

CHAPTER 10

ISSUES IN THE WEB ENVIRONMENT

Overview

Over the course of this book, we have addressed many of the issues that faculty and administrators are facing in the new online environment; however, we have not addressed them all. Strategies for dealing with many of these issues are still evolving, but the issues are complex and often challenge strong cultural traditions. Answers are few and far between; what we have now are temporary strategies to use while technology and practices are sorted.

Four recurring issues are the source of ongoing frustration for developers and managers of online courses:

- Managing e-mail communications with students
- Class size in online courses
- Copyright issues and intellectual property policies
- Assessment and evaluation

The quick pace of the online environment provides little time for the exploration or resolution of these issues. Our discussion is only a starting point.

Issue One: Managing E-Mail Communications with Students

The subtitle of this section could be “What NOT To Do When Communicating with Students on the Internet.” In the spring of 1997, when one of the authors, Judith Boettcher, was new to teaching via the Internet, she blithely decided to handle almost all the communication with her students online. Her story of this experience and the lessons she learned from it follows.

Because I was teaching a campus course about distance learning, I thought it was important that the students and I practiced what I preached. So it was that in the middle of a beautiful spring Sunday afternoon, I

found myself staring moodily at the contents of my Eudora Inbox, wondering why I had ever decided to handle all communication with my students myself. The latest assignment from my students was a project description. After two hours of trying to sort my e-mail into some semblance of order, I still had not found the project description from 5 of my 29 graduate students!

Every one of my students, it seemed, had managed to create a different name for the subject heading of their mail files. These same students, later in the semester, sent their completed projects to me in every imaginable file format. They also sent files to me, I later learned, with obscure viruses that were difficult to eradicate. Seven students were quite inexperienced in the use of technology at the beginning of the course, which added additional spice to this mix.

To my surprise, I soon added myself to the “inexperienced” list. I learned that I really knew very little about managing course delivery over the Web or communicating with students using this new teaching and learning environment. I learned that actually doing this type of teaching is definitely more challenging than just talking about doing it. What follows is a reflection of what I learned from facing the perils of faculty-student communications online. It takes the form of a list of things not to do when communicating with your students over the Web.

1. Do not expect all students to read and participate successfully in your class discussion list during the first week of the semester. The processes for setting up class discussion lists and giving all students e-mail access have not been fully automated in many higher education institutions. For those institutions that are using some of the new tools, this situation is improving and may have become automatic.

For other institutions, and especially for students at a distance, a lag of one to two weeks for all students to be prepared with the technology is not unusual. In planning online courses, then, some backup strategies may need to be identified.

Two areas may need support. First, access to course content must be assured and reliable. With distance learning students, a good strategy is to have students support each other in providing access to the content information. Sufficient technology support is another critical piece that must be in place. For solving technology access problems, a lag of two weeks is usually sufficient. Direct students to the institution's help desk and the local Internet Service Provider (ISP) if an external one is being used. Students can also successfully team up with each other to resolve technology problems.

2. Do not be vague about the names of assignments. If you want your students to turn in assignments via electronic means, be very specific about what should go in the subject line of a message. In fact, you may want to develop a simple algorithm for naming these files. The algorithm might have three parts, such as "Assignment 1: Theoretical Principles, Student Full Name." For a project sequence, you might want to develop a subject, such as "Project Prospectus," "Project Summary," or "Course Summary Paper." To ensure that the assignment name students are to use is always accessible, this information can be directly available from the course calendar on the Web.

The first part of the subject heading eases the use of the filter feature of many e-mail programs, automatically filing the assignment e-mails into the special assignment mailbox. The second part of the algorithm, the content name, makes it easy to sort by subject once the messages are in the appropriate mailbox and may help keep the learning objective evident.

You may wonder why am I suggesting that students include their full name in the subject heading. The e-mail identifiers students use may not even remotely resemble their real names and students may not be using the signature block feature available on many e-mail packages. Having students include their names in the subject heading is actually an updated version of the ancient plea to put their names on their papers. When we used paper, we often had a

student's handwriting to clue us into his or her identity. Now faculty detectives have to search through e-mail logs or other lists for matching e-mail.

3. Do not be available to your students all the time. Many dedicated and committed faculty truly enjoy teaching and want to be available to their students through this new medium. Additionally, as we move some of our teaching and learning to this new environment, we are constantly reminded that the power of technology enables us to be available anytime, anywhere. Consequently, many students expect faculty members to provide answers and responses to e-mail questions immediately. We are becoming increasingly aware of how rapidly technology is moving and how slowly our bodies and minds are adjusting to the use of technology. Just because it is possible to be available 24 hours a day, 7 days a week does not mean we have to be, or should be, available anytime, anywhere.

