

FACULTY AND ADMINISTRATORS Collaborating FOR E-LEARNING COURSEWARE

*Faculty incentives, clear ownership and usage rights,
and adequate funding will encourage faculty to explore
technology for teaching*

By **Brian C. Donohue** and **Linda Howe-Steiger**

In October 2003, the Network for Academic Renewal of the American Association of Colleges and Universities convened a conference in Cambridge, Massachusetts, to explore “Technology, Learning, and Intellectual Development.”¹ A key issue at this conference concerned low participation by faculty in the use and development of digital, online, and other new technologies for teaching and learning. The reluctance by some faculty to explore these options appears especially puzzling when compared with the eagerness which many of the same faculty seized upon these technologies for research, writing, and publication.

A survey in 2002–2003 by the Sloan Consortium indicated that about 40 percent of faculty at U.S. degree-granting institutions do not “accept the value and legitimacy of online education.”² Something seems to be preventing involvement, and that something can be teased out if we listen carefully to faculty when they ask questions such as:

- “Why should I create technology-based or online materials?”

What are the incentives? What rewards am I offered for changing how I teach? Are there actually disincentives?

- “Will I lose intellectual control over my course materials if I make even a portion of my materials available online?”

Computers make copying very easy, and both administrators and faculty question who really owns the digital course materials.

- “If I get another appointment, can I take this work with me?”

Faculty sense the difference between traditional classroom courses, which they carry with them in files and lecture notes, and technology-based or digital courses that “exist” on university servers. It is not clear how to resolve or even deal with the differences.

We believe that the uncertainty created by these and similar questions has produced a chilling effect on faculty interest in incorporating technology into their teaching. Moreover, the chill might be getting more acute rather than diminishing. We have met many administrators who are both puzzled

and troubled by their inability to engage the academy’s core intellectual experts—the faculty—in initiatives to develop cost-effective, resource-efficient, high-quality, technology-supported courses to meet the expected needs of “Tidal Wave II” students.

Corynne McSherry suggested that the source of the problem may be found in the shifting attitudes toward the ownership of academic intellectual property, particularly at research universities.³ The shift is particularly evident in environments involving bio-tech, software, and Internet or digital technologies. As funding for research and education become tighter, McSherry argued, entrepreneurial attitudes challenge traditional collegial attitudes toward knowledge sharing and are subtly rewriting the unspoken rules of academic behavior. Some universities, some faculty, and even some students have increased their personal wealth by asserting ownership of the intellectual property created at the university.

For many faculty, however, this new entrepreneurial orientation runs deeply

counter to traditions of education and public service. Past campus debates about aspects of this cultural shift have created an environment of distrust and rancor. We believe the anti-entrepreneurial attitudes McSherry described have spilled over into faculty attitudes toward the use of digital technologies for teaching.

To soothe faculty distrust and encourage engagement, or reengagement, in exploring applications of digital technology for teaching, we believe it is necessary to do three things:

1. create incentives for faculty that balance public service goals with professional and entrepreneurial rewards,
2. clarify ownership and usage rights of intellectual property generated by and for teaching, and
3. generate additional funding for curriculum development at universities (possibly through tax credits).⁴

Neither faculty nor administrators working alone, however, can achieve these goals. It is only through mutually

supportive, interdependent collaboration that faculty and the academy can move ahead. How to make that happen is the subject of this article.

In Part 1 we review a decade of experiments with e-learning, attempting to clear away key misconceptions. We also provide a brief history of the court's staunch support of faculty rights, which dates back to 17th century Britain. In Part 2, we discuss the basic purpose and goals of copyright law and suggest a framework for collaboration between faculty and administrators derived from our experience working with individual faculty members as well as non-faculty instructors and funding agencies.

It bears repeating that the academic tradition valued by both faculty and the academy is one of sharing knowledge within a community of scholars, knowledge that both furthers human understanding in the arts and sciences and educates the next generation. This tradition is based on honesty, integrity, and respect for each individual's work. The new educational technologies do

not change this tradition, nor need they create undue stress about ownership of intellectual property rights or "chill" faculty creativity. To successfully navigate this changing world, however, we do need a good compass and perhaps a redrawn map. The compass is the existing copyright law, which both faculty and administrators need to better understand. The map comes from the hard lessons learned during the first decade of the e-learning enterprise.

Part 1: E-Learning Misconceptions

The first step toward engaging faculty in the creation of e-learning projects involves establishing a foundation of mutual trust and understanding. To do this we need to clear away some major areas of confusion and misconception that have generated an environment of distrust in the academy.

Rampant Jargon

It may be a cliché to comment on the speed of change, but with each new technology or fusion of technologies has come a new phrase or term to describe the result. The marketplace of ideas has become a cacophony of jargon. Even a modest exploration of the growing number of articles and publications describing technology innovations for teaching yields a long list of hard-to-distinguish terminology:

- Internet-mediated teaching and learning
- technology-enhanced learning
- instructional technology
- blended course
- hybrid course
- online learning
- distance learning
- course management system
- virtual classroom
- e-learning modules
- electronic course materials
- electronic publishing
- digital diplomas
- Web-based education

Are there really important and subtle differences in meaning among all these phrases? Or has the variety of terms actually reduced our ability to understand each other?



We propose subsuming all into one term: *e-learning courseware*. “E-learning”—as in “e-mail” or “e-commerce”—embraces any educational use of digital technology, from “Send me your questions by e-mail and I will respond by e-mail,” to a semester-long course taught entirely through the Internet. “Courseware” might be a new term for some, but is intelligible by analogy with “hardware” and “software” (“ware” meaning simply “things” tangible or intangible that can be bought or sold in the marketplace). *Courseware* suggests discrete but replicable modules or parts. The phrase “e-learning courseware” refers to the entire range of computer, information, and communication “ware” useful for creating courses of instruction. The advantage of a single umbrella term is that it puts an end to the distracting proliferation of jargon and refocuses attention on what is important—the educational relationship between faculty member and student.

