HISTORY INSTRUCTION AND THE INTERNET: A LITERATURE REVIEW

By

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Abstract

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.01. Old Wine-New Bottles (Return to Index)

The Internet is a worldwide computer network. It decentralizes and democratizes access to knowledge bases in ways that used to be impossible. Likewise, the new social history democratizes pedagogy because it deals with evidence from a variety of sources to give voice to a range of human endeavors (Burke 1). The advent of powerful computer-controlled, interactive, multimedia databases move sources of material culture such as photos, images, sound, and motion pictures into the foreground in the analysis of this social history orientation (Wynne, Using Nonprint 30).

The technology of educational delivery has evolved from the oral lecture, an artifact from the Middle Ages. To lecture derives from the Latin verb "to read," and reflects the reading of a text by the professor because books were one-copy handwritten manuscripts. The advent of the Industrial Revolution required the spread of mass education of workers via the group lecture model in large bureaucratic schools modeled after the economy of scale of the factory system (Bates 1). In the early 20th century the teaching-learning function became organized around behavioral psychology
strategies of measurable objectives. This method came to dominate computer-aided instruction (CAI) such as programmed learning. Koschmann noted, "CAI applications utilize a strategy of identifying a specific set of learning goals, decomposing these goals into a set of simpler component tasks, and, finally, developing a sequence of activities designed to eventually lead to the achievement of the original learning objectives (5-6)." Such drill and practice computer programs emphasize instructional efficiency.

In the early 1970s, the direction of instructional design was influenced by the cognitive science of artificial intelligence (AI). In this research the computer program attempts to simulate the role of an intelligent tutor in a complex knowledge domain. The critical issue for these types of studies is instructional competence because AI attempts to properly represent expert knowledge (Koschmann 12).

A newer concept in cognitive learning is labeled constructivism. Both the historian and the learner construct their own mental models of the past based on the interaction of new information with their prior knowledge. Learning is a reflective, generative process best facilitated by active, collaborative forms of pedagogy (Herman, Aschbacher, and Winter). Challenging, participatory assignments using a variety of print and graphical non-print sources accommodates a portfolio of methods to assess ways students acquire and demonstrate historical understanding by making personal connections to subject matter (Gardiner).

While constructivist theory stresses the idea of an individual's cognitive self-regulation, the concept of situated cognition posits the notion that the concept of mind forms a reciprocal loop from the individual to the wider social community. Knowledge is situated in a particular learning community and its culture. Teachers must mimic professional historians and develop activities akin to historical apprenticeships to induct students into the historian's distinct academic culture, patterns of discourse, and ways of conceptualizing the world (Brown, Collins, and Duguid 32). In a teacher-centered class the source of authority is the instructor and the text. In a learner-centered environment the instructor's role is turned into a facilitator, guiding collaborative learning groups. This idea represents "instruction as enacted practice" (Koshchmann 14).

To some educational researchers, the move toward an apprenticeship model of history education evidenced a naïve assumption about a student's readiness to learn in terms of possible prerequisite content knowledge and literacy skills (Wineberg 7). The most recent national assessment of the historical abilities of American high school students revealed that students evidenced great difficulties interpreting primary source documents beyond mere superficial levels (Hawkins et al. 189).

Similar to history curriculum culture wars of the 1980s, the current discussion over traditional versus digital history instruction suffers from useless polarization (Nash, Crabtree, and Dunn). Instead of incremental matching of a student's learning style to appropriate delivery systems,
debate participants have divided the discourse into the forces of the past against those of the future (Boettcher 48; Tomei 56). Detractors of Web-based pedagogy fear a worst case scenario. They predict a marriage between higher education and technology which permits the deskilling of professors and the commoditization of education at the sacrifice of its core humanistic values (Noble 2; Weiss 1). Others compare faculty members who resist technology-based pedagogy with a modern form of academic priesthood fearful of a loss its authority to the new networked knowledge revolution (Raschke 16). Such a two-valued approach to the problem has proved counter-productive. A networked history class constitutes a kind of historical learning community and culture. The question to ask is how does historical understanding manifest itself in such a community and how can we come to know its properties?

