



Engines of Inquiry: Teaching, Technology, and Learner-Centered Approaches to Culture and History

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Popular images of information technologies—with their emphasis on solutions and efficiency—have built up a misleading mythology about technology’s impact on culture and especially education. Computers are touted primarily as tools for heightening productivity, speeding up processing, and finding answers. All you need, we are told, is the right set of tools and your “information needs” will be satisfied. Stuart Moulthrop calls this matrix of images the “game of perfect information,” and it skews the inevitable conversation about the use of new technologies in education in dangerous ways.

One way that the language of “perfect information” is felt in education is in the most common of questions that faculty ask when they are first exploring the possibility of information technologies in their teaching. Steve Ehrmann, in his essay, “Asking the Right Questions,” characterizes the question as something like this: “Do computers do a better job of helping faculty teach English composition than traditional methods?” or, a slightly different version, “Where is the evidence that students who are using computers to learn American Studies or American history are learning it better than before?”

It is ironic that faculty ask this kind of question so often given that it begs the very thing that faculty fear most: that the rapid onslaught of computing technology will drive or dominate all the other things that they do and value. One of the problems with asking a question that focuses on the capability of technology *to make the difference* in learning is that it implies what Ehrmann calls the “higher education machine.”

The question assumes that education operates something like a machine, and that each college is a slightly different version of the same ‘ideal’ machine. In questions like these, the term ‘traditional methods’ is used to represent some widely practiced method that presumably has predictable, acceptable results. ‘If technology performs better than traditional methods,’ such questions imply, ‘everyone should use it.’ (*Engines* 58)

But we all know that no educational institution nor any teaching context is anything like an ideal machine. And all educators also know that teaching and learning is not about perfect information, but often about *imperfect* information; indeed, learning is often about indirection, ambiguity, complexity, and multiplicity. What's more, in the fields of culture and history, imperfect information is not necessarily something to be solved, but sought after, interpreted, and synthesized. Sometimes knowledge is too complex to be perfect.

The importance of complexity to knowledge defies a second pervasive aspect of the "game of perfect information" as it involves education: the implication that technology, such as multimedia or the World Wide Web, can deliver *education* in the form of *information*. The implication is that rich and expansive resources, delivered in a dynamic and more sensory format, will in and of themselves convey their own pedagogy, turn information into knowledge, and by themselves make the difference between boredom and engagement.

So, if we want to answer the question, "What is the impact of computers on learning?" then we have to begin with two premises: first, that teaching and learning is a complicated process that builds knowledge over time, and in not always predictable ways. In her book *Rethinking University Teaching: A Framework for the Effective Use of Information Technology*, Diana Laurillard describes one framework for quality teaching as a "conversational framework" that is premised on a "cyclical process." This process, she argues, has to allow "both teacher and student to understand each other's intentions and descriptions of the phenomena at the discursive level, and come to some kind of agreement; then at the interactive level, the students practice their subject, and get feedback on their actions; then they reflect on this experience to integrate it with the theory, and rearticulate what they know at the discursive level." In short, Laurillard posits that good teaching must be discursive, adaptive, interactive, and reflective.

Assuming that Laurillard's framework—or something like it—is how quality teaching and learning occurs, then the second premise for exploring the impact of computers on learning is that learning contexts have to be looked at "ecologically." If there is no single moment when you can assert that *here* is where teaching happens, or *here* is where learning takes place, then it is impossible to say in any isolated manner, here is where *technology* made the difference. And therefore when we look at questions about the possible uses and value of educational technology, we need to look at it in the broadest and most ecological context of what we do as teachers.

The Contexts of Good Learning

So, despite the temptation to focus on the technology alone, it is critical to step back and first ask some simple questions about one's own teaching, such as:

- What am I doing now that I'd like to do better?
- What pedagogical problems would I like to solve?
- What do I wish students did more often or differently?

If there is anything common to the many answers I have heard faculty give to these questions, it is their desire to heighten student engagement. Faculty commonly wish that students could come to class not only having done the reading, but with something to say about it. Faculty wish that more students would talk in class or use class time more productively to dig into material. They wish students would develop their own interrogative stance toward material or look at a document or issue or event critically on their own. And perhaps most commonly, faculty want their students to develop an ability to see and express complexity in the *language* of that discipline in such a way that it is transferable from one problem to the next.

All of these dimensions of engagement address faculty desire for their students to move beyond what John McClymer and Lucia Knoles call "coping mechanisms." "Coping mechanisms" are the set of "acritical techniques" that students develop over the life of their schooling that they too often are able to use as a substitute for "genuine learning." Varying from field to field, "coping techniques involve doing exactly the opposite of what you must do in order to learn. A student who wants to cope with a poem must systematically ignore those elements that seem confusing or contradictory, but a student who wants to construct a real interpretation must seek out the most puzzling elements in the work" (42).

There are a lot of reasons that students develop coping mechanisms over time; many have to do with the nature of schools, and some have to do with the expectations of teachers. McClymer and Knoles argue that students are often encouraged simply to cope because the kinds of tests, assignments, and activities we give allow them to do so. "If one of the hallmarks of a serious interpretation is a willingness to confront complexity, it behooves us to practice what we preach" (42).

In light of this, I think that it is worth asking ourselves, before considering the revision of our pedagogy, "In what contexts, and by what means, do students tend to engage in learning rather than coping?" Following that question, then, I think we can reframe the question about technology's impact on teaching and learning to be something like this: "What aspects of good teaching, and contexts of good learning, do particular technologies serve well?"

Perhaps it is also appropriate to ask what it is that drives learning for teachers and scholars. I argue that there are three things that drive the learning of experts: the *questions* that we want to ask, the *cultural record* and materials that we have to work with, and the *methods* and theories that govern our practice. But first and foremost, it is the compelling questions that motivate expert learning; similarly it is in those moments when students are driven by questions that are compelling (or interesting) to them that they learn best. And, ultimately, it becomes its own “cyclical process”: it is inquiry itself that drives learning—and resources, materials, and methods that drive inquiry. The question confronting us as teachers, and the question that governs this volume, is how can information technologies play a role in the engines of inquiry that drive learning?

For the balance of this essay, I want to look at the study of American culture and history and the ways that faculty have been applying different technologies in different contexts. To do this, I have drawn on two different kinds of sources. On the one hand I owe part of this framework to the thinking not only of Diana Laurillard, but also the fundamental and well-known “Seven Principles of Good Undergraduate Practice” (Chickering and Gamson) and its recent reconsideration in light of information technologies (Chickering and Ehrmann). On the other hand, the framework that I offer below is a synthesis of practical findings that come from faculty who teach culture and history with new technologies. I have worked within the tenets of what we might call “new media pedagogy” to reflect on the reported experience of faculty working to discover meaningful ways to use information technologies in teaching interdisciplinary approaches to culture and history.

The ongoing work of these early-adopter faculty (some of which is being documented in the materials of the Crossroads Research Project) indicate that information technologies can serve to enhance six kinds of quality learning:

Distributive Learning

New technologies have a role to play in two distinct but related senses of distributive learning by bringing together two capabilities: they allow students to have direct access to the growing distribution of cultural knowledge across diverse resources; and they provide means for the distribution of responsibility for making knowledge in the classroom, by giving students media through which to construct and share their ideas about these materials in a whole range of public learning contexts.

Authentic Tasks and Complex Inquiry

Simulated archives of electronic primary materials (on both the World Wide Web and CD-ROM) provide new ways of enabling novice learners to engage in authentic research tasks and complex inquiry assignments that would either be impractical or impossible without the vast storage and retrieval capabilities of information technologies. The ability to arrange and represent complex ideas in multiple ways in electronic environments further sets the stage for the creation of inquiry assignments that approach the level of complex thinking that faculty often seek.

Dialogic Learning

Interactive technologies, such as email, electronic discussion lists, and teleconferencing, provide powerful new spaces across all disciplines for student conversation and dialogue at their own pace and perhaps in smaller, less threatening communities than the entire class meeting face-to-face. The use of interactive or dialogic technologies in culture and history has the additional dimension of providing spaces for students to engage in difficult cultural issues, such as interculturalism, or even to converse with students (at a distance) representing a wider diversity of viewpoints than they have in their class or on their own campus.