Wariness About Changing a Well-Tested Paradigm for Teaching

Face-to-face instruction in the classroom is familiar, effective, and well understood. The adoption of e-learning courseware for teaching may seem a risky—if not intimidating—change.

E-learning courseware provides instructors with new tools that address differences in both learning and teaching styles with more options than the traditional classroom methods. (See the sidebar “Digital Chemistry at Berkeley.”) These options encourage increased student engagement, which researchers have found improves learning regardless of technology. They also allow the student to individualize his or her approach to learning. E-learning embodies what Guskin and Marcy identified as the first organizing principle of 21st-century higher education: student learning, quality of faculty work life, and reduced costs per student.⁵

E-learning courseware may be thought of as a salad bar, offering a menu of options sufficient to meet individual preferences: various lettuces, tomatoes, carrots, radishes, cottage cheese,

Digital Chemistry at Berkeley

The chemistry course now being taught to freshmen at the University of California Berkeley, Digital Chem 1a, is a semester-long, general introductory course taught to more than 1,000 students at a time. In this huge class, e-learning courseware helps individualize each student’s learning by using student-to-student Internet communication technology. The cornerstone of this technology is the PRISM (Presentation, Replay, and Interaction with Streaming Media) system developed by chemistry department lecturer Mark Kubinec on a Macromedia Flash Communication Server platform. PRISM allows students to view a live (or archived) video stream of a classroom lecture and participate in the classroom or remotely over the Internet in interactive “Concept Tests” in real time. In these Concept Tests, students in class register a vote on the question posed by the instructor using an infrared handheld device. The student participating remotely registers a vote over the Internet using PRISM. The result of the vote is displayed as a histogram in the classroom (and on the Internet). After the vote, students discuss their ideas in small groups. In the classroom, these groups form spontaneously. For remote viewers, PRISM assigns students with differing votes to chat rooms for discussion. A second vote is then taken, the results are displayed, and the instructor can discuss the correct solution to the problem with the class.

For the instructor, the individual voting mecha-

nism suggests the class’s “real time” level of understanding of the subject matter. After the class, an automated system accessible by all students can suggest supplementary resources for each student to review based on their classroom responses, thus customizing assignments to meet the learning needs of each student. This is true whether the student is in the classroom or remote from the classroom. This process is enabled by the PRISM technology as well as the availability of all e-learning courseware accessible in digital format.

Students participating in the classroom or from remote locations can also use PRISM to take notes for the class or to prepare for an upcoming hands-on chem lab by reviewing simulated experiments online. The notes are stored in an Internet-based personal portfolio organized by lecture slide, for easy access later. The portfolio also stores student votes and discussion points from the Concept Tests for subsequent use in content review by students. To learn more about Digital Chem 1a, contact Mark Kubinec at mkubinec@berkeley.edu.



strawberries, peanuts, and peaches. The challenge for faculty lies in selecting from among the variety of e-learning options the most appropriate methods to feed the hunger for learning and the passion for teaching of many different types of students and instructors. The challenge for the administrator is to institutionalize the shift to a new e-learning paradigm by finding ways to balance proven traditional classroom modes with successful, cost-effective electronic models. It is not enough just to install an infrastructure of equipment and networks (the hardware) or to buy campus licenses for various pieces of software. It is also crucial to provide staff that have the necessary technical skills and an attitude of respect, cooperation, and support for the instructor's personal preferences. This "team approach" is vital to energize both faculty and students as they teach and learn.

The time to embrace this change is now. The authors of the National Science Foundation's recent publication, *Preparing for the Revolution: Information Technology and the Future of the Research University*,⁶ drew the following conclusions from their review of campuses around the country:

- "Information technology evolution could well accelerate."
- "[Its] impact ... will be profound, rapid, and discontinuous."
- "Digital technology will not only transform the intellectual activities of the research university, but will change how the university is organized, financed, and governed."
- "[The future of this revolution is] difficult to predict."
- "Inaction is dangerous."
- "[It is] important to develop in-house expertise."

What should administrators do in the light of these conclusions? In brief, accept that mistakes will occur and learn from the process. It is not okay to sit back and do nothing.

Overblown Projections of Riches

Figures 1 and 2 are from Jack M. Wilson's presentation at the 2003 AACU conference. (Wilson is president of the University of Massachusetts and former

Figure 1

High Hopes for E-Learning

- Columbia formed Fathom and teamed with XanEdu.
- U. of Penn Wharton School teamed with Caliber, a spin-off from Sylvan Learning.
- Cornell spun off eCornell with \$12 million internal investment.
- UNext created Cardean University with Columbia, London School of Economics, Carnegie Mellon, Stanford, and Chicago.
Reportedly Cardean had pledged to pay Columbia, and perhaps the others, \$20 million dollars if they failed within five years.
- Temple formed "Virtual Temple."
- Pensare teamed up with Duke.
- Click2Learn teamed with NYU Online.
- North Carolina, Harvard, and USC went to University Access for help in getting online.
- Harcourt Higher Education was launched as a college in 2000 and confidently predicted "50,000 to 100,000 enrollments within five years."

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Figure 2

And Now?

- Pensare is gone.
- Fathom is gone ~\$30 million in internal financing.
Faculty became restive; closed in early 2003.
- Cardean laid off half [its] work force—"restructures."
- Temple University closes Virtual Temple.
- NYU folded NYUOnline back into the campus.
- Harcourt gone after enrolling 32 students in 2001.
- Cornell open, BUT with reduced expectations.
- Britain's Open U. closes U.S. branch—\$20m later.
- Caliber goes bankrupt—acquired by iLearning (Sylvan).
- University Access—Quisic withdraws from H. Ed.

Used with permission, Jack M. Wilson

CEO of UMass Online.) They summarize the dramatic end of high hopes and overblown projections of riches associated with a number of highly visible e-learning initiatives.

Many are familiar with the stories reflected in Wilson's presentation and use them to argue that e-learning projects can't succeed financially. Academic administrators might well conclude that if these obviously competent players could not make it work, nobody can.

