Curbing Academic Dishonesty in Online Courses

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Abstract: It is common for faculty to believe that academic dishonesty is easier and more prevalent in online courses because of the lack of direct contact with students. This paper examines research into academic dishonesty in online courses, how to prevent cheating when online testing is done, how to detect and prevent plagiarism, how to design online courses to minimize academic dishonesty, and introduces several products and educational practices for preventing dishonesty in the online environment.

Research

To date, research into academic dishonesty in online courses has been somewhat limited. In 1998, Ridley and Husband studied student records at Christopher Newport University in an attempt to prove these three hypotheses:

1. Students who enroll in both online and traditional classroom courses will earn higher grades in online courses.
2. Students who enroll in on-line courses through two or more semesters will improve their performance over time.
3. If students and spouses or significant others have taken the same online course, their grades in these courses will be more similar than their grades in other courses.

Using the data they collected, these hypotheses were all found to be false. In fact, grade point averages in offline coursework were greater than the online coursework by 0.3 points, and the researchers found more Fs in online courses. This early research allayed some fears about the academic rigor of online courses.

In 2000, opinion surveys were conducted on 172 students and 69 faculty members at medium-sized universities in the Midwest. The researchers began with the premise that both faculty and students believed it easier to cheat in online classes as opposed to traditional courses. This belief was confirmed by 64% of the faculty and 57% of the students. Among students, this percentage was reduced in students who had previously taken an online class. Among faculty, it was believed that if cheating did occur, it would be someone else taking tests and doing assignments for the dishonest student and that students would purchase or download term papers online (Kennedy, Nowak, Raghuraman, Thomas & Davis, 2000).

Research at a public university in 2002 attempted to find the prevalence of cheating in online courses. Grijalva, Kerkvliet, and Nowell used a randomized response survey method, which combines non-threatening questions with sensitive ones to increase the likelihood that the respondent will answer truthfully. For instance, one set of questions asked a student to flip a coin, and answer "yes" if the coin turned up heads and he had ever cheated on an exam, otherwise "no". From statistical analysis, if 60% of the students reply "yes", there is a 20% rate of cheating. They concluded that the following were positively correlated to cheating: having a friend in the class, being aware that others were cheating, and having a penalty statement in the instructor's syllabus. The following were found to be inversely related to cheating: student GPA and the use of proctored exams. They estimated that the prevalence of cheating in a single online class was only 3%, which is not significantly higher than traditional courses.

A later study in the United Kingdom focused primarily on attitudes about cheating and self-reported plagiarism. The authors found that among 291 undergraduates, several factors influenced the likelihood of cheating. These were: fear of failure, inability to handle difficult material, tedium, and time management. For 6% of their sample, cheating was a way of life, while 60% of females and 35% of males found it unacceptable at any time. Females tended to be more cautious (Underwood & Szabo, 2003). On an optimistic note, the author found that "the students can, and do, come to understand that dishonest academic behavior is unacceptable and involvement rates decline over the length of a course". As well, instructors need to make sure that they avoid plagiarism in their academic practice.

The final study reviewed was performed in 2005 and involved the role of friends and the frequency of cheating online. Thirty-seven percent (37%) of students in the study indicated that they would give answers to someone else. Sixty-three percent said they would use a stolen test to study, 42% would become involved in e-cheating, and 14% said they would become involved even if the instructor warned that she would be electronically checking for plagiarism and that "word of mouth corroborated the instructor's statement". In addition, 24% admitted to already having cheated and 42% said they would, if given the chance ("Cheating: Friends," 2005).

Even with the limited number of research studies available, it must be concluded that instructors need to be vigilant and adopt methods to discourage cheating in online courses.

Online Exams and Cheating

There is no guaranteed method to prevent cheating when exams are given online. Most resources reviewed recommend that critical examinations be proctored. It may seem to defeat the purpose of an online course if students are required to take examinations at the college offering an online course, however. There are several ways to provide alternative proctoring. First, most colleges and universities now have testing centers for placement examinations and certification, and these might be utilized as proctoring sites. The National College Testing Association (NCTA) has a Consortium of College Testing

Centers (CCTC) set up for this exact purpose. A member test site agrees to offer pencil-paper exams and may also provide web-based exams. There are 365 members in the United States, found in 46 states, with another 15 members in 9 foreign countries. Consortium participants may be searched at http://www.ncta-testing.org/cctc/ ("Welcome to the Consortium," 2005). In the absence of a nearby testing center, some professors have permitted police stations or fire stations to serve as testing centers as well as ministers, priests, or rabbis. Some public libraries will also agree to proctor examinations.

