

Educational Implications for Copyright in a Digital World

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Abstract

Statutory law and court cases currently leave fair use of copyrighted material poorly defined and fail to provide effective guidance for the use of others' work. Copyright legislation is undergoing significant change, accelerated by the evolution of computing and communication technologies. This paper reviews copyright issues, fair use guidelines, and applicable laws and statutes to help administrators and educators understand and comply with copyright regulations. The paper describes principles of copyright and ownership, the rights of copyright holders, and the conditions under which copyrighted material can be used by others. Recently introduced legislation, such as the 1998 Digital Millennium Copyright Act may significantly affect how educators can use copyrighted material in the future. The integration of computer and communication technology into education raises a number of intellectual property issues for dental schools. This paper provides some general guidelines regarding copyright issues in academic environments.

Keywords

copyright, intellectual property, legislation, jurisprudence, education, computer systems, Internet, dentistry

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Introduction

Educational institutions have begun to use computer-based educational materials in a variety of ways (1-5). The World Wide Web (WWW or Web) is an especially popular method for delivering courses and lectures (6-14). Since authors cross the borders of the traditional classroom when they distribute educational content via the Web, copyright issues attain a new dimension.

The following two examples illustrate a new class of problems facing educators today:

1. For decades, a faculty member teaching dental anatomy courses has been using an illustration of a developing tooth from a well-known textbook in his lectures. He decides to make his lecture material available online to allow students and others to review the material freely on the Internet. Shortly thereafter, the publisher of the textbook contacts the legal department of the university alleging a copyright violation, using the illustration as proof of infringement.
2. A faculty member of a dental school, working in an outreach program, collects e-mail messages sent by patients as testimonials for the service provided by the school. The educator develops a Web page for the program, which includes several of these messages. One former patient tries to sue the school since his e-mail message was published without his permission.

The lack of defined and prescriptive laws about fair use, especially in the areas of information technology (IT) and education, can result in many such conflicts. This paper describes copyright issues, fair use guidelines, and applicable laws and statutes in the context of information technology and education. While the paper cannot provide any clear-cut guidelines, its intention is to sensitize dental educators and administrators to potential violations of copyright. Readers should consult their legal department for guidance on specific questions.

Background

Copyright in General

Copyright issues are complex because laws and guidelines do not draw a clear line for each case. Furthermore, copyright exists between two opposing basic tenets: Free Speech, and encouraging creative activity by protecting authors against unauthorized use of their works. The First Amendment, "Congress shall make no law ... abridging the freedom of speech, or of the press ..." limits the application of copyright based on the principle of freedom of speech. On the other hand, safeguarding the rights of authors provides an incentive to produce innovative works and to conduct research. As stated in the U.S. Constitution Art. 1, Clause 8 "The Congress shall have the power ... to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."

To understand copyright issues, the principles of copyright and ownership must be distinguished. If a graphic artist sells an illustration to an educator and retains the copyright then the purchase conveys only ownership of the physical illustration, not the intellectual property rights in the image or its expression. Thus, the educator cannot reproduce the illustration for an online course without first obtaining the permission of the owner of the copyrighted work (15).

Ideas, which are not protectable under copyright law, must be distinguished from expressions, which are protectable under copyright law (16). Copyright law does not prevent others from using ideas or facts contained in an author's work, but it prohibits unauthorized copying of the individual expression of the work, if the work is an "original work of authorship." When there is only one way to express an idea, the expression is not protectable (17).

Table 1 shows the definition of copyright in the US according to Title 17 of U.S.C. § 102 (see Table 1).

Table 1: 17 U.S.C. § 102 (Subject matter of copyright: In general) (16)

(a) Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. Works of authorship include the following categories:

- (1) literary works;
- (2) musical works, including any accompanying words;
- (3) dramatic works, including any accompanying music;
- (4) pantomimes and choreographic works;
- (5) pictorial, graphic, and sculptural works;
- (6) motion pictures and other audiovisual works;
- (7) sound recordings; and
- (8) architectural works.

(b) In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

Only the owner of the copyright can execute or authorize the exclusive rights defined in the Title 17 of the U.S.C. § 106 (see Table 2).