Constructive Learning

Faculty are increasingly finding that technology environments like hypertext authoring programs and the World Wide Web are tools for students to engage in constructive learning, building projects over time, making interdisciplinary and intellectual connections concrete through electronic linking and multimedia, and making their constructions available as real products for people to utilize.

Public Accountability

One of the most powerful benefits of using particular information technologies in teaching is the public nature of participation. Whether students are asked to write their ideas to a class electronic discussion list, or asked to mount their constructive projects on the World Wide Web, students who think of their work and ideas as public tend to take their work more seriously and engage in issues more thoroughly.

Reflective and Critical Thinking

All of the kinds of learning above contribute to the complex and elusive process of teaching students to be reflective and critical thinkers. Information technologies can make a specific contribution

to this process in a variety of ways: through technologies such as multimedia and hypertext packages, which present information and pose questions to students through multiple kinds of literacies and evocative juxtapositions; through technologies that are constructed to offer students multiple paths, the negotiation of which requires strategic choices in light of methodological issues; through technologies that facilitate group process and revision as well as provide flexible writing spaces for both reproducing knowledge and reflecting on it.

I propose that information technologies can serve learning that is distributive, authentic, dialogic, constructive, public, and reflective. Of course, all of these dimensions require (as well as create) rich contexts to be effective, and technology by itself could never be responsible for achieving these many goals. But these are six areas of quality teaching and learning that information technologies seem well-adapted to serving.

So, let me explore each of these areas more extensively and, in particular, recreate the connections that innovative teachers are making among technologies, pedagogies, and the study of culture and history.

Distributing the Responsibility for Learning

I use the term “distributive learning” to imply two related ideas: one developing out of *content* and method, the other out of *pedagogy*. First, where we look for our cultural knowledge is more widely distributed than ever before. The range of voices we listen to, the kinds of texts we read and study, indeed the broadening of what it means to read a cultural text at all, has opened up very wide over the last twenty to thirty years. Second, distributive learning implies a kind of pedagogy that is active and collaborative, where the responsibility for making knowledge in the classroom is distributed among all the students, as well as the teacher.

These two distributive dimensions (resources, on the one hand, media for collaboration on the other) both bear on the central issue of student engagement. Most faculty want to create contexts so that their students can bring more information to class, develop habits that interrogate texts rather than passively receive what teachers tell them, carry what they have learned from earlier class sessions into later ones, and effectively teach each other, as part of a process of discovery. The answers to these kinds of questions, of course, involve teaching and learning strategies far more complicated than just the use of interactive technologies. But technologies can be one key element in addressing them.

New technologies are powerful tools for pursuing a distribution of responsibility for making knowledge because they are interactive media.

And interactive media are distributive media. That is, unlike broadcast media (television, radio) where one point of transmission sends a signal to multiple points of reception (and those points passively receive it), interactive media, such as the Internet and the Web, email, and electronic discussion lists are distributive media. In interactive media, every point of reception is a potential point of transmission. Therefore the ability to contribute to and transform the message is shared, or distributed, along the network.

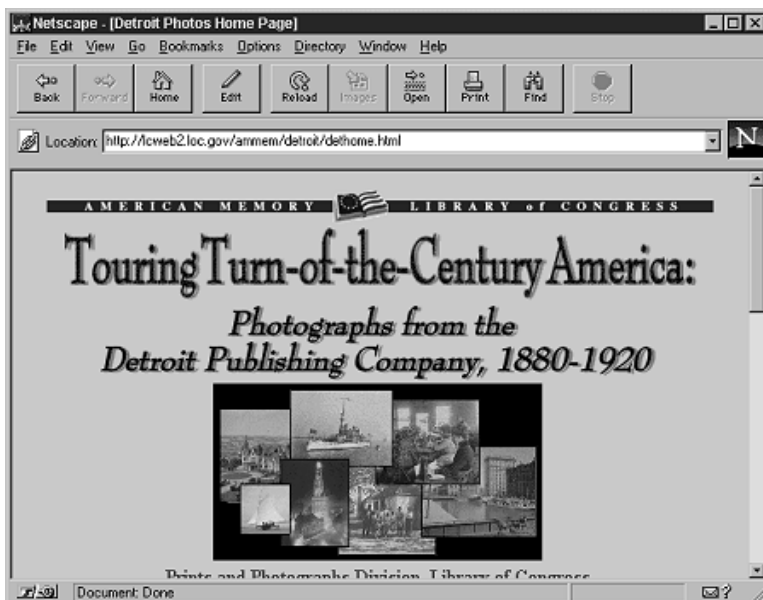
When a teacher begins using interactive technologies, the medium of learning can become more distributive. Teachers who now teach their courses in networked classrooms, for example, see the extreme example of how knowledge-making works in a distributive environment. But even with more widely accessible technologies—email, listservs, Web resources—teachers can use the distributive power of interactive technology to get students to bring individualized contributions to discussions and to develop their own perspectives by mediating their discovered and constructed materials for their peers.

So, how are we to begin finding productive affinities between the distributive nature of new technologies and the goal of distributing responsibilities among the teacher and students in a course? How can new technologies complement and enhance other successful collaborative and cooperative strategies for learning, such as in-class discussion groups, group projects, and in-class reports, which all serve to engage students more actively in the construction of knowledge in course settings?

Distributive Scenario #1: Electronic Primary Source Archive

Let's consider a scenario involving the use of electronic primary source archives (on the World Wide Web, or CD-ROM) in a guided "inquiry" assignment. Imagine an undergraduate class in American Studies or American history that is beginning a unit on American life at the end of the 19th century (or an American literature class that is beginning Stephen Crane's *Maggie: A Girl of the Streets* or Anzia Yezierska's *Bread-Givers* or Upton Sinclair's *The Jungle*). And let's imagine that the teacher wants an alternative to his or her typical overview lecture on turn-of-the-century America or a supplement to reading from a textbook.

As a prelude to this class day, the teacher puts students into pairs and gives them an assignment built around an electronic primary source archive, in this case, the Detroit Publishing Company Photograph Collection of American life, 1890-1925. One such example printed in this guide, an assignment designed by the Center for Children and Technology (*Engines* 98), focuses on "urbanization." It asks students, before they search the computer at all, to discuss among themselves what they expect to see in



The Detroit Publishing Company Photograph Collection. Guided searches allow students to achieve a mastery of primary sources.

images of urban life. Then, with that preparation, the teacher asks the following:

Step 1: Group Discussion

In pairs, choose an aspect of urbanization to examine: industrial work; commercial and office work; immigrant life; leisure and amusement; the public street. Briefly discuss among yourselves what you expect to find in the collection, before going online.



*“Juvenile convicts at work in the fields”:
one resulting photograph of a search on the word “work”*

Step 2: Search the Detroit Collection

Find six to eight photographs that portray a range of experiences or perspectives on this aspect of city life. For example, you might find pictures of men, women, and children doing industrial work; or you might find pictures that show industrialization in a positive, or conversely a negative light.

In this particular assignment, students and their partners are then asked to talk through a series of steps to process what they have found on “urbanization,” which includes

observation about what they see, speculation about what they know and how they would interpret what they see, and finally questions about the content and meaning of the photographs.

How would such an activity be a positive difference over other classroom formats? What is to be gained from having students work in pairs with an electronic archive, to discuss and debate among themselves about what they've found and then having to articulate that, even in the form of questions, to the rest of the class? How would that be different from the teacher bringing in a series of slides and projecting them, or bringing in photocopies of one or two images and handing them out? If this kind of "search and inquiry" activity were routine in a course, how might it alter the nature of student engagement with knowledge?

With this assignment, each student (or pair of students) would also come to class with a different piece of authority to share. In a room that has a computer and projector, students would be able to bring those images up on the screen and "read" them for their peers. Rather than passively hearing the characteristics of urbanization in the 1890's or at the turn-of-the-century, or simply reconstructing them from the common reading material, students in this class would *collectively* construct a sense of urban life; the responsibility for building knowledge on that day would be distributed. They would not, from this assignment, have all the facts or much detailed knowledge about the topic, but they would have the tools, resources, and basis for beginning to construct that knowledge.

