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Leveraging Constructivist Learning in the Social Studies Classroom: A Response to Mason, Berson, Diem, Hicks, Lee, and Dralle

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One of the newer phenomena associated with the technology age is the advent of the e-mail joke circuit. Many people simply delete these forwarded messages, considering them yet another nuisance in their harried lives. When I have time, and with selectivity as to sender, I read these jokes and pass them along, much to the chagrin of some family members and friends. One set of jokes I received on May 24, 1999, as the millennial buzz was gathering momentum, seems like a good way to begin my commentary on 'Guidelines for Using Technology to Prepare Social Studies Teachers,' published in this journal (Mason, Berson, Diem, Hicks, Lee, & Dralle, 2000). Despite the antiquity of their origin in computer-time, these jokes still seem apt.

The header on the message ran: 'Signs That You Have Had TOO MUCH of the '90s.' It's only fair to credit my source here, Mary Murrin of the New Jersey Historical Commission, an outstanding purveyor of online jokes. Perhaps these jokes appeared on your computer too. Among the nuggets of e-mail joke circuit wisdom were the following:

- You have a list of fifteen phone numbers to reach your family of three.
- You try to enter your password on the microwave.
- You e-mail your son in his room to tell him dinner is ready, and he e-mails you back, 'What's for dinner?'
- Your daughter sells Girl Scout Cookies via her web site.
- You chat several times a day with a stranger in South Africa, but you have not spoken to your next-door neighbor yet this year.
- You buy a computer and a week later it is out of date and now sells for half the price you paid.
- Your reason for not staying in touch with family is that they do not have e-mail addresses.

This list humorously captures the flavor of our times in a number of respects pertinent to the technology goals we set for ourselves as teacher educators in social studies. All of us feel pressured to get on board the technology express train, but are also concerned that just as we acquire a new set of skills, the technology will render them obsolete. As social studies educators, we marvel at the ability of technology to shrink the world, but also wonder about the effects of technology on our own nation's social capital (Putnam, 2000), the resource critical for democracy and by extension, citizenship education. In our darker moments, we sometimes suspect that technology has less to do with education and information and more to do with providing a faster,

more efficient way of selling goods and services in this consumer-driven society. We question whether that is what computer literacy is all about: preparing students to become more technologically-adept cogs in the wheel of commerce.

Keeping the following questions in mind as we review the guidelines drafted for social studies educators in the first issue of *Contemporary Issues in Technology and Teacher Education* (CITE) will be important as our professional responsibility regarding technology is considered. These questions are framed specifically in terms of teacher education since that was the approach taken by Mason et al. in their article.

1. What should social studies teachers know and be able to do with technology?
2. Are these skills and knowledge related to teaching technology for technology's sake or will they improve teaching and learning in the social studies?
3. Put another way, what is the 'value added' to social studies instruction in using technology? What can be done in social studies classrooms that could not be done without technology to enhance K-12 students' understanding of the social studies?
4. What are technology's 'downside risks' in terms of social capital and citizenship education? How do we consider those in the social studies classroom as well?

A recent issue of *Theory and Research in Social Education* ([*TRSE*], Berson & Mason, 2000) was devoted to technology in social studies. Many of the authors of the *CITE* article were also represented in that issue of *TRSE*. In speaking of the effects of technology on social studies teaching and learning in these articles, the authors used words like 'improve,' 'enrich,' and 'enhance' liberally. What I believe was missing, however, or at least underplayed in many articles, was a strong statement about the model of teaching and learning necessary or at least favored in fulfilling these promises of enrichment and improvement. As the title of this article implies, I believe the importance of technology lies in its ability to leverage constructivist approaches to the teaching of social studies. As Diem points out in his opening essay in that issue, '...studies note that traditional teacher-centered instructional paradigms have not appreciably changed in the last twenty years' (*TRSE*, 2000, p. 493). The chief value of technology lies, therefore, in providing the leverage so urgently needed for moving social studies instruction away from passive, teacher-dominated approaches emphasizing recall and regurgitation toward active, student-centered forms of learning demanding critical and conceptual thinking from *all* students at *all* levels. As teacher educators in social studies, we need to promote the idea that technology facilitates new, more powerful forms of teaching and learning on a larger scale than was possible before. Therein lies its great educational value in my judgment. If we are not emphatic on this point, however, we run the risk of investing a great deal of time, attention, and money to educationally marginal ends.