Though some failures have been quite spectacular, failure is not the only pos-

sible outcome. Citation of flops is not sufficient justification for doubting the entire e-learning enterprise. The naïve projections of riches by some do not mean no business plan can succeed. Wilson again made the point well: early failures should be expected in any new undertaking, as successful models sort themselves out from the unsuccessful ones. Failure by some does not mean failure by all. He reminded his AACU audience with colloquial aptness, "The Red Sox, the Cubs, and twenty-nine other teams didn't win the World Series

again last year either. Just as in baseball, distance learning will have its winners and losers.” And sometimes even proverbial losers like the Red Sox can make it to the Series (and we wrote this before the 2004 World Series!).

Naïveté Regarding the Purpose and Goals of Copyright Law

Intellectual property laws are often misunderstood. Many see them as the embodiment of a natural legal right to own whatever one may conceive or produce. Others view them as a weapon against progress. Both views represent extremes. Copyright law is a legal doctrine developed during the 17th century, embedded in the laws of the United States and elsewhere, and designed to provide incentives to people to forward the progress of humanity through the arts and sciences. In the United States, any discussion regarding the distribution of rights to intellectual property begins with that purpose cited in the Constitution of the United States, Article I Section 8:

To promote the progress of science and useful arts, by securing for a limited time to authors and inventors the exclusive right to their respective writings and discoveries.

Our founding parents believed that to inculcate a strong impetus for discovery and the search for knowledge among the citizens of their infant society, they needed to create for the citizen monopolistic control of his or her resulting expressions, innovations, or inventions. The law empowered individuals to determine their own reward for their creative efforts—whether money, fame, control, use, or trade. The concept was a great success. It helped inspire “Yankee ingenuity” in our early culture, which in turn stimulated ensuing generations to risk life and fortune to create new and better machines, greater and more eloquent written expressions, and generally to advance the sciences and arts.

Over time, there evolved four basic types of intellectual property protection: patents, trademarks, trade secrets, and copyrights, each defined by similar but slightly different bodies of law. All types

of intellectual property, however, are designed to stimulate individual creativity by offering self-determined control of the reward for that creativity. Copyright law offers administrators an excellent tool to stimulate faculty participation in development of e-learning courseware.

Ignorance of the Law About Who Owns a Course

Most research universities have special offices designed to assist faculty and researchers with registering patents on their innovations and inventions. Most universities also have clearly stated policies describing how royalties and ownership rights from these patents shall be shared among faculty, departments, and the larger university. In addition, most universities also have strong, clearly stated policies affirming faculty ownership of copyright on their independently created published articles and books, even though these works may be based on the research or teaching done as part of their university employment. Unlike patent policies, however, university copyright policies do not ordinarily require faculty to share any portion of rights or royalties from their published books and articles with their department or university. Nor do policies explicitly address ownership of faculty coursework, which heretofore was rarely even an issue. When the online course came along, however, with the specter of student fees from an expanding audience, this absence of a clear policy began to create considerable stress in the academy. Administrators found themselves considering new investments to support faculty who produced classes over the Internet, built course Web sites, and created other technology-enhanced educational materials, without any agreements regarding who might reap future benefit from the work.

Suddenly the question of who owns the structure and content of the course became very important. Administrators pondered how to recoup their technology investments as well as how to use these investments to expand educational opportunities beyond the campus.

A host of questions without clear answers arose. Could the university

tape the lectures and sell them without sharing profits with faculty? Could the lectures be broadcast widely without permission of the faculty member or without additional compensation? Could a faculty member copyright her classroom lectures and exercises? If so, to what extent? Who owns the copyright for the course Web site hosted on the university's server? If the lecture isn't formally “fixed” in some kind of medium, is that lecture or discussion by the teacher in the classroom subject to copyright or protection at all? If a faculty member participates in developing an online version of his course, does he somehow forfeit his control over future versions or uses of the course, a course he may have developed over a career, which is now streaming out across the Internet for anyone to download and use? Have there not always been students with tape recorders in the lecture hall? Haven't students always taken notes? Have not syllabi always been freely shared among colleagues? Have digital media changed everything—or nothing? Is all of the work by a faculty member, not specifically covered by an institution's existing patent and copyright policies, simply “work for hire” and thus the property of the institution that pays the salary?

These questions are not trivial for a significant number of faculty and administrators and must be addressed. Indeed, we have found very few administrators or faculty members around the country able to answer any of these questions with much certainty. In fact, quite a few regularly get the legal basis of their answers wrong!

Administrators and even some faculty sometimes assert that since faculty are employees of the university, their output legally belongs to the corporate entity—the university. One hears that it is merely “tradition” that allows a faculty member to copyright her article and that this tradition represents a “gift” from the university that could be taken back at any time. But it isn't, because scholarly publications rarely reap much financial gain, and it is not worth an administrator's time or effort. In fact, this position is not legally correct.

Courts have long recognized the ownership rights of faculty to the courses and lectures they create and present. In *Williams v. Weisser*⁸ (see the sidebar on legal precedents) the court refers to “a short and sturdy line of authorities,” consistently upholding faculty rights to these intellectual efforts. The legal history makes clear that, barring specific agreement otherwise, the faculty member who develops and teaches a course of instruction comprised of classroom lectures, discussions, and exercises owns the supporting courseware. Moreover, faculty may continuously “embellish” a course as they move from place to place, retaining ownership of each version as it is “expressed.” Since the early 18th century, courts have agreed that teachers, not their employers, own their courses and that this ownership is unique under the law, requiring neither publication nor registration to be enforceable.

Distrust of Written Agreements

The community of scholars has historically functioned well on a collegial basis, with occasional forays into court when collaborations became rancorous. However, we have found that faculty and administrators both resist creation of project-specific written agreements. Nevertheless, we urge development of such agreements because without them, the partners in a collaborative project, particularly an e-learning project, risk divisions of ownership rights unrelated to their relative contributions.

