Asynchronous online discussion has been shown to enhance communication between students and to elicit many cognitive indicators. Nevertheless, historians have often been reluctant to make use of such instructional technology. Students enrolled in a fully online world civilization course corroborated qualitative research findings regarding the cognitive indicators associated with asynchronous discussion. In contrast, students in face-to-face web-enhanced hybrid world civilization classes exhibited less dramatic cognitive indicators in asynchronous discussion, perhaps due to the greater maturity in terms of age and experience of the fully online students. Students in the hybrid class, however, did indicate that participation in online discussions enhanced their engagement in face-to-face in-class discussions. However, asynchronous discussions did not prompt the face-to-face students to achieve authentic dialog between students in the classroom, and neither group managed to transcend problems of inequitable participation in small groups. There remains a need for further research on how to transplant documented advantages of asynchronous discussion into the hybrid classroom.

Unlike educators in disciplines such as communication studies (e.g., McComb, 1994; Shedletsky & Aitken, 2001), historians have been among the most reluctant in the academy to embrace new technologies, and the prevailing attitude seems to be that, “real historians do not read bytes” (Barlow, 1998, p. 205). Nevertheless, a recent survey (Trinkle, 2001) showed that over 80% of historians use technology in the classroom, but most use computers and the Internet as a means of distributing traditional hard copy resources in digital form. Relatively few historians have progressed to the use of the computer as a cognitive tool. Stephen Gance (2002), for
example, doubted the very possibility of creating a meaningful learning environment online, particularly from the point of view of constructivist pedagogy, since so many computer applications embody didactic models of teaching whose focus is on information transfer rather than on constructing knowledge through learning communities. Central to these concerns about lack of efficacy in asynchronous distance education is the loss of face-to-face interaction between instructor and student that would normally occur in a classroom (Shedletsky & Aitken, 2001), but Gance (2002) and other historians have failed to take into account the use of online discussion boards as a medium for enhancing communication between students and between the instructor and the students (Easton, 2003). Heckman and Annabi (2005) have shown that communication patterns between students and instructors change markedly in online environments, while many others have suggested that student learning outcomes in asynchronous discussions at least equal, and in many cases, exceed those of traditional, face-to-face courses (e.g., Alavi, 1994; Benbunan-Fich & Hiltz, 1999).

**Purpose of this Study**

In recent years, online educators have recognized that many classes incorporating substantial Internet usage may also include significant face-to-face components. In fact, online instruction spans a continuum of ‘hybridicity’ from fully asynchronous distance education to mainly traditional classroom instruction supplemented by online resources (Martyn, 2003). Among the benefits reported for hybrid courses are a greater sense of community and better quality of written work (Rovai & Jordan, 2004). However, there has been very little exploration of the effect of using asynchronous discussions in mid-continuum hybrid contexts, classes which incorporate substantial proportions of both face-to-face as well as asynchronous communication. The few hybrid courses that have been studied made little or no use of asynchronous discussion (e.g., Christensen, 2003; Waddoups, Hatch, & Butterworth, 2003). Thus issues remain regarding the implications of utilizing asynchronous discussions in a face-to-face course, especially in a discipline already suspicious of technology.

I wanted to inquire whether asynchronous discussion in hybrid classes would engender the analytical ability and self-reliant behavior I had observed in fully online postings (Vess, 2004). However, since I also had the benefit of face-to-face instructional time in those hybrid classes, I wanted to know whether an introduction to the materials along with an in-class Socratic discussion and debate would enable students to perform at an even higher level. This study, therefore, explores the impact of asynchronous discussions in a fully online world civilization course, as compared to a mainly face-to-face course enhanced with asynchronous discussions.

One goal of this study in the scholarship of teaching and learning, then, was to investigate previous findings about the quality of communication and cognitive indicators in asynchronous environments (e.g., Benbunan-Fich & Hiltz, 1999). More uniquely, however, another goal of this project was to shed light on how
asynchronous discussions enhance or detract from communication during in-class face-to-face meetings.

**Method**

**Instructional Context**

*Fully online instruction.* I designed role-playing debates and employed them in an asynchronous world civilization course developed for the University System of Georgia’s eCore™ curriculum. Students in the first offering of the course (fall, 2002) came from six different institutions in the university system and never met in a face-to-face environment. Students were required to engage in weekly discussion assignments designed to develop critical thinking and source analysis skills through regular exchange of ideas and communication between the instructor and the students, as well as between the students themselves. One of the primary objectives for this course, as in most history courses, was to cultivate in students the ability to analyze primary sources and to formulate cogent oral and written arguments about conflicting interpretive issues connected to the sources. These assignments build on a considerable body of literature that suggests asynchronous text-based communication is effective in developing verbal expression (Lapadat, 2002) as well as critical thinking and argumentative ability (Garrison, Anderson, & Archer, 2003).

