



# ***A Virtual Hall of Mirrors? Confronting the Digital Divide in Urban Social Studies Teacher Education***

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## **Abstract**

*Reporting on a PT<sup>3</sup> grant-funded technology initiative involving social studies preservice students at Teachers College, Columbia University, this article seeks to illumine the many-faceted “digital divide.” Data collected between 2000 and 2003 from preservice students and first-year alumni teaching in metropolitan New York City schools suggest how the digital divide is mirrored, even in a relatively resource-rich urban university. Learning to understand this complex reality led Program faculty to modify their initial plan for technology infusion; the result is a flexible, student-centered approach, which can be adapted by other urban teacher educators. Reflecting on this experience, the authors call for models, not just of “best” but also of “good enough” (i.e. replicable) practice in settings with significant resource constraints.*

Attention to technology use in disciplinary-oriented teacher education has increased markedly over the last five years. Evidence for this can be found, among other ways, in the creation in 2000 of the online publication *Contemporary Issues in Technology and Teacher Education*, or *CITE* ([www.citejournal.org](http://www.citejournal.org)), which contains articles and commentary about technology in math, science, social studies, and English teacher education. A recent review of the literature about technology use in social studies published in *CITE* documents the growth in the number of articles on this subject between 1996 and 2001 in publications affiliated with the National Council for the Social Studies (NCSS) and the U.S. Department of Education (Whitworth & Berson, 2003).

Despite this scholarly trend—hardly a surprise, given the national priority of technology instruction in the schools over the last decade—infusion of technology into teacher education has not kept pace with the spread of digital technology in the schools. Cheryl Mason Bolick notes in a recent article, “Scholars have called teacher preparation programs the weak link in the chain connecting technology to education reform in the schools” (2002, p. 54). Bolick points out that professional bodies, as well as scholars, have

argued that technology integration must occur within the context of subject matter preparation for teaching. She cites two technology and education pioneers, Jim Cooper and Glen Bull, who “argue that [preservice] students should explore technologies specific to their discipline and should have opportunities to integrate technology into authentic environments” (2002, p. 54).

This paper reports on one such endeavor, described as “a virtual hall of mirrors” to highlight the manner in which problems associated with the “digital divide” (Compaine, 2001) in New York City public schools were reflected—or, more precisely, refracted—in the comparatively resource-rich environment of Teachers College, Columbia University (TC). This mirroring resulted from efforts by the Program in Social Studies to capitalize on opportunities afforded by the PT<sup>3</sup> Implementation and PT<sup>3</sup> Catalyst grants awarded to the College by the U.S. Department of Education in 2000, and to respond to the stimulus of new state and national standards-based teacher education requirements.

Leading the process of technology infusion in the Program in Social Studies, the authors found themselves in the uncomfortable position of having advocated publicly for leveraging technology to bring about more student-centered instructional approaches in high school classrooms, yet failing to follow their own advice in planning a technology seminar for preservice master’s students. As a result of this “disconnect,” made worse by TC’s own home-grown version of the digital divide, a number of these students reacted less than enthusiastically to implementation of plans for a new level of technology integration in their preservice program.

In ways we could not have predicted, our challenging experiences taught us important lessons in the difficult work of preparing preservice students for their urban New York City classrooms. In coping with the problems we faced in doing this work at TC, we learned how to tailor our teaching to real situations that were rather less than the ideal we had imagined. Our pedagogy became stronger as a result.

The experiences of the last three years have demonstrated to us that problems associated with the digital divide, constructivist teaching, and subject cultures within teacher education all must be attended to if the challenge of infusing technology into social studies is to be met. At TC, technology specialists, social studies experts, and technical support crew tackled these problems collaboratively and produced solutions that eventually led us to the current state of our practice and insight. We will argue at the end of this paper that more research reports like this one, documenting real-world difficulties and suggesting solutions born of less than optimal conditions, are necessary if the “weak link” between technology and school reform cited in Bolick’s article is to be strengthened. In other words, the field needs publications about efforts that may not be considered so much cutting-edge as pragmatic and reasonable solutions to the challenge of infusing technology into social studies teacher education. These will supplement and help to contextualize the models of best practice that have dominated the literature thus far. The field also needs investigations into technology use in social studies that meet recent demands for “scientifically-based research,” especially as articulated by the American Educational Research Association (AERA) in its resolution on this subject, and by the National Research Council of the National Academy of Sciences, in its book *Scientific Research in Education* (Towne & Shavelson, 2003).

