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Reading between the Code: The Teaching of HTML and the Displacement of Writing Instruction

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The introduction of hypertext markup language (HTML) into the composition classroom often complicates traditional text-bound assignments. The process of incorporating HTML codes into writing can be frustrating because HTML is difficult to learn. More time spent learning coding skills may mean less time spent learning other writing skills. In many ways, learning HTML is like learning a second language. Unlike other pedagogical tools, though, HTML seems to blur the lines of our discipline. It turns the traditional composition course into a hybrid language/writing/computer course. This reshaping displaces traditional writing activities with technology-based instruction, thus challenging the notion of what constitutes appropriate curricular content within the composition classroom. This curricular change necessitates political action on the part of technology-focused teachers, for instance the establishment of new types of teaching collaboratives and the rethinking of departmental policies.

collaboration composition HTML authoring Internet/World Wide Web student publishing technology

"That's a nice Web page."
"That was back when they had to learn how to code."
"Then that's *really* impressive."
"That was pre-WINDOWS 95. There was no HTML conversion. There was no FRONTPAGE. You had to code everything by hand."
"Yeah but they write more now that they don't have to code."
"I think they don't have ownership now because they don't learn how to manipulate the code . . . they can't edit their own writing when they don't know the codes."
"Teaching the code is just a waste of time. What's important is the public display of the writing."
"The codes *are* part of the writing"
"But we teach English, *not* computer science!"

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THE PROBLEM OF CODING

This dialogue is part of an ongoing debate among the three of us regarding whether or not to teach hypertext markup language (HTML) in our composition courses. Since the advent of Web pages as a pedagogical tool, we have wrestled with how to keep writing at the center of the new electronic classroom. HTML, "an information medium that links verbal and non-verbal information" (Landow, 1992), is foreign to English teachers and most students. Because this code allows for the embedding of other elements (such as sound and graphics), the issue of text—the writing teacher's traditional concern—becomes problematic.

The introduction of HTML into the composition classroom often complicates traditional text-bound assignments. The process of incorporating HTML codes into writing can be frustrating because HTML is difficult to learn. More time spent learning coding skills often means less time spent learning other writing skills. In many ways, learning HTML is like learning a second language. Unlike other pedagogical tools, though, HTML seems to blur the lines of our discipline. It turns the traditional composition course into a hybrid language/writing/computer course. It is this reshaping that we are struggling with, especially the displacement of writing activities by technology-based instruction.

In the past, there has been a wealth of research for composition teachers to turn to when faced with pedagogical challenges. Although some key works provide insights into the issues of teaching writing in electronic environments (Haas, 1996; Hawisher & LeBlanc, 1992; Selfe & Hilligoss, 1994; Tuman, 1992), few works speak specifically about the difficulty of teaching HTML in composition courses. Composition research has had trouble keeping up with the pace of technology. Along with these problems, teachers who use technology in the classroom are usually minorities within English departments. This causes their teaching practices to be misunderstood, poorly supported, and sometimes maligned by less technologically skilled colleagues.

Finding ourselves in uncharted territory and lacking enough field and departmental support, we have begun a collaboration focused on exploring the question of how to handle HTML coding and other technology-based pedagogies within our composition classrooms. We call this collaboration the *Electronic Teaching Collaborative* (ETC).

THE ELECTRONIC TEACHING COLLABORATIVE (THE ETC GROUP)

The Electronic Teaching Collaborative was, at first, an ad hoc support group. Three of us met from time to time to talk about electronic literacy-based teaching. Together, we read research in this area and tried to gain some perspective on how to teach writing during this time of technological change.

Initially, these casual discussions focused on issues of how HTML worked, what kinds of writing students liked to produce for the Web, how to define the field of electronic literacy studies, and the future of composition teaching. We talked, argued, ate, and tried to find our way through the myriad of questions we had. Our dialogue continues to this day.

Over time, we also began to teach together, to publish articles, and to give conference presentations. What began as merely a support group evolved into a more professionally based collaboration. We established some specific research agendas to help others handle

similar trials (Pagnucci & Mauriello, 1999) and sought to make contact with other professionals who shared our interests.

