An Internet research project was undertaken by a class of college honors students to see how effectively the Internet could be used for genuine research purposes. The class consisted of 16 students, a mix of freshmen, sophomores, and juniors, enrolled in an advanced writing course whose focus was different forms of research: I-Search, ethnography, case study, Internet, and a combination of approaches. Students examined some of the resources available and analyzed these sources according to criteria developed together with their instructor. They prepared reports on their findings in the form of a Web, or Hypertext Markup Language (HTML) document, then wrote summaries describing their research process and evaluating their accomplishments. The project was completed in the middle of a semester, over a period of 3 weeks in 5 class periods. Students first completed a questionnaire about their familiarity with computers and the Internet, then were paired up and asked to choose three topics to research. After students completed documents presenting their findings, a class home page was created. Student response was positive. Because in this type of project students are challenged to think about the process as well as the product of their research, opportunities for intellectual growth abound. (CR)
"Researching The Internet in a Writing Class: A Writing Teacher's Role and a Computer Specialist's Role"

We are beginning to appreciate the idea that the World Wide Web is quickly coming of age as our next mass medium. The Internet is revolutionizing the way we get information as well as the nature of the information itself. As William Gibson, who coined the term cyberspace has said, we can be plugged instantaneously into "the forefront of the collective global mind." We can find 400,000 entries on one subject if we type in a word like biology or computers. But how comprehensive, reliable and useful is the information we retrieve by clicking the mouse? Is much of it in trivial bits and pieces?

We set out to do an Internet Research project with our students to see how effectively the Internet can be used for genuine research purposes. What quality of information can it provide for scholars? Is it more than just technological razzle-dazzle? Can students make critical distinctions among sites and evaluate the kind of information provided?
The class consisted of 16 Honors students (a mix of Freshman, Sophomores and Juniors) enrolled in an Advanced Writing Course whose focus was different forms of Research: I-Search, Ethnography, Case Study, Internet and a combination of approaches.

Students examined some of the resources available and at the same time analyzed these sources according to criteria we developed together. They prepared reports on their findings in the form of a Web, or Hypertext Markup Language (HTML) document, and then wrote summaries describing their research process and evaluating their accomplishments. We hope the narrative of this project will be useful in coming to terms with the tremendous educational possibilities of integrating technology into the research process.

The project was completed in the middle of the semester, over a period of 3 weeks in 5 class periods. We began by asking students to complete a questionnaire concerning their own familiarity with the computers and especially with the Internet. We were surprised that only 2 students (out of 14) had done any real research using the internet. We didn’t realize until reading the final evaluations that a few students were dreading having to work with computers in an English class. Students were paired up and asked to choose 3 topics to research. The requirements for these topics were: one should be relevant to another course or research project; one should relate to a global theme; and one should be of personal interest. The topics chosen were wide ranging--some more serious than other-- Some examples: The Dreyfus Affair, The Claddagh Ring, Native American Colleges, Gracie Jiu-Jitsu, Black Magic. Students began to narrow their subjects and start their searches.
In the computer classroom, students learned to use Netscape and worked with various search engines, such as Yahoo, Alta Vista and Infoseek. To do serious research students needed to be prepared to find Web sites efficiently and to be able to think critically about these sites. We found that we could not assume that students would know how to perform key word searches. They not only lack familiarity with the topics, but also lack knowledge of the workings of the various search engines. We demonstrated the process by searching the toped of Bob Dole whose presidential campaign was getting under way. We tried to show students how to refine their searches beyond superficial, random surfing. We found both serious and ridiculous sites for Dole, official ones and parodies as well as some good biographical information. We began to sort through these.

Meanwhile, students were expected to complete a tutorial about HTML, which was set up as a Web site by a computer science graduate student. We also created an HTML template for students made from viewing the sources of the official Bob Dole site. They were encouraged to use the View form to inspect the sources of other HTML sites they found appealing.