Online courses should not necessarily be designed with the same evaluation and testing methods as their traditional counterparts. Several methods should be used to evaluate students. Some instructors use the discussion board for graded assignments. Gerald E. Nelson (1998) has developed a scoring rubric for use with assignments he calls "authentic projects". He counts participation in the online course discussion board as 20% of a student's final grade and the projects as 50%, so only 30% of a student's final grade is based on online multiple-choice tests.

Faculty should provide clear warnings on syllabi regarding cheating and plagiarism. They should outline the penalties which may be imposed, and provide a link to the college's Academic Honesty policy. They should also specifically tell students what they can and cannot use if online examinations are given.

Many suggestions for designing test questions were found. Instructors may:
- Design questions that could not be answered easily unless the individual has done the previous work in the course (Olt, 2002);
- Have students apply personal experience when answering questions ("Strategies to Minimize", 2006);
- For courses that test using calculations, give each student the same exam with numbers changed slightly (Goldsmith, n.d.);
- Use multiple-choice questions only for ungraded assignments (Goldsmith, n.d.);
- Use "rote memory" questions for "gauging the pace of the course and identifying students who are lost" (Hollands, 2000);
- Use multiple-choice tests to emphasize important terms and concepts. Nelson said that he permits referring to the textbook for answers – "so much the better; for some, sad to say, it may be the only time they read the text" (1998, pp. 7-8); and
- Design open book questions so that they are more than "scavenger hunts" for correct answers (Golub, 2005).

There are also several recommendations for establishing testing procedures:
- Do not make a test available until the day you want students to begin taking it (Hollands, 2000);
- Assign a password to each exam and make it available to a student just prior to his attempt (Olt, 2002);

- Use several short quizzes to make it difficult for students to get constant help (Olt, 2002);
- Use multiple-choice exams for practice testing only (Ritter, 2006);
- Allow multiple attempts, making testing a learning experience (Ritter, 2006);
- Set time limits (Ritter, 2006);
- Monitor beginning and submission times for students in each section (Steuver & Harter, 2004);
- Routinely compare student answers (Rowe, 2004);
- Use multiple forms of exams, randomizing questions from a large pool; and
- Randomize the answers on multiple-choice questions (Rowe, 2004).

Students sometimes use high-tech methods to cheat on online exams. First, some students will start an exam and while the questions are on the screen, they will print out the questions. They then will disconnect from the Internet, causing a "lock" on the exam in Blackboard. After looking up answers, they will contact the instructor to get the test "unlocked". Knowing this, some professors warn students on the syllabus that only one "unlock" will be permitted per course. Other savvy students may use sniffers, spyware, or even computer forensics software to retrieve answers from computers other students are using or have used (Rowe, 2004).

To counteract some cheating while taking exams, some professors now require the use of a webcam while a student is online taking an exam (Steuver & Harter, 2004), or use software to "lock down" the browser while a student is taking an exam so that no other computer resources can be accessed (Brown, 2004). Others will interview students as soon as possible after they take exams in order to verify that they knew their answers to questions (Olt, 2006). These ideas would seem to discourage cheating, although they are not fool-proof.

Plagiarism Issues

There are several methods for detecting plagiarism in course assignments. There are many which don't require a technical expert or special software. These include:
- Unusual spelling, as is used in other English-speaking countries. "Colour" and "flavour" are typical examples (Anderson, 2001);
- References that refer to publication cities of publishers that are outside the United States. For example, Prentice-Hall publishes in Sydney within Australia, while it publishes in Englewood Cliffs, New Jersey here in the United States (Anderson, 2001);
- Unusual line breaks, margins, or spacing (Anderson, 2001);
- Inconsistent quote marks. Microsoft Word and WordPerfect use curly quotation marks ("and "), while material copied and pasted from the World Wide Web may use straight quotes (″ and ″) (Anderson, 2001); and
- The paper may cite a "mystery instructor" from another college ("Dead Giveaways," 2006).

- Papers may contain references that students might miss deleting electronically, such as a header or footer including "this essay is from www.essays.com – join today" ("Dead Giveaways," 2006).
- Paper may be somewhat off-topic with occasional paragraphs that the student has inserted that are on-topic ("Dead Giveaways," 2006).

Faculty may also use anti-plagiarism software on electronic submissions. The following table (Table 1) provides names, web sites, description and evaluation of some commonly used products, along with prices, if available.

Table 1. Software commonly used for plagiarism detection and prevention.