### **Through the Looking Glass Darkly**

Beginning in summer 2000, TC’s Program in Social Studies took the opportunity offered by the College’s two PT<sup>3</sup> grants to design and implement a plan to integrate technology into its preservice curriculum, a fifth year master’s degree program with New York State teacher certification for grades 7–12. The particular strategies the Program adopted and the projects it devised to accomplish its goals will be described in detail below. Our purpose in this paper, however, is not to celebrate this work, but rather to explore the problems posed by doing technology infusion in an urban teacher education program where the realities of the digital divide complicate such efforts.

The findings reported here are based on data collected from students enrolled in the social studies preservice program over three years (each year between 30 and 40 students), specifically: (a) their responses to the technology initiative, and (b) its applicability to their student teaching. A variety of data sources were used: student surveys, interviews, participant observation, class assignments, and students’ journal entries. In addition, as part of another research project about the early careers of the Program’s students, graduates from the class of 2000 were asked a series of questions about their technology use. Two-thirds of these graduates remained in New York City for their first teaching job; one-third were employed in suburban districts in the New York metropolitan area.

We recognize that even with the variety of data sources, this qualitative research remains impressionistic and exploratory. Yet our findings do reveal a consistency in the reactions of three cohorts

of preservice students to our evolving efforts to infuse technology into social studies teacher education. Pointing to the disparity between the technology resources at TC and those they find during their student teaching in New York City’s public schools, our students question the utility of spending significant time on technology as part of their professional preparation. Moreover, because many of them plan to stay in New York City’s public schools, at least for their first jobs, they resist the notion that substantial attention to technology preparation will be important to them during their early career years.

A major reason that the Program in Social Studies has promoted technology in its courses has been the conviction that technology has the potential to transform the manner in which the subject gets taught (Crocco, 2001, Ringstaff & Kelley, 2002). A cornucopia of articles in the literature of the last decade, describing good ideas and models of best practice, supports this conviction (see Berson, Lee, & Stuckhart, 2001). Technology can, at least in theory, have a “profound effect” (Goodson & Mangan, 1995, p. 621), by creating more student-centered, constructivist approaches to the social studies than have been traditional in classrooms (see Doolittle and Hicks, 2003, for a review of the term *constructivist* as used within technology-oriented social studies teacher education).

This insight has served as a “carrot,” inducing many teacher educators in social studies to adopt new technologies, despite the significant expenditures of time and effort that re-tooling skills and course content entails. Doubtless the proverbial “stick” looms large in many teacher educators’ calculations here as well. Both NCATE accreditation and state educational authorities now insist that technology should be a key aspect of 21<sup>st</sup> century teacher education, despite misgivings in some quarters about the disparities nationwide between expenditures and usage of technology in the schools (see, for example, Ansell & Park, 2003; Cuban, 2002; Guthrie, 2003; Oppenheimer, 1997). Still, it is clear to everyone that students of the future will inhabit a technology-rich world. If technology can provide a means of doing something valuable in social studies education that could not be done before, then synchronizing modes of interaction and instruction in K–12 classrooms with those found in other domains of contemporary public life seems a worthwhile project.

### **One Program’s Experiences**

Throughout the nineties, faculty members in the Program in Social Studies had made use of Internet resources, e-mail, and PowerPoint software in their teaching. As late as 1998, however, faculty had noted that some, typically older students, still claimed lack of access to computers or lack of familiarity with e-mail. These students had been directed to workshops offered at TC, mostly free of charge, that could provide assistance with basic technology skills. Around this time, the Program had also hired an adjunct faculty member affiliated with the American Social History Project to teach an elective course focused on the application of technology to the teaching of history.

The award of the PT<sup>3</sup> grants in 2000 allowed the Program to

undertake a three-year process of incremental change in its preservice curriculum. The PT<sup>3</sup> Implementation grant provided funds to hire support personnel, typically graduate students in technology education, to work with faculty on a program-by-program basis. This grant also supported technical assistance to some of the New York City public schools in which TC students had field placements. Three major goals had been articulated for the Implementation grant:

- To guarantee that all preservice students graduate from TC with the skills, knowledge, and dispositions necessary to teach effectively with technology.
- To provide all preservice faculty members with the skills they need to integrate technology into their courses.
- To ensure that all TC preservice students' school placements include good experiences using technology in schools.