Serious disagreements can occur. In *Weissmann v. Freeman*,⁹ for example, two physicians, an “accomplished professor and [his] brilliant assistant,” brought their arguments over their respective ownership of a collaboratively developed syllabus to court. The court thoroughly reviewed the opponents’ educational and clinical histories, professional standings, and academic credentials. The court also noted, however, there was no prior written agreement about the relative contribution of each to the final product. Therefore the court set aside differences in status, reputation, and experience as bearing on their relative shares of ownership in the whole and held simply that the syllabus was

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a work of “joint authorship.” In other words, the court ruled that each owner had the full and equal right to license the work without the permission of the other (although an accounting of royalties would be required). The right to make derivative works without the permission of the other, the right to commence litigation to protect one’s rights in the work, and the right to pass ownership in the copyright to one’s heirs in a will or trust were to be held jointly. The case was later appealed and reversed in favor of the “brilliant assistant,” but with strong dissenting opinion. It took, in other words, extensive, lengthy, and very expensive federal appellate litigation to painfully resolve the matter. All the heartache (and time and expense) could have been avoided entirely had the professor and the assistant developed a written agreement about how to share ownership rights at the outset of their project.

Some universities have extended their patent policies, which establish a fixed division of ownership rights and royalties (for example, one-third to the university, one-third to the department, and one-third to the faculty member), to cover copyright collaborations. We think applying fixed percentages to e-learning collaborations is inappropriate and overly simple because it disregards the relative contributions of the key individuals. Hence, the result may be unfair and actually work against the original purpose of intellectual property law, which is to stimulate creativity. At a minimum, e-learning courseware must be protected by copyright law. Copyright law is designed to recognize and

reward the contributions of many different partners, including faculty, students, technical staff, and the academy. E-learning projects offer a wonderful opportunity to recognize and reward relative contributions and create win-win rewards through creation of written collaborative agreements.

The New Paradigm of Collaboration on Campus

When the dust of confusion and misconception is cleared away, a new collaborative paradigm for creation of e-learning courseware begins to emerge. E-learning offers both instructors and students a whole range of methods and possibilities that complement effective traditional teaching and learning modes and address the well-recognized diversity in individual learning styles, tastes, and preferences.

E-learning projects, however, should not be undertaken as a get-rich-quick scheme for either the administrator or faculty member. Although there might be financial benefits, such benefits are more likely to accrue over time as partners explore possibilities, innovate to address changing needs and interests, find some efficiencies, and generally improve the effectiveness of education and learning in the academy.

As described in the legal precedents sidebar, faculty (the instructors who create and teach the courses) are the undisputed legal owners of their traditional classroom courses and lectures. The sheer technical complexity of developing most e-learning courseware, however, means that the e-learning course will most often be created by a team of experts, including content experts, instructional design experts, and technical experts. E-learning projects will also often use more than ordinary resources from the host university.

Relying on standard, preset protocols to sort out the incentives for either the university administration or the faculty to take on the work involved in creating e-learning courseware is unrealistic. Fortunately, the unique nature of copyright, which is explained in detail in Part 2, as well as the long legal history for ownership of traditional classroom

Legal Precedent for Faculty Ownership of the Course Curriculum

The lecturer owns his oral lectures. London 1825 *Abernethy v. Hutchinson* (3 L.J., CH. 209, 1 H. & T. 28). A surgeon delivered lectures without referring to his notes. A student took notes and later published them in *The Lancet* without permission. The surgeon sued for infringement. The court held that the surgeon did in fact own the copyright to his own lectures and could have published the lecture for profit if he had so desired, although he had not done so. The case went up to the House of Lords, where Lord Elton, speaking for the surgeon's ownership, cited his own experience as a student of law listening to lectures of Sir William Blackstone, which had been later published as *Blackstone's Vinerian Lectures* under copyright (3 L.J. at p. 215). Lord Elton remarked on his early understanding that while he might take notes for personal use during Blackstone's lectures, he had no right to sell or publish those notes. The conclusion: a lecturer owns his verbal expression—his lecture—whether or not it is formally published. The publication of notes and summaries without permission of the author therefore constitutes an infringement of copyright law.

The lecturer owns his lectures whether performed for public or private university. London 1887 *Caird v. Sime* (12 A.C. 326 H. L.). The House of Lords delivered a consistent result in favor of the lecturer and against the defendant student, who published his student notes. The student argued the "lectures were really addressed to the public good" as they were given in a

public institution. The court disagreed with the student.

Ownership of lectures extends to nonfaculty. In two U.S. cases, the court's reasoning rested on the idea that professors are defined at least in part by the fact that they are always working (day, night, weekends) on something relevant to what they teach in their classrooms. In *Sherrill v. Grieves* (57 Wash. L.R. 286, 20 C.O. Bull. 675, 1929) the Supreme Court of the District of Columbia decided that because an instructor at the postgraduate school for officers of the U.S. Army at Fort Leavenworth had created his improved way of teaching military sketching, map reading, and surveying during his "leisure time," the government could not have rights to use his teaching materials unless he gave them permission. The same principle was used to decide a Cold War-era case, *Public Affairs Associates, Inc. v. Rickover* (177 F. Supp. 601, 604). While serving in various prominent positions for the U.S. Navy and the Atomic Energy Commission, Admiral Hyman Rickover gave many speeches. He wrote his speeches both during working hours and while traveling. They were copied down and published by Public Affairs Associates without his permission. Rickover sued. The question before the court was, could Rickover, a federal employee, own his own speeches since speaking was in some sense part of his federal job. The case was heavily litigated in various courts, with the defense arguing that the speeches were in the public domain because the admiral was a public

figure working for the federal government. Ultimately the admiral prevailed, establishing his right to the ownership of his own speeches because his working habits were like a professor's! In the words of the court, "Admiral Rickover ... has no normal working hours any more than a university professor," and the publication of his speeches "did not constitute publications of the United States government" (17 U.S. C. sec. 8). So disappears again the idea that faculty operate on work-for-hire status.