Company and Web Site	Description, Evaluation and Price
EVE2 Plagiarism Detection Program (Windows 95/98/ME/NT/2000/XP) http://www.canexus.com	Documents are submitted in Word or WordPerfect Format. Returns URL of web sites a student may have plagiarized. Limited to web references. ($29.99 one-time individual copy; $399 for college-wide site license)
Glatt Plagiarism Services http://www.plagiarism.com	Three products offered: **GPTeach** – Glatt Plagiarism Teaching Program. Tutorial that provides instruction on what plagiarism is. Good self-evaluation for students. ($300 or $250 if purchased with GPSP) **GPSP** – Glatt Plagiarism Screening Program. Screening program for faculty use. Has liability safeguard, but limited database. ($300 or $250 with GPTeach) **GPSD** – Glatt Plagiarism Self-Detection Program. Students input text to check for inadvertent plagiarism. (Free)
iThenticate http://www.ithenticate.com http://www.plagiarism.org	Includes editions for corporations, publishers, law firms, government, and education. Sold by same company as Turnitin. Uses web and large databases to check for plagiarism. (Price for educational institutions varies by FTE size; separate editions available for corporations, law firms, government)
Lexis-Nexis CopyGuard http://www.lexisnexis.com/copyguard/default.asp	Searches Lexis-Nexis (which most others don't) in addition to web pages. (Price available by quote)
MyDropBox Assignment Suite™ (for Blackboard) http://www.MyDropBox.com	Several products offered: **SafeAssignment** – plagiarism prevention program designed specifically for Blackboard. May find unexact matching to help students avoid inadvertent plagiarism. **Re:Mark** – online paper grading for instructors. Can mark, comment and help with point grading of papers from Blackboard. **Peer Re:Mark** – using the same engine as Re:Mark, but provides distribution to other students for peer reviews. **SmartCite** Teaches MLA and APA citation standards. (Individual, departmental, and campus-wide licensing is available, priced by quote)
Plagiarism-Finder http://www.m4-software.com/	Works with documents in .DOC, .TXT, .RTF, .PDF, and HTML and compares against web sites. German product. Interesting use is to check against websites to see if they have copied any of your own work. (One-time single license is $125. Unlimited number of documents. Free trial – checks only first 500 words of a document)

Turnitin.com http://www.turnitin.com http://www.plagiarism.org	Probably the most well-known software of its kind. Instructors or students submit documents electronically. Produces an "originality report" after comparing the document to content on the Web, the database it collects of student work, and some common online full-text journals. Keeps a database of all papers submitted. A suite of products is available which adds peer review, marking, and gradebook. (Individual licensing available. Campus-wide pricing varies by FTE size of institution)
WCopyfind 2.6 http://www.plagiarism.phys.virginia.edu	Compares text, html, or Word documents and finds matching words. Uses only local files or those pointed to by Internet shortcuts. Does not search the web. (Free and open source)

Some colleges no longer permit the use of anti-plagiarism software. Mount Saint Vincent University in British Columbia banned all use of plagiarism-detection software in March, 2006. This came about because students lobbied that using such software creates a "culture of mistrust" and a "feeling of guilt when you go into a classroom, the fact that your intellectual property is not being valued as it should" ("Anticheating Database Banned," 2006). In 2002, the University of California, Berkeley, stopped using Turnitin.com because of the fear that since the software company keeps copies of all papers students submit that this may be a violation of students' copyrights. Professors and administrators at other colleges may not be as concerned about potential lawsuits, but this is a consideration when deciding whether to purchase a package (Foster, 2002).

There may be no better recommendations than the following: instructors should require that term papers and other assignments be submitted in stages (outline, rough draft, etc.), that instructors have all sources (or at least the first page of each) turned in along with the paper, and that instructors ask each student questions about their papers ("Beating Cheating Online," 1999). Students will be more cautious if they know their instructors are "with it" and know about term paper mills and similar sites (Van Belle, n.d.). Faculty should also try to be careful that they are not contributing to the temptation to plagiarize by posting their own research papers on their home pages or providing "model papers" for their students that may be copied by others from course sites (Fain & Bates, 2003).

General Online Course Design Considerations

Several authors and researchers recommend an approach to online course design which focuses on attempting to "cultivate a sense of belonging and community" (Baron & Crooks, 2005, p. 43), use the "virtues" approach to promote academic honesty (Hinman, 2002), and encourage critical thinking rather than rote memorization (Gamerman, 2006).

Barbara Christe (2003) has outlined some signs of successful course design:
1. Grade variation should be similar to traditional course sections;
2. Students perform successfully in courses subsequent to yours;
3. Employer feedback is positive;
4. Students are successful if they enroll in other institutions; and
5. Students are successful on certification examinations (pp. 57-58).

Another recommendation by Christe is that faculty might consider setting up a "fake student" (p. 57) to monitor communication by members of the class. They might also set a trap for those examinations which do not permit outside assistance from the Internet by creating a web site with incorrect answers.