Eventually, we planned specific teaching activities that formalized this work. One member of the group created the College Writing Peer Response Project (Mauriello, 1997). This project helped link our various writing classes so that our students could publish their work on the Web and seek outside readers. Students in our classes and in four other states read essays published at this site and then emailed the writers critical revision comments. This was just one dimension of the overall ETC Project which, itself, has now become a Web site promoting collaborative work (The ETC Editorial Collective, 1998).

Overall, this collaboration is not only highly useful, but also a completely unique experience in our teaching careers. We believe that working with technology encourages collaboration in ways previous pedagogical approaches have not (Pagnucci, Macauley, Winner-White, & Mauriello, 1998).

USING COLLABORATION TO STUDY THE CODING QUESTION

Using HTML coding in the composition classroom raises so many questions that we need a network of other teachers, like the ETC, to help us sort them out. Our collaboration has emerged from just this need. One key focus of our collaborative has been a concern with the ways student writing is transformed by the incorporation of HTML codes. For us, writing is a social act (Bakhtin, 1996; LeFevre, 1987; Vygotsky, 1997). Unfortunately, many students have not been taught to view writing in this way (Bruffee, 1984; Ede & Lunsford, 1990). For this reason, students have trouble thinking of themselves as writers, envisioning an audience beyond the teacher, and finding a meaningful reason to write (Flower & Hayes, 1981). Publishing student writing on the Web is one way to address issues of voice, audience, and purpose.

At present, to publish on the Web requires using HTML code. As we've said, current research has not yet determined how much this use of code must be incorporated into composition courses. What is clear is that whenever an educational technology is brought into the classroom, this change causes a displacement of curricular content. Because teachers have a limited amount of time for each course, every curricular addition comes at the expense of something else. For writing teachers, introducing new technologies may come at the expense of writing instruction, doubtless the key aspect of any composition course. For us, this displacement has occurred, forcing us to replace some writing activities with the teaching of computer science-based applications like VAX line commands, file transfer protocols, and HTML editor software. This paradoxical necessity of displacing writing activities with technology instruction to eventually enhance student writing troubles us.

Using these new, hybrid teaching practices puts us on tenuous ground in the English department. New teaching methods can lead to mistakes and second-guessing, especially when they are not grounded in an established body of research. Students are usually aware when teachers experiment with new pedagogical approaches. Although students may support these efforts, they tend to be uneasy about them as well. In addition, when teachers make mistakes as they perfect new methods, these mistakes can normally be hidden behind the doors of the classroom. But in the public arena of the Internet, there is no hiding. Once visible on the Web, a teacher whose new approach leads to substandard

student work, such as limited or poor writing, is open to criticism. As teachers publish their students' writing, department chairs or deans are suddenly in a position to criticize that writing and the pedagogical methods that helped produce it. It becomes easy for critics to say that the teacher has displaced "the" correct and proven practices of English erroneously.

On the other hand, many scholars would say technology is radically changing our notions of what writing and writing classrooms should be (Kolb, 1994; Smith, 1994). Jay D. Bolter (1992) went so far as to say that "fully electronic writing uses the computer as a medium in its own right—both for the creation and for the reading of texts" (pp. 19–20). For teachers like Bolter, forms of electronic writing are an integral, even a beneficial, part of the act of writing, not a displacement. But, in our English department, such a view is in the minority. Many of our colleagues believe hypertext and HTML coding should be left to the computer scientists. Until Bolter's expansive view of electronic writing is legitimized both in our department and the larger field of composition, technology-focused English teachers will be forced to reconcile this "displacement" of writing instruction which, in our experience, has marginalized us within our department. This marginalization points to an underlying political struggle between electronic writing pedagogies and the larger established conceptions of English teaching. Our electronic pedagogy development has been shaped by this struggle, causing us to continually worry about the displacement of accepted English teaching practices by new electronic ones. The effort to reconcile the teaching of HTML code and the displacement of writing instruction has led us through a series of pedagogical trials.

A LOCAL HISTORY OF TEACHING WRITING WITH HTML

When we first introduced Web-based writing assignments into our courses, we had no choice but to teach students how to use HTML. There was no other way to publish student work on the Web. This approach was highly aggravating for students and teachers alike. Time and time again, we heard students lament, "My whole page is broken. All my work is lost," and we would see a gray screen with a few lines of HTML code and a jagged block where an image was meant to be.