Table 2: 17 U.S.C. § 106 (Exclusive rights in copyrighted works) (18)

Subject to sections 107 through 120, the owner of copyright under this title has the exclusive rights to do and to authorize any of the following:

- (1) to reproduce the copyrighted work in copies or phonorecords;
 - (2) to prepare derivative works based upon the copyrighted work;
 - (3) to distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending;
 - (4) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works, to perform the copyrighted work publicly;
 - (5) in the case of 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, to display the copyrighted work publicly; and
 - (6) in the case of sound recordings, to perform the copyrighted work publicly by means of a digital audio transmission.
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An infringement of the copyright occurs when one of the exclusive rights of the copyright holder is violated (19). Statutory infringement of copyright law can result in liability of up to \$100,000, injunction, additional punitive damages and/or adjunctive measures such as stopping the print of

the book that contains the copyright infringement. Willful infringement, however, can result in damages far greater than \$100,000.

Laws and International Treaties

Copyright law originated in England in 1710 when the British Parliament enacted the Statute of Anne. The Statute of Anne protected consumers of copyrighted works and prevented a monopoly of booksellers. It created a "public domain" for literature by limiting the length of term of a copyright protection to 14 years (with a 14 year renewal period, if the author was still alive) (20). In the last three hundred years, copyright law has broadened its scope. From the US Constitution (1790), which included a copyright provision derived from English law, it evolved through the U.S.C. Title 17 - Copyrights (1976) into the latest provision to copyright law with the Digital Millennium Copyright Act (DMCA, 1998). In 1989, the U.S. joined the Bern Convention for the Protection of Literary and Artistic Works (21).

It is widely acknowledged that with the emergence of new technologies, U.S. intellectual property law and policy must be adapted (22-24). In February 1993, President Clinton established an Information Infrastructure Task Force (IITF) to develop comprehensive telecommunications and information policies and programs (25).

Since information travels across national borders on the Internet, international treaties must address copyright issues. The World Intellectual Property Organization (WIPO) adopted the WIPO Copyright Treaty on December 20, 1996 (signed by 51 countries (including the US) and ratified by 7 countries as of March 1999). This treaty attempts to provide a framework for the use of information that "...recogniz(es) the need to maintain a balance between the rights of authors and the larger public interest, particularly education, research and access to information (26)." With the passage of the DMCA on October 28, 1998, the U.S. adopted the WIPO Copyright Treaty. The DMCA significantly tightens U.S. copyright laws. The act pits groups such as the entertainment industry (Creative Incentive Coalition) (22), who argue that tightening laws would reduce losses due to digital piracy, against the Digital Future Coalition (which includes the American Library Association, National School Boards Associations, Computer and Communications Industry Association and others), which advocates a more balanced legislation. The latter group argues that strong copyright legislation could remove privileges such as those granted by fair use guidelines (27) (see below).

Copyright and Electronic Media

Libraries illustrate how traditional copyright law and the distribution of digital materials can conflict. Libraries lend books and records based on the First Sale Doctrine, which provides, that "Nothing in the preceding sentence [... disposal of work ... by rental, lease, or lending, or by any other act or practice in the nature of rental, lease, or lending ...] shall apply to the rental, lease, or lending of a phonorecord for nonprofit purposes by a nonprofit library or nonprofit educational institution." (28). Theoretically, a library could post digital works, such as a CD-ROM about esthetic dentistry, on the library's Website, so that they may be viewed freely by the public. Doing so without the permission of the copyright owner may constitute copyright infringement. Many copyright owners fear that the extension of the First Sale Doctrine into the digital environment will destroy their markets (29).

From a legal standpoint, copyright should be independent of the particular technology used for expressing or representing a work. From a technological standpoint, a distinction should be made for digital materials. In digital form, works such as pictures, sounds, texts, music, or even movies,

consist of strings of bits (30). Digital materials can be copied at low cost and easily distributed, especially on the Internet. Unlike copies using traditional media, such as paper and oil paint, digital copies do not degrade in quality. Electronic equipment, such as computers, audio and video recorders, compact disc players and televisions, typically includes memory devices for transmitting, displaying, performing or using a copy or transmission of a copyrighted work (23). Temporary copies are an essential element of using digital information, but they infringe on copyright in a strict interpretation of current law. The Digital Millennium Copyright Act suggests that such reproduction is integral to the ordinary operation of the devices and networks. Thus, this reproduction is of a transient or incidental nature and has the sole purpose of making the work perceptible (31).