In 2000 TC had also created the position of Educational Technology Specialist, to work under the auspices of the Associate Dean in helping faculty across the College think creatively about how to use technology in their teaching and research. The humanities background of the individual hired to fill this new position facilitated a close working relationship with faculty members in the Programs in Social Studies and English Education. The harmony of interests and approaches among these educators enabled them to form creative partnerships, which proved essential to the Program in Social Studies' success in infusing technology in a coordinated fashion throughout its preservice courses.

### **A Technology Seminar**

In the first year of the grant, faculty in the Program modeled the use of digital technology in content-oriented courses, such as the Teaching of American History and Geography and Women of the World: Issues in Teaching. As part of the requirements for these classes, students were offered the option of creating WebQuests and other projects drawing on Internet resources. In the core courses of the Program—Methods, Advanced Models of Social Studies Curriculum, and Student Teaching Seminar—faculty made extensive use of Web-based resources, asynchronous discussions, and presentation software.

The second year saw more comprehensive planning for technology use across the Program. One approach aimed at introducing all preservice students to technology applications in social studies through a new, one-credit course called the Tech Seminar. The Tech Seminar met four times during the fall term, running concurrently with the Methods course, the first semester of student teaching, and the Student Teaching Seminar. It included four major topics: (1) introduction to technology standards, Web-based literacy for social studies students, notions of “value-added” for making choices about technology in social studies; (2) development of teaching strategies using database and spreadsheet software; (3) critical review of social studies software through the

development of rubrics for assessing these tools; and (4) the use (and limitations) of PowerPoint and other presentation software. Time was also set aside in the Student Teaching Seminar for instruction on digital portfolios. All preservice students were introduced to Dreamweaver, a professional-level Web authoring software, but the decision to substitute an e-portfolio for their conventional three-ring binder remained an option rather than a mandate. In addressing each topic in the Tech Seminar, faculty required students to create curriculum projects applying the approaches to secondary social studies.

At the end of the second year, Program faculty decided to do away with the Tech Seminar, for reasons that will be discussed in the next section. They determined instead to use their courses to introduce the relevant technology—specifically the Internet, tool software, WebQuests, online discussions and electronic portfolios—and to require all preservice students to attend two technology workshops in areas in which they needed further instruction. In content area courses, as well as in Methods and Advanced Models, students had to complete several technology-based projects. In *Women of the World*, for instance, students created WebQuests, databases, and spreadsheets from extensive Internet research. In *The Teaching of American History and Geography*, as in *The Teaching of World History and Geography*, students used Inspiration and Timeliner software with primary source material found on the Internet. In the Student Teaching Seminar, they were introduced to the Web-authoring tool Lectora, although a Dreamweaver template was also available for those opting for electronic portfolios.

### **Content Course Integration**

With resources from the grant and support from TC's central administration, the Program in Social Studies made great strides over this three-year period. By 2002–2003, meeting PT<sup>3</sup> goals 1 and 2 seemed well within reach. Goal 3, providing school placements with good technology experiences, proved more elusive. Two factors were responsible for this: (a) the size of the preservice program in social studies (30–40 students each year), making it difficult to find placements modeling best practice in technology use, and (b) the digital divide—in other words, the problems associated with meeting goal 1 (enhancing the knowledge, skills, and dispositions of graduates) in high-poverty public schools. Ironically, perhaps, the defining problem of the digital divide—too few resources for too many students—challenged us in our teacher education work, just as it challenged our student teachers in the urban public schools where they did their fieldwork.

Nowhere does the digital divide shape teaching and teacher education more palpably than in the New York metropolitan area (see the Ansell & Park, 2003 article for differentials in technological capacity related to high-poverty areas of New York State). Across the country, youngsters in affluent school districts are more likely to encounter the latest, best hardware and software, including high-speed Internet access, than are their urban counterparts (USDOE,

2001), though the gap appears to be closing. Youngsters in affluent school districts are also more likely to receive creative instruction with these resources in their daily school curriculum. In the borough of Manhattan, where most of our student teachers are placed for their fieldwork, public schools are generally characterized by large class sizes and inadequate resources, including antiquated or unworkable technology, especially Internet access, which often does not function at all.

The frustration our students expressed with the technology instruction they received at TC as preparation for their fieldwork will be documented below. Suffice it to say here that the more we promoted technology use in social studies classrooms, the stronger became the students' resistance to yet another "disconnect" between the world of teacher education and the realities of urban schools.