Having students create Web pages by writing HTML codes is a slow and difficult process. Students are generally not careful and experienced enough in their reading of the codes to find mistakes, so writing teachers who have students use HTML codes must spend a good deal of class time solving technical problems. We often had to read over students' shoulders to find minute mistakes in the HTML. Unfortunately, one teacher can't effectively help 25 students who are all having coding problems at the same time. So we tried using HTML coding guidebooks. However, these books were highly prescriptive and emphasized a linear approach that threatened to return our student-centered workshops back into teacher-centered lectures. In addition, these books suggested that everyone needed to follow the same writing process and encouraged our students to focus most of their attention on the end product. Too often, our students would spend more time worrying about whether their words blinked than what those words meant.

Although many students were consumed by the code, there was another group of students who felt coerced by having to learn these computer skills and at having to publicly display their writing on the Web. These students complained that our technology-

based composition courses were nothing like writing courses they had taken in the past or that their roommates were taking now. Some of these students either withdrew from our courses or just stopped attending. This raised an ethical dilemma for us: Were we blindly leading the students into an electronic world that they weren't prepared for and had little interest in?

This struggle with HTML coding made us highly conscious of a curricular displacement that had taken place. We had to keep putting off writing issues like how to reorganize papers or create cohesion because we couldn't see the writing due to the faulty codes. As more and more class time was given over to technical concerns, we feared students were losing out on too many other critical writing experiences. In the end, many students did succeed in creating Web pages that represented their writing goals. But other students gave up in frustration, feeling disempowered by the technology they could not understand or master (Pagnucci & Mauriello, 1999). Even worse, few if any students believed they would be able to create another Web page without the teacher's help.

Beyond these direct problems in teaching the new composition courses, we also faced criticism by less technologically literate colleagues. One said, "How can your class compare to mine? I teach seven essays." Another said, "This is more like a technical writing class than a composition class." A third colleague made the comment, "This looks interesting, but I want my students to do critical thinking." "Technology is nothing more than a toy" was another devastating remark. However, the most troubling comment of all has come from many curious instructors passing our classes in the hall: "Is this a class or a computer lab?"

We often had to lend each other support to face these kinds of criticisms. Many of these comments we wrote off as merely shortsighted. On the other hand, there were enough criticisms to make us take a hard look at our classroom goals. What had we given up to get our students' writing on the Web? What had been displaced from our courses?

Still, as we reminded each other, the benefits of Web writing seemed to outweigh the problems. Our students' writing was finally published where other people could read it. This accomplishment boosted their self-esteem as writers. The students had found new audiences, as a host of email messages could attest. They proudly showed off their Web pages to friends and family, indicating the kind of ownership they had achieved. They also found their voices. On the Web, students wrote papers we had never seen before: political essays with links to the White House, an expose of the life of a music major complete with sound clips, and even an online quiz to identify potential Internet addicts.

Given these outcomes, we were unwilling to abandon Web-based writing assignments despite the difficulty teaching HTML and the negative comments from some colleagues. Because we weren't willing to quit, we needed to find a better way to publish writing on the Web. This was when our collaboration intensified.

THE COMMERCIAL WEB BUILDER

An early solution to the troubles of learning HTML was using a commercial, online Web-page builder that essentially wrote the codes for students. Some examples of these providers include Tripod (http://www.tripod.com) and GeoCities (http://www.geocities.com). Most of these companies provide free server space for members to store their Web pages.

The ready-made templates for Web pages at these sites eliminated much of the need to learn HTML. Students would sign up for a membership, and then follow a series of guided steps to create a simple Web page. When using Tripod, for example, the students are led through a series of yes or no questions that help them to name their files, create color schemes, and so on.

These templates were restricted in their design, generally limiting the amount of text and pictures that could be included on a page. Again, at Tripod, students have only two layout choices: five sections that flow straight down the page and five sections that wrap in a newspaper column format.