Students in the fully online classes each played a role within small groups of three to six members. Students made initial position statement postings that formulated an argumentative response to an interpretative question, and were asked to make extensive use of the assigned primary source. Students replied from within their roles to at least two other postings. For example in a debate that required students to analyze the Code of Hammurabi, some students were assigned to play the role of slaves, some of nobles, and some played merchants. An alternative structure to the debates described above was to form small groups of between three and five students and have them work together to formulate an initial position statement posting for a common role. Groups then posted their statements in a common area for the entire class to comment on.

The majority of the 21 students enrolled in the eCore™ course in the fall of 2002 were non-traditional students; the average age of students in that class was 35.85. Many were married or divorced, had children, and worked. About half had taken or were taking other eCore™ courses. Several said they preferred online learning to the traditional environment. A plurality of others, however, stated that while they would ordinarily prefer to take traditional courses, they enrolled in an online course due to their family and work responsibilities and lack of time to attend courses on campus. About half of the online students were simultaneously taking courses on campus.

*Hybrid face-to-face instruction.* The discussion board assignments of the eCore™ course were relatively easy to transplant into the traditional classroom. What was not as easy was to balance the need for in-class interaction with the benefits of
asynchronous writing and conferencing. A modest review of the literature revealed a variety of models for hybrid courses (Garrison & Anderson, 2003; Martyn, 2003). In most, more time is spent online than in the classroom, and in some, less than one-quarter of the total course time was spent face-to-face. My world civilization course, in contrast, was fully face-to-face. What time students spent online was largely in addition to the regular meeting times, though some time was spent in the computer labs when postings were due.

In the fall of 2002, 32 mainly traditional students met for two 75-minute classes each week. Using the same debate structure as in the eCore™ course, I assigned each student a role based on a selected primary source. In the face-to-face context, however, students playing the same role first met in small groups of between three and five students. We then conducted our debate in class, with each team presenting its position.

The asynchronous component of the hybrid class followed the in-class group debates. Students then completed a discussion board posting on the class web site. Then they were assigned to different small groups, and in those groups, each student played a unique role and now had to argue their assigned role alone with the four or five other students in the group playing different, often competing roles.

I replicated the hybrid class trial in the spring semester of 2005, with another group of mainly traditional students. The addition in this case was that I administered an anonymous questionnaire to the students, inquiring about their level of participation in the various activities, and directly inquiring about their satisfaction with the collaborative processes and their learning outcomes. This questionnaire was administered at the end of the semester. In the analysis that follows, data are drawn from the 2005 replication only when specifically noted.

**Analysis**

Narrative discussion board postings in both the fully online and hybrid courses were analyzed according to a grading rubric emphasizing skill with primary source analysis and ability to respond to and synthesize alternative positions using salient concepts from the primary source (Vess, 2004). Narrative responses to an e-mail survey in the fully online course were collected online and tabulated to identify emergent patterns. Similarly, narrative responses to a hard-copy survey administered to the hybrid course in 2005 were collected and responses tabulated to identify emergent patterns. Responses to related questions in both environments were triangulated.

**Results**

*Performance of Fully Online Class*¹

Performance of students in the eCore™ course supported claims in the literature—contrary to received opinion among many historians—that students might indeed learn to become historians precisely through reading and writing bytes. The most
productive discussion assignments in this course were the role-playing activities which asked students to engage in debate from the point of view of a historical actor. Often strong intellectual partnerships arose, as with two students who debated each other in the small groups on Chinese philosophy and then later on Athenian democracy. Although there were other people in these groups, these two students began to work as a team, responding consistently to the other’s postings, demanding that each continue to go further with their respective positions. Although they were only required to make three postings each, they exchanged nine postings, after which one remarked to the other, “WOW! . . . you really made me think! Thanks for the work out.” At the end of their debate, one of these students asked the other on a personal note, “do you think either could have ever be converted to the other’s way of thinking?” These two students went well beyond the confines of the assignment, as they replied to each other several times more than the assignment required and, in fact, replied to other students in the group as well.

Students in the eCore™ course manifested considerable collaborative learning, quite independent of my own input. They formed their own learning communities outside of the assigned discussion area, often posting to an area set up for general questions. One student remarked that she saw these assignments “as collaborative teaching,” and indeed, rather than emailing me to ask for information, students consistently preferred asking other students first. During a unit on the Hebrews, for example, students had to write an analytical essay comparing the results of a search of the Torah online for the keyword ‘slave’ and the phrase ‘eye for eye’ to the Code of Hammurabi. As the deadline approached, I counted 42 exchanges on the course discussion board in two days between students discussing their search results, other content issues, and requesting guidance on citation style. (Other messages via direct email outside of the class web site may also have been exchanged, but they would have been undetectable to me.) During a unit on China, students debated the differences between various schools of thought in small groups in an assigned area of the discussion board, but I also found a threaded discussion in the community area where a group of students tried to figure out amongst themselves how the law of primogeniture would have applied in the event only a female child survived her father. They never forwarded their remarks to me in either case, as they had figured out for themselves what the answer had to be.

