



## Student Perceptions of Classroom Technology

- A generational difference between instructors and students exists with respect to technology. While instructors focus on curricular and learning issues, the current generation of students, in general, has never known a world in which the Internet and computer technology do not dominate information gathering and understanding. Students have grown to expect that computer technology will be part of a system of learning. This paper presents the results of a questionnaire in which 11 students in a university writing class were asked about their perceptions of technology use, the difficulties and benefits, and the ways in which their learning might be enhanced by better uses of technology.

*The...technology in this class, at first, seemed very strange and new to me. I thought I was in a wrong classroom, when our first class meeting was held in a computer lab. In my mind, writing class is supposed to have bunch of papers, wood tables and a boring instructor. However, technologies involved in class (computer lab and WebCT) really broke my prejudice. Also, the instructor's familiarity with technological use (use of Mac [Macintosh computer], email proficiency and WebCT [online classroom interface] use) really impressed and surprised me. It totally made me to change my biased perception regarding writing teachers and writing process. (Keith, first-year student)*

### Introduction

Teachers are both transmitters and facilitators of learning in the classroom. As new technologies emerge, teacher education programs put into place curricula to inform instructors of the classroom uses of technology. Nonetheless, the use of computers and the Internet still proves difficult to implement in many educational situations (Britt, 2000; Cuban, 1996). As a result, teacher education in classroom technology use is of great interest (Meskill, Mossop, DiAngelo, &

Pasquale, 2002; Trotter, 1999; Watson, Blakeley, & Abbot, 1998) to researchers, curriculum developers, and policy makers alike.

One paradox in this situation is that increasingly students arrive in classrooms with greater skill level and better understanding of new technologies than that of their teachers, a fact admitted by veteran instructors (Feng & Whittier, 2000). Price (2001) reports: "Students are arriving at schools everywhere with technology skills that exceed those of their teachers. U.S. elementary principals tell of using students for technical support" (¶2). The current generation of students, in general, has never known a world in which the Internet and computer technology do *not* dominate information gathering and understanding. While instructor expertise in learning and curricular issues is paramount, there is often a generational difference between instructors and students with respect to technological expertise.

### **Why Student Perceptions Are Important**

This remark was overheard in the hall in a UC Berkeley classroom building: "My biology professor is really cool; he uses PowerPoint and everything. Not like the rest of my teachers." This casual comment seems to fairly represent student attitudes about technology-using teachers.

Obviously, while a student's understanding of technology may exceed that of the teacher's, the instructor's knowledge and implementation of curricular goals should still be more important than any particular technological skill. Unfortunately, however, when instruction is provided using media that students deem antiquated or outdated, their perception of the classroom experience can be affected, sometimes to the detriment of the instructor's authority. Whether in a simple incorporation of email or discussion list communication, Internet research strategies, or more complex course delivery systems, students have grown to expect that computer technology will be part of a system of learning.

Student perceptions are interesting for a number of reasons: they often point out things teachers might miss; they frequently confirm beliefs that teachers may already suspect to be important; and they highlight the difficulties, or lack of difficulties, instructors may face. The information reported below presents the opinions of 11 nonnative speaker (NNS) first- and second-year college students attending an intensive first-year writing class at the University of California, Berkeley (3 students opted not to respond to the questionnaire). This class uses various forms of both student- and teacher-oriented technology:

- Microsoft PowerPoint (Version 9.0.1) projects developed and presented by students;
- WebCT, a course management system, for supplementary course content delivery, quizzes, writing assignment distribution and collection, an electronic gradebook (student-accessible), chat, and threaded discussion;
- Group Web site projects developed by students, using Dreamweaver (Version 6.1);

- Internet research by students.

The students in this composition course were asked their perceptions of technology use. They were given a series of questions, including the four listed below; however, they were told that they didn't need to answer the questions directly, but that they could address any aspect of educational technology they found important. This study treats only the four questions of primary interest to this topic:

- Does technology make class more interesting, less interesting, or the same as classes that don't use it?
- What aspects of technology use in class do you think you learn from most?
- What difficulties do you face in using technology for class?
- In general, do you think you know more about the Web than your professors do? (Not just me, but all your professors.)

The following sections look at excerpts from the students' responses to these four questions. (The full text of the student responses may be found on the Web site <http://writing.berkeley.edu/catesol>. Student responses are labeled with fictitious names to protect privacy.)

### Questionnaire Responses

#### ***1. Does technology make class more interesting, less interesting, or the same as classes that don't use it?***

The students who answered this question directly were unanimous in thinking that technology created variety and interest in the classroom. In some cases, they articulated well the reasons that technology increased interest:

I think technology in my class definitely makes class more interesting.... I think WebCT helps me to constantly pay attention to the class even outside the classroom. (Keith, first-year student)

I think [technology] brings a different attitude to the class....I think the use of technology helps students decrease the stress. (Claire, first-year student)

Technology can help us to learn things in an easier way. It makes teaching and learning more interesting. (Diane, first-year student)

Formal English class is often boring and dry, but with technology, students tend to have better participation in class and thus makes the class to be more fresh and lively. (Wayne, first-year student)

Being a visual learner, I think that technology generally make class more interesting than the classes that do not use it. (Christina, first-year student)

#### ***2. What aspects of technology use in class do you think you learn from most?***

Not surprisingly, students offered a variety of answers to this question. An interesting observation is that students did not cite only computer

technology as providing important variety in the class, but also some “traditional” technologies, such as video or overhead projection, as revealed in the following observations:

I think I learn the most from watching videos in class. The video, “Mao’s Years,” helps me get a deeper image of people’s reactions toward the Chinese Cultural Revolution. (Betty, first-year student)