Framework for Dental Educators

The integration of computer and communication technology into education complicates intellectual property issues for content providers, either as users or as originators of copyrighted material. Traditionally, academia has enjoyed the protection of fair use as described below. However, electronic environments both complicate and amplify fair use issues.

Fair Use Guidelines

Educators in the U.S. base their use of copyrighted materials on 17 U.S.C. § 107, "Limitations on exclusive rights: Fair use" (see Table 3).

Table 3: Limitations on exclusive rights: Fair use (32)

Notwithstanding the provisions of sections 106 and 106A, the Fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a Fair use the factors to be considered shall include --

- (1) the **purpose** and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the **nature** of the copyrighted work;
- (3) the **amount** and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the **effect** of the use upon the potential market for or value of the copyrighted work.

The fact that a work is unpublished shall not itself bar a finding of Fair use if such finding is made upon consideration of all the above factors.

Fair use is a legal principle that places certain limitations on the exclusive rights of copyright holders (33). Groups such as the Digital Future Coalition advocate amending the copyright law to make it clear that the fair use doctrine continues to apply in the digital environment (34).

Even under the fair use doctrine, the law rarely provides a clear answer to all questions of copyright. The four fair use factors must be balanced and are non-exclusive. Different courts looking at the same set of facts may weigh the factors differently. Fair use is an equitable

doctrine. Therefore, even if all four factors are favorably decided, a court could still find infringement based on an act in bad faith.

Purpose

Nonprofit educational usage, as opposed to commercial usage, is specifically provided for in §107 of the Copyright Act of fair use. The profit motive is very important in this regard. A course packet copied at a commercial copyshop may be an infringement (35), while the same copy made at an on-campus copyshop that operates at cost may be legal under the fair use doctrine.

Quotations incorporated into scientific papers, or excerpts of a textbook integrated into a multimedia online course, may also be in compliance with the fair use doctrine. For teaching purposes, multiple copies of the same material are expressly permitted (36).

Nature of the work

The "nature of the work" covers characteristics of the work being used (36). For instance, using facts from a copyrighted textbook for a course is likely to be within fair use, whereas using the unique personal evaluation of the same facts by the author would likely not fall within fair use. The scope of fair use is broader when the material used is from a formal, scientific, or historic work, as opposed to a creative work. The nature of a work also includes whether it is published or not. The fact that material is copied from an unpublished work tends to negate a finding of fair use (37).

Amount and Substantiality of the Portion Used

Amount is measured both quantitatively and qualitatively. The law does not define an exact measure of allowable quantity. Quantity must be evaluated relative to the length of the entire original and the amount needed to serve a proper objective (36). Quality is a measure of the significance of the material relative to its context. For instance, it may be fair to use some portions of a work for illustrative purpose, but not crucial ones.

Effect on Potential Market

The "effect on potential market" considers the consequences of using a copyrighted work on. Using a copyrighted work may affect its market value or the ability to sell it (38). For instance, an online course that includes substantial portions of a similar course at another university may reduce the value of the original course, resulting in reduced sales. On the other hand, a lengthy excerpt from a book included in an online lecture with citation of the original reference might even increase sales of the textbook, which would support a fair use finding. The effect on the market can also be evaluated based on whether the material is used for a commercial or noncommercial purpose.

Conference on fair use (CONFU)

In connection with the Clinton Administration's National Information Infrastructure initiative, the Working Group on Intellectual Property Rights in the Electronic Environment called upon copyright stakeholders to negotiate guidelines for the fair use of electronic materials in a variety of nonprofit educational contexts. The 93 participating organizations spent more than 2 1/2 years defining the scope of fair use in various electronic contexts. However, the CONFU participants failed to achieve consensus support for the proposed guidelines (33).

Thus, the question of whether a use of copyrighted work is a fair one (see Table 3) must be answered on a case-by-case basis. Fair use is and has always been an amorphous area of

copyright law, with each case decided on its own merits. Courts may assess damages in a finding of infringement even if the infringer reasonably believed that he/she was acting within the definition of fair use. Disagreement over the scope of fair use also is evident in the court. For instance, of thirteen judges on the Sixth Circuit, eight found that commercial, for-profit preparation of coursepacks by Michigan Document Services is not fair use, while five found that it is (39).