The student postings in the role-playing debates evinced a large number of cognitive indicators, such as extended information seeking episodes (Heckman & Annabi, 2005). For example, online students often exceeded course requirements when preparing their initial postings. In a debate on the Code of Hammurabi, for example, several playing the role of the slaves found the excerpt in their course reader to be too brief to formulate the sort of detailed postings they wanted to create. These students found the complete text of the Code on external World Wide Web sites. About half of the students referred to several laws not found in their required hard copy texts, but rather accessed by virtue of the students’ own initiative on the World Wide Web. Although I require an essay on Hammurabi every semester in my face-to-face courses, I have never had a student in a campus-based class search out the
complete text of the Code to complete a response. Ten of the 21 eCore\textsuperscript{TM} students posted statements that made in-depth and frequent use of the primary source, used that source to analyze a historical question, responded to the points required by the assignment, and made detailed and argumentative responses taking account of diverse viewpoints to their peers. Only two of these students failed to demonstrate a grasp of their role or to engage their peers in dialog. The rest completed the assignment and made good postings, but with fewer references to assigned texts that did not succeed in synthesizing the various points brought out by diverse roles.

The involvement of the online students in the debate assignments was quite evident. One student remarked that, “I like the online debates because I feel like my voice has a chance to be heard. In a typical classroom, I rarely speak up. It's easier to talk online that in a classroom.” Another student told me that the debates “... help you understand the subject matter. [They] help bring out things that you may normally not see. I have never been in a regular classroom where there has been debates on anything.” Another student echoed Garrison and Anderson's (2003) brief for online instruction, remarking that she thought the online debates were “better than an in-class debate because you have the chance to thoroughly [sic] research something and state your opinion without interruption [sic]” and that this benefit outweighed the frustration of having to wait for responses.

One area in which the fully asynchronous course did not elicit full involvement, however, was in developing collaborative group postings. In the alternative configuration in which students formulated a group position ahead of time and then engaged in inter-group discussion, universally, one or two students assumed the workload for the entire group and the majority of the group members did not participate in the small group discussions. Those that did often joined in at the last minute. Several students reported dissatisfaction with the group postings, and the students largely preferred individual work.

**Performance of Hybrid Class**

Given the obvious achievement of the eCore\textsuperscript{TM} students, at least in terms of discussion board postings, the natural question was to what extent I might incorporate such work into a traditional face-to-face history course while avoiding the pitfalls of the collaborative group postings. In the context of students working in small groups to prepare for whole-class debates, only one or at most two members of each team participated in the full class arguments, though none expressed dissatisfaction with the small group component of this assignment. In the spring 2005 hybrid class replication, 17 of 32 students indicated in the anonymous survey in that they actively participated in the small group discussion. Six others said they preferred to just listen to other people’s viewpoints, while nine more indicated they preferred to listen, but made small contributions to the small group discussions. In short, the level of participation even in the small group discussions was far from universal.
The quality of the asynchronous online work posted by students in the hybrid class was generally less cognitively elaborated, compared to those in the eCore\textsuperscript{TM} course. For example, on the assigned role-playing debate on Chinese schools of thought, six of the 28 students (slightly over 25\%) of the hybrid class students posted statements that made in-depth and frequent use of the primary source, used that source to analyze a historical question, responded to the points required by the assignment, and made detailed and argumentative responses from the perspective of their role to their peers. The work of five of these students (over 20\%) reflected little attempt to understand the position of their character, and little if any effort to engage their peers in dialog. By comparison, half of the eCore\textsuperscript{TM} students made postings of similar quality, and only 10\% of them failed to demonstrate a grasp of their role or to engage their peers in dialog. The average grade on this assignment was 5.5 points (out of 100) higher in the eCore\textsuperscript{TM} course than in the hybrid course.

In an anonymous survey distributed to the hybrid class replication in 2005, 31 of 32 students claimed that the in-class, small group preparations had significantly improved their understanding of the text and provided significant preparation for the online debates. Twenty-four students in this class claimed that without the benefit of the in-class discussion, they would have been unable to compose their online postings. Five said they might have been able to read the text and compose an argumentative posting, but that the task would have been much more difficult. Only three said they would have felt comfortable writing online without in-class discussion.