### **Student Reactions to Technology Initiatives**

Although we had witnessed marked improvement in students' technical skills between 1995 and 2000, we suspected that the skill levels of entering students remained uneven. This was confirmed by a survey of these students at the start of the Tech Seminar in 2001. Of the 31 students completing the survey, only four said they had no regular access to a computer. Five of the 31 were familiar with the mechanics of Web design using HTML; almost half with Excel; one-third with PowerPoint. Only a few had heard of WebQuests. The majority stated their belief that the chief uses of technology in teaching social studies would be: (1) facilitating better communication with their students, (2) improving access to research materials and primary sources, and (3) assisting visual and auditory learners.

Over the course of the semester, we found that the large number of students, the range of their technical skills, and our efforts to treat them in a standardized rather than customized fashion all proved problematic. Moreover, working in a lab with only 18 stations meant students had to double up on computers. Even though three or four instructors were always available and peer coaching regularly occurred, the arrangements proved inadequate to meet the demands for technical assistance of those struggling to master new digital tools. Likewise, students with higher skill levels resented the amount of time devoted to teaching basic software such as Excel and to coaching their peers. In short, student evaluations of the Tech Seminar revealed significant negativity about the "one size fits all" approach to technology instruction:

- Students felt that time expended on technology—12 hours in the Tech Seminar and 5 additional hours in the Student Teaching Seminar—was too great, given all the other demands of their preservice program.
- Students felt little motivation to learn something they perceived as having only limited "application potential" in New York City public schools.
- Students felt they were forced to learn the technology because they "had to meet accreditation requirements," not because it had any added value for social studies instruction.

Thus, our critical approach to technology use boomeranged back at us, with students asserting they did not find sufficient "value added" to justify their expenditures of time and money.

A few students, in one-on-one interviews with instructors in the Program, offered the following suggestions for the future:

- A set of performance standards should be articulated for all students, enabling them to demonstrate individual proficiencies in applying technology to social studies instruction in meaningful ways.
- All students should be required to take workshops offered in the Academic Computing department at Teachers College, but selection of the workshops should be left up to individual students.
- Students should undertake numerous technology-assisted assignments in their courses, all of which could then become part of their portfolios for graduation.

These ideas helped the Program address the problems presented by incoming students' wide range of skills, another form of digital divide in our midst, which will be discussed more fully in the next section.

Other research data highlighted a spectrum of problems associated with technology's application potential to student teaching sites, each problem a different facet of the digital divide in New York City's public schools. In the fall of 2001, these 31 student teachers were placed in 17 distinct school settings, 13 of which were in New York City, mostly Manhattan, and four of which were in the suburbs, two in New Jersey and two in Long Island, New York. Of the 13 placements in New York City, 12 were in public schools. All schools had a computer center and almost 60% had at least two computers in every classroom—typical measures used in large surveys by private foundations and government agencies to assess the degree of technology incorporation in schools.

Looking beyond such superficial markers of computer use in schools, however, reveals different patterns of engagement with technology. Asked whether their school computers provided regular, working access to the Internet, these student teachers reported that only seven of the 13 New York City schools had regular access; three had occasional access; and four almost never had access to the Internet. All four suburban schools reported regular Internet access as well as several computers in each classroom. In terms of software, many students reported very little in their schools, although ownership of Inspiration seemed to be common. Asked whether they saw computers used in social studies classes, only three respondents working in New York City schools—one in the private school and two in technology-oriented schools—said that they had.

Finally, interviews conducted in 2001 with new teachers one year after their graduation from the Program in Social Studies indicated a similar pattern. New teachers working in suburban schools in New Jersey, Long Island, and Westchester County, New York, reported making use of or intending to make use of the

ample hardware and software available to them in these settings. Indeed, their own enthusiasm for using technology dovetailed with their school administrations' clearly stated expectations that they do so. By contrast, in the New York City schools in which graduates taught, even in those with names such as *Manhattan Academy of Technology* and *The Computer School*, these new teachers reported that few resources existed to make such instructional overtures feasible. In most of the New York City public schools where they worked, our graduates reported that Internet connections were non-existent, non-functional, or hard to access. These teachers pointed out that with 35 students in high school social studies classes typically scheduled in 40-minute periods, and with the challenge of preparing their students for Regents examinations, technology use was a very low priority for them.