.02. The Research Agenda (Return to Index)

Duderstadt stated that the modern university is experiencing pressures from an accelerating and shifting set of conditions. These include the primacy of intellectual capital in the new economic order; globalization; the connection between multimedia technology and the instantaneous exchange of information; and the replacement of hierarchical institutions such as corporations, universities, and governments with democratic networked groups. Today knowledge resides as digitally encoded forms and is universally accessible. It no longer is "the prerogative of the privileged few in academe" (3).

As experts with core competencies, history educators have reason to resist change. Academic professions enjoy market niches and partial knowledge monopolies. Disciplinary specialization reduces the ability to sense important changes in the wider environment. Although resistance to change may be in part motivated by self-interest, this resistance may prove beneficial because it forces people to distinguish between lasting versus transitory knowledge. Studies find that self-appointed famous experts predict future events with the same poor track record as average people (Starbuck). Yet the educational horizon appears crowded at this juncture in history with all sorts of pundits predicting this and that about the demise of the physical institutions of higher learning in favor of virtual ones (Noam 4).

One truism sensed by many rank and file history educators and long ignored by educational researchers was the tacit dimension to the knowledge base for teaching (Shulman 100). Wynne discovered that these theories-in-action demonstrated by case studies of expert high school history teachers are heavily influenced by an entrepreneurial spirit, a form of performance art, personally situated curricular scripts, and an intuitive sensitivity to students in affective domains (Wynne, Keepers 308-309). These are hardly a set of procedural routines easily captured by a computer program. As Kidder suggested, in the rush to get on the technology bandwagon, institutions may favor hiring techno-wizards and not instructors who understand students. He shared the old adage that if you want to teach history, geography, or math to Mary, it is as important to know Mary as it is to know the subject (223).
The competition to bring courses on-line may be based on exaggerated and unproven claims of improved learning outcomes. Most educational software developed in the last 30 years lacks an empirical research base of longitudinal studies involving large numbers of students (Bork 3). Forsyth declared that the first generation of Internet courseware was largely hype consisting of electronic page turning overlaid with some random access search and indexing features (13). In a survey of current distance learning programs Pogroszewski discovered that relatively few institutions were successfully adopting interactive technology tools such as chat rooms, groupware conferencing programs, and threaded discussion lists to deliver electronic courses (1). This fact is especially disturbing because cooperative student learning is the stated preferred pedagogical strength of Web-based instruction (Khan). As with the dearth of published findings on the nature of exemplary collegiate history instruction, more research is needed comparing face to face with virtual forms of classroom communications. (Brooks 88-91). The same instructor would have to use the same readings, assessments, teach the same material, and use similar pedagogical methods for both the on-campus and on-line class history course. Students of fairly similar abilities would have to be randomly assigned to each course treatment.

It logically follows that this much needed research should aid in a theory building process to help identify how exemplary history educators at all levels of schooling successfully adapt both content and pedagogical knowledge to computer-mediated learning worlds (Gunawardena and Zittle 9). What subject-specific best practices work in tapping the democratic educational potential of the World Wide Web? Ethnographic studies should document how teams of history instructors, instructional designers, and programmers structure highly complex and critically demanding interactive virtual courseware. This courseware needs to be beta-tested in on-campus networked computer labs with students of varying ability levels in order to diagnose students’ difficulties interpreting the program’s navigational structure and in mastering course materials (Bork 5; Draper 1). In the formative and summative evaluation of these learning objects the educational community must also be sensitive to the aforementioned skills in the affective domain. For a student of history examples of such affective skills would be the development of an ability to sense historical empathy for the problems and solutions of past generations or a passionate excitement for enjoying history as a grand narrative story (Wynne, Keepers 166-172). Although research indicates there is no significant difference in learning outcomes when comparing traditional classroom instruction to alternative delivery systems, including new media, educators should not assume that computer-mediated teaching is neutral (Ehrmann 5). Robinson warned that "we need to think about the substitution of cyberspace for shared human space, the difference between interaction with the computer and interaction with other humans—and how (it) will affect academic life and all our communities" (23).