Using commercial Web builders was a source of disagreement in our ETC group. For one thing, the providers placed commercial advertisements on the students' Web pages, which some of us felt compromised their academic integrity. The pages were also housed outside the confines of the university computer system, which led to questions of ownership and security of student writing. Some of us also worried that these commercial providers could go out of business during the semester or could begin to charge a fee at mid-semester.

At the same time, our students used these templates with great success. They did not seem to mind the advertisements, they never questioned where their pages were housed, and they trusted the process the commercial provider put forth. Several students taught friends and family members how to use these templates to create their own Web pages, and the students continued to work on their Web pages after the course was over. By using commercial templates we believed we had relieved ourselves from the burden of teaching HTML and that we could return to a focus on writing instruction.

However, the restrictions of the commercial providers interfered with students' writing goals. For instance, at Tripod, students had to choose between having a picture or a block of text in a section. They could not have both. These choices are generally helpful, but they also limit what can be accomplished. The commercial providers assume that these simple pages are merely a stepping stone to learning advanced HTML coding skills. In fact, that is exactly what some of our students did. When they wanted to include more than one item in a single section of their Web pages, they had to learn the codes. This led us back to the problem of teaching HTML coding and so we began to question whether using commercial templates in our courses was better than teaching HTML.

WORD PROCESSING SOFTWARE'S HTML CONVERTERS AND WYSIWYG SOFTWARE

As we were trying these alternative strategies, the technology was evolving. In the early days of our collaboration there had been no choice but to use the codes. Before too long, word-processing software began to include HTML converters. Stand-alone "what you see is what you get" (WYSIWYG) software, like FRONTPAGE and PAGEMILL, also entered the market. Using these applications, students could write an essay, then click a button and save the paper in HTML format. Once the paper was properly formatted for the Web, the next step was to transfer it to a Web server, such as the one owned by our university. Businesses and large corporations often use this method to publish Web materials.

However, as with the other approaches, this one had its problems. This approach is useless, in fact, if students have no access to a server on which to publish their writing.

At our university, space on servers is highly limited. Undergraduate students are given the lowest priority, with humanities students receiving less space than hard science majors. (The implicit assumption in server-space allocation at our institution is that English majors don't use technology.)

While space constraints limited the amount of writing students can publish on the Web, a secondary problem with the WYSIWYG approach was that saving HTML files on a server required learning how to use a file transfer protocol (FTP). This was a computer skill our students had not been previously introduced to and many of them had difficulty learning it. Using FTP is not a smooth process. Many times, transferred files get reformatted and do not look the same on the Web as they did in the original format. There are also server/VAX security commands or passwords that have to be learned to make the new Web pages visible to the world. These commands can be cryptic. Finally, if a page on the Web needs to be edited or revised, that page has to be retransferred, reconverted, and then rewritten. Naturally, this makes students very reluctant to edit their work and discourages the revision process. Again, it emphasizes the product dimension of writing over the process dimension.

This FTP-based approach turned out to be rather complicated. Across our campus, the software and hardware housed in various computer labs were often incompatible. Some labs were set up for FTP and had the new word-processing software, but many did not. Some labs were Macintosh and some were IBM. Many campus locations required using the VAX while others were set up for WINDOWS NT. Together, our ETC group wrote at least seven different sets of instructions on how to put files onto the Web using a file transfer protocol. Most lasted only a few weeks before becoming outdated.

Students voiced their displeasure at all this confusion. They couldn't understand why a procedure that worked smoothly in class was completely useless in their dorm or the writing center. This breakdown caused some students to panic when files disappeared while others grew apathetic because the process was too much trouble. In the end, the ETC group unanimously rejected this approach and kept searching for a better way to solve the coding problem.

CODING IT FOR THEM

Using the HTML converters of word-processing software and the WYSIWYG software led to the fewest number of student publications on the Web. These approaches seemed to make sense because they were built around the use of word-processing software, with which many students were familiar. Unfortunately, the difficulties in achieving the file transfers caused great displacement in our writing courses. Again, we were seeking a solution.

One member of the ETC group became so concerned with the problem of displacement that the member decided to do the coding for the students. This allowed the students to concentrate on their individual writing processes without concern for the problems of coding. The students would write their papers, save them onto floppy disks, and then turn them in to the instructor who would convert them to HTML code and post them to a class Web site.