University Policies

In 1980, 65% of 79 surveyed institutions had no definitive policies about rights and ownership of educational materials in place (40). Institutions are using different approaches to address intellectual property rights, such as the need to negotiate a contract with the faculty before creating online resources. Since copyright issues exist independently of technology, such policies should be in place in each institution. Institutions should, with the guidance of their legal staff, develop policies that comply with existing laws and satisfy local needs. Such policies should cover not only the educators', but also the students' rights and responsibilities regarding copyright. Institutional policies protect individuals from liability provided these individuals have acted within the policy. The fact that educators and students use the university's equipment (such as a university's Webserver) to share educational materials does not necessarily create a liability on the university's part. Under the DCMA, universities' exposure to monetary damages is limited-but they are not exempt from lawsuits. If institutions are passive providers, similar to telephone companies, they are not automatically liable simply because they own the system through which communication flows. However, they must follow certain rules, such as designating an agent to receive statutory notices, copyright infringement claims, developing a policy for terminating the connection of repeat offenders, etc. (41). However, the legal questions regarding this issue are not completely settled (42). In general, if the institution acts as an editor, by placing material online, modifying content, and knowing that the material placed online might be infringing if it acts other than as a passive provider, it is responsible for any infringement. Online copyright liability limitations are included as an appendix of the DMCA (43).

Implications for Teaching

The Copyright Act of 1976 (see Table 1), grants copyright owners the exclusive right (see Table 2) to reproduce, prepare derivative works, distribute, perform, display, transfer ownership, rent or lend their creations. Under the same Act, the fair use exemption (see Table 3) places a limit on these exclusive rights to promote free speech, learning, scholarly research and open discussion. Statutory law and court cases currently leave fair use of copyrighted material poorly defined and fail to provide effective guidance for the use of others' work (38).

However, some general guidelines can answer many questions regarding copyright issues in an academic environment. These guidelines cannot substitute for consultation with legal counsel in specific cases. The following section lists the most frequent questions and general answers for them.

Is the work protected?

Even if a copyright notice is not included in a work, it is protected by copyright if it is "an original work of authorship fixed in a tangible medium of expression." A copyright notice is no longer a requisite for protection, but it is advisable to put one on original works. Older works

published without a notice may be in the public domain, but works created after March 1, 1989, are automatically copyrighted. Works are not copyrighted if they were created for the public domain, if they were created by the U.S. government, or if they constitute facts or ideas (38). For works created after 1978, the copyright extends for seventy years beyond the life of the author (44).

Do you wish to exercise one of the owner's exclusive rights?

In the case of an online course, you would probably reproduce a part of the work in digital form, or create a derivative work by using the original as a basis. One question is whether the work is *publicly* displayed (38). Password protection on a Website that limits access to registered students does not constitute public display. But even a display to a limited number of individuals constitutes an infringement if it doesn't comply with the fair use guidelines. However, the potential effect on the market could be considered less severe.

Is use of the work permitted through an existing contractual agreement?

Third party materials may be used with or without restrictions if a contract determines conditions for use. For instance, collections of digital pictures may be purchased "royalty-free," i.e. without the requirement that a payment is made when a picture is actually used. Another example is a contract of a university with a publisher that allows faculty of that university to use material from a certain journal.

Can files downloaded from the Internet be used in a lecture?

Downloading a file from an Internet site onto a viewer's hard disk without permission, express or implied, constitutes making an unauthorized copy in violation of the exclusive rights of the copyright owner (45). Use of the material or parts thereof must be determined by fair use guidelines. Linking to the material on the original site, however, is not an infringement of copyright.

Can an instructor use just one clinical image from a Website for a textbook?

The use of illustrations or clinical images from the Web may be a violation of copyright. The same image may possibly be used under the fair use doctrine in a password-protected online course. Access should be limited to students enrolled in the course and administrative staff, and must be terminated at the end of the class term. Permission should be obtained for materials that will be used repeatedly by the same instructor for the same class (38).

Can e-mail messages or newsgroup articles be used by the recipient without permission of the sender?

Copyright law also protects e-mail messages. Unless a message contains a statement donating the content to the public domain, it should be treated as copyrighted even if a copyright notice is not included (45).

Can a Webpage with assignments created by students be used in a publicly accessible area of an institution's Website?

The instructor must obtain written permission from each student to publicly display the assignment.

Can images from a textbook be scanned and used in a password-protected online course for predoctoral dental students?