Simple as it is, this assignment addresses both senses of the term "distributive learning." On the one hand students are working with an archival collection of photographs, using a wide range of visual materials to get a glimpse into American life at the turn of the century. On the other hand, students are each bringing a different piece of evidence or information to bear on the class discussion. The assignment serves to open up questions on a particular topic while encouraging students to provide the resources to clarify the context and to open it up further. There are all kinds of variations on the scenario above that could be designed around different online collections, a particular CD-ROM program, or around a locally constructed "electronic library" on one's own network (see for example the Sample Assignments and Reflections in the **Inquiry and Archive** section).

Distributive Scenario #2: Electronic Discussion Tools

Now, let's look at a second scenario involving the use of electronic mail and electronic discussions lists as shared conversational spaces.

One of the most popular and effective new tools that faculty are adopting is the use of electronic mail and electronic discussion lists as integral parts of their teaching. How faculty use these tools varies widely by the level of required student activity and the degree to which that activity is structured and integrated with the course. Some faculty have found that the most effective way to make use of online communication tools is to build in very

specific ways for students to process readings and class discussions outside of class time. For example, imagine there are 28 students in a class. Each week, two different students are responsible for posting *questions* that grow out of the reading to the class discussion list in order to prompt discussion on the list and to be picked up on in class; at the end of the week, two different students are required to post a follow-up response and questions that grow out of the week's course materials. In a fourteen week semester, each student might be responsible for only one formal round of questions and one formal round of responses; but each week, it would be routine that it was the students' responsibility to generate a portion of the discussion level questions for the class.

Some faculty use electronic mail in a less structured way but which similarly actively engages students in giving feedback on their understanding of the material. In her essay, "E-mail, Writing, and Classroom Community," Jody Ross discusses her use of email by which students routinely write her questions and reactions to the reading that she then uses to shape her approach to material for each class. Ross writes:

From the first day students used email to pose questions and ask for clarification. I would take their questions and concerns to class, using them to initiate class discussion. I began to realize that the students understood the materials much differently than I anticipated. In addition, the students were clearly very confused about what I expected and wanted very much to understand and to please me, which honestly, I thought was the goal...To say that email discussion journals transformed my teaching is to say that a rainbow is 'ho-hum.' Email group discussions prompted a revolution. Email can have a very revolutionary effect. The process can be very democratic. The power to read and discuss primary documents belongs to the students. No matter the course content, I now place email conversations at the heart of a class. (*Engines* 144)

Such pedagogical strategies, whether built around online collections or utilizing online discussion tools, relate closely to other key areas of learning by engaging students in dialogue, getting them accustomed to participating in knowledge-making as a public act, and asking them to be reflective about the material they are absorbing *as they go along*, not just at exam time or when papers are due. Finally, as I illustrate next, we can extend such activities to more intensive encounters with online materials in the same spirit of authentic and engaged learning.

Tools for Authentic Inquiry: The Novice in the Archive

Several years ago I was serving as a facilitator for a “writing across the curriculum” symposium on my own campus, and I asked a group of faculty to talk about their frustrations with student writing. One history professor said, without a hint of cynicism or condescension, “I don’t understand why their midterms are so badly written, when all of this material was covered in lecture.” In short, this professor was making the earnest mistake of thinking that modeling historical thinking himself (and his students’ passive spectating of it) would be adequate preparation for their performing historical thinking on the exam. But nowhere in the class structure was there accommodation for students to engage, either sporadically or routinely, in a practice they were expected to perform.

Here, then, is one of the significant dimensions of what McClymer and Knoles (and Andrew Wiggins, whose work they’re drawing from) mean by “authentic learning”: the ability of students to practice the authentic tasks that they are expected to perform (or spend “time on task,” as Chickering says). This relates to the question of complexity and the discrepancy between the kind of complexity we hope for and the nature of the assignments (and the tools to complete those assignments) we give.

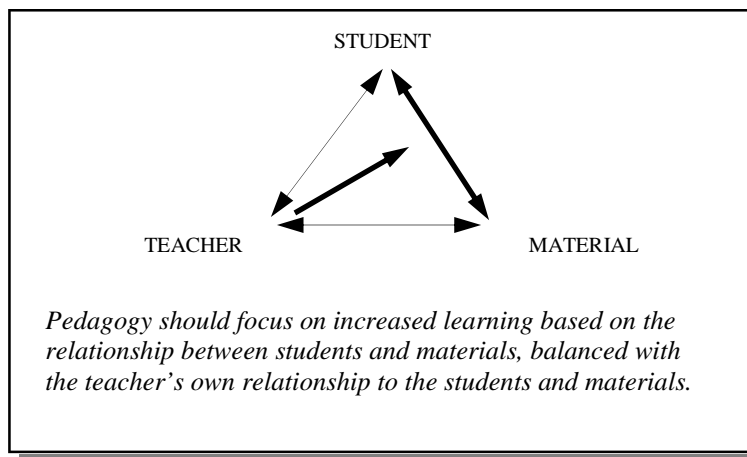
As McClymer and Knoles argue,

Those tasks—the exams we give, the papers we assign—are ‘inauthentic,’ to use Wiggins’ term (1989a, 1989b). They not only fail to measure the knowledge and competencies that actual mastery of the subject matter at issue entails, they measure other skills altogether....The underlying premise of authentic testing is that examinations should ask students to engage in the kinds of activities performed by practitioners in the discipline. Unfortunately, too many of our tests call upon students to engage in activities, such as recalling specific bits of information without checking them in standard reference works, from which they would be actively discouraged were they to become real practitioners. Students study without learning, in short, because they study to pass our tests. We then reward their mastery of the appropriate ersatz knowledge with passing grades. (34-35)

So, what role do information technologies play in this question about authentic tasks and learning? Consider the question in the context of the triangular relationship that exists among the teacher, the student, and the material.

Under a traditional, non-networked teaching model, teachers tend to think most about the teacher-material relationship. In traditional teaching, teachers usually ask themselves, *How did I master this material? How will I interpret it for my students? And how can I replicate this process, in some*

The Teacher-Student-Material Relationship



small way, in my student? These are questions that I identify with the teacher-material relationship. Consequently most of the choices teachers make about what to teach and how to teach are made from the standpoint of an expert learner's relationship to the material, adjusted "downward" to the student's level. In one sense, faculty who are experts in a field, and who were always good at that field, are very poorly suited to teach that subject to novice learners. As expert learners we have forgotten—or most likely never knew—what it is like not to be comfortable with material in the field. (Obviously in other ways, experts are well-suited.) But the point is that if we make all of our teaching decisions based on the teacher-material relationship, then we are teaching from a limited position. Seldom, I think, do we consider the relationship between the student and the material, or how novice learners see the material we teach; nor do we consider where the meeting point is between what constitutes authentic work for us, as teachers, and what seems comprehensible for our students.

New technologies can be used to enable students to develop a more direct and intense relationship to materials. In his online essay, "Rationale of Hypertext," Jerome McGann talks about how the ways that we study cultural texts are changing because "the scale of our tools" is changing. I think this is an important point for the use of electronic tools with novice learners as well. One of the most striking things that I've found in asking students to use electronic tools to engage with cultural and historical materials is how they change the scale of the student's relationship to those materials.

For example, when students are working with a hypertext CD-ROM on American history, they are able to move through the material at their own

pace. Students working with the electronic version of a primary text are able to exercise a form of control over that text that expert learners develop over many years. Similarly, students who are using an online archive of primary materials on the World Wide Web are able to work their way through the kind of scholarly resource to which only experts in the field would previously have had access.