In the remainder of this piece, I would like to address each of the five principles for the appropriate infusion of technology into social studies teacher preparation programs enunciated in the *CITE* article. The authors have done the profession an invaluable service by providing these principles as a launching pad for discussion among teacher educators about where we should be headed.

Extend Learning Beyond What Could be Done Without Technology

Technology expert, Lynne Schrum (2001) from the University of Georgia, likes to share her

motto, 'Theory comes before technology, except in the dictionary,' with the many audiences she addresses on infusing technology into teacher education. In teaching and writing about technology in social studies, researchers and teacher educators need to be clear and explicit about what learning theory informs the ways in which learning will be extended through the use of technology.

To that end, I would suggest an important book, *How People Learn: Brain, Mind, Experience, and School* (Bransford, Brown, & Cocking, 1999). This work provides a rich synthesis of the state of learning theory as it relates to schooling as well as a set of practical principles and case studies to inform the adaptation of technology to social studies instruction.

In the Executive Summary at the beginning of their book, the authors note,

As a result of the accumulation of information about human learning, views of how effective learning proceeds have shifted from the benefits of diligent drill and practice to focus on students, understanding and knowledge. (1999, xi)

These authors, along with a host of educational reformers, emphasize the importance of learner-centered environments, stating, 'If teaching is conceived as constructing a bridge between the subject matter and the students, learner-centered teachers keep a constant eye on both ends of the bridge' (p.124). Another point they make echoes an emerging educational consensus that as a nation we have been too modest in our expectations for student learning. This is especially true for secondary students tracked at lower levels and students in the elementary grades: 'New knowledge about early learning suggests that young students are capable of grasping more complex concepts than was believed previously' (xvi).

Technology experts like Lynne Schrum (2001) reinforce such ideas when they call for a "critical thinking environment" in social studies classrooms employing technology. By this she means classrooms that foster questioning, challenging, and reflecting by all students. Schrum cites research showing that when technology is used for drill and practice in math instruction, test scores go down; however, when technology is used, even less frequently, but for problem solving, problem posing, and investigation, students' scores go up. Indeed, those social studies educators who have read *The Learning Gap* (Stevenson & Stigler, 1994), about math and science instruction in Japan, China, and the United States, recognize how painfully familiar that comparison sounds to social studies curriculum and instruction patterns. Courses of study that are 'a mile wide and an inch deep' whether math or social studies, inhibit deep engagement with complex problems, content understanding, and conceptual learning. The authors of *How People Learn* put the problem this way: 'A concern with sense-making [by students] raises questions about many existing curricula' (p.125).

Respected figures in social studies research have sounded the clarion call for change in our habitual patterns of curriculum and instruction by providing models for history teaching and social studies learning that emphasize depth over breadth, conceptual learning, and constructivist approaches. For example, Linda Levstik and Keith C. Barton (2001) and Janet Alleman and Jere Brophy (Alleman & Brophy, 1998; Brophy, 1990) raised the bar for what elementary and middle school students can do in studying history and cultural universals. Likewise, James Banks' (1999) influential work, *Introduction to Multicultural Education*, employed a framework first enunciated by Hilda Taba in the 1940s to develop his own approach to critical, conceptual, and multicultural social studies education.

Throughout the special issue of *TRSE*, constructivist approaches were much in evidence,

although not explicitly articulated as such. Perhaps as social studies educators we take these ideas for granted. Still, so much educational policy today, especially the emphasis on high-stakes testing and survey courses, flies in the face of educational research and constructivist principles. We need to follow Schrum's advice in making our theory explicit and build our approaches to technology around constructivist ideas (e.g., Brooks & Brooks. 1993; Fosnot, 1996; Vygotsky, 1980) and those found in Bransford et al. (1999).