You can manage response expectations from the very beginning of the course by following these five suggestions:

- Set up a framework for turnaround time for response to e-mail. Usually saying that you will attempt to respond within 24 hours is considered reasonable.
- Announce that there will be times when the 24-hour response time will be suspended. This includes weekends, announced vacations, conferences, and unexpected emergencies. You also agree to announce to the students when this response time will be suspended. It is not always easy to access the network from anywhere, anytime. Even though we see World Wide Web addresses advertised everywhere, only about 20 to 25 percent of the population is linked to the Internet.
- If you choose, you can set times at which the 24-hour response time will be even shorter, particularly just prior to deadlines. Some faculty set e-mail office hours when they will be actively monitoring and responding to student messages.

- Set up a contract with students that when they send an e-mail with a question or comment that you feel is of general interest and value to the class, you will respond with a general note to the entire class. Responses to these questions can become the basis for additional course guidelines and frequently asked question (FAQ) lists.
- You may want to remind your students that your faculty role includes more than teaching responsibilities.

4. Do not assume that electronic mail is received or read in any specific time frame. Internet communication is a new medium. It is not as fast or as immediate as a telephone conversation or a fax, nor as slow as the postal service. When we send electronic mail, it moves in discrete packets over a local network and through numerous gateways and other networks before it is received by the addressee. We have all heard of letters being mislaid in post offices or warehouses and finally being delivered after 20, 30, or 40 years. E-mail can be similarly delayed or totally destroyed. Therefore, do not assume that your mail will move rapidly or at all, or that it has been successfully received and read by the addressee. Because the possibility of lost or delayed e-mail exists, asking for a confirmation e-mail on time-sensitive or critical messages is wise. Setting up an automatic confirming reply when an e-mail is received is another option.

5. Do not structure the communication flow in a course so that you are the hub of all communications. This will save you time and create a better learning environment. Part of the power of the Internet communication technology is that students and faculty can craft a true learning community in which dialogue and communication flows in all directions. Some faculty members set up online problems, dilemmas, and seminars in which students launch, manage, and summarize a discussion or solve a problem.

The faculty role in some parts of a course is not to lecture, but to monitor and mentor student

discussions or problem solving. In these cases, faculty may choose to compose a response, analyze the content, and provide feedback on a weekly basis to ensure that students stay on track with the development of content and ideas. In this way, students interact with each other and test and hone their ideas with their peers.

6. Do not forget to provide feedback and evaluation of student progress and learning. Although we all want to believe that students are taking courses because they are intensely interested in learning the course content, in fact students are also there to earn their grades and meet program requirements. Consequently, students want timely and personal feedback on the work they do.

Al Oosterhof, a faculty member at Florida State University, developed a method for providing timely feedback with the use of word processing and spreadsheet software. A paper by Oosterhof on this approach is available at <www.cren.net/community/index.html>.

Grading and providing feedback to students is an area of opportunity for Web course management tool vendors and other software developers. One topic that generated much discussion at a distance learning seminar was techniques on reading, evaluating, and correcting electronic student documents. Some faculty are experimenting with the use of audio files for feedback on papers, finding that spoken comments can be completed more quickly than can written ones.

7. Do not put anything in your student correspondence that you would not want to see on the front page of a local or national newspaper. There are still many legal battles brewing about ownership and privacy of messages in the workplace. There are also many perspectives about the wisdom and difficulty of deleting computer files. So it is best to assume that at any time, course content, including e-mail messages and other course materials, could become public in a broader sense of the term.

To borrow a quote from the Newseum in Washington, D.C., "If you don't want to read about it in the newspaper, don't do it." For faculty and students, we might adapt it as follows, "If you don't want to read about it in the newspaper, don't write it."

8. Do not go unprotected from viruses. Update your virus protection software regularly and often. If you choose to run your machine unprotected from viruses, be vigilant about the attachments you receive from students and others. Do not open or execute any suspicious files.

A number of helpful resources are emerging to assist in improving electronic communications. For example, look for articles on netiquette for students in online courses. The 1997 book, *Learning Network*, can help guide both the design and delivery of Internet courses. The book provides useful information on issues of faculty time management and student evaluation. *Teaching at a Distance: A Handbook for Instructors* (Boaz et al., 1999), available from the League for Innovation, is another useful tool for faculty who are designing and implementing technology-based learning.

Issue Two: Class Size in Online Courses

As faculty are gaining experience with teaching and learning online, they are also discovering that they are spending more and more time interacting with their students. A key determinant of how much time they spend is the number of students in their classes. Suddenly 30 students, a common on-campus class size, is overwhelming faculty online. Questions about the optimal size of a Web course are being asked more and more often.