.03. History Instructors On-Line (Return to Index)

Far from eliminating the primacy of the instructor, the art of authoring,
Far from eliminating the primacy of the instructor, the art of authoring, teaching, and maintaining a web-based history course may be more time intensive than teaching lecture courses. Similar feedback has been anecdotally reported by college history instructors who have pioneered in teaching distance education Western Civilization courses (Feig; Knox; O'Donnell; Raiford). This finding is not surprising because the shift towards constructivist interactive pedagogy demands a steep learning curve involving not only mastery of Internet-based history resources, but cross-disciplinary forays into an understanding of computer graphics, course design, cognitive psychology, human-computer interface issues, and so forth (McCormack and Jones; Trinkle and Auchter). But at the core of the enterprise are the domain-specific skills of the history educator. Honey and Hawkins found that teacher ownership-"the process of generating ideas and strategies that make sense within the particular circumstances of one's own classroom and curriculum-is a key to successful use of digital archives " (30). Teachers and students must be provided with analytic tools to enable them to access digital source materials in ways that make sense to them. These tools might include story boards, spreadsheets, image analysis tools, databases, timelines, and templates, but the relevant content links should be assembled by the instructor. It is common sense to state that "indexing schemes that work well for a classroom teacher are likely to be very different from those that function effectively for a scientist or scholar" (Honey and Hawkins 5).

The history teacher who chooses to experiment with virtual teaching will be challenged to spend time filtering and evaluating the academic value of historical websites. In a recent review of such sites, O'Malley and Rosenzweig discovered that commercial search engines did not expend as much rigor in ranking history sites as they expended energy pursuing advertising dollars (4). On the Yahoo! annotated history list a site promoting racist and anti-semitic historical views was listed side by side with a national women's history program (4). These reviewers concluded that commercial history web sites push glitzy, canned treatments of subject matter rather than serious historical productions. They lamented that politically controversial and independent history sites will not be able to compete financially with the commercial ones (13). Emphasis in website reviews should focus on pedagogical rather than commercial uses such as the site constructed by Dr. Skip Knox of Boise State University.

The metaphor of a community of scholars was used by Knox to describe his on-line asynchronous freshman Western Civilization course (2). When Professor Knox first offered a virtual course, he tried to act as a guide on the side rather than a sage on the stage. He translated this to mean he was to provide objectives, course requirements, weekly discussion questions, and then he would wait for a spontaneous student reaction. Nothing happened. He realized that without his leadership they were merely "separate individuals who would separately earn three credits of history and who might by accident have something to say to one another" (2). The sense of a common educational community with a common purpose is essential to either a virtual or real class. For Dr. Knox, his course's list-serv discussion group is the lifeline of his community of scholars.

He has retooled his Web pedagogy with a writing style he referred to as
He has retooled his Web pedagogy with a writing style he referred to as Web rhetoric. It is a style of writing both formal and conversational in the tradition of dramatic storytelling.

Each Web page serves to present a thought, a concept, a scene in a narrative. The link between one page and the next is a caesura, and the end of a page is a dramatic moment, rather like a dramatic pause in public speaking. The reader has to click on the mouse button and wait a moment (but not too long!) for the next screen to appear. Just as the end of a chapter in a book should propel the reader forward to the next chapter, so the words at the end of one Web page should create a little tension and lead the reader forward. (Knox 4)

Knox believes that external hyperlinks should be sparsely used. To him, solid Web pedagogy involves designing the material in such a manner that the learner is able to create a quick mental model of the boundaries of the work expected. There are internal links of sound files to help a student with pronunciation of difficult terms. Graphics are not embedded in Web lectures because of long download times. External links are provided under supplemental activities, but Internet exploration is subordinated to formal study requirements.