Professor wins against a note-taking business. In a relatively recent case in California, *Williams v. Weisser* (273 C.A. 2d 726, 78 Cal. Rptr. 542, 1969), a private publisher hired a student to take notes during lectures at UCLA. The faculty member sued for injunctive relief because no permission was given. The faculty member wanted damages and attorneys fees and a stop to the publication of his lectures. The defense argued that they had tacit permission from UCLA (though not the professor). But the court rejected the concept that UCLA could give permission for something it did not own and held for the professor, explaining:

[N]either the record nor any custom known to us suggests that the university can prescribe the way of expressing the ideas he puts before his students. Yet expression is what this lawsuit is all about. Professors are a peripatetic lot, moving from campus to campus. The courses that they teach begin to take shape at one institution and are developed and embellished at another.

courseware by the instructor/developer, create an opportunity for administrators to craft agreements that define current and future relationships among contributors to an e-learning project. To do this, however, all partners must explicitly be involved in thinking through questions of ownership, distribution of licensing rights, royalties, academic honor, and even long-term maintenance and updating of materials. These topics are also discussed in Part 2.

Part 2: Constructing the Collaborative Agreement

Collaboration begins with the development of an explicit, written agreement describing the incentives and obligations of faculty and administrators participating in the project. The agreement clarifies who owns what as well as who may use what and in what way(s). This agreement is really nothing more than a simple written plan that describes the work to be done, the relative contributions of each prospective author/owner, and how various rewards and rights will be shared. To create the agreement, some understanding of the basic vocabulary and concepts from copyright law may be helpful.

Copyright Basics: Originality and "Fixation"

Two conditions must be satisfied to engage the legal force and effect of federal copyright law, including the right of enforcement: the work must be original, and it must be "fixed" in a tangible form of expression.

"Original" means that an author must make a "greater than trivial" contribution to the work in question. In the case of a traditional classroom-delivered course,¹⁰ these legal prerequisites are easy to satisfy because the individual faculty member controls both the specific content of a course and the method of teaching (or "expressing") this content to students.

Second, the work must be "fixed in a tangible form of expression." Again, in most copyright cases this is a simple condition to satisfy in the classroom; fixation is satisfied by the instructor's expression of curricular content as a

course. The courts have made it clear that the case of the teacher is unique under the law and that the condition of "fixed expression" is met by the collection of course materials an instructor builds up over time, including lecture notes, exam questions, assignments, slides, graphs, pictures, packaging of film clips or photographs, computer programs, data and exercises, readings, and so forth.

This said, it is also important to understand what copyright law does not protect: it does not protect an idea for a new course; an informal discussion with a colleague about a new method ("expression") for teaching a difficult lesson; or a theory that has been bandied about the campus. Why? Because ideas, conversations, and theories are not yet sufficiently "fixed in a tangible form" to be protected by copyright law.

Authorship

The next important aspect of copyright is the concept of *author*. The author is that entity or person(s) who by creating and expressing a work may claim its ownership under copyright law along with the privilege, for a limited time, of both exploiting the work and controlling how others use or exploit it.

Works may have one or more authors. In the case of e-learning courseware, authorship status may well be shared among the professor or content developer, the software programmers, and the institution that provides the money or technical infrastructure needed to design, develop, and maintain e-learning courseware (if such contributions are deemed nontrivial). Authors may, if they choose, yield ownership of copyright to another entity and retain a full license to use the materials without restriction. For example, scholars typically yield their copyright ownership of articles to a publisher because they do not want to be bothered with processing permissions or because the publisher demands ownership as a criterion for publication. In this model, the author retains full use of the copyrighted materials through a license from the publisher. How can this be?

Under copyright law, each owner's

ability to exploit a work involves a total of five different rights:

- the right to copy or duplicate the work;
- the right to change the original work in order to create derivative works;
- the right to distribute the work to others;
- the right to display the work; and
- the right to perform the work (this applies to drama, dance, music, and film as well as to some electronic media).

These five rights may be separated—or "unbundled"—by the copyright owner (or by any "joint owner" of a copyright) and licensed to someone else. A license is a grant of permission to use a copyrighted work in a specific way for a specific period of time. The license is typically provided in exchange for something of value, legally referred to as "consideration."

A license may involve one or more of the five rights. "Licensing" is what happens, for example, when a novelist licenses movie rights (in legal terms, the author is granting permission to the studio to make and distribute a derivative work—a movie version of the original book). The power of copyright is that the owner may license some rights, such as the rights to copy and distribute the work, while simultaneously holding back other rights, like the right to make or separately perform the work or to adapt it for another purpose.

An owner also has complete power and freedom to choose who gets a license. An owner may grant an "exclusive license," which means there will be only one such license granted, or she may grant a "nonexclusive license," which means the same license may be given to many other people.

Analyzing Relative Contribution

One of the basic principles of copyright law is that all contributors to a work may share in the ownership of the copyright of the work and can derive benefit from the work. If there is nothing written to the contrary, all authors become joint owners and share equally in both the monetary rewards from a work (for example, royalties) and the

ability to license uses of the work to others. In other words, each joint author separately enjoys the ability to control all five of the bundled rights (duplication, derivative works, distribution, display, and performance) for the entire work, including licensing those rights to others on a nonexclusive basis. This arrangement does not always satisfy all of the contributors, particularly if there is an unequal division of contribution to the work. Therefore, to construct a collaborative agreement that will be perceived as fair to each contributor, it is necessary to analyze the relative contribution of each author and to describe the contribution in writing.

Institutional Contribution Defined.

To analyze the relative contribution of the institution to an e-learning project, keep in mind the concept that under copyright law an author is one who makes an original contribution that is “greater than trivial.” When applying this principle to an analysis of relative contribution for e-learning courseware development, we suggest defining “greater than trivial” as “greater than the customary resources required for a traditional class.” The customary contribution by a university to a faculty member’s traditional classroom-based course probably comprises classroom, offices, seats/desks, chalkboard, overhead projector, library, and so on. The “greater than customary” contribution of the university to an e-learning courseware project might include the time of staff instructional designers, information technology specialists, and graphic artists; students to test, debug, critique, or refine e-learning courseware; provision and maintenance of networks, special equipment, software or software licenses; or special media classrooms staffed by specialists in video capture and simulation.