One reason for class size concerns involves the communication pattern in the new Web environment. In the classroom, well-defined patterns of communication exist. The most accepted pattern of communication is primarily from the faculty to the students, and from the students back to the faculty. This is a very efficient

model of communication. The teacher is speaking to 25-30 students at the same time, and their eyes and body language communicate the extent of student attention and understanding. In this environment, the faculty member is often assumed to be the one and only expert. We are still strongly influenced by this concept of the faculty member as the lecturer dispensing information to the students. ITV classrooms, telecourses, and talking head presentations on the Web reinforce this model of knowledge flowing primarily in one direction.

In the online environment, the lines of communication are more divergent. We have a fully linked network of communication lines, including threads among all members of a Web course community and among multiple groups of students as well. This network pattern of communications between faculty and students and between and among students creates a powerful tool for inviting and supporting student involvement and thinking. Students are more likely to contribute their experiences, share their insights, and frame thoughtful, reflective questions with this new network of communication. Therefore, the course process of creating a knowledge community among the student group and a knowledge base within each individual springs from many more sources. Expertise can come from many directions, but confusion may also be more prevalent. This confusion often may become a step in developing knowledge and can highlight needs for more content development. Given this network pattern of communication, it is possible that faculty members will spend course time listening and reflecting on thoughtful questions and analytic comments.

Must Faculty Spend More Time?

We have sprinklings of anecdotal evidence that faculty spend not only more time with online courses than with campus courses, but that they spend *significantly* more time with their sections of online courses. In a Web posting (11/20/96), L. Estabrook, Dean of the Graduate School of Library and Information Sciences at the

University of Illinois, notes that a faculty-student conversation during a class break can take 30 seconds while that same information may take two to three minutes to exchange in an e-mail message.

One useful approach to measuring the amount of time faculty are spending on student and course communication is to try to estimate the amount of time that a given faculty member spends with each student over the course of a semester. Early estimates of about two hours per student, including student testing and evaluations but not lectures or preparations, have been rejected by some faculty. In a presentation on this topic in March 1998, Frank Jewett of the California State University System Office noted that although the two-hour per student figure has been rejected, sometimes vigorously, if one calculates the number of hours per week in a semester, divides by the number of hours available for student interaction, and then by the number of students, it becomes apparent that two hours is about right. It is simply not possible to spend much more time than that. We may feel that we need or should spend more than two hours per student, but there are simply not enough hours in a semester to do so. It is no wonder that faculty often feel stressed by the demands of online teaching, student communications, and student evaluations.

Increased Faculty Workload

Analyzing the question of student enrollment in a Web course leads inevitably to questions about faculty pay, workload, and working conditions. As early as 1990, Murray Turoff, in a foreword to a book on online communication, noted that "the workload for faculty is linearly dependent on the number of students" (Harasim et al., 1997, p. xii.).

Some distance learning programs are implementing new salary policies to acknowledge the extent to which larger numbers of students impact faculty workload. In a posting to the American Association for Higher Education listserv (11/24/95), Bill O'Neill of Southern Utah

mentioned two examples worthy of note. In one university engineering program, an additional \$150 per student was added to a faculty member's salary for every distance learning student, plus an additional \$50 per student was sent to the department's budget. At one state university, faculty teaching distance learning courses received a \$100 bonus for each student once the enrollment exceeded 25. In another example, in a library information program on the East Coast, faculty received an additional \$50 per out-of-state student enrolled in the course.

In the classroom models of learning, faculty workloads in many institutions are based on formulas yielding 10 to 12 hours a week for every class or section taught. In some institutions, however, the number of hours per week can be as low as four hours. The baseline number of students is generally 25 to 30 students. If class enrollment reaches 40 to 50 students, faculty are sometimes able to negotiate for additional support for the class.

These classroom models and their associated workload estimates are built on what might be called the bundled model of course production in which faculty do everything related to their own course. They design, develop, and deliver a course. The delivery includes meeting with students on a regular basis, preparing and giving lectures, directing group work and learning experiences, and evaluating students.

In distance learning course production, a different model is generally used. Rather than one faculty being responsible for design, development, and delivery, the faculty member is often only responsible for a portion of the entire process. Currently, our Web courses are neither fish nor fowl. They are like campus courses in that faculty do everything associated with the course; they are like distance learning courses because the students are not generally on campus. So we have an additive model in terms of workload. Faculty do everything they have been doing plus all the personal communication with the students online. And, it is all being done with new tools that faculty don't know very well and with increased

expectations by students, administrators, and legislators.