I believe that the way in using technology in this class connect writing and computing together so that I have more confident in both aspects: writing and technology. (Minh, first-year student)

The technology I learn most from is the chat room in webct...[It is] easier for people who are shy to express their opinion in the group. (Diane, first-year student)

Using the Internet for class discussion [i.e., for live chat and discussion board] is the part I like the most because I often don’t like to speak in class....I often have more to say on the screen than facing other people, and I learn more during the discussion. (Wayne, first-year student)

In addition, students thought that “traditional” technologies were also still useful:

Videos and tapes...etc can be used to help students to broaden their knowledge. (Cindy, second-year student)

Besides the use of internet and the videos, I think the use of overhead projector also helps us to learn. (Betty, first-year student)

### ***3. What difficulties do you face in using technology for class?***

Students’ understanding of technology, of course, does not exempt them from the difficulties sometimes posed by using computers. It is interesting to note, however, that students did not express any sense of utter frustration or panic about the problems (unlike reactions by some instructors), and frequently they explained the potential cause and/or solution to the problem at hand:

Some people (mainly students who are not familiar with computer software) faced difficulties uploading files, because it involves some computer knowledge. (Keith, first-year student)

It can be tricky to submit assignments through webct if the files are not named correctly. Emails can be lost and some technical difficulties can delete files from computers. However, being careful about organizing work can help prevent all the problems above. (Claire, first-year student)

Last week, Webct serve[r] was down, thus I could not turn in my essay. I had to send an email...to ask...the alternated way to access the web. Four hours later, I got an email back [with] another link. (Minh, first-year student)

[S]ometimes webct has server problem...I need to ask the professor to reset the due date for me, because of server problem. (Diane, first-year student)

I have never had any [major] problems with technology that could not be solved, but it worries me to know that technology...is not perfect and that some day I might be found in a bad situation. (Emma, first-year student)

More impressive than the list of possible technological problems facing students was their indication of problems that technology solved:

When I fly back home over the weekend, I can still submit my homework and check the class schedule with no problem. (Keith, first-year student)

[Turning in assignments via the Web] saves students and professors time and it helps them keep everything organized. In the past, a lot of my works have been lost because of the unorganized traditional method of turning in assignments. Because of all the technical advantages it helps saving the environment by decreasing the waste of papers. (Christina, first-year student)

In my other class, the professor often says that please don't send him/her email; the best way to ask question is to come to his/her office hours. However, sometimes I could not come to their office hours because I have another...class at that time. With [email] I can clarify the material or assignments right away. (Minh, first-year student)

For email, we can get the first-hand news that comes to the instructor's mind, so we don't need to wait until the day for the class to know what's going on. (Diane, first-year student)

I think that [turning in assignments via the Web] is a nice method for encouraging students to complete and turn in their works on time. (Wayne, first-year student)

It is intimidating to approach professors and this sometimes keeps students from asking about their current grades or upcoming assignments. WebCt eliminates the mystery of grades; makes it easy for students to track their progress as frequently as they desire. (Laura, first-year student)

I totally thought that's one of the most convenient way to turn in homework. I don't need to worry that there's a chance I'll forget to print out a copy before class...(printer problems are very common for some odd reason), and I don't have to panic if I somehow lose some of the assignment worksheets (or any other paper handout out in class). I can just download them online. (Eric, third-year student)

**4. In general, do you think you know more about the Web than your professors do? (Not just me, but all your professors.)**

Students generally said they were more knowledgeable than their pro-

fessors, but with certain conditions on that knowledge. Many of them believe that the reason they are more skilled in computer use is simply because they spend more leisure time on their computers. They also believe that they are more skilled in the entertainment aspect of Web use, but not necessarily in its educational use.

Honestly, I think I know more about the web more than most professors only if I look at it from an entertainment point of view. Information-wise, I'm pretty sure any professor knows way more than me. (Eric, third-year student)

I think it really depends on which class/subject the professor is teaching....However, sometimes students know more about the websites and where to find the "good sites" with outstanding information than the professor simply because the students spend more time surfing the web than the professor. (Christina, first-year student)

In general, I do not think I know more about the web than my professors....However, I do not think this apply to other students in the class. (Betty, first-year student)

I think UC Berkeley instructors are very good with the web, compared to my high school teachers. However, I don't think the instructors know better than me for now in general. This is probably because I play with my computer a lot. (Keith, first-year student)

In general, I think I know more or equal to most of my professors. It is not because I am an expert on the web, it is just because a lot of my professors do not interact with technology as much as I do. (Claire, first-year student)

I don't think that I know more about the web tha[n] my professors do, because I did not devote my time on learning the technology in my leisure time. (Diane, first-year student)

I definitely do not believe to know more about technology than my instructors, in general, do. (Emma, first-year student)

### **Conclusion**

Taken together, these responses seem like a paean to classroom technology. But, if we separate the comments on technology from the rest of each answer, we see that students are motivated by better access to instructors, low-stress environments for participating in discussions, a variety of activities to increase motivation, classroom routines that make it easy for them to stay organized, and a curriculum that teaches them ideas and skills of value. The good news is that all of these are good pedagogical principles with or without technology. Students understand this as well. As Cindy, a second-year student, says:

Technology in the class is not necessary, but it is helpful in the way of assisting students to understand the class materials. Technology itself

does not give opinions or personal thoughts. It is the professors who lead the students to the realm of reasoning and thinking.

On the other hand, the world in which many of our students live has computer technology as its communication center. Therefore, they expect that curricula and educational principles will be carried out in the medium of the day. By examining how technology can enhance students' attitudes and perceptions in class and the educational experience in general, rather than how it can merely deliver content, we can move one step forward in motivating teachers to find ways to meet student expectations.

### Author

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