Several points of interest can be made. First, the dramatic flair for storytelling in Knox’s Web lectures has been identified in one case study as a pedagogical characteristic of the teaching style of exemplary history lecturers (Wineberg and Wilson). Experienced history teachers are not content-managers of some bureaucratic teacher-proof canned curriculum. They are managers of meaning and content transformers through their own agencies. Secondly, Knox’s students were socialized by years of teacher-led schooling and were naturally confused by an open-ended environment. Students as well as teachers will require retooling of old habits to adapt to a learner-centered model of instruction. And finally, Knox came to discover what the research seems to indicate. The most powerful factor is the elegance of the curricular-instructional design and not the due to the properties of the particular delivery system (Ehrmann 5).

In a more radical departure from current practice, other practitioners have begun to experiment with knowledge building communities. Scardamalia and Bereiter explained this process by distinguishing between first and second order environments. In the former, learning is asymptotic, evidencing little progressive complex problem solving in a given domain. In the latter intentional progress made by one advances the knowledge of the collective environment (249). This was the original idea behind the invention of hypertext whereby the ability to think in a non-linear fashion would enfranchise the creativity of learning communities. Instructors may someday assess the progressive learning by an individual or a group of learners by studying the complexity of the structure of their hyperlinked knowledge maps of a given historical topic. Such complex structures seem to indicate deeper understanding (Harasim et. al. 253-253). Detractors of hypertext have suggested it degrades the reader’s search for deep meaning and internal complexity as in a study of linear text because
hypertext reading rewards superficial thinking in which "the linkages between texts now matter rather than the internal coherence of the texts themselves" (Davison 4).

Feig described a distance learning course in Western Civilization as a developing knowledge building community. Students worked for extra-credit in multimedia computer labs researching topical history links. This project became the basis of two fifty-page Internet books on the ancient and modern worlds that form the core of Dr. Feig's on-line courses at Foothill Community College in California. New groups of virtual and campus-bound students continue to add to the project. She encourages her students to personally chart changes in their perceptions of organizing and understanding historical subjects. The instructor builds Web research exercises around the Internet books into the course requirements and moderates this discussion by posting weekly conceptual, collaborative position papers to guide her novice Internet historians. These on-line conferences are held synchronously and students respond in real time email. Dr. Feig stated in a telephone interview with this researcher that she has found her own thinking about history has been transformed by involvement in the project (Feig Interview). For example, this is a statement from her on-line syllabus:

Each week, students peruse the Internet through the Ancient World with the wonderful range of things to think about. Archeology, art, music, theater, books and writing, language, philosophy, politics, war and peace, life and living, psychology, sociology, history, geometry, and astronomy and biology, building and architecture and engineering. Economics and geography, women and men and children, farming and town planning, rivers and deserts and mountains, gods and goddesses. Birth and death, magic and mystery, aspiration and despair, palaces and mud huts, the freedom to rule empires, and the chains of everlasting slavery. Poetry, logic, weaponry, sports, courage and cowardice, love and hate, and genius. (Feig, Ancient World 1)

These topics most likely serve as a mirror into ways students identify with aspects of subject matter as well as the signature of the instructor's philosophical curricular framework. Dr. Feig is a Holocaust history scholar and has worked with others on worldwide human rights issues. This passionate commitment to a curricular vision and to dramatization of the curriculum to teach historical empathy may also be a key to good teaching practices (Wynne, Keepers 168). Talking head researchers, either in a telecourse, CD-Rom, or a multimedia Internet history course, do not necessarily understand how to successfully get material across to undergraduates. Reputational and evaluative criteria should be established to identify and reward exemplary history instructors whose wisdom of years of practice prove they do. For any on-line project to succeed, history educators with core competencies essential to the production process must be accorded partnership in the enterprise in terms of intellectual property rights (Robinson 51). As Knox put it, "The information is free, but the teaching costs" (10).