New Tools, New Models

The next wave of technology, including networking and camera imaging, will alleviate this situation to a degree. Small cameras attached to computers may encourage faculty to return to the mode of synchronous office hours so they can talk rather than write to students. These tools may help improve the communication feedback loop.

So where does that leave us in answering the question of student numbers in a Web course? We may be moving to the Web only to find that we can handle fewer, not more, students effectively.

This is a curious phenomenon. The ability to put courses on the Internet caused us all to speculate that master teachers from the top research universities would be able to reach hundreds, even thousands of students. Now, experiential data is suggesting that the maximum number of students for online courses is really very low, ranging from 12 to 20 students, depending on the level of interaction with the faculty member. Some experiences seem to suggest that Web courses can support larger numbers, in the range of 25 to 65 students, for courses that are focused on training, certification, or professional degrees.

Necia Miller of Rose State College in Oklahoma is a member of a faculty committee that worked on a class size in online courses proposal for the college administration. This group sought a recommendation for online class size to be no more than 20 students. One member of the committee wanted the recommendation for class size not to exceed 18. The difference between 18 and 20 seems minimal and insignificant at first glance, but if we estimate that every additional student requires at least another two hours of faculty time, based on current models and expectations, even an increase of two students in one course makes a difference. Multiplied over a series of courses, it becomes substantial.

Wayne Hall, from San Jacinto College-Central in Pasadena, TX, said that he also is “doing battle over class size.” At this time, he believes that 15 students should be the maximum limit for Internet courses. He has reached this belief after having taught psychology classes on the Internet since 1996. He has taught 20 students for four semesters, 30 students for two semesters, and 39 students for one semester. At this writing, Hall has two sections with a total of 49 students. He is searching for a way to recommend to administrators “a more realistic number of students for Internet courses.” Hall has reached this point while serving in a dual role as a department chair and a faculty member, so he understands both sides of this debate.

Mary Emerson from Collin County Community College in Frisco, TX, is asking the same question on behalf of her computer science department, which is in the process of setting standards for this environment. Mary commented that their traditional on-campus classes are limited to 30 students, but that instructors who have been teaching computer classes of 30 over the Internet are finding them to be “very, very time intensive.”

At another institution, the faculty and administration agreed that 15 would be the number of students a faculty member would have when teaching an online course for the first time, and that subsequent courses would increase to the regular on-campus level of 30 students. This is good in that it provides some learning time for faculty and students. Another, less optimistic view is that it simply delays addressing the real problem, which is that our current class model needs to be substantively redesigned for online environment. However, we cannot be certain about that yet. Other faculty are finding ways to run Internet courses with more students. One faculty mentioned that she was handling 37 students, but only 32 of whom are really engaged in online processes.

Marie A. Cini from Duquesne University suggested that the challenge of managing many students online is that “we are still hung up on

some form of contact with the instructor as the model of instruction." Marie goes on to say that one of her biggest goals when teaching online is to wean students from dependence on her and to "point them towards one another." She believes that the "right" number of students in a Web course will grow because the expectation that instructor contact is paramount will decrease.

These numbers are far from the much larger numbers originally dreamed of by administrators and legislators. Other technology-based models of distance learning have supported very large numbers of students by using mass delivery methods. Telecourses can be beamed to hundreds, and even thousands, of students. Closed circuit television and interactive video classes often support numbers ranging from 40 to over 200 students.

Traditional distance learning professionals have thoughts on the expectations of students for interaction with faculty in a course experience. A project by the Western Cooperative for Educational Telecommunication, <www.wiche.edu>, resulted in the development of a set of Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs. These principles were also adopted and enhanced by the board setting up the new Southern Regional Electronic Campus (SREC), <<http://www.sreb.org>>. The following statement is under the section on curriculum and instruction: "The course provides for appropriate interaction between faculty and students and among students" (p. 24). The faculty support section of the principles from the SREC follows with, "The program or course provides adequate equipment, software, and communications to faculty for interaction with students, institutions, and other faculty."

How Many Students Are "Just Right" in a Web Course?

In the U. K.'s Open University, a new online master's degree course in distance learning will have a maximum of 15 students. At Regent University in Virginia, the maximum number in online Ph.D. courses in communications is 12. The

master's program will have larger numbers, possibly in the 50 to 60 range. Linda Harasim from Simon Fraser University recommends that 20 is about the right number for upper-division communications classes.

Stories about Web courses with 50 to 60 students are emerging. Some of these courses are programs designed for acquiring what is known as professional credentials rather than traditional academic degrees. Other projects are starting to reach students in the 200 plus range, but those courses are highly automated and have such features as tutorials and online testing.