Frequently overlooked as “greater than customary” contributions of the academy are the use of the university’s name or logo as well as special professional or administrative services: attorneys to draft licensing agreements; contract specialists to negotiate marketing and distribution agreements; staff to file

To construct a collaborative agreement that will be perceived as fair to each contributor, it is necessary to analyze the relative contribution of each author and to describe the contribution in writing.

and enforce copyright registrations; and business managers to oversee the financial returns of the investment. When an institution provides these types of support for e-learning courseware development, under the principles of copyright law and the cases interpreting the law, the institution has a legitimate right to be recognized as one of the “authors” of the e-learning coursework.

One university contribution we would recommend *not* be considered “more than customary” is the purchase and hosting of a campus-wide course management system (CMS), including the provision of network administrators to train faculty on how to use the Web-based CMS. One rationale for this recommendation is that the CMS is now so pervasive and embedded in modern teaching methods that once a faculty member learns to use it, she or he can carry out all its functions, teaching or adding new materials to a course Web site from a home or office desktop with no additional support, equipment, or contribution from the university. In other words, the faculty member owns entirely a course she or he delivers aided by the university’s CMS software. Using a CMS to organize a class is analogous to switching on the lights in the classroom before the lecture.

Faculty Contribution Defined.

The faculty member whose course content is used as a basis for e-learning courseware makes a “greater than trivial” contribution to the new work simply by giving permission to use his or her proprietary course materials, lectures,

and exercises in the new courseware. In most cases, however, faculty will want to be more involved in the creation of the new e-learning courseware and should be prepared to go beyond customary class preparation tasks to produce the e-learning courseware.

Because each e-learning project is very different, the analysis of the contributions of partners will be based on the unique facts of each situation, and there is not and should not be any “one-size-fits-all” template for the assignment of labor and distribution of rewards. Each situation, moreover, should be analyzed through an open negotiation process based on trust and on engaging all potential authors of the new work. The result of such a mutually interdependent analysis of contributions is then set down in writing to become an important part of the collaborative agreement, functioning as the basis for the distribution of rewards and rights. Each participant must perform according to the plan to reap the rewards set forth in the plan.

Keys to a Successful Collaborative Agreement

Copyright law encourages the contribution-based approach to creating a collaborative agreement. The collaborative agreement is simply a written plan that states what each contributor will do or provide, when each will provide it, how each will be rewarded for his or her contribution, and any other terms or conditions needed to work smoothly together on a project. Ideally, the agreement should be developed before work begins. Practically, it should be finalized as soon as possible after a new project starts. Amendments to the written agreement may be made as the project evolves, as so many projects require.¹¹

Each collaborative agreement for an e-learning courseware project should also include a set of six schedules, attached to the contract as a series of appendices. These schedules, moreover, provide the detail needed to clarify roles, responsibilities, and rewards for each author. The process of developing these schedules engages all of the authors in the



collaborative approach. If a particular point is important to one of the authors, it should be addressed, resolved, and included in the agreement.

Schedule A: Preexisting Faculty Work. This schedule lists all preexisting faculty-created and -owned intellectual property that could possibly be used in the e-learning courseware. This schedule should include a license (exclusive or nonexclusive) for the use of these works in the e-learning courseware, as well as specific language stating that the faculty member retains ownership of the original materials. It should be specifically stated that the

faculty member has the full right to take all preexisting course materials and content should she or he leave the university.

Items listed on this schedule may include both descriptions of materials such as slides, music, drawings, lecture notes, classroom lectures, video footage, photographs, a professor-created syllabus or detailed course agenda as well as details about the method of instruction, assignments, tests, bibliographies, and other materials typically used in the faculty member's classroom course. All items should be clearly described as belonging to the faculty member.

Schedule B: Benefits. This schedule goes well beyond how royalties are divided. It addresses the whole range of benefits the faculty or the university administrators might want from the project. The faculty member author might want a variety of benefits for participating, including but not limited to release time, academic credit, the right to use the e-learning courseware in whole or in part for other research or teaching, credit as author, credit toward tenure review or career advancement, assignment of technical staff or student assistants to help with creating the new work, limits on the number of times that he or she might be required or permitted to teach or facilitate a course, professional recognition, and extra pay—as well as a portion of any royalties.

Similarly, the institutional author (the college or university) may specify a variety of benefits, including but not limited to the right to make new or derivative e-learning courseware, to use the e-learning courseware in sections not taught directly by the instructor-author, and to license distribution of the e-learning courseware to others in order to generate royalties; a share of the royalties; or the right to expand the audience for an e-learning courseware beyond the resident matriculated student. The only real limitation in this listing of benefits is the creativity of the team members.

Schedule C: Detailed Statement of Work. The Statement of Work for an e-learning courseware project resembles that for any other business agreement or the scope of work and schedule in a research grant. It describes the specific tasks each contributor commits to do for the project, including marketing, registration, enforcement of copyright, and management of permissions. Successful statements of commitment include high levels of clarity and detail. Intentional vagueness (so as not to be pinned down) leads to future disputes and failure. The challenge is to be clear and detailed while allowing sufficient flexibility for the project to evolve naturally. Writing the Statement of Work

for an e-learning project is something of a creative process, quite different from a straightforward procurement of common goods and services.¹²

Schedule D: Schedule of Events.

Making commitments without setting dates is pointless; thus the agreement also needs a schedule of due dates. E-learning courseware almost always takes longer than expected, so be generous with the schedule. Allow ample time to review, revise, and debug the courseware. Dates might slip, but all parties must commit to agreed-upon dates included in this schedule. In case of a delay, an amendment should be prepared describing the revised dates. Many disputes and lawsuits have occurred because the contributors allowed dates to slip until the entire project was in jeopardy. The dates must be taken seriously, kept by both parties, and revised in writing should they become unrealistic due to some unforeseen circumstance.

Schedule E: Definitions. Simply put, assume nothing; define all terms even remotely open to interpretation.

Schedule F: Term of the Agreement.

How long will the agreement, including the sharing of benefits, last after the project itself is completed? Will the reward distribution change over time? In the standard business agreement, the term of the relationship is an easy matter. When intellectual property rights are concerned, however, greater effort needs to be invested in the topic. Copyright protection lasts for many years, longer probably than the e-learning courseware will retain its currency and freshness, not to mention its technical viability. Therefore, this schedule deals with all matters related to time, such as the need to keep the e-learning courseware up to date in terms of both content and technology.