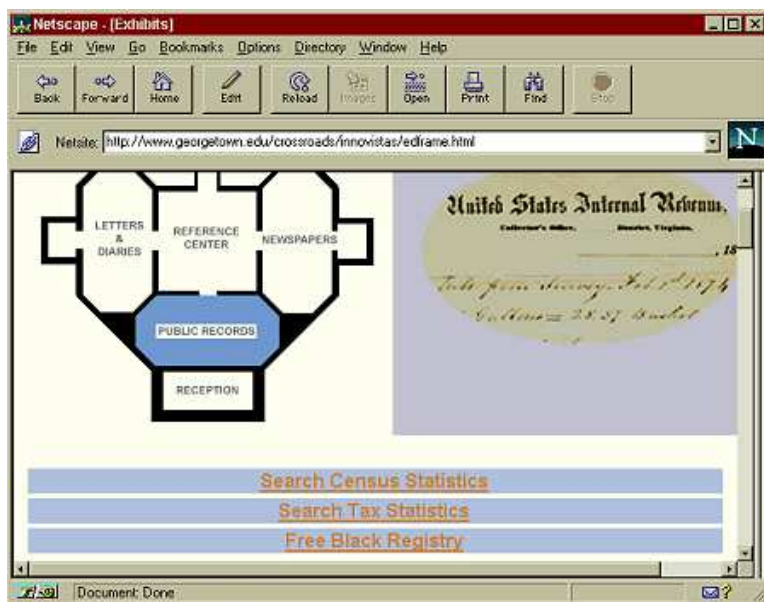
The scale of these new tools allows novice learners to get closer to seeing key texts as ideas situated in a complexity and to use those tools as prosthetics for searching and sorting through possibilities and contingencies, all *en route* to performing authentic analysis and synthesis. This is the phenomenon that I call the “novice in the archive.” And there are two important points to bear in mind here: first, that new technologies are making it possible for novice learners to engage in the kinds of archival activities that only expert learners used to be able to do; second, that the nature of their encounter with primary materials and primary processes is still as novice learners. The unique opportunity with electronic, simulated archives, is to create open but guided experiences for students that would be difficult or impractical to replicate in most library environments.

Here are two examples: John McClymer’s “Worcester Women’s Suffrage” exercise and Alice Carter’s “Valley of the Shadow” assignment. Both of these assignments draw on “electronic libraries” that function as what I call “thick sites” of information (after Clifford Geertz’s use of the term “thick description”). Indeed, a well-selected and constructed electronic library of primary materials can be used as an environment where students, with the help of guiding materials, can discern some meaningful interdependencies of knowledge on their own. That, it seems to me, is one of the key connections between information technologies, authentic tasks, and complex inquiry.

In McClymer’s Women’s Suffrage exercise, for example, he asks students to contextualize and unpack the meaning of the phrase “soul murder” used by Paulina Wright Davis in the context of a critical speech at the Worcester Women Rights convention in 1850. The inquiry assignment for the student is to trace through a tailored and arranged assortment of primary source documents to understand the political, cultural, and rhetorical context of that fertile phrase (*Engines* 103).

Similarly, Alice Carter of the Greenwich Academy (as well as several others) has designed a number of assignments making use of the Valley of the Shadow civil war project: a rich database of material encompassing both the history of two neighboring counties in the Shenandoah Valley and how each differently experiences the Civil War from opposite sides of the conflict. In one such assignment, Carter asks students to write a “biography” of a real historical personage who lived in the Valley. Carter then walks students through a series of research steps that takes them through diverse primary materials ranging from census records to letters

and diaries (*Engines 94*).



The Public Records Hall in the Valley of the Shadow - an example of a “thick” Web site used to create authentic tasks.

These kinds of assignments are different from those with which students routinely engage in culture and history classes, although the kind of thinking they are meant to produce is in line with what most teachers want and expect. What makes these assignments different is a combination of factors: access to primary materials that might otherwise be inaccessible, tools for searching and sorting through those materials, as well as an electronic environment for following and making linked connections among the materials in ways that make vivid the interrelationships among them.

I am not advocating that electronic libraries and search-ing tools provide a neat, information “solution” to the problem of giving students authentic tasks and teaching them complex thinking. Although powerful tools, they are not serving in these instances as “engines” of productivity leading students to answers, but as engines of *inquiry*, contributing to a context that might lead students to ask better, more subtle, more complex, questions about the cultural materials before them.

Dialogic Learning: Students in Conversation

While engagement with primary materials is a critical aspect of learning in culture and history, so, too, is the engagement in dialogue about those materials. Recalling Diana Laurillard, an exchange of ideas and discourse of understanding about the importance and scope of the course’s materials is critical to the “cyclical process” at the heart of learning. Similarly, education theorists, such as Arthur Chickering and Alexander Astin have pointed out how critical student to student (peer to peer) conversation is in the learning process.

Given the importance of dialogue in learning, it is worth considering the role of interactive and dialogic technologies. I have already touched on the role of electronic mail and discussion lists in distributing responsibility for

learning; now, I will further the discussion before presenting two additional contexts for dialogue and exchange.

Many faculty use electronic mail and discussion tools to create spaces for group conversations that complement the learning inside and outside the classroom. In traditional classroom settings, “class discussion” is the only structured way for students to engage in dialogue with each other. Cognizant teachers know the pluses and minuses of class discussion, including the social inhibitors that are often at work with gender and other factors. One of the clear advantages of online discussion spaces is the “leveling” effect that usually occurs, making participation less threatening and more democratic. Most faculty find that even the shyest of students can be comfortable participating in online conversations. Faculty also find that participation on electronic discussion lists has benefits inside *and* outside the classroom.

In addition to providing a complementary space for creating a sense of community for an entire class, other teachers use electronic discussion lists to provide group conversational spaces “smaller” than the class itself. Faculty who teach larger classes have found it effective to divide the class into smaller conversational groups (10-15 students each): each week different questions are addressed, or group research projects are undertaken. As with all kinds of class participation, it is to be expected that some groups will work better than others, some thriving, some muddling along, some silent or stagnant. Nonetheless, teachers who utilize email and electronic discussion tools generally find them, in a number of ways, to be a positive influence in engaging students.

Jan Cohn says in her essay, “High-Tech in the Junior Seminar,”

In evaluating the use of electronic technologies in the Junior Seminar, I can only say that they were powerful enhancements for the course. As I have said, this course is intense; it has a boot camp reputation. At the same time, it has considerable success as a bonding, community-building experience. PacerForum and DOCEX [discussion list and document exchange programs] in their different ways, work—or can work—to enhance the intensity and to create the sense of community. As we say in the course syllabus, ‘One goal of the Junior Seminar is to allow you to achieve increasing intellectual independence over the course of the semester.’ Discussions on the...bulletin boards and the exchange of papers and research materials, including graphic images...provide the opportunity for students to share their ideas and their work with one another rather than simply with the professor(s), and that strikes me as an important stepping-stone to the ‘intellectual independence’ we wish to

foster. (*Engines* 139)

Cohn’s use of electronic tools to both foster community as well as provide a medium to exchange documents for the purpose of collaborative work points to an additional dimension of the idea of dialogic learning: the capacity of technologies to provide a single, fluid environment where students can interact both with each other and with course materials. Using a combination of electronic mail and document exchange software is one way to achieve this. There are other environments—variously called “courseware,” “groupware,” or “collaborative writing software”—that can also enable both these activities.



INSTRUCTIONS:

This assignment begins with an analysis of the woodcutting below. This should help you recall some of the issues of representation we have discussed in class. After you read this analysis, respond to one of the two questions that follow. For Part Two of this assignment, read and respond to three classmates who answered the same question you did. With whom do you agree or disagree, and why?

One example of such “courseware” is Norton Connect. In his essay “Getting Students (and Faculty) Connected,” Charles Hannon discusses his use of Norton Connect in conjunction with “multimedia Reading Journals” in which students not only can view visual and textual materials in conjunction with the teacher’s question prompts but also can use the same program both to share their journals with each other and to engage in conversation (*Engines* 197). Here is an assignment Hannon has designed for critically reading Columbus’ journals:

And an excerpt from his students’ responses:

Name: Nick Mayfield
Assignment: Columbus

Part 1: I think that these misrepresentations of the Native Americans occurred because they were very sensationalistic

and were meant to drum up interest in the New World. Explorers would want their respective countries to be excited and mystified about the true nature of the inhabitants of the New World so they could get financed to go back and find out more about the Natives....

Part 2: Britney Fisher says that the misrepresentations of the New World occurred because of a ‘break down in communication,’ and I think that there is a lot of truth to her statement. I didn’t think of that reason before reading her response. She agrees with me that the explorers were motivated by the want of financing. Amy Uptegraft agrees with me on the point of the explorers wanting to tell exciting stories and the people of Europe wanting to hear exciting stories. She cites glory as a major motivation for these explorers because they did not bring home the gold that they promised their leaders....