We do not cite these data to disparage New York City's public schools in any way, but simply to acknowledge the challenges associated with the digital divide in high-poverty areas. The picture that emerges from our close work with student teachers and new teachers over three years of technology initiatives in social studies can be summarized in the following points:

- Year by year *improvement in proficiency* levels with basic technology upon entry into our Program
- *Willingness to learn*, indeed interest in, the educational applications of a range of technologies, especially software previously unfamiliar to them and WebQuests
- *Skepticism* about the degree to which such approaches can be used in the urban high school settings in which virtually all of them student teach and many of them will work
- *Resistance* to spending significant class time on technology, given other more pressing (in their view) topics, such as literacy issues, ESL students, classroom management, basic content knowledge, and, especially, Regents examinations.

### **Addressing Challenges of Technology Use in Urban Teacher Education**

By the end of the second year of the technology initiative in social studies, it seemed clear that certain problems would be easier to solve than others, as will be discussed more fully below. Planning for the third year of PT<sup>3</sup> grant-funded activities began with a set of performance assessment projects devised by Program faculty, in consultation with TC's Educational Technology Specialist, to be included in the graduation portfolios of all preservice MA students. We then aligned these projects with individual courses in the preservice curriculum, determining in each case how much technology instruction would be offered in class to facilitate project completion. We also arranged for individual or small group training outside class, to aid those students needing more support, and mandated two computer workshops, to be taken in areas of students' own choosing. Through this strategy we achieved an approach to technology in social studies teacher education at once more comprehensive and more student-centered.

### **The Digital Disconnect**

The more difficult problem has been the "disconnect" between our (relatively) high-tech teacher education and the (relatively) low-tech schools where our MA candidates do their student teaching. This problem is hardly unique to New York or to social studies, as has been noted recently in an article in the *Journal of Computing in Teacher Education (JCTE)*. Referring to a general "scarcity of adequate K–12 school sites to serve as field-experience placements," Norton and Sprague (2003) observe:

Although technology-in-education courses have positive effects on preservice candidates' attitudes toward using technology, these improved attitudes are limited when preservice candidates are unable to apply learned strategies in their field experiences. (p. 40)

This judgment, which stems from the authors' experiences working with "Timber Lane Elementary School," described in their article only as a "small school nestled in a large metropolitan area," is supported by our experiences in New York City. However, Norton and Sprague's strategy to address this problem—focusing on one school in order to better coordinate teacher education classes and field placements—cannot be extrapolated to the situation of a large preservice program.

### **The Subject Culture of Social Studies**

Finding field placements that model optimal use of technology, defined here as constructivist, inquiry oriented, and student centered, may be even more difficult than Norton and Sprague suggest, for reasons having to do not only with student numbers or program sizes, but also with issues inherent in the field of social studies itself. As Goodson and Mangan (1995) have shown, some subject cultures at the secondary level are more willing to incorporate technology into their instruction than others. Although these researchers found a higher level of student-centered instruction in schools than they had expected from their reading of the secondary literature, they nevertheless discovered that history and geography teachers were among those most resistant to changing modes of instruction to accommodate use of computers in classrooms.

In their study of two Canadian high schools, Goodson and Mangan (1995) found that teachers of art, family studies, and technology spent far more time putting students into small groups for classroom work than did history and geography teachers, a pattern that had implications for the teachers' willingness to incorporate computers into their instruction. Goodson and Mangan observed that the computer "seems almost to impose a more individualized approach to teaching (even in classrooms that were already unusually student-centered)" (p. 622). Although this finding might be considered good news, especially in the context of research linking technology to school reform (see Bolick, cited above), it also has a downside, best captured in the following statement:

To the extent that teachers identify strongly with the teaching styles associated with their traditional subject subcultures, they may be reluctant to adopt a technology which seems incompatible with those subcultures. The pattern of change observed during this research project may not persevere in areas where the change runs counter to the norms of the antecedent culture. (p. 623)

Noting that the dominant patterns of “whole class” instruction found in history and geography classes produce significant drag on the introduction of computers, these researchers stress the fact that “[s]ubjects are well-established bodies of knowledge and social practices” (p. 625). Their observation is borne out by research that points to the ways some other subject cultures have encouraged technology use in secondary schools. In their comprehensive study of six Detroit and Chicago high schools, Means, Penuel, and Padilla (2001) found that a group of math, science, and writing teachers who made exemplary use of technology were motivated not by “district-provided technology training .... Rather these teachers derived inspiration from their network of content experts in their teaching subject area” (p. 208). These case studies illumine a disciplinary digital divide, separating social studies teachers from peers in other fields.