Introduce Technology in Context

Throughout educational history, many examples exist of failed machine-based 'reforms.' Still, it seems hard (but not impossible) to believe that computer technology will go the way of the filmstrip. Robert Putnam (2000), in his seminal work *Bowling Alone*, noted,

The speed of diffusion of this new technology has been substantially greater than that of almost any other consumer technology in history'rivald only by television. To go from 1% market penetration to 75% required nearly seven decades for the telephone; for Internet access the equivalent passage will require little more than seven years' (p. 169).

Of course, Putnam was talking about home and commercial use of the Internet, not its application to schooling. Furthermore, he suggests that it is almost impossible at this point in time to predict the ultimate impact of the Internet and computers, if the history of technology is any guide. "The astounding series of poor predictions about the social consequences of the telephone is a deeply cautionary tale," he wrote (p.169). Early in the last century, pundits were convinced the telephone's utility would be limited to business; others boldly predicted that daytime television would never catch on. Perhaps the picture in the history of educational technology is even more sobering: so many 'revolutionary' innovations and so little persistence and efficacy over time.

As surprising as it may seem, perhaps the desktop computer will go the way of the filmstrip. Perhaps the real wave of the future lies in hand-held devices that will do the work of laptops today. In any case, if we believe that technology can leverage more powerful learning in social studies, then we need to be sensitive to contexts of many kinds: disciplinary as well as demographic. We must consider how to adapt technology to those school contexts associated with 'the digital divide,' both between rich and poor areas in the US, as well as between developed and developing nations (e.g., The Digital Divide Network, <http://www.digitaldivide.org> and <http://www.ntia.doc.gov/ntiahome/digitaldivide/index.html>).

Schrum (2001) reported that the gap between technology's haves and have nots has actually widened over the last several years in this country. A recent report entitled 'Falling Through the Net' (National Telecommunications and Information Administration [NTIA], 2000) indicated that differences in usage of the Internet among racial and ethnic groups are quite marked. For example, Asian and Pacific Islander Americans had the highest level of Internet use in the home at 56.8% in 2000. White households were in second place with 46.1%. Although black and Hispanic households had grown significantly in their use of the Internet over the last two years, their levels remained relatively low by contrast with other groups, 23.5% and 23.6%, respectively (for more on these differences, see <http://www.ntia.doc.gov/ntiahome/fttn00/Falling.htm#12>). When we move from homes to schools around the country, unsurprisingly, resource-rich settings tend to be found in affluent,

white areas and resource deprived settings in urban areas serving poor children of color.

Worse yet, a recent report on the digital divide from the Maryland Business Roundtable for Education (2001) indicated that,

While student-to-computer ratios and classroom access to the Internet in the highest poverty schools are still well below average, the real 'digital divide' seems to be in the way in which technology is being used to instruct students.... Data from a new survey show that the higher the poverty level in schools, the less frequently technology is used for tasks that require higher-level thinking and meaningful application of knowledge and skills. This is true even in schools in which access to computers and the Internet is readily available.

Thus, unless we see the change process as a challenge involving issues of equity and access, as well as technical and theoretical ones, we will probably fail in the goal of using technology to create more powerful learning in the social studies for *all* students at *all* levels. Unless we recognize how vulnerable technology application is to exigencies of context (especially those associated with underprepared or resistant teachers, underresourced or racist schools, and the pressure of high-stakes testing, to name a few), we will not capitalize on the potential of the computer and the Internet. We will fail in making real the revolutionary educational impact heralded in the *Report of the Web-Based Education Commission* of Kerrey and Isakson (2000) that saw 'extraordinary promise' in web-based education (p.iii) (see <http://www.ed.gov/offices/AC/WBEC/FinalReport>).