Three major instructional design questions must be answered before deciding on the optimal number of students for a Web course:

- What are the goals and objectives of the course?
- Who are the students and what kind of educational experience are they expecting?
- Is the faculty member ready, willing, and experienced with Web instruction?

What is the optimal size for online courses? There is no one answer at this time. We will continue grappling with this issue for some time, for several reasons:

- Our campuses are implementing the tools and infrastructure for this environment. The environments are still in flux and not optimized.
- Students are now learning how to use these tools and how to learn in this environment. They are also learning to be more active learners and to be less dependent on the faculty member.
- Faculty are also spending time on learning the technology and often feel they are losing significant teaching time to teaching and learning bits and bytes rather than content.

While keeping in mind that things will change, it's possible to offer a basic

recommendation for the next two to four years: start small! Probably 10 to 14 students is a good number to start with for a fully online WebCourse. This provides learning time for the faculty member and the students. Be aware, however, that a real danger exists with starting small. Habits and strategies of teaching and learning that work well with small groups do not necessarily scale up very well.

What we think would be helpful at this time for our community is a definitive research project that experiments with a “Megacourse” on the Net that is similar to very large lecture classes in the hundreds on our campuses. With such a project, we might be forced to learn more about how to scale up for large numbers of students. We know we need better tools for both faculty and students. We will not learn this very quickly while keeping classes very small. Such a project, however, would be a very risky approach. A team of faculty, a comprehensive infrastructure, understanding administrators, and understanding students who are willing to experiment in this way would all be needed.

Fundamental Questions

The issue of class size in online courses is causing us to look at basic issues we have not discussed for some time in higher education.

- Expectations of students: How much access and interaction with the faculty member is appropriate for the class content and goals?
- Expectations of faculty: How much time should a course take under our current model and under the new model? Is it time to look seriously for strategies that will help us deliver online learning more efficiently while reducing the faculty burden?
- Expectations of administrators: What size classes and what types of courses do we offer our students while maintaining and developing our desired institutional image?

- Expectations of society: How can we change the model to achieve quality, low cost, and high satisfaction for all?

We might also consider that we haven’t come very far in the science of teaching if a teacher is always required. In what alternative form might the teaching function be constituted? In what other forms might courses be offered? While it may not be something we want to consider, we may have to put some creative thought into how we can use technology to structure and deliver really great learning experiences with less effort on the part of a teacher. If we continually design and redevelop the same course every semester, are we not still a cottage industry in how we design and deliver learning? Must we always do it this way?

(Note: Thanks to Don Ely from Syracuse University, Frank Jewett from the Cal State System Office, and Robert Schihl from Regent University for sharing their ideas and thoughts on this topic. Thanks also to Marie A Cini, Mary Emerson, Wayne Hall, and Necia Miller for their input and communications.)

Issue Three: Copyright Issues and Intellectual Property Policies

Copyright has always been an important issue in distance learning and is now assuming new importance in the Web environment. Questions surrounding the ownership of academic courses and faculty retention of copyright of their research publications are discussed with increasing frequency. The topic of intellectual property is a hot one in the world of educational technology. Our discussion provides general information regarding copyright issues, and we encourage any faculty member who has copyright questions to consult his or her institution’s policies and guidelines or to seek legal advice from appropriate professionals.

Looking at Copyright: User or Owner?

Faculty generally want to be knowledgeable about copyright from two different perspectives:

- Using materials copyrighted by others for teaching, learning, and research
- Developing materials copyrighted by themselves, the institution, or publishers

All the rights and privileges of copyright owners in the U.S. are based on copyright law that has its origins in the U.S. Copyright Act of 1790. The document that has been the basis of the current law dates from October 19, 1976, with a number of minor revisions added over the last five years. A new copyright act was passed in 1998, the Digital Millennium Copyright Act, to address the new possibilities not previously envisioned. Questions about the use of copyrighted materials in online and distance learning environments are still being debated.

The sections of the copyright law that are most pertinent to teaching and learning from the 1976 law are Sections 106 to 118. Copies of the Copyright Law are available from the Copyright Office in Washington, D.C. and from the office's Web site at <<http://lcweb.loc.gov/copyright>>.

Section 106 of the copyright law quite clearly states that copyright owners have certain exclusive rights:

1. Reproduction of the copyrighted work
2. Preparation of derivative works from the copyrighted work
3. Distribution of copies of the copyrighted work to the public
4. Performance of the copyrighted work publicly
5. Display of the copyrighted work publicly
6. In the case of sound recordings, performance of the copyrighted work publicly by means of a digital audio transmission

There was serious discussion about adding the sole right of digital transmission to the list of rights of copyright owners. This could have effectively made the use of many electronic mail lists illegal. That right was not added, but it is important to watch the progress of copyright discussions.