Naturally, this kind of collaboration and peer learning can occur in other ways than in print and in person, some of them very effective, others cumbersome and unwieldy. But many faculty, like Hannon, find that different electronic tools can enhance the ability for real collaborative and dialogic learning by providing a discursive space where they can combine the comfort of conversational exchange and the standards of the public exchange of ideas. Furthermore, the dialogue among students becomes enmeshed with the students’ dialogue with the materials, facilitated by bringing diverse materials and pedagogical prompts together in the same electronic, learning, environment.

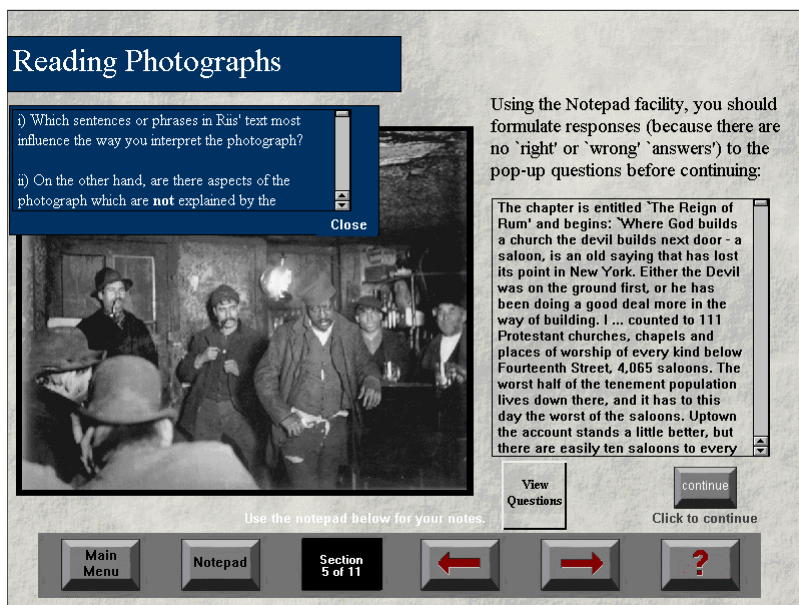
Active Reading and Constructive Learning

Having students read and respond to materials (and to each other) in a single environment is one vivid example of an important (but sometimes overstated) aspect of new media pedagogy: the capacity for information technologies to encourage active reading and active learning. As I’ve said before in this essay, whether or not this is true is entirely dependent on the nature of the pedagogical context as well as the quality and design of the electronic tools. Nonetheless, *structured in the right way*, multimedia and hypermedia environments can encourage active reading by helping to guide student experience with cultural and historical materials. This form of student engagement can have two levels: engagement through a variety of means to active reading, and engagement through constructive learning and writing projects. First, I want to look briefly at an example of using hypermedia tools for creating a context for active reading.

Multimedia Scenario #1: Engagement through Active Reading

In his essay on “Documentary Photography,” Douglas Tallack describes his creation of a hypermedia package to help students learn to read visual materials in his upper-level course, “Visual Culture in America, 1893-1939.” Tallack has created a program which brings together photographs, background materials, and guiding questions to help students learn more about reading the photography of Jacob Riis. As Tallack explains,

These ‘readings’ are, at first, carefully directed, with pop-up



Simultaneous Analysis of Text and Image using a CD-ROM on Jacob Riis

questions guiding students through three stages: description, giving an account of composition, and, finally, interpretation, in which the historical institutional and theoretical issues which bear on the complicated notion of ‘documentary photography’ are gradually brought together. (*Engines* 214)

What Tallack finds useful about the electronic arrangement of photographs and guiding materials, as a tool for teaching students to read visually oriented objects, is not only the structure of its information, but the freedom that it allows students for exploring the reading path that most interests them. Again, as Tallack claims,

More specifically, with students who are often from different academic backgrounds and who may be new to the analysis of visual materials, the presentation and manipulation of images and information has particular advantages. For instance, some students in the group would find a digression of Pro-gressive Reform merely repeats topics covered in US History courses, while for others this context is vital for an understanding of Jacob Riis’ photography and his larger project. The branches in the

program permit the accommodation of both sub-groups of students, whereas digressions in lectures to fill in background are an ineffective method. But it is in allowing students, *at their own pace*, to spend time looking at the photographs which otherwise would be projected as slides for a restricted time, that the program has considerable advantages. (*Engines* 214)

Although multimedia and hypermedia packages are effective platforms for encouraging active reading, other tools can help students engage materials in an active way. For example, students can use either word search and retrieval software to look closely at language in literary and highly rhetorical texts or text annotation (and hypertext) programs—such as Guide, Storyspace, or CommonSpace—that allow students to take passages or materials and write their own annotation or contextualizing materials around them. Without taking the time to detail these programs, the general point is this: one of the reasons that expert learners can read actively is that they have deeply internalized the information processing skills that link reading to writing (input to output, data to synthesis). But novice learners don't have the background or the habits of mind to make those connections. Electronic environments provide one kind of space for students to rehearse and make vivid the connections between reading and writing. Or to put this another way, teachers who use multimedia reading materials are in a position to model for their students a kind of “slow” reading, where any given text (written, visual, or otherwise) can be broken down, teased out, connected to contexts. Multimedia presentation and hypertext reading materials help illustrate the web of connections that can flow out from a single artifact, turning a text into a database of information. Thus, by modeling (to use hypertext theorist Michael Joyce's terms) exemplary “exploratory” uses of hypertext, there can be a close connection between active reading technologies and environments for “constructive” learning and projects, hypertext and otherwise.

Multimedia Scenario #2: Engagement through Constructive Hypertext Projects

Faculty in culture and history are using new technologies to engage their students in constructive projects, ranging from the making of CD-ROM's to store and organize the gathering of local oral histories to the use of hypermedia environments (like the World Wide Web) to engage students in projects intended to model interdisciplinary thinking. One example of this is the creation of “Virtual Pavilions” in the American Studies introductory course at the University of Wyoming. As a culmination of the introductory experience, students there work in groups to construct virtual exhibits on American life at the turn of the century and then mount them on the World Wide Web. These projects tend to foster a productive self-consciousness—endemic to the creation of any “exhibit”—about choices, selection,

arrangement, narrative interpretation, and design. They also tend to provide an additional environment for students to perform the kind of interdisciplinary thinking that they have been exposed to from the beginning. As John Dorst at the University of Wyoming says,



Created by students at the University of Wyoming, "The Virtual Pavilion" is an exhibit whose construction requires interdisciplinary thinking and fosters a self-awareness about the design of a public display.

Since the process of making conceptual connections among disparate bodies of material and among varied forms of cultural expression is at the center of American Studies interdisciplinarity, we strongly urged the students to create hypertext links within their own pavilions as well. The capacity for making immediate connections is, of course, the main reason for using the technology in the first place. By having to design links and conceptual pathways through their pavilions the students would of necessity have to engage in the sort of cultural analysis that is the hallmark of American Studies. (*Engines* 287)

Similarly, David Silver, remarking on the constructive uses of hypertexts at University of Maryland, makes the same claims. In this context, students building their hypertext constructive projects go through a rigorous series of planning and revision stages, including a "preprint forum" that includes group discussion about authoring strategies, "online drafts" where students

read and critique each other's initial work, and "oral hyperlinks" where students present plans for electronic links and conceptual connections to each other.