In addition, if the project involves a course with a “live” instructor, this schedule should specify who will do this work and over what period of time. There may also be issues involving promotion or marketing of the e-learning



The written collaborative agreement uses copyright law as a tool for crafting e-learning projects that are sensitive to the needs and interests of the multiple authors.

courseware over time, or what happens should the faculty member accept an appointment at another institution—or retire.

Throughout development of this schedule, the focus should be on how to maintain the excellence of the work through time. As in all relationships, a solid, well-articulated plan helps avoid problems later on.

Establishing Copyright Ownership

This issue often captures top billing in discussions of intellectual property relationships. In practice, however, copyright ownership doesn’t matter as much as distribution of licensed rights. Intellectual property is intangible, and intangible rights are ultimately governed by the agreements between parties, not by physical possession. Unlike real property, intellectual property can be simultaneously possessed and given away. In other words, the faculty mem-

ber can own copyright on a work and at the same time license all five rights back to the university or college. Conversely, the university or college can own the copyright and license all five rights back to the faculty member.

More important for universities than copyright ownership is providing enough encouragement, reward, recognition, and stimulation to engage faculty in developing innovative approaches to teach students. Copyright is the tool for achieving this end—not the end in itself. As in so many other situations, it is what one does with the tool, rather than who owns it, that makes the difference.

The written collaborative agreement uses copyright law as a tool for crafting e-learning projects that are sensitive to the needs and interests of the multiple authors. Without a written agreement, the law is clear (and blunt): all contributing authors will be deemed “joint owners” or “owners in common.” This default situation can cause intense unhappiness, grumpy lawyers, enormous litigation expense, delays, and, worst yet, discouragement of future creativity in teaching and courseware development.

In book publishing agreements, the publishing company often demands ownership of the copyright. The publisher protects both itself and the author of the original work by filing formal application for copyright with the U.S. Copyright Office. The publisher also has procedures and staff for tracking the copyright over many years, renewing copyright when needed, and enforcing the copyright against infringers. These activities take significant administrative resources to carry out well. Typically the college or university is better situated to manage the copyright administrative responsibilities, but each case must be discussed based on the unique circumstances. What is important is creating an equitable, productive, and sensitive distribution of all obligations, rights, and rewards.

Three Models for Collaborative Agreements

All those with a stake in authorship need to be involved in negotiating the

specifics of the agreement. We recommend that the institution develop expertise on staff capable of developing true win-win agreements. Terms of agreement must be put in writing and signed. The end of the process is an enforceable contract.

Every agreement differs, reflecting the variety of e-learning projects and possible relative contributions. This said, there are three basic types of collaborative agreement:

- Traditional faculty-owns-the-copyright model
 - University-owns-the-copyright or work-for-hire model
 - Collaborative ownership model
- Each model has strengths and weaknesses. No model is best in every circumstance.

Traditional Faculty-Owns-the-Copyright Model. Unless there is an agreement to the contrary, faculty own all rights to the courses they develop and teach in the classroom. The school or department recognizes the development of the courseware (in writing) as a fulfillment of a regular teaching assignment. This model is an easy fit with the situation in which a teacher uses a campus CMS to teach his or her course. The written agreement is needed to clarify that should the instructor-owner accept an appointment at another institution, he or she may without question download the courseware, erase it from the school's servers, and upload it on a similar system at the next school, thus effectively "taking her course with her."

From an administrator's perspective, this model appears at first blush to be cost effective. No extra pay for faculty is required, since the courseware counts as part of the regular workload and few extra resources are needed other than campus CMS software and perhaps some technical assistance or training for faculty.

Surprisingly, we have found faculty response has not been heavily favorable to this approach. Why? There are two key reasons for this lack of enthusiasm: the extra time and work required to modify materials developed for class-

room-based courses to "fit" the CMS templates, and the increase in student e-mail that seems to be a common feature of virtual versions of regular classes. Most faculty have not found the offer of copyright ownership of courses taught using the campus CMS a sufficient incentive to shift toward e-learning, particularly when they already own the traditional course.

University-Owns-the-Copyright or Work-for-Hire Model. This model is typically used when faculty undertake development of e-learning courseware in addition to fulfilling the regular departmental teaching load. The faculty member may be rewarded for working on the courseware by being given special release time, extra pay, or summer pay. The agreement makes clear that the project is considered a work-for-hire, that the institution will own the copyright, and that the faculty member's long-term right in the final product is no different from that of any outside contractor working for hire.

This model is also "clean" from the administrator's perspective—at least in the beginning. Ambiguities and problems may arise later, however, when preexisting work owned by the faculty is incorporated into the e-learning courseware (as it inevitably will be), or when the faculty member uses content or materials from the e-learning courseware project in later research and teaching work (as she inevitably will do).

If these options are not carefully explained in the agreement, the university could find itself in the awkward position of being asked to pay a permissions fee back to the faculty for use of materials in the e-learning courseware. More problems are likely to arise when the content of the e-learning courseware needs updating (as it inevitably will) and the original faculty author is long gone or retired from the institution.

Collaborative Ownership Model. The collaborative model might appear to be the least clean and neat of the three basic models, involving the "soft" analysis of relative contributions as well as the negotiations of incentives, rights,

and other expectations. This model also takes the most time to develop and may seem most risky to administrators who prefer "template" approaches. In the long run, however, this model is probably best suited to crafting a customized agreement that meets the unique needs and expectations of both instructors and administrators. We have found that sharing rights with instructors/developers keeps the cost of curriculum development down, allows each party to do everything with the courseware they might want to do, and attracts excellent academic and private-sector experts to e-learning projects.