Section 106 also specifies for items 4 and 5 that these rights pertain to literary, musical, dramatic, and choreographic works; pantomimes; and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audiovisual work. These rights, as specified, clearly reserve the right for visual and sound images to the copyright owners. Hence, Web sites with visual and sound images that belong to various movie and television studios are restricted in their use. For example, this means that commercial Web sites with images of Star Trek characters and sound clips may be in violation of the copyright owners' rights, particularly if they are used without permission. What about such use for teaching and learning purposes?

In practice, copyright owners do not sue for every violation. Most copyright suits are brought when significant amounts of money are involved, or when it is perceived that the use of copyrighted material harms or damages the image or reputation of either a copyright owner or the copyrighted work. Higher education institutions can still be very vulnerable. Therefore, faculty need to be aware of the real possibility of lawsuits from the illegal use of copyrighted materials.

Fair Use for Educational Purposes

What about the fair use doctrine for education? Every academic is somewhat familiar with the concept of fair use, but generally not familiar enough. Often, fair use is interpreted much too broadly, as if any use of copyrighted materials is all right, so long as the material is being used for teaching and learning purposes.

Section 107 defines the Doctrine of Fair Use, a legal principle that sets the limitations on the exclusive rights of copyright holders. This section says the following:

Fair use of a copyrighted work . . . including reproduction . . . for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is NOT an infringement of copyright.

However, we must note that “fair use is not free use.” Section 107 then provides some criteria to provide guidance in interpreting this right of fair use. There are four criteria used to evaluate whether a user of copyrighted materials can claim fair use. These criteria center on the use of the work and the characteristics of the work and include the purpose for which the work is being used, the nature of the copyrighted work, the amount or substantiality of the portion to the whole, and the effect on potential market or value of the work.

The first of these criteria is that of purpose. If the purpose for using the copyrighted work is commercial use, then generally, permission for use must be obtained. This criterion must be applied in the following example. If faculty incorporate copyrighted material into educational materials and then sell those educational materials commercially for profit, this is not fair use, as the faculty will benefit from the copyrighted material with no compensation back to the original copyright holder. If the purpose for using copyrighted work is nonprofit use, as educational or research use is generally considered, then fair use can usually be applied.

The second criterion focuses on the nature of the work. If the work is nonfiction or simple factual material, then it is easier to use the copyrighted work without explicit permission. It is more difficult to claim copyright violation for a diagram showing the process of osmosis, for example, than for a diagram of a fictional invention. It is difficult to prove that some factual material is unique, belonging solely and only to one individual.

The third test is that of the amount of copyrighted work being used. This criterion involves the percentage of the work being used in relation to the entire work. The easiest way to remember this test is to think of a ten-line poem. Generally, use of a small portion of a copyrighted work is permissible provided other tests are met, but use of a large portion is not allowed. Thus, use of the complete ten-line poem would need permission, but ten lines from a much longer work might not.

The fourth test is that of market value. Does the use of the copyrighted work without permission damage or restrict the copyright owner from appropriate compensation for the intellectual work? This is the argument often used in the area of software piracy, for example. Software publishers claim that their revenues are significantly lowered if their software is shared among groups. Publishers of academic journals often make this same claim when their works are placed on reserve and students make photocopies for themselves.

Additional Guidelines on Fair Use

Additional help in interpreting Section 107 appeared in a discussion of fair use in a House of Representatives report from September 1976. That report noted that, “despite the fact that the courts have ruled on this ‘fair use’ doctrine many times over the years, no real definition of the concept has ever emerged,” and “as the doctrine is an equitable rule of reason, no generally applicable definition is possible, and each case raising the question must be decided on its own facts.”

However, this House report provided three additional tests or guidelines to be used in interpreting the doctrine of fair use. To apply under the fair use doctrine, use of copyrighted material must also meet the three tests of brevity, spontaneity, and cumulative effect.

Brevity refers to the percentage to the whole criterion just mentioned. This reaffirms that short segments are more acceptable than longer segments. The next criterion is that of spontaneity. If a faculty member decides to use material for educational use, and there is, reasonably, not enough time to seek and receive permission, then fair use generally allows use of the material for that one time. However, faculty may be at risk if they use the same material over a number of semesters for key parts of their instruction without asking permission. This guideline suggests that sustained use over a number of semesters is not fair use. Finally, the guideline of cumulative effect suggests that multiple copying by faculty over the course of a semester needs to be restrained. Cumulative effect also refers to the

number of items that can be used from the same author or collection.