As with Dorst at Wyoming and other faculty using constructive projects, Silver sees the process as both dynamic and collaborative:

Overall, our experience with Web projects met and exceed our original intentions. As a whole, students designed thoughtful, analytical, and creative Web projects. Moreover, their projects were not written solely for us, the instructors, but rather for a larger audience, the class. This dynamic interaction—between students and instructors, students and students, and the class as a whole—fostered a collaborative learning environment which is reflected in the students' projects...Another result of the project was multivocality. Students became aware that no single artifact perfectly encapsulates American life. Similarly, no single interpretation perfectly explains an artifact and its meaning within American society. In this manner, diversity—both with respect to culture and opinions—was not to be avoided, but rather engaged. And while it is true that some students simply did not link to projects which contradicted their own findings, other, more courageous students used these differences to work through fundamental paradoxes within American culture in general, subjective interpretation in particular. (*Engines* 270)

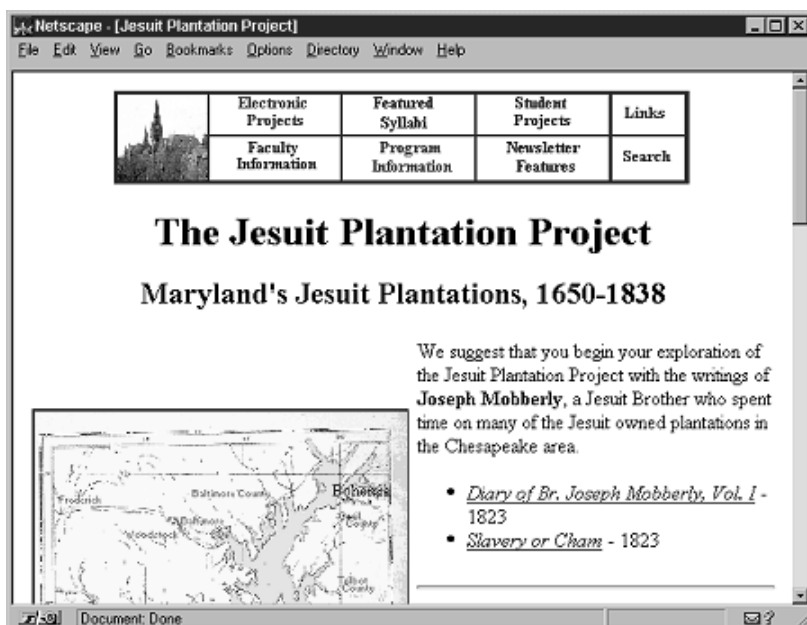
Constructive student projects, often using hypertext and multimedia, synthesize several learning goals not only by engaging students in the act of building knowledge rather than simply mimicking it (i.e. coping), but also give them an environment within which to map interconnections and interdisciplinary thinking that should be developing in the context of culture and history courses. Although as educators and as scholars we have a lot to learn about ways to model interdisciplinarity in hypermedia, faculty who engage students in constructive projects have found electronic hypertext environments an excellent tool to bring to a learning context that is grappling with fundamental issues of interdisciplinary thinking.

Furthermore, student constructive projects in electronic environments also have the additional benefits of bringing students together in collaborative work and engaging them, as individuals and as groups, in the creation of knowledge that is public, and often a real contribution to growing resources, in culture and history.

Public Knowledge and Student Accountability

Most of the learning activities that I have been discussing—community building, active thinking, connection-making—all share this important “public” dimension of academic knowledge. Nowhere else but in school will students ever produce work for no audience. If we are to take seriously the idea of authentic tasks and complex inquiry, then surely we must begin to incorporate a public dimension into their work as integral to pedagogy. Whether writing for an electronic discussion list or constructing collaborative projects on the World Wide Web, students tend to take their work more seriously if it appears to have an actual audience. This is true of course-oriented work as well as a second type of constructive project that is

being introduced by more and more programs: archival or resource-building projects that are ongoing and in which undergraduate and graduate students participate.



The Jesuit Plantation Project at Georgetown University, created and expanded by successive generations of American Studies students.

The Jesuit Plantation Project at Georgetown University is one such project, where each successive “generation” of sophomores in the American Civilization core sequence participates in the electronic conversion of the Maryland Province Archive, containing 200 years of documents related to the six

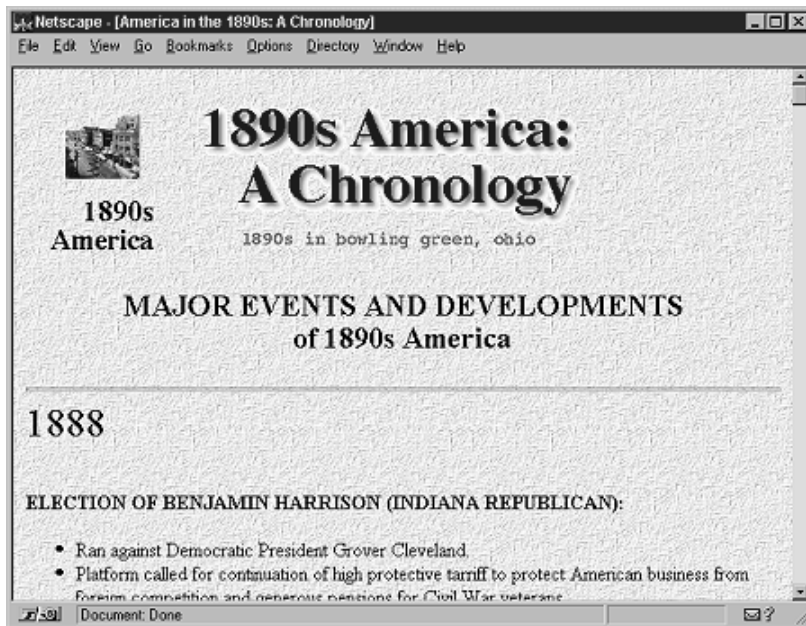
Jesuit-owned plantations in Maryland. Each year, a different slice of the archive is converted into electronic form and mounted on the World Wide Web; only so much of the archive that each class of students can transcribe, markup, and mount gets added to the online collection.

In this project, students learn several things, but most importantly they get a taste of the gritty detailed work of doing cultural history: reading artifactual materials, figuring out how to transcribe manuscript copy, deciding if a crossout is original or if the slave named “Cornelius” over here is the same as the “Cornelius” in a different document. Students learn to put the documents into the collection themselves and then to contextualize them, thereby modeling the movement from micro to macro, local to broad knowledge that is at the heart of cultural and historical inquiry. This

project engages students in authentic work.

What does technology have to do with it? Not a lot, except for the crucial dimension of the World Wide Web, which provides a tangible and immediate forum for the public availability of the work the students are producing. Far from a minor aspect of this project, as an educational tool, the public nature of the electronic environment is the pivotal aspect of the project. Students know that they are leaving a permanent legacy to the project; they get a feel for what it means to engage in inquiry that does not evaporate after the final exam is over. In this course, we are not trying to turn students into historians, but we are trying to give them a feel for what authentic work in cultural history might mean.

A similar project, but one that is oriented less around an archive and more on a usable resource, is the “Chronology of the 1890’s” project at Bowling Green State University. In this project, each successive generation of graduate students in the introductory methods seminar contributes to an increasingly deep, annotated chronology of life at the end of the 19th century. As Bill Grant describes it,



The “Chronology of the 1890s” Project at Bowling Green State University is another ongoing project in which each class of students leaves a lasting legacy to the project. (<http://ernie.bgsu.edu/~wgrant/1890s/america.html>)

At the end of the term, their contributions to the Chronology were left in cyberspace after the seminar was completed. In order to continue the experiment, my current seminar on

Computing for American Culture Studies used the same site to build on the work done by the previous seminar in the 1890s. In addition to the opportunity to link to each other's work, they can also make links to the work done by their predecessors. As other seminars in the 1890s are offered, the process can continue, each new generation of students inheriting from and building on work from the past. As students move on to worlds outside their current graduate program, they have a link back to the work they have left behind, and an on-going connection with students who have followed them. The potential limits of such a data base are only those of available server space (Crossroads Research Project Archives).

Publicly accessible and accountable projects add to the authenticity of the learning experience by helping to teach students that knowledge-making is neither a solitary nor an isolated and episodic experience; instead, it is the product of public dialogue, within the protocols of disciplinary discourse, in an ongoing and recursive conversation. Electronic projects can help engage students in that conversation in a way that asks them to be publicly accountable for their contributions.

This does tend to change the standard way of teaching for a lot of faculty. Here is how George Landow summarizes it: in speaking of these kinds of projects in a hypertext environment,

We encourage our students to think independently, and some of us even prompt them to challenge our pet theories and interpretations. Occasionally, in our books and articles we thank students for having helped us formulate these theories in the pressure of discussion or for having uncovered some interesting bit of evidence; but we do not publish their comments in our books. Hypertext, however, enables student-faculty collaboration by including large number of links and documents created by students. Whereas few students can contribute general essays or much in the way or original scholarly research, all can contribute links and many can produce valuable graphic and text documents that supplement faculty created ones (141).