The factors highlighted in the research by Goodson and Mangan, and mirrored in the study by Means, Penuel, and Padilla, offer a partial explanation for the minimal use of technology found in many social studies classrooms, especially utilization of computers merely as finding aids for primary source materials rather than as instructional tools, or what Thomas Reeves (1998) has called learning *from* rather than *with* computers. Given what Goodson and Mangan (1995) report about the seeming reluctance of social studies practitioners to use technology in their classrooms, it is not surprising that our student teachers encountered little modeling of technology-enhanced social studies instruction in their field placements.

### **Some Solutions**

Our students asked us to help them consider how they might make use of technology in a manner that respects the significant constraints imposed by teaching environments where little opportunity exists to use a computer lab, where one or two classroom computers with Internet access and scarce software resources may (or may not) be functioning every day, and where their mentor teachers appear to be disinterested in using technology to teach social studies.

Listening to students’ comments and reading their essays on the “digital divide in New York City classrooms” has led us to embrace the “less is more” principle. We have chosen to emphasize critical assessment of technology use according to a standard of “value added” to social studies instruction; development of rubrics for evaluating Web sites and software; mastery of a limited number

of digital tools—chiefly Inspiration, Timeliner, Excel, and PowerPoint—that students might encounter in schools; online discussions; and electronic portfolios. Our experiences have also sensitized us to the issue of “scalability,” that is, adaptation of technology approaches to the constraints of urban schools.

We now require that all curriculum projects completed in TC social studies courses indicate how lessons could be adapted to various conditions, including classrooms where only one computer is available. Although this does not address all the digital divides our students may encounter, it will help them think creatively and pragmatically about how effective technology use can occur in the social studies even where conditions are not optimal.

A trio of related principles now guides our work:

- The Program in Social Studies stresses skill sets that are flexible and can be expanded or contracted in their application according to the conditions students encounter in their field placements and employment.
- Students take responsibility for their own technology competencies, rather than being “spoon fed” technology instruction.
- Teacher educators devote their energies to the creative problem-solving work of adapting to the “disconnect” between need and resources, of which technology is only the latest example.

The application of these principles to one course—Women of the World: Issues in Teaching, in which another digital divide, based on gender, also figures—is described in a paper (Crocco & Cramer, 2004) given at the 2004 meeting of the Society for Information Technology and Teacher Education (SITE). A copy of this paper is available for downloading from the Digital Library of the Association for the Advancement of Computing in Education ([www.aace.org](http://www.aace.org)). Future research will focus on extending these principles of technology integration throughout the Program in Social Studies.

### **A Call for Future Research**

A brief note on research and publication in the area of social studies and technology must be added to this description of our endeavors.

Among future publications needed in this field are those offering rich descriptions of other social studies teacher educators’ experiences under PT<sup>3</sup> grants, especially in urban areas. We would particularly encourage articles describing projects implemented under less than optimal conditions, wherever they may be located. Obviously we need models of “best practice” in social studies teacher education, showing what high-speed Internet access and videoconferencing, for instance, can make possible in our teaching. But for many of us working in the social studies, such scenarios can have only limited utility for charting a future course. For some social studies teacher educators, by contrast, it may be more important to encounter articles such as Ronald G. Helms’s “Cooperative Social Studies with One Computer” (1996).

Published accounts of teaching practices and research-based studies on technology use should focus on the elementary, middle, and high school levels and should be social studies specific. Although undoubtedly we can draw some lessons from accounts dealing with cases dissimilar from our own in grade level or discipline (e.g., Norton & Sprague, 2003; Vannatta & O'Bannon, 2002), subject cultures are, as we have seen, important shapers of possibility in this enterprise. This reality underscores the critical importance of the work of social studies researchers to the literature on technology as well as the importance of publications such as *CITE* and *JCTE* that highlight discipline-specific efforts.

This article is offered in the spirit of Whitworth and Berson's (2003) call for further consideration in the profession of "barriers to effective implementation of computers" and for "more dialogue . . . on effective practices for infusing technology into social studies education programs" (2003, p. 9). Only if the literature of social studies teacher education offers models of both best practice and good enough practice (especially given significant constraints) will urban teachers be able to reflect on and mirror these images in their own classrooms.

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