Fair Use Guidelines for Educational Multimedia

In order to address the difficulties in interpreting the fair use guidelines, especially in light of the rise of digital media capabilities and the almost effortless distribution on the Internet, the Consortium of College and University Media Centers (CCUMC) worked with a number of organizations to produce a set of guidelines specifically for the use of multimedia for instruction. The complete set of Fair Use Guidelines for Educational Multimedia is available at <http://www.indiana.edu/~ccumc/mmfairuse.html>. A videotape discussing these guidelines is also available.

Faculty often find most useful the section that specifies the portion of copyrighted material, by media type, that can be used within fair use guidelines. Some people argue that these portions exceed fair use; others argue that they are too restrictive.

Fair Use Guidelines Portion Control for Media Types

- Motion media: 10 percent or 3 minutes, whichever is less.
- Text: 10 percent or 1,000 words, whichever is less.
- Music: 10 percent of individual copyrighted musical composition, or 10 percent of the composition embodied on a sound recording. No more than 30 seconds.
- Illustrations and Photographs: Fair use usually precludes the use of entire works. In any one multimedia program, no more than 5 works from any one artist or photographer. From a collective work, no more than 10 percent or 15 images, whichever is less.
- Numerical Data Sets: Up to 10 percent or 2,500 fields or cell entries, whichever is less.

While these guidelines were adopted by the consortium and the cooperating organizations, the Conference on Fair Use chose not to adopt these guidelines. Part of the reason for the dissension was that the rules for distributing and using materials for distance learning were so restrictive that they effectively blocked the ability to design many types of distance learning programs.

Ownership of academic courses is a complex issue. In the traditional model of on-campus courses, the question has rarely been asked. In the traditional distance learning model of courses, however, in which a team of faculty have developed the course, the answer would likely be that the institution that provided funding for the course owns the course. In fact, a course is difficult to own or even to copyright, because intellectual work is only subject to copyright when "the work is created and fixed in a tangible medium of expression." Much of what constitutes a course is not "fixed in a tangible medium of expression." Perhaps only components of a course, such as a book, Web site, or set of exercises, can be copyrighted.

Some institutions follow the policy traditionally called "work for hire." This means that any work done by a faculty member while under contract belongs to the institution. Other institutions have a policy about joint ownership and revenue sharing similar to patent agreements. Other times the faculty can negotiate to retain all copyright, including that for instructional materials. This is most often the case with textbooks. At any event, the time to discuss the ownership of any instructional material is before the project gets underway. Some distance learning projects involve a negotiated agreement between the faculty, the institution, and the publisher.

What about the other question: "Should faculty retain copyright ownership of their research publications?" We all have become accustomed to a model in which faculty write research articles, submit them for publication, and then an institution purchases the research journals that publish the articles. In this model the faculty turn

over the copyright of the articles to the publisher in return for the publishers' work in reviewing, editing, publishing, and distributing the work.

Two trends are causing higher education administrators to question this model. One trend is the steadily increasing cost of academic journals. The cost of many journals has become prohibitive, and institutions find it difficult to purchase the journals in which their own faculty have published. A second factor is the increasing time it takes to ensure that the faculty are staying within the copyright rules regarding their own materials. The provost of the California Institute of Technology, Steven E. Koonin, made headlines on September 18, 1998 (*Chronicle of Higher Education*, p. A29) when he proposed that faculty no longer hand over the copyright for journal articles to publishers. Subsequent discussions noted that this idea had been suggested in March of the same year by a group that published their views in an article available at the Association of Research Libraries (ARL) site. A letter to the editor from a senior vice president at Elsevier, a well-known academic publisher, suggested that the publisher added value through managing the review and editing process and that a distinction exists between the submitted manuscript and the final edited paper. Faculty retained the right apparently to putting the submitted manuscript on their own Web site.

In practical terms, what does all this suggest? Faculty, as they become knowledge entrepreneurs, should consider negotiating with publishers for a new set of rights concerning faculty work, including the following:

- Copyright ownership for their own teaching, learning, research, and speaking engagements. This would include the right to copy, distribute and perform their own work without needing to ask permission.
- The right to include their material on their personal and course Web sites.
- The right, on behalf of the institution, for other faculty at the institution to use the work in similar ways.

Joint copyright ownership of teaching and learning materials may or may not be reasonable. But it is important that we find ways to acknowledge the right of a faculty member to his or her own work, and the right of an institution for reasonable access to the work of faculty members.