Yes, the images can be used if the same instructor in the same course does not use them from year to year. This guideline protects the author of the textbook who might suffer from reduced sales because of the continuous availability of the images. If the publisher makes the images readily available for purchase or license at a fair price they should not be scanned without permission (46). For example, the New York Times provides copyrighted material for reprint at its Website (47).

Can a Web designer display material from another site in a frame on his own site?

While framing a Website is not inherently a copyright violation, doing it in such a way that the other Website's content is used without proper credit may constitute a violation. Other Websites should always be accessed via linking to their homepage. The Website's content and format should be preserved. All visitors should be made aware that the framed Website is another author's content (48).

How should copyrighted material be indicated?

If copyrighted material is used, any copyright notice on the original should be included. A notice according to § 108(f)(1) of the Copyright Act should be included indicating that creating a copy may be subject to the copyright law (49). A clear indication of the source must be provided.

Can images, downloaded from the Internet, be used for scientific conferences to demonstrate research findings?

Yes, faculty members may use images at peer conferences (38). The same images, however, may not be used in a speech at an industry-sponsored, for-profit continuing education seminar.

Who owns the rights to lectures, course notes, and syllabi in electronic form?

Traditionally, faculty have published textbooks through for-profit publishers and received royalties in the process. The economic interest of faculty is pitted against that of the university in the area of course content, which has traditionally been within the faculty's domain (50).

Currently, ownership of online courses is a subject of contention at many universities.

If teaching material was created as part of the employment, it must be considered as "works made for hire" according to § 201(b) of the Copyright Act, and thus the employer, the university, owns the copyright (51). Thus, the faculty member who develops a comprehensive online course for oral medicine can't necessarily take the course with her when leaving the university. The university can offer the course material as part of its online continuing dental education program after her departure.

Which copyright laws apply if the author and the user of copyrighted material reside in different countries?

Copyright protection is subject to international treaties, but such agreements are based on local legislation. Some countries, for instance China, enforce copyright law only on a limited basis. This limited enforcement reflects China's cultural and social background, which is based on Marxism and Confucianism, both of which share the view that copyright royalties threaten social equality by enriching authors at the expense of the society (52). In February of 1995, a last minute agreement between the United States and China prevented a trade war on copyright issues. China was required to limit the production and distribution of counterfeit copies of music, films and software, etc. In 1996, roughly two dozen counterfeit software factories still produced

thousands of CD-ROMs every day, sometimes cramming as much as \$30,000 worth of business software programs onto a single disk and selling it for as little as \$25 (53). The Software Publisher Association (SPA) estimates that 98% of all software distributed in China has been pirated. According to the SPA, this results in \$187 million in yearly lost revenues (54).

Outlook

The Digital Millennium Copyright Act may shape how educators work with copyrighted material in the near future. The DMCA, in its final version, protects the interests of authors while recognizing that fair use must exist in a digital world (55).

The future will have to show if the rights of authors can be balanced successfully with the free exchange of information. Hopefully, the interpretation of the DMCA by various courts will assure the continued vitality of the fair use doctrine. According to Peter Jaszi of the Digital Future Coalition, "this legislation is a substantial victory for both the creators and consumers of intellectual property because it provides meaningful protection while recognizing the traditional balance between owners' rights and the privileges of legitimate users." (55).

Barbara Ford, president of the American Library Association, points out that "information is the fuel of today's economy. Those who control it control power. Those without access to information, who cannot afford it or are locked out, will be powerless" (27).

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Internet Websites for Copyright Issues:

United States Copyright Office. The Library of Congress
<http://lcweb.loc.gov/copyright>

Digital Millennium Copyright Act, Status & Analysis
<http://www.arl.org/info/frn/copy/dmca.html>

The Magazine of Law and Policy for High Technology
<http://www.ipmag.com>

World Intellectual Property Organization
<http://www.wipo.org>

Franklin Pierce IP Mall
<http://www.ipmall.fplc.edu>

Copyright Management Center
<http://www.iupui.edu/~copyinfo>

Cyberspace Law for Non-Lawyers
http://www.ssrn.com/update/lisn/cyberspace/csl_lessons.html

Copyright & fair use site by Stanford University
<http://fairuse.stanford.edu>

Carnegie Mellon University: Intellectual Property Policy
<http://www.cmu.edu/president/techtrans/ipp.htm>

Fair use of copyrighted material by Harper, Georgia
<http://www.utsystem.edu/ogc/intellectualproperty/copypol2.htm>

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