Another example of a knowledge building community is the American
Another example of a knowledge building community is the American Studies Web program at the University of Virginia. This project started in 1996. It was part of a new master's degree in American Studies designed to emphasize the use of new technologies. Howard reported that it was far more expensive and time intensive that university administrators, state legislators, and members of the public had envisioned (1). This electronic village features samples of graduate and undergraduate work in American Studies; a digital library of public domain books; and a continuously growing virtual museum exhibit of the nation's capital. Howard revealed that students expressed the belief that their projects were bound together in the progression of building the entire site. The site became a joint stock company, with student pride of ownership continuing after graduation. The question of intellectual property was now defined as communal property.

The value of the by-product could only be realized when someone else expropriated the material, changed it, added to it. It was something that couldn't be sold, only given away. Title, it seemed, was vested more in the user than in the producer. It also yielded old-style, low-tech rewards: the ability to think, to write, and to work intensely on matters of genuine concern, things that have always seemed to me the central goals of a liberal education. (Howard 7)

.04. In Search of the "Learning Community" (Return to Index)

It seems that this essay has only briefly illustrated both the potentialities and problems of distance education Web-based history instruction. Education jargon has picked up the phrase the "learning community" from business organization literature, but what is needed are real blueprints on how to achieve this goal within academic domains (Prusak). Research funds need to be carefully targeted to publish a body of educational case literature of on-line teacher lore developed by pioneer on-line history educators across levels of schooling. Or else, to paraphrase a line from Alice in Wonderland, if we don't know where we are going, then any road will do. History educators need not buy into the overly optimistic rhetoric of technological determinism, but neither should they be blinded to the historic learning and research opportunities that are unfolding in their midst in other university disciplines. It may contribute to our understanding of what processes guide how novice history students transition into outstanding ones. History pedagogues could participate in triangulated research teams of content-area specialists, cognitive scientists, natural language acquisition experts, and computer scientists to develop new curricular-instructional models emphasizing apprentice historical internships along four dimensions: knowledge integration, authentic real world problems, product-oriented course outcomes, and collaborative teamwork (Guzdial 3). Because student-teacher and student-student academic conversations can be electronically archived, researchers from these fields will begin to build theories of how a student vicariously learns from peers and how an individual's domain-specific mental schemata develops by recognizing connections made through reusable historical dialogues (Human Communication Research Center 1). The model building process could include inventing expert software to tutor students in historical essay writing using primary source documents or creating...
reliable objective tests based on cognitive mapping of historical concepts.

O’Donnell lamented the absence of a critical climate of discourse beyond the university walls in the present day worlds of politics, radio, and television (6). Just as no one confuses Oprah Winfrey with Plato, Dan Rather can't substitute for Herodotus . This is one reason there may be a cultural divide between academics and industry representatives who arrive on campus hawking the latest million dollar technology system. It is the job of teachers to teach students how to become aware of "massive manipulation by the media and the information industry" (Nigohosian 7). Teaching has a long history as a service profession.

This observation reveals a new appreciation of the complexity of human understanding. Expertise appears to mean far more than having the right answers or formulating rules and principles to govern professional behavior. It refers to that sense of familiarity which, grounded in experience and practice, appeals primarily to senses of intuition and "feel". Knowledge, some theorists are given to say, is inextricably bound up in what it means to be human—in culture, in moral vision, and in the particular relationships that frame the learning event. This insight is again substantiated by a wealth of new literature in which teachers describe their work as less hierarchical, and less dependent on a detached and calculating rationality. Rather, knowledge is bound up in a teacher's sense of pedagogical mission, in his own biography, and in the special conditions under which he works. (Welker 131-132)

What appears at first view as faculty resistance to technology and change, may be in reality a resistance to any Faustian bargain that might violate concern for students. If the old myths and stories about education are not working we may need new ones. The new ones should focus less on the technical language of re-engineering and more on new metaphors of what it means to be an educated, historically aware citizen of the next millenium (Carvin).

.05. **Works Cited** ([Return to Index](#))

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