And this, as he says elsewhere, also changes the relationship between faculty and students. "Educational hypertext," he argues,

redefines the role of instructors by transferring some of their power and authority to students. This technology has the potential to make the teacher more a coach than a lecturer,

and more an older, more experienced partner in a collaboration than an authenticated leader. Needless to say, not all my colleagues respond to such possibilities with cries of glee and hymns of joy (125).

Overall, such projects help transform students (as Alan Howard puts it in his essay in this volume) from “consumers to producers.” Whether work on constructive projects constitutes only a small piece of coursework, or reconfigures an entire course, or even (as at the University of Virginia) an entire curriculum, such projects epitomize the congeries of learning styles and values that can characterize technology-enhanced teaching, and help make students more engaged, reflective, and critical about what they do.

Reflective and Critical Thinking

Clearly, no single technology can teach critical thinking; it is also dubious whether any single teacher, or any single course can. Habits of mind, contexts for performance, an environment that encourages and enables the reflective construction of knowledge, are all necessary for critical thinking. Landow’s point about the shifting role of the faculty member and the mixed reviews it might get from some faculty gets at a crucial point. Everywhere I give workshops, faculty complain that their students cannot think critically or reflectively, yet, when looking at technology-enhanced, student-centered approaches, these same educators are reluctant to “give something up”—whether that something is authority, time, coverage or material, or control. If we want students to learn better or differently, then we have to teach differently, and that may require reconstruction of many structures and habits. I think this is especially true of teaching the elusive objective of critical and reflective thinking.

The relationship between technologies and critical thinking has to be characterized as “yes, but.” *Yes*, there are many features of technology enhanced environments that can facilitate critical thinking:

- the ability to create rich environments of information that students can move through at their own pace;
- the ability to put tools in students’ hands that allow them to manipulate primary materials in light of methodological activities;
- the opportunities for faculty and students to read and write in electronic environments in which the emphasis is on making strategic choices in (re)constructing cultural and historical knowledge;
- the ability to read and write in nonlinear environments that can dramatize and make vivid multivocality and multiperspectivism;

- and finally, the opportunity for students to engage in the public conversation of ideas, either as talkers, listeners, or writers.

But, whether these capabilities lead to better learning (let alone critical thinking) depends on how they are deployed, and in the ways that teachers construct a context for students to engage with both technologies and materials. Ultimately, whether or not these opportunities can be made real in practice depends on the idea with which I began: the ecology of their implementation.

Technology and the Ecology of Courses

Most of the discussion so far has been targeted at the level of assignments and projects, but there is a set of larger questions that have to do with courses: their structure, pacing, and framework.

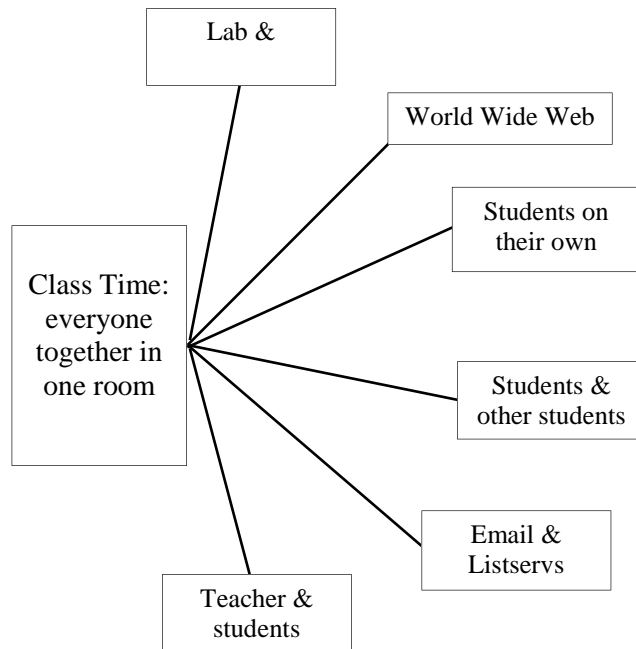
Throughout this guide—through its many case studies and reflections—the impact of changing pedagogies on *courses* takes many forms: changes in the role of the teacher, in the shifting proportions between class-time and activities outside of class, in the ability of students to encounter primary and secondary materials for the course at their own pace and recursively because they have been made available electronically, and in the ability of students to work on constructive projects over time, collaboratively, and with multiple stages of revision and critique. From dialogue and discussion to coverage and depth, from reading and writing to the building of knowledge across the semester, technology-enhanced pedagogies that encourage inquiry-based, active learning ultimately raise important questions about the way we organize courses overall.

In looking across the essays and reflections in this guide, I think we can see at least three key areas for considering the impact of these pedagogical strategies on the way courses are organized and structured: (1) the “locations” of a given course and the continuity among class sessions, and between class time and elsewhere; (2) the “architecture” of a course and the use of electronic environments to wrestle with the tension between coverage and depth; and (3) the impact of “project-based” learning on the overall structure of courses.

Let’s look at each of these impacts a little more closely.

(1) The “locations” of a Course and Continuity among Class Sessions

Every course has a number of locations. That is, every course, even the most traditional, has an aggregate of several learning spaces, with certain learning activities characterizing each one. For every course you teach, some portion of it takes place when you and all your students are in the same room. That’s the plenary space, or the



Technologies like email, listservs, and the Web can increase the number of learning spaces of a course, facilitating new activities or reshaping old ones.

collective space. Every day of the semester, you make certain choices that certain kinds of activities are going to take place when you're all together. Similarly, in every course, students are expected to do things elsewhere: whether it is on their own, with other students in groups, in lab or fieldwork settings, or in conference with the teacher. Every class, then, has at least two or more spaces where learning takes place. (I'm not thinking here of distance learning and distant education courses, where the issues are more complicated.)

The use of interactive technologies can make an impact on the choices you (and your students) make for how to use these spaces. For example, if you are using a course-based listserv, or have mounted some of your course materials on the Web, then some activities that formerly took place when everyone was in the same room can now happen outside of the classroom. Or, if you are teaching some of your technology-enhanced course in a networked classroom or lab setting, then some of the research work, or group problem solving work, that would have taken place outside the classroom might be valuable as an in-class activity. The more

students and teachers engage with new technologies, the more varied are the possibilities for shifting the learning spaces of a course.

One final way to think about your own teaching and its potential remapping with new technologies is to consider the typical relationship that you construct between class sessions. That is, ask yourself, what is the relationship between one class session and the next? What is the relationship between what happens in a class session and the student's preparation time before and after it? What does the student's reading of material for a class prepare him or her to do with it in class?

I have begun to think of an informal taxonomy of inter-class relationships. The different kinds of relationships I've identified in my own teaching, that I use at different times, include:

Episodic: students read some material; we talk about it in class. Fade to black. The next unit begins. Although there is an accumulation of knowledge and content, no rigorous connections adhere until papers and exams.

Cumulative: students read material, come to class, read more material, come to class. Each class we keep bringing along a set of ideas, week after week.

Dialectic: students read some material and are asked to process it in a way that sets up their thinking; the purpose of class is to work against and with that preparation: set up and resolution. These kinds of classes almost always involve some kind of reading questions or study question exercises.

What has this got to do with new technologies? Interactive technologies, whether communication programs like listservs and email or hypertext environments like CD-ROMs and the Web, can be used to intensify the relationship between class sessions, or to make better use of the time students spend outside of class. Many faculty use course-based discussion lists to generate questions about readings that allow them to, in effect, resume a conversation about the material when class begins, instead of starting from the beginning. Similarly, electronic lists can be used to follow up class sessions when the material is still fresh, rather than waiting until the next time everyone is in the same room. Hypertext environments, for example, can be used as tailored research spaces that enable students to form connections across readings or to conduct short research exercises to help process material between classes.