Resources on Copyright

There are multiple Web sites on copyright laws, starting with the Copyright Office itself, <lcWeb.loc.gov/copyright/>. The following Web sites also provide information about copyright laws.

<www.indiana.edu/~ccumc/copyright.html> provides the full set of guidelines on Educational Multimedia. It is part of the Web site of the Consortium of College and University Media Centers (CCUMC).

<www.utsystem.edu/OGC/Intellectualproperty/cprtpol.htm> is a good place to start, and includes an example of a copyright policy at a large state system.

<www.indiana.edu/~ccumc/mmfairuse.html> provides information about the Conference on Fair Use.

<www.public.iastate.edu/~mikealbr/links/copyright.html> is a general copyright link list.

<www.arl.org/scomm/pew/pewrept.html> provides the ARL article on publish or perish.

Issue Four: Assessment and Evaluation

Questions about assessment and evaluation are often most troubling in cases of online and distance learning when it is difficult for a faculty member to get to know each of his or her students. The probability and ease of fraud and deception can often be a major concern. However, as we look more closely at assessment and evaluation of students and programs, we find creative ways of addressing most of these concerns.

We could talk a long time about assessment and evaluation. There are a number of good initiatives underway on the use of technology for improving teaching and learning. The Teaching, Learning, and Technology (TLT) Group's Flashlight project, <www.tltgroup.org>, has as its goal the development of training and evaluation tools that guide effective uses of information technology.

This section is an assortment of useful thoughts on assessment and evaluation. Thanks to the participants in various distance learning seminars over the years for many of these ideas.

Questions of which technology is most effective in supporting learning have been with us a long time. When the book came on the scene in the 16th century, faculty lecturers worried that their students would no longer have to come to class. When the public library became a presence in small communities across the country, it was thought that the knowledge of the world was freely available to all. Now faculty and administrators are concerned that if the content for a given course is on the Web, students will not come to class. We have discovered that students come to campus and to class for something other than content. They come for the experience, for the networking, and for the speed, support, and structure that a faculty member and a class provide.

During the next decade, we need to decide what to measure and how to measure it. To bridge the gap in assessing and evaluating students in online courses, consider the following options.

- Instruction can be designed so that students' knowledge and skills are gradually developed and revealed over time. Some faculty members do this by using strategies we discussed in the section on collaboration. Other commonly used strategies include multiphasing project requirements so that the steps in the development of the project are evaluated along the way rather than solely at the end.

- For students who must meet internship and mentoring requirements, some programs set up tutors and mentors who are located geographically closer to the student. The mentors are often graduates of the same program.
- Some of the Web course management tools come with modules that make designing short quizzes easy. Faculty use these types of tests to build competencies and provide practice; other tests can be delivered at proctored local sites. Students who are within commuting distance can be required to come to campus one to three times a semester for testing and evaluation.
- As the infrastructure for electronic commerce develops, it will be able to provide security for completing tests and evaluations at a distance. Videoconferencing also supports security in testing.

The development of technology for easy and effective assessment and evaluation is lagging behind other software technology, but that may not be problematic. As we in higher education move to more customized learning and to an emphasis on collaborative and constructive teaching and learning, the type of evaluation that we will want to do online will probably change. The tools that we will need then are not the tools we think we need now.

In closing, the Principles of Good Practice adopted by the Southern Regional Education Board that are being widely adopted by electronic campuses recommend the following good practices in the area of evaluation and assessment. Note the emphasis on the evaluation of the program itself, in addition to the student evaluation. Student and faculty satisfaction are also being measured.

- The institutions evaluate program and course effectiveness, including assessments of student learning, student retention, and student and faculty satisfaction.

- At the completion of the program or course, the institution provides for assessment and documentation of student achievement in each course.
- Program or course announcements and electronic catalog entries provide appropriate information.

The fact that program and course announcements are being evaluated is worth noting. If students sign up for a course or a program expecting one set of outcomes and experiences, and later learn that the program and experiences are very different than they expected, the level of satisfaction of the student will be very low. The student will perceive the program to be of low quality because it did not meet the particular set of expectations that were created by the announcement. It may become higher education's version of truth in advertising.

Concluding Thought

This chapter has addressed issues that are of great concern to both faculty and administrators. As we evolve the new teaching and learning paradigm, we need to depend on the mutual understanding of institutional priorities and focus on appropriate educational experiences for our constituents to develop reasonable strategies for addressing these issues.

Note: Many issues discussed in this chapter had their origins in columns and articles that were published in Syllabus over the years from 1997 to 1999. For more information, visit the Syllabus Web site, <www.syllabus.com>.