For most faculty, the concept of collaborative agreements is new. Faculty and administrators are just beginning to understand how to analyze contributions and negotiate mutually beneficial agreements. Certainly, the collaborative approach is recommended when faculty members and their universities make significant investments of time, talent, resources, or money over an extended period of time. This type of agreement is also the most helpful for addressing unique e-learning issues such as content update and maintenance, technical embellishments, and customized distributions of the rights of copyright ownership as well as the financial incentives and royalties from worldwide distribution of e-learning courses. This model too provides the best way to honor the mutual dependence of faculty and the academy while respecting the contributions of each in the successful creation of e-learning courseware. As university administrators and faculty move towards more use of digital technology to spread educational opportunities and to provide improved learning modalities to all students, the collaborative agreement will, we predict, become the norm rather than the rarity.

Concluding Remarks and Looking Ahead

Love it or hate it, e-learning will have a place in the academy of the future. Establishing a new tradition of written collaborative agreements that use existing copyright law to design rewards and frame relationships reflecting the

unique culture of the academy will help administrators attract the attention, creativity, and involvement of their faculty—their core intellectual and instructional resource—in the exploration and effective development of e-learning courseware. For it is only when faculty and administrators work together that the academy can move toward “a clear and coherent future focused on student’s learning, quality of faculty work life, and reduced costs per student.”¹³ *e*

Acknowledgments

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Endnotes

1. This paper is derived from the presentation we made at this conference.
2. I. E. Allen and J. Seaman, 2003. *Sizing the Opportunity: The Quality and Extent of Online Education in the United States, 2002–2003* (Needham, Mass.: Sloan Center for Online Education, 2003), <<http://www.sloan-c.org>>.
3. C. McSherry, *Who Owns Academic Work?: Battling for Control of Intellectual Property* (Cambridge, Mass: Harvard University Press, 2001).
4. Although many advances in the development of e-learning courseware have in fact been funded by the federal government through agencies such as the

National Science Foundation, Department of Transportation, and National Aeronautics and Space Administration, federal and state support for higher education, including e-learning courseware development, is in serious decline. Historically, private-sector corporations have provided support for many programs in the arts, scientific research, and athletics as well as sponsorship of hardware and software improvement, but rarely in the area of curriculum development. Why? Because curriculum development has traditionally been the responsibility of faculty, working alone on their courses of instruction. E-learning courseware, however, as this article demonstrates, results from a collaboration involving multiple “authors.” A paradigm shift in respect to sources of funding is needed. We are working with various offices in both the U.S. Senate and House of Representatives on an initiative to create federal tax-credit legislation to benefit private-sector sponsorship of e-learning courseware development. To obtain more information on this initiative, contact taxbreak4ed@aol.com.

5. A strong voice for change in higher education is heard in the compelling arguments of A. E. Guskin and M. B. Marcy in their article, “Dealing with the Future Now: Principles for Creating a Vital Campus in a Climate of Restricted Resources,” *Change*, Vol. 35, No. 4, July/August 2003, pp. 13–14. Organizing Principle I states, “Create a clear and coherent vision of the future focused on students’ learning, quality of faculty work life, and reduced costs per student.” Guskin and Marcy argued compellingly that the transformation in higher education must begin by rejecting the traditional paradigm of measuring education by the number of hours spent by a faculty member in the classroom, and adopting a new paradigm of establishing and assessing institution-

wide common student learning outcomes. They remind us that students do not learn just inside the classroom.

6. National Research Council, *Preparing for the Revolution: Information Technology and the Future of the Research University*, report of the Panel on the Impact of Information Technology and the Future of the Research University (Washington, D.C.: National Academies Press, 2002), <<http://www.nap.edu/books/>>.
7. J. M. Wilson, “Creating New Learning Environments in the Convergence of Computers, Communications, and Cognition,” presented at the conference on Technology, Learning, and Intellectual Development, American Association of Colleges and Universities, Cambridge, Mass., October 2003, <<http://www.jackmwilson.com>>.
8. *Williams v. Weisser*, 273 C.A. 2d 726, 78 Cal. Rptr. 542 (1969); see also the sidebar on legal precedent.
9. *Weissmann v. Freeman* 684 Fed. Supp. 1248 (S.D.N.Y. 1988), 868 F2d 1313, 10U.S.P.Q.2d (BNA)1014 (2Cir.), cert denied 493 U.S. 883, 110 S.Ct. 219, 107 L.Ed.2d 172 (1989).
10. We refer here to the individual teacher’s unique version of a course as expressed in the classroom. These instructor materials are to be distinguished from the official title or catalog name of the course (such as “Introduction to Biology”) and the approved syllabus that reflects specific texts required by the department or academic committee. The outline of learning objectives or topics to be covered in the class or section that are given to the instructor as part of an assignment of teaching responsibility all belong to the academy, since the academy satisfied the elements of copyright law with these components.
11. B. C. Donohue and S. Gregory, “How to Manage Projects that ‘Step off into the Unknown’,” *TechTransfer*, Fall 2000, University of California Berkeley, Institute of Transportation Studies, <<http://its.berkeley.edu/techtransfer/resources/pub/nl/00fall>>.
12. *Ibid*.
13. Guskin and Marcy, op. cit.

Further Reading

Howe-Steiger, Linda, and Brian C. Donohue, “Technology Is Changing What’s ‘Fair Use’ in Teaching—Again,” *Education Policy Analysis Archives*, Vol. 10, No. 4, January 12, 2002, <<http://epaa.asu.edu/epaa/v10n4.html>>.

Mayadas, Frank, “Testimony to the Kerrey Commission on Web-based Education,” *JALN*, Vol. 5, No. 1, May 2001.

Levin, Sandra, et. al., “CTER OnLine: Evaluation of an Online Master of Education Focusing on Curriculum, Technology, and Education Reform, *Proceedings of the 34th Hawaii International Conference on Systems Sciences*, 2001; online at <http://www.alnresearch.org/JSP/Empirical_Research/papers>.

Brian C. Donohue (donohue@berkeley.edu) is a licensed attorney with an MBA in information technology and the Business Contracts Administrator of the University of California Berkeley campus. Linda Howe-Steiger (lkhs@berkeley.edu) is Director of the Technology Transfer Program at the Institute of Transportation Studies, University of California Berkeley.