Conversely, students regarded the online discussion as a factor in improving the quality of the in-class discussions. Two-thirds of the 2005 hybrid class students said that the online postings made them feel more comfortable talking in class. Only seven (22\%) said that the online postings were unrelated to their willingness to talk in class. Of those 15 students who said they preferred to listen during in-class small or large group discussions or that they only made minor contributions to discussions, 14 said that the online discussions made them more comfortable talking in class. Among the reasons given were that students felt that they were better prepared and more familiar with the material, and that they had already publicly expressed their thoughts online and had successfully defended them. The students reported feeling more comfortable with each other after engaging in online discussions, and many reported that they were able to form opinions after exchanging arguments with other students whereas before they had none. Therefore, they had more concrete thoughts to express in the classroom. Students also reported greater comfort as a result of knowing more about what was expected in exchanges.

Although students in the hybrid class may have felt that the online exercises freed them up more in in-class discussion, the nature of that in-class discussion continued to consist largely of exchanges between the students and the instructor, but not between students and students. That is, the classroom discourse in the hybrid sections rarely achieved the level of authentic student dialogue (Nystrand, 1997). While there were certainly numerous examples of instructor–student dialogue representing a
great proportion of students, the asynchronous discussion never had the effect of creating more exchanges between students, unmediated by the instructor.

Fully one-half of the respondents in the 2005 hybrid class replication survey preferred the online discussion to the in-class discussion. Like the online students, several remarked that “there was no pressure” or that “they could take as much time as they needed” to compose their position statement. Others, who indicated shyness, liked the online environment because “there was no one watching you” and “you are not speaking directly to a face.”

**Discussion**

This study in the scholarship of teaching and learning was undertaken, first, to ascertain whether previous findings regarding degree of dialogic communication and frequency of cognitive indicators in fully asynchronous online instruction (e.g., Benbunan-Fich & Hiltz, 1999; Garrison, Anderson, & Archer 2003; Heckman & Annabi, 2005; Kanuka & Anderson, 1998) would be confirmed in the context of a class in world civilization that utilized a role playing debate format. The second purpose of this research was to ascertain the effect of asynchronous online elements on the quality of in-class discussion within a hybrid version of that same world civilization course.

In general, these results do confirm the conclusions of Heckman and Annabi (2005), for example, who have demonstrated that student-to-student interactions are especially characteristic of asynchronous online modes of instruction, as interactions in the traditional course tend to be predominantly between an instructor and the students, with few exchanges between students themselves. Students in the fully asynchronous class, in contrast, were inclined to continue a discussion thread, while those in face-to-face discussions generally tended to respond only to the instructor’s questions and not to each other.

These results also were consistent with Heckman and Annabi’s (2005) claim that student-to-student interactions engendered by asynchronous discussion often demonstrate a great many cognitive indicators of involvement and elaboration. Those indicators—for example, engaging in more than the required number of postings, pursuing original sources beyond those given in the course textbook, conducting especially vigorous debate—were less prevalent in the hybrid class’s online as well as in-class discourse. In part, this advantage for the fully online section might be attributable to students in that class exploiting the ‘lag time’ in response that is afforded by the asynchronous environment (Garrison & Anderson, 2003). On the other hand, the two groups of students were self-selecting, and therefore not equivalent. An alternative explanation for the greater interactivity and cognitive effort apparent among the fully online students may be their greater maturity (age) and also their greater experience in navigating online instruction.

Participation in discussion was not universal in either group. In the fully online class, participation suffered when the assignment allowed for small group work to precede a large class debate. In the hybrid class, participation lagged also in whole-
class debates, whether online or face-to-face. In this respect, these students were
typical, as widespread frustration with group processes, delays in decision making
leading to quick acceptance of one or two members' suggestions, and social loafing
have often been observed to plague group learning activities (Salomon & Globerson,
1989).

Also disappointing in both instructional modes was the failure to establish a strong
sense of learning community through discussion. It has been suggested that sense of
community suffers in particular in fully online learning (Rovai & Jordan, 2004), but
in this study neither mode of instruction seemed to promote strong social bonds
among discussants.

Perhaps the finding of greatest moment in this study is that students in the hybrid
class reported a mutually synergistic relation between their online discussion and
their in-class discussion. As a result of the online group interactions, students
indicated that they felt better prepared, more comfortable, and more confident to
engage in in-class debate. At the same time, the majority of respondents from a
hybrid class indicated that face-to-face discussions also prepared them for online
work. Learning how to best promote this synergy may be a productive avenue for
further research and development in hybrid instruction (see also Martyn, 2003).
The question remains, though, as to how best to transplant the high level of student–
student interaction that characterizes asynchronous discussions into the face-to-face
classroom.

Note
[1] Portions of this analysis are adapted from Vess (2004).

References
Quarterly, 18, 159–174.
Trinkle & M. E. Sharpe (Eds.), Writing, teaching, and researching history in the electronic age
course. Quarterly Review of Distance Education, 4, 235–242.
Education, 52, 87–105.
Gance, S. (2002). Are constructivism and computer-based learning environments compatible?
computer conferencing in distance education. American Journal of Distance Education, 15(1),
7–23.