Focus On Prevention and Education

Many new electronic and software products are available to help prevent cheating during online exams. For example, the Ergotest Assessment Platform provides a more secure testing environment through the use of webcams and fingerprint identification of test takers ("Adding a Degree of Integrity," 2006). Inexpensive webcams can be purchased for approximately $30, so this cost would not prohibit their use for online students. As well, many new laptop models are now being produced and sold with fingerprint readers, or inexpensive ones may be purchased from Microsoft or through Ergotest ("Ergotest," n.d.).

Securexam Browser locks down a student's computer so that nothing else on the computer may be accessed during an exam. Securexam also makes Securexam Student that permits the use of Microsoft Word (and now also Excel) for exams, locks the computer from accessing anything else, and encrypts a students test as it is submitted to the instructor (Lusk & Davis, 2005). Respondus Company also makes a LockDown Browser that works with Blackboard to secure the testing environment ("Respondus LockDown Browser," n.d.). Ingersoll Rand has also partnered with Blackboard to develop and market the RSI Hand Geometry Reader. Its use, however, is mainly for food service and building access ("IR Security and Safety," 2004).

While there is much that can be done to detect and deter online cheating and plagiarism through vigilance, software, and hardware innovations, the likelihood of academic dishonesty might be reduced through education of students. Several colleges and individuals have developed programs, packages, and documents to take a more proactive approach.

Ball State University has developed CD-ROM software it calls the "Multimedia Integrity Teaching Tool", or MITT. MITT is available in several "flavors", Full MITT, Little MITT, Presentation MITT, and Complete MITT. Full MITT provides 36 lessons plus online quizzes, while Little MITT provides 18 lessons with quizzes. These have been used at Ball State much like classes required for driving offenders – students who are first-time offenders at cheating or plagiarism may be required to complete a MITT program. With knowledge gained and engagement into thinking more about academic integrity, it is hoped that the likelihood of future dishonesty is reduced. The packages may be purchased by other institutions at $329 and $299 respectively for the first copy, and $20 or $10 for additional copies. Presentation MITT may be purchased for $329 plus $10 for each extra CD-ROM. It is primarily used for group seminars. Complete MITT contains all packages for $499. Additional copies are available at the price of the extra CDs for the particular version ("The Multimedia Integrity Teaching Tool," n.d.).

Institutions may start Academic Integrity programs with the help of the <u>Center for</u> <u>Academic Integrity</u> (CAI) at Duke University (http://academicintegrity.org). My college joined this program, which is managed by Don McCabe, in 2006. Membership cost for the college is $400 per year, but individual faculty may join, if the institution does not, for $100. Non-members may access the web site for help in starting a program.

In 1993, Frank Connolly of the Ethics and Technology Initiative, sponsored by the American Academy of Higher Education, created a "Bill of Rights and Responsibilities for Electronic Learners". This outlines the rights and responsibilities of students and rights and responsibilities of educational institutions in online education.

William M. Taylor (n.d.) of Oakton Community College in Illinois has created a document titled "Academic Integrity: A Letter to My Students" in which he clearly defines what academic integrity means to both the instructor and the student. He lists the responsibilities that each have in the areas of: preparation for class, in class, exams, written assignments, final grades, and consequences of failures to live up to responsibilities. This letter was not directed at online students, but in his ending note, Taylor gives permission to use it "in any way that is consistent with its purpose of promoting academic integrity", so it would seem that faculty teaching online courses could use his letter for ideas to create their own.

Perhaps the best resource found for educating and promoting academic integrity is located at the University College of the University of Maryland. The organization there is called the Virtual Academic Integrity Laboratory ("VAIL," n.d.). VAIL has developed a web site with many resources for faculty, and an animated, multimedia, interactive VAIL Tutor for students. Faculty can access guides, tutorials, bibliographic resources, survey research results, chat rooms and bulletin boards on VAIL's faculty site. They have included several videoclips on plagiarism and copyright which can be accessed and used in online courses. The VAIL Tutor, which can also be linked from online courses provides four online modules with quizzes available on each module. These modules are: Understanding Academic Integrity, Plagiarism and Cheating; Understanding How to Avoid Plagiarism: Tips and Strategies; Documentation Styles: When and How to Use Them; and Plagiarism Policies.

Conclusion

While it may not be proven that cheating and plagiarism are more common in online courses than in traditional classroom courses, instructors should take a vigilant, proactive approach in preventing and detecting dishonesty. There are many helpful ideas and products which can provide assistance to faculty in this approach. However, no method can stop academic dishonesty. Perhaps instructors should include one or more of the clear, educational programs in each course. These programs can help students learn why it is a bad idea cheat and plagiarize and how they can stop any inadvertent practices. Colleges may support faculty by purchasing hardware and software needed to help deter dishonesty. Each institution should consider joining the Center for Academic Integrity

for support and encouragement of knowledge and practices that will improve the integrity of the entire institution.

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