In promoting technology use, the federal government has used its PT3 grants to stimulate technology adaptation within teacher education, hoping that new teachers will bring old teachers along (for more on these Department of Education funding initiatives, see <http://www.pt3.org>). Given the importance of professional development for teachers' continued growth, sizable resources are also needed for changing the cultures of schools to make them more hospitable to new ways of teaching and learning. Research has demonstrated time and again the power of school-based cultures to undermine even the strongest educational preparation of teachers. Sustained professional development efforts can overcome resistance to technology and new ways of teaching among veteran teachers. As new teachers fill the ranks of school faculty in coming years, they will need the same training if their skills are to remain up to date.

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

The author has long believed that both social studies preservice students and K-12 students should receive education in media literacy. While this sometimes happens within the English curriculum, the social studies offer a perfect place for the critical examination of media and technology in society. The importance of such study only grows greater with each decade.

For at least the last century, public relations and advertising have formed our consumer culture in ways that we rarely take time to analyze during K-12 schooling. During the last 50 years, our world has been thoroughly recreated by telecommunications, almost more than by any other cultural influence. The impact of the media is, arguably, at least as important today in developing our children as citizens as, sadly, our democratic institutions. What better place than the social

studies classroom to examine the role of the new technologies and media in our democracy and their impact on the social capital necessary to sustain it?

Putnam (2000) took up the issue of media, computers, and the Internet at some length, because he was concerned about their effects on our diminishing reservoir of community-minded organizations and activities (read more about Putnam's views at http://muse.jhu.edu/demo/journal_of_democracy/v006/putnam.html and <http://www.bowlingalone.com>). Will the Internet and online communication foster civic engagement and community building, or will what he calls the 'simulacra of social connectedness' only create a false consciousness about community in our nation? Indeed, Putnam questioned whether 'virtual social capital' is itself a contradiction in terms (p. 170). As social studies teacher educators, we need to consider carefully the question posed by E. Wayne Ross (2000) in his introduction to the *TRSE* issue on technology when he asked, 'What might be missing in our schools and communities in a machine-dominated age?' (p. 491).

Foster the Development of the Skills, Knowledge, and Participation as Good Citizens in a Democratic Society

Towards the end of his book, Putnam (2000) presented the reader and the nation with a challenge: How can we make the Internet part of the solution to the decline of social capital in our democracy? That is a tall order if Putnam's hypothesis about the extent of such a decline is correct. In our own domain of social studies education, technology seems to democratize, at least across the life cycle. Of course, the United States has never resembled Chinese culture, where veneration of elders is a centerpiece of the society. In the last 20 years, however, the technological revolution has elevated the expertise of youth and its inventive technological vision to a new position of importance in American society. Even in social studies education, those most prominently associated with technology are, in the main, younger scholars. In their enthusiastic embrace of technology, they have much to teach their elders.

Likewise, in social studies classrooms, 'epistemological authority' teachers possessing knowledge and students receiving knowledge is redefined, which in turn redefines social authority and personal responsibility' (Bransford et al., 1999, p. 215). Thus, it would seem that technology has the power to democratize social and professional systems at least in certain ways. While age may count for less, class and race, as we have seen, loom even larger in shaping the future of students in the Information Age.

In terms of crossing the geographic divide, online communication among teachers and professors helps to mitigate the isolation endemic to these professions. Whether all this creates community in Putnam's sense remains a live issue. Undoubtedly, trade-offs, opportunity costs, and unintended social and educational consequences, as yet not fully appreciated or even imagined, will emerge as our experiences with technology deepen and broaden. Whether we exhibit enthusiasm or Luddite tendencies as we do our work in teacher education, staying attuned to the effects of technology on democracy and citizenship education ought to be a central preoccupation for researchers and practitioners in our field.