A clear advantage of this approach was that students did not have to spend any time learning HTML codes. They were free to devote all their energies to other writing

concerns. Because the instructor was well versed in HTML, the files could be successfully uploaded to the Web outside of class time. In the first 10 weeks of using this approach, this instructor placed 130 essays on the Web.

Because they didn't have to manipulate the HTML codes, students were more willing to revise their essays. In addition, with so many essays being posted to the Web, it was possible for students to regularly review each other's work and provide critical revision comments. Students responded to this approach with enthusiasm, as indicated by the 1300 email reviews sent during the process.

Although the ETC group was thrilled with the success of this approach, we were also concerned about the time investment required to achieve it. In the early going, coding and posting essays for students took over three hours a day in addition to all normal teaching duties. Few teachers, in our group or anywhere else, could afford to devote this much time—no matter what the benefits. Another concern raised was the issue of student ownership of the writing process. Is publication—the actual placement of writing on the Web—a vital part of what students need to learn? Our group could not agree on this point. Some felt we could save the students from the wasted time and headaches of learning HTML. Others worried that coding students' works for them was disempowering because it placed too much control in the teacher's hands. How many students would censor their writing out of fear that the teacher would not find it suitable for publication on the Web? Students in such a course would also not learn how to publish their own writing on the Web, which some ETC members argued was perhaps the greatest loss of all. They argued that the individual student power to be gained from learning the code was worth suffering through a few difficulties.

NO ESCAPING THE CODES

Throughout our work on Web-based composition courses, we have continually faced a need to work with HTML codes. We have tried direct-code instruction, commercial Web-page builders, word-processing code converters, WYSIWYG software, and teacher coding of student work. None of these methods has successfully eliminated the need for HTML coding while preserving all the other writing benefits we were seeking for our students.

As our ETC group has found, no one method is, as yet, the best approach. Perhaps in the long run teaching students how to use HTML codes is, in fact, the most empowering approach because it places them in a position to create, own, and publish meaningful writing on the Web. However, our group remains deeply disturbed by the displacement of other writing work caused by teaching HTML as a part of a composition course.

The ETC group remains firmly convinced that Web-based writing aids students in developing a mature sense of voice, audience, and purpose. However, we have also supported each other against critical comments of our efforts. As we've developed a unique, highly beneficial collaborative, we've also become cognizant of the need for political change within English departments and, most likely, universities at large.

As a political entity, the ETC group recommends the following:

- We need special sections of composition designated as Web-based. There are already special sections devoted to other concerns like writing-across-the-curriculum and writ-

ing-for-majors. Having specialized composition classes devoted to electronic literacy issues would help students make informed choices about their own writing needs and interests. In addition, this would match student concerns to course goals. We hope this would alleviate our anxiety about forcing students to work with specific course content that they never envisioned, like HTML. In return, students selecting these types of Web-based sections would most likely be motivated to pursue the learning of HTML coding and Web-based publishing. This matching of course design to student objectives would address the problem of curricular displacement. Also, designating courses as Web-based would legitimatize our position as technology-focused instructors within English departments, respect we clearly now lack.

- We need more focused research on the teaching of HTML coding in composition courses. As more research emerges, we will gain a clearer understanding of questions such as these: How does HTML and Web-based writing differ from traditional writing approaches? How does working in Web environments impact student writing and learning? What are the dangers of bringing students into the unmonitored writing space of the Web? How can teachers reconcile the ethical dilemmas of displacing accepted writing pedagogies in favor of untested electronic approaches?
- Most vital of all is a need to rethink the ways we relate and interact as educational colleagues. If we have learned anything from our HTML trials, it is that we cannot reach understanding without the willing collaboration of others. We formed the Electronic Teaching Collaborative to help each other locally in learning how to teach Web-based composition courses. At this time, we want to extend an invitation for other colleagues to join us in this endeavor. (We've established an ETC web site devoted to this specific purpose: http://gradeng.en.iup.edu/etc/etc.htm).

These recommendations stem from our belief that technology-focused educators must band together at this critical juncture to ensure our students' futures. Only through a collaborative effort will we be able to transform these necessary recommendations from rhetoric to reality.

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