Similarly, many faculty who use Web-chat or Web-conferencing

programs, like HyperNews, claim their advantages as a complement to traditional classroom discussion (and superiority over electronic discussion lists) is their ability to archive postings in a single Web environment where everyone in the class can see them and where students (both the authors of posts and their peers) can go back and reread them later in the semester. Being able to track the history of student participation across a course was formerly possible only by going back and reading one's own notes or early papers. Conferencing, discussion, and archiving software facilitates the creation of 'thought trails' that can help emphasize the recursive and cyclical character of the learning process.

Being able to ask students to post and exchange ideas formally outside of class can also have a transformative effect on the nature of class-time and the classroom, potentially making it more into a workplace, where students process ideas, rather than a theater, where they spectate performances.

(2) The Architecture of a Course: Coverage and Depth

If the use of technologies can have an impact on the locations where learning takes place, it can also provide a new space for locating the *architecture* of a course. The architecture of any given course, as I'm invoking it, is the total structure of a course—its materials and its knowledge—as it exists in the instructor's head. That architecture is initially represented in the course syllabus, although often insufficiently. As the course unfolds, week by week, reading by reading, handout by handout, more and more students in a course come to inhabit that architecture. Some never do; some only partially. Others, the ones we are most gratified to remember, inhabit the architecture more fully.

Many of the programs and technologies that have been discussed in this essay represent new, expansive, and alternative ways for teachers to represent the architecture of a course. This is one of the most compelling reasons, from my perspective, for putting course materials on the World Wide Web: to make concrete the materials and connections that hold a course's architecture together.

Naturally, faculty who put their course materials on the Web, most commonly begin with the basic materials of the syllabus: course schedule, reading assignments, bibliographies, some relevant links. But beyond those basics is the potential to use Web-mounted

materials to map the hypertext of connections and choices that went into creating the syllabus itself. After all, what is the syllabus for a given course but a snapshot or a cross-section of a much richer architecture. The teacher moves through the semester with the full array of materials, questions, and contexts that comprise that architecture; students do not, or do so very partially.

Many faculty use Web spaces to fill in that structure by mounting supplementary and contextual reading materials, by harvesting from available resources their own tailored archive of primary materials, by mapping linkages between resources and reading and writing assignments, and finally by integrating Web-based exploratory resources with developing constructive student projects.

All of these possibilities are suggested throughout the essays and reflections in the Guide. But, Web-mounted course materials are not by themselves transformative, although always useful for productivity and communication. Web-mounted course materials can support any kind of teaching, including very traditional formats. However, some faculty are discovering (rarely right away, but over several semesters) that building resources and course-related structures in electronic spaces allows them to begin to rethink certain course-wide components, such as *coverage* (the use, for example, of electronic environments to support a “case-studies” approach, or the shift away from the assessment of learning through standard student work, such as exams and papers, toward projects).

(3) Project-based Learning and its impact on Courses

It is impossible to incorporate significant project-based learning into a course, especially if it involves new technologies, without considering the impact on the course overall. Faculty who use student constructive projects as the benchmarks and culmination of courses have learned that one must begin with the final product and “tunnel backward” through the semester to consider the various stages of set up, training, drafting, revision, and whatever inevitable unforeseen disasters are sure to occur along the way. With project-based learning, no less than with all uses of technology-enhanced learning, faculty should begin with the question: if I am going to add something to a course, what am I going to give up?

Not only does everything added require something to be subtracted, but everything additive is reconstructive. That is, to begin teaching with a project-based approach means that it is probably best to consider the overall structure of the course and to consider the importance of fully integrating active learning approaches at every step of the process.

The idea here recalls the earlier discussion about authentic tasks and student assessment: students shouldn't be expected to perform what they are not given the opportunity to rehearse. Moving to a project-based approach implies a shift away from a content-intensive approach to course design to one that is centered more on method and process, and around student production of work in a shared process emerging from texts and contexts being studied. The use of project-based learning, especially in conjunction with other active learning pedagogies, can help focus student work as a semester-long enterprise (and perhaps beyond). After all, what could be more authentic than to think of the construction of knowledge as ongoing and recursive?

Getting the Thing of Value Out the Door

Just as the ecology of these technological changes helps transcend the isolated nature of class periods or individual assignments, they raise further questions about thinking beyond courses themselves to the possibilities for thinking in terms of clusters of courses, or “courses of study.” As the incorporation of new technologies leads us to reconsider these course-based values—collaboration, revision, interaction, continuity, and a dynamic, revision-based orientation to learning—we need to ask what the implication might be to think beyond “the course” as the basic unit of study. As Steve Ehrmann puts it, “Education can affect the lives of its graduates when they have mastered large, coherent bodies of knowledge, skills, and wisdom. Such coherent patterns of learning usually must accumulate over a series of courses and extracurricular experience. Thus, to make visible improvements in learning outcomes using technology, use that technology to enable large-scale changes in the methods and resources of learning” (*Engines* 66).

Here then is an implicit challenge to programs and departments to think about the intersection of technologies and pedagogies, in the context of activities students might engage in across several courses in a single institution. How might a program construct an electronic space or architecture that serves a program (as in the case of AS@UVA) and not just a single course? How might certain habits of mind, or routines of authentic performance, be repeated across several courses so as to contribute to the coherent experience of a course of study? How might student work with constructive projects of their own theme, or contribution to some larger collaborative project, help bring a sense of coherence and continuity across individual courses within a program?

Finally, the use of distributed learning and Web-mounted materials also begs a larger question about thinking “beyond courses” and the increasingly

arbitrary boundaries of institutions themselves. Clearly, the field of American Studies and cultural history is too big for all but the largest institutions to even come close to coverage. As certain shifts take place, and more courses are entirely or partially online, why would it be necessary to maintain the fiction that every program in American Studies, or Literature, or History, is complete (or complete enough) in and of itself? Why couldn't online course materials serve courses at more than one institution? Or, why couldn't institutions, by close agreement, consider that their curriculum together forms a larger and more complete "course of study" than either curriculum alone? What used to seem like inevitabilities gives way to possibilities, and that will have the effect of driving us back to "first questions" regarding what really matters in terms of teaching and learning.

And that possibility reminds me of an old joke that I heard from my father: A man who works in a factory leaves there every evening with a wheelbarrow full of straw. Every night as he exits the factory and passes through the gate, the guard looks through the straw, certain that the man is stealing something. At the end of twenty years employment, the man is departing, as always with his wheelbarrow full of straw. The guard turns to the man and says:

"For twenty years you have been leaving every night with a wheelbarrow full of straw. For twenty years, every night, I look through the straw and find nothing. I know you have been stealing something. This is your last night. For my own curiosity, you have to tell me: what have you been stealing all these years?"

The man replied, "Wheelbarrows."

If that joke were taken as an analogy, then *technology* is the straw. It is merely the prop by which we are getting something more valuable (the wheelbarrow) out the door. And what is that more valuable thing we're trying to get out the door? I argue that in the field of American Culture Studies, it is ultimately three things:

- the enhancement of learning through interaction and dialogue;
- an increasingly expansive, inclusive, and socially conscientious approach to the study of culture, and
- the elevation of our standards for what passes as student learning.

If these values are to be pursued and preserved in light of the onslaught of information technologies, then faculty themselves will have to take the lead

in resisting the “perfect information” game.

Throughout the pages of this guide you will see the work of creative, innovative, and generally tireless teachers, who have been experimenting with the use of new technologies to serve all three of these goals. What is here are not solutions, easy answers, recipes, or secrets, but hypotheses about intentions and stories about consequences. It is the most we can expect so early in the “imperfect information game”—but it should be a useful start.

Notes

- (1) This is a work in progress. Please email comments or criticism to Randy Bass, Georgetown University: rbass@guvax.georgetown.edu.
- (2) This essay was written to be included as part of the Crossroads faculty development guide, *Engines of Inquiry: A Practical Guide for Using Technology to Teach American Culture*. All references in the text that are keyed to this guide are indicated by (*Engines* Page number).

Copies of *Engines* are available through the American Studies Crossroads Project, c/o Randy Bass, Project Director, English Department, Georgetown University; Washington D.C. 20057.

Phone: (202) 687-4535; Email: cepacs@guvax.georgetown.edu.

- (3) Many thanks to Mark Sample, Eric Hofmann, and Steve Ehrmann for their advice and assistance in revising this essay.

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