During the next class, we spent time discussing the criteria we should use for evaluating sites. We agreed to look at the following:
1) timeliness—how current and up-to-date is the information?
2) credibility—what are the credentials of the site creator? what do we know about the author? is this primary or secondary source material, or a combination? who seems to be targeted audience?
3) objectivity—how objective is the information? is it supported with evidence? hard data? what is the tone? (sarcastic? humorous? serious?)
Next, students began to apply these criteria as they pursued their searches and tried to come up with their "best" sites. Not only did they have to choose the most informative sites, but they had to provide a rationale for why certain sites were chosen and others rejected. For example, with the Bob Dole sites there are highly partisan as the best, or does one look for a more objective site. A site that spoofs the candidate might have appeal, but can it be called informative? When doing research, students need to find sources, both on-line and off-line that will afford them many different perspectives. Certainly primary source materials are often appropriate resources, but evaluating their usefulness can be problematic. All of these concerns are perhaps more pronounced when doing research on the Web, but the possibilities for enlarging points of view are also enhanced. The group exploring the "Dreyfus Affair" found a comprehensive document on Zola written in French. (They needed to learn about this author's role in order to expand their search). The students were impressed, perplexed and intrigued. They weren't sure what to do with this finding, which certainly complicated their research process, but they persevered.

The students worked very hard to created their hypertext materials and, for many, working with HTML was the most difficult and annoying, but at the same time rewarding part of the project. They learned to make interesting and informative links and each of them
created at least two page documents (that linked to Web sites as well). Once they learned to download images, many got carried away with the aesthetics of their pages--background and text colors and graphics--and they had to be reminded to go back to fully developing their rationale for each site chosen. (Students were immediately "turned on" to the graphics with all of its possibilities and had no problem learning to play with all the "bells and whistles"--no direct teaching involved). Primarily, we wanted them to think of themselves as authors with important findings to communicate to a real audience.

The following class was devoted to presenting their findings. The teams moved from computer to computer checking out each others' documents and links and making comments. As a follow-up exercise, we asked groups to switch topics and to use different search engines to see if they could find other worthwhile sites. In this way, they needed to apply some of the strategies they learned and also to further analyze the sites chosen. There were some interesting surprises, and some teams decided to incorporate the new information in their final revisions. We had learned from a previous collaborative project involving the use of a multimedia authoring system (described last year at the Milwaukee 4 C's conference) that students benefit from viewing each others' projects and then taking the time to incorporate what they learn into their own work.

When students completed their documents and gave us copies of the disks, we created a class home page, scanned in a class photo, and then got the computer techies (Web gang) to give us an official URL
(Web address) so that we too could become part of the information super highway.

Students wrote summaries and filled out a final self-evaluation of the research project. They wrote thoughtfully and insightfully about the advantages and disadvantages of using the Internet. Most agreed that his way of doing research was convenient, (no lugging heavy book, traveling to different libraries), fun (fast paced, active, full of surprises) and exciting. (New and different). However, it was also more frustrating, due especially to technological glitches and inaccessible sites. During one class, we lost a whole hour’s worth of computer time because the server was down. There was a greater variety of sources and more up to date information, but also more "garbage". (One student, researching "gangsters in film" found a site on a John Gotti 4th of July party with photos of friends wearing t-shirts reading, "we miss you!"). Most important, many of them noted that for the first time they understood the importance of validating sources and checking the credibility of sources. Tammy wrote, "I have felt that most printed documents are reliable because they are printed...Now I don’t feel that way and I think from now on I will be more critical in assessing my sources."

In large part the success of the project was due to the group approach. Students loved working in teams and were unanimous in praising their partners’ efforts in making the project more manageable and enjoyable. Of course, most wished they could have had more time. (One asked, tongue in cheek, for a longer semester). A few would have liked to focus on one topic and others asked for a better HTML tutorial and more time to be creative with the documents. Generally,
the response was positive, perhaps no more so than Susan who wrote, "This was one of the most useful and exciting projects I have completed at Pace University." In a discussion at the end of the project, the class spoke about how chaotic the Internet seemed. Most yearned for stricter regulations by government, a definite code of ethics, or, at least a set of criteria to follow for entering a homepage on the Web. The freewheeling atmosphere of the WWW is a bit intimidating for them although most of them were ready to do more Internet research, both scholastic and personal.

We believe, as others have stated, that the Internet revolution is just beginning. Our students were both fascinated and repelled by the sheer magnitude of information. Just as the Internet will probably grow and evolve to accommodate the increasing demands of its users, we as educators must take process of accessing what’s valuable. Students do need training and practice in making decisions about the credibility and reliability of sites. They shouldn’t just be let loose to do Internet research.

Because in this type of project students are challenged to think about the process as well as the product of their research there are many opportunities for intellectual growth. Taking this type of student-centered approach may be just as important as gaining exposure to new technology and the technical skills of browsing and searching. We hope that the critical habits of mind generated by these exercises will transfer from the new world of the Web to the students’ regular tasks of reading print and pursuing library research. In fact, in subsequent semesters first year writing students successfully accomplished Internet research projects on Antigone and Henry v.
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