Contribute to the Research and Evaluation of Social Studies and Technology

Social studies scholars form a small community with less social capital collectively than disciplines such as history and English, where so many more individuals give their primary allegiance professionally to these domains. As just noted, technology has the potential of providing linkages among scholars and teacher educators that may enhance our ability to carry out and disseminate research, discuss teaching practices, and evaluate the outcomes of our efforts. Provocatively, some technology experts argue that the computer leads to interdisciplinary approaches to learning and thus, may over time change the nature of the disciplines, (J. Cramer, personal communication, February 15, 2001; Palfreman & Swade, 1991; Snyder, 1998). This would be an interesting question to explore as a collective project by researchers around the country. Thinking about the potential of such research brings me back to one of the central concerns of this article: What is the value-added from technology to social studies teaching and learning? Perhaps another question should be added: What gets subtracted when technology is used in the social studies classroom? If the hypothesis about the interdisciplinary tendencies of the computer and Internet is true, then social studies itself might get subtracted. On second thought, maybe all of us need to be paying attention to that research question.

Conclusion

The questions raised at the beginning of this article are ones more easily asked than answered: What's our vision of the ideal in social studies education? How can technology help us get there? What are the constraints on our ability to carry out this plan? What threats may be posed to children/civil society/citizenship as a by-product of our embrace of technology? In schools? For democratic citizenship education? What can we learn about the history of instructional reform that will help us facilitate change in a way that produces more than a ripple on the surface of Shaver's famous social studies lake? What does all this add up to for teacher education?

The author offers her own statement of principle as a partial answer to these questions: Unless we adopt and promote a powerful, research-based theory of learning on which our answers to these questions depend, we will miss an incredible opportunity to leverage technology for real change in social studies teacher education and, by extension, in our nation's schools.

References

- Alleman, J., & Brophy, J. (1998). Assessment in a social constructivist classroom. *Social Education*, 62, 32-34.
- Banks, J. (1999). *Introduction to multicultural education* (2nd ed.). Boston: Allyn & Bacon.
- Berson, M., & Mason, C., (Eds.) (2000). Technology in social studies education [Special Issue]. *Theory and Research in Social Education*, 28.
- Bransford, J., Brown, A., & Cocking, R. (1999). *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academy Press.

- Brooks, J., & Brooks, M. (1993). *In search of understanding: The case for constructivist classrooms*. Alexandria, VA: Association for the Study of Curriculum Development.
- Brophy, J. (1990). Teaching social studies for understanding and higher-order application. *The Elementary School Journal*, 90, 351-417.
- Fosnot, C. (1996). *Constructivism: Theory, perspectives, and practice*. New York: Teachers College.
- Kerrey, B., & Isakson, J. (2001). *The power of the Internet for learning: Moving from promise to practice. Final report of the Web-based Education Commission*. [Online]. Available: <http://ed.gov/offices/AC/WBEC/FinalReport/>
- Levstik, L., & Barton, K. (2001). *Doing history* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.
- Maryland Business Roundtable. (2001). *First major study on 'digital divide' in Maryland public schools shows increase in technology access* [Online]. Available: <http://msde.aws.com>
- 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* [Online serial], 1(1). Available: <http://www.citejournal.org/vol1/iss1/currentissues/socialstudies/article1.htm>
- National Telecommunications and Information Administration. (2000, October). *Falling through the net: Toward digital inclusion*. [Online]. Available: <http://www.ntia.doc.gov/ntiahome/fttn00/Falling.htm#12>
- Palfreman, J., & Swade, D. (1991). *The dream machine: Exploring the computer age*. London: BBC Books.
- Putnam, R. (2000). *Bowling alone*. New York: Simon and Schuster.
- Ross, E.W. (2000). The promise and perils of e-learning. *Theory and Research in Social Education*, 28, 482-493.
- Schrum, L. (2001, January 20). *Teaching social studies in the 21st century: Technology, social justice and teacher education*. Presentation to College and University Faculty Retreat. Athens, Georgia: University of Georgia,.
- Snyder, I. (1998). *Page to screen: Taking literacy into the electronic era*. London: Routledge.
- Stevenson, H., & Stigler, J. (1994). *The learning gap: Why our schools are failing and what we can learn from Japanese and Chinese education*. New York: Touchstone Books.
- Vygotsky, L. (1980). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University.

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