their views on the utility of the digital tools introduced in the course for the teaching of social studies, and their suggestions for possible other uses for these digital tools in the context of social studies. The surveys called for open-ended responses to the questions. Analysis of responses followed the constant comparative method in identifying themes across individual survey responses.

Clearly, the favorite technology introduced in this course was Inspiration. As one student put it, "I just loved Inspiration and Timeliner. Both could easily be adapted for an English curriculum as well as social studies." Inspiration's brainstorming feature, its semantic

mapping capability, and its many templates for charting different kinds of relationships captured the greatest student acclaim. Students also praised Timeliner, but found it to be more limited in its potential application. Except for one dissenting opinion across two sets of responses ($N = 25$ in Year 1; $N = 16$ in Year 2), students indicated they were relatively comfortable with the software, although a few noted that additional practice would surely solidify their skills. Students recommended more attention to PowerPoint, since it would "be useful in helping secondary students organize information." We have deliberately resisted attention to this tool, however, because it is so widely used and because its overuse in social studies classrooms tends to reinforce traditional modes of teaching the subject. We also spent little formal instructional time on Internet research. Throughout the course, we alerted students to excellent sites for gaining reliable information about the world's women. Students were encouraged to consult an article published in the NCSS journal, *Social Education* (Flournoy & Patterson, 2003), which reviewed useful sites for teaching about the world's women. We felt that the Internet skills students brought to the course were sufficient to guarantee that the "added value" from this technology resource would be incorporated.

A few students discussed technical troubles, such as software glitches and an inability to save material to a disk in a networked lab. A few people indicated that they "hated technology" or felt intimidated by it. But the most common complaint over the 2 years of these surveys dealt with students' views about the feasibility of applying digital technology to NYC public school classrooms. The lack of resources in the schools in which these individuals were student teaching made them question the degree to which the Program in Social Studies featured technology projects in their courses. This is an understandable concern, which was expressed far more emphatically in the first year's surveys than the second year's surveys. The authors attribute the diminution of this criticism, in particular, to a midcourse correction in the method of technology integration made at the start of the second year in the Women of the World course and in other preservice courses in the Program in Social Studies. This correction took the form of requiring students to "scale' their technology-based lesson plans and projects so that they could work under different circumstances—that is, in any setting, from a one-computer classroom to a fully functioning computer lab. A complete account of how the authors and colleagues in the program arrived at and implemented this and other midcourse corrections has been given in a recently published article (Crocco & Cramer, 2004).

Conclusion

Our experiences with technology integration in this course indicate a certain level of self-consciousness on the part of (at least some) women about the importance of technology for women, students, and the teaching of social studies. "Teachers don't get enough technological instruction"; "technology will empower and motivate kids"; "women need to become technologically versed"—these are some of the comments from the surveys that reflect this awareness. Clearly, these students felt empowered by the application of appropriate digital tools to their work in understanding past and present worldwide manifestations of patriarchy. They used technology in a creative and efficient manner to enhance their understanding of a subject about which most of them were motivated to learn; otherwise, they would not have enrolled in this elective course. Through their use of software, WebQuests, and asynchronous threaded discussions, students came to see technology adaptation to social studies as part of the explicit curriculum of the field. Through modeling by both female instructors in the course and the enthusiastic reception to this technology use by many of their peers, they gained a sense of the creative possibilities of digital technology in social studies classrooms.

The best evidence of success in this project is the fact that many students chose to go beyond what the course assignments required, to take risks, and innovate in their use of technology. They found new ways to combine the digital tools introduced in the course, and in so doing produce sophisticated analyses of course content. However, they also showed a willingness to share these technology-facilitated findings with classmates, through postings to the Class Web, and in some cases, with the public, through publishing projects on the Internet, even though doing so was not required. This impulse to go beyond course requirements was especially heartening to the instructors, in that it suggests a comfort level typically taken as evidence of "last stage" or "innovator-level" adoption of technology in long-term studies of technology use by teachers and school communities (Fisher, Dwyer, & Yocum 1996).

Such a sense of ownership is the kind of connection between women and technology called for by AAUW and other organizations concerned with the current gender gap. No doubt, the technology available to social studies teachers will change over time, and Inspiration and Timeliner may go the way of consumer products of the past. What is most important in this work is that women find in their experiences of teacher education a reason for applying their considerable energy, talents, and creativity to using technology in a manner that will help them break free of the patriarchal inheritances of the past— by staking their claim to the opportunities afforded by an undoubtedly powerful set of tools for learning and teaching the global and yet extraordinarily intimate material that we call the "social studies."

References

Alvarez, J. (1995). *In the time of the butterflies*. New York: Plume.

American Association of University Women. (1992). *Shortchanging girls, shortchanging America: A call to action*. Washington, DC: Author.

American Association of University Women. (2000). *Tech-savvy: Educating girls in the new computer age*. Washington, DC: Author.

Anita Borg Institute for Women and Technology. (2005). Anita Borg Institute for Women and Technology overview. Retrieved March 28, 2005, from http://www.anitaborg.org/aboutus/overview.html

Blackwell, P., Applegate, J., Earley, P., & Tarule, J.M. (2000). *Education reform and teacher education: The missing discourse on gender*. Washington, DC: American Association of Colleges of Teacher Education.

Bulbeck, C. (1997). *Re-orienting Western feminisms: Women's diversity in a postcolonialist world*. Cambridge: Cambridge University Press.

Crocco, M.S., & Cramer, J. (2004). A virtual hall of mirrors? Confronting the digital divide in urban social studies teacher education. *Journal of Computing in Teacher Education, 20*(4), 133-141.

DeBare, I. (1996). *Computer classes lack key feature: Girls' faces. Sacramento Bee.* Retrieved October 25, 2002 , from
http://www.sacbee.com/static/archive/news/projects/women/wcschools.html

Doolittle, P., & Hicks, D. (2003). Constructivism and social studies teacher education. *Theory and Research in Social Education, 31*(1), 71-103.

Emecheta, B. (2002). *The bride price*. London: Braziller.

Fisher, C., Dwyer, D.C., & Yocum, K. (Eds.) (1996). *Education and technology: Reflections on computing in classrooms*. San Francisco: Jossey -Bass.

Flournoy, M.A., & Patterson, A.J. (2003). Web-based resources for teaching about contemporary women and girls. *Social Education, 67*(1), 51-53.

Fountain, M.C. (1998, November 1). New gender gap emerges in schools: Girls do not compute. (Chicagoland Final CN Edition) *Chicago Tribune*, p. 1.

Gaudelli, W. (2002). *World class: Teaching and learning in global times*. Mahwah, NJ: Lawrence Erlbaum Associates.

Goodson, I.V., & Mangan, J. M. (1995). School cultures and the introduction of classroom computers. *British Educational Research Journal, 21*(5), 613-628.

Haughton, E. (2002, March 5). Gender split. *Education Guardian*. Retrieved September 25, 2003 from http://education.guardian.co.uk/itforschools/story/0,,661709,00.html

Lerner, G. (1985). *The creation of patriarchy*. New York: Oxford University Press.

Lerner, G. (1992). *The creation of feminist consciousness*. New York: Oxford University Press.

Merryfield, M. M. (2000). Using electronic technologies to promote equity and cultural diversity in social studies and global education. *Theory and Research in Social Education 28*, 502-526.

National Council for the Social Studies. (1994). *Expectations of excellence: Curriculum standards for social studies*. (Bulletin 89.) Washington, DC.

Seager, J. (2003). *Penguin atlas of the world's women*. New York: Penguin USA.

Staples, S.F. (1992). *Shabanu: Daughter of the wind*. New York: Laure Leaf.

Stein, N. (1999). *Classrooms and courtrooms: Facing sexual harassment in K-12 schools*. New York: Teachers College Press.

White, C. (1995). The place for technology in a constructivist teacher education program. In D. Willis, B. Robin, & J. Willis (Eds.), *Technology and teacher education annual* (pp. 290-293). Charlottesville, VA: Association for the Advancement of Computing in Education.

Zong, G. (2002). Can computer mediated communication help to prepare global teachers? An analysis of preservice social studies teachers' experience. *Theory and Research in Social Education, 30*, 589-616.

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