In this issue:

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Technology and Academic Integrity
Cheating Goes Cyber

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Abstract

Academic Integrity infringements have been present since the use of manual typewriters. Technology has only enhanced the ever-present problem of cheating. Let us first tackle the problem of identifying just what IS academic Integrity, and how the educator can help discourage, or even prevent violations. This article delves into several areas of academic integrity: the current problem, types of violations, reasons students cheat, understanding the responsibility of students, faculty members and administrators, and finally, steps we can take to prevent violations of academic integrity. Has the use of the Internet escalated violations of Academic Integrity? This paper looks into that very possibility. Also addressed is the question of whether the Internet has expedited the use of online plagiarism. Included will be websites that promote plagiarism, and websites that will promote anti-plagiarism.

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1. THE PROBLEM

Listed are several cases that emphasize the problem of violations of academic integrity. In 1992, a study revealed that cheating was rampant among North American university students. A 1995 study of students at a small Canadian university college became more tolerant of cheating as they progressed through their first year of studies. (Skinner, 2002).

In 1996, The American Psychological Association survey showed that 50% of undergraduates admitted having cheated more than once. (Skinner, 2002)

1999, a study done by Donald L McCabe of Rutgers University: On most campuses, over 75% of students admit to some cheating. The survey was of 2,100 students on 21 campuses across the country, about one-third of the participating students, admitted to serious test cheating and half admitted to one or more instances of serious cheating on written assignments.

On most campuses across the country, more than 75% of students admit to some form of academic dishonesty. A nationwide survey of college students during the 2001-2002 academic years found 41% who said plagiarism happened "often or very often" on campus. (2003)

National surveys show cheating at colleges is on the rise. A recent survey of 4,500 high school students by the Center for Academic Integrity found that 74% admitted to cheating on a test or paper at least once. (McCabe 2002)

Violations of Academic Integrity are not particular to the undergraduate level. At Indiana University of Pennsylvania, from Fall, 2000 to Spring, 2002, in the graduate school, plagiarism and cheating lead the list of violations. On the undergraduate level, during the same time period, 62.5% were for plagiarism, 25% for cheating, and 12.5% for class disruption (2003).

2. HI-TECH CHEATING?

Has the Internet sparked a new dimension of cheating? Here are some recent cases of some hi-tech cheaters:

January, 2003, 12 students from the University of Maryland are being investigated for allegedly using their cell phones to dial up all the right answers during fall exams. The students are accused of using 'text messaging' functions on their phones or pagers to receive silent messages from friends who had access to answer keys for the tests. (Argetsinger 2003)

Two Columbia University undergraduate students were arrested for allegedly using high-tech transmitters and walkie-talkies to cheat on the Graduate Record Examination. One student was taking the test and used a device to transmit questions to another student. That student was looking up answers while sitting in a van parked nearby and then relaying the information to the student inside. Images of the questions were transmitted to the van with a laptop computer. (Carnevale 2002)

Another student was taking an examination and had a Blackberry wireless e-mail device that was being used to ask for help from a colleague located in the school library. (Thornburg 2002)

Perhaps some may feel these are creative uses of wireless technology. The perils of wireless technology, however, and the Internet have opened a portal for a completely new era of violations of academic integrity. Let us look at some of the traditional as well as technological means of violating one's academic integrity.

3. VIOLATIONS OF ACADEMIC INTEGRITY

All too often students do not recognize violations of academic integrity. Violations of Academic Integrity have many faces. These violations, Cheating, Fabrication, Facilitating academic dishonesty, Multiple Submissions, Plagiarism and Copyright Violation, were outlined on the UC Santa Cruz website at http://www.ucsc.edu/academics/academic_integrity/resources.html#violations

Cheating

Acting to gain unfair advantage over fellow students using such methods as copying another's work on a test or paper; using unauthorized materials in an exam; collaborating on work to be turned in for credit where such collaboration is disallowed by the instructor; altering graded coursework to increase a score or grade, including lab work.

Fabrication

In any academic exercise, submitting falsified data including bibliographic resources and experimental data, or altering graded coursework/exams and resubmitting to the instructor for a higher score.

Facilitating Academic Dishonesty

Assisting another in violating the policy of Academic Integrity, such as taking an exam for another student or providing coursework for another student to turn in as his or her own effort.

Multiple Submissions

Using the same paper or work more than once without authorization of the faculty member(s) to whom the work is being submitted.

Plagiarism

Plagiarism is defined as submitting ideas or sentences as your own without proper citation or acknowledgement. The Internet has released a playground of Plagiarism sites and has made it quite easy to purchase a paper on just about any topic.

Several Web sites that sell papers to students:

http://www.mightystudents.com
http://www.essaymill.com
http://www.essaysonfile.com
http://www.termpapers-on-file.com/
http://www.collegetermpapers.com
http://www.12000papers.com
http://www.academictermpapers.com
http://www.geniuspapers.com
http://www.researchpaper.com

Copyright Violation

Reproducing published (web-obtained or hand-copy) material without obtaining formal copyright release from owner.

Computer dishonesty

In addition to the violations listed by UC Santa Cruz, computer dishonesty is yet another violation. This would include tampering with or making unauthorized changes to another persons or the university's computer system. Another example would be illegally copying computer software, personal use of another individual's computer account, turning in another's computer disk information as your own.

4. UNDERSTANDING THE ACADEMIC PROCESS

The Center for Academic Integrity, which represents a consortium of over 225 colleges and universities in North America, defines academic integrity as "a commitment, even in the face of adversity, to five fundamental values: honesty, trust, fairness, respect, and responsibility". (www.academicintegrity.org/fundamental.asp) (McCabe 2003)

We faculty expect _honesty_ from our students. We _trust_ them to do their own work.

Fairness is another value that must be considered when dealing with an academic violation. Our academic policy here at Indiana University of Pennsylvania outlines procedures in the undergraduate catalog.

At all times, the professor must _respect_ the student and their diverse academic abilities in their discipline. The student in turn must respect the professor and seek assistance when needed.

Responsibility is threefold... The faculty member, the student, and the administrators all have vital roles to play. The faculty member has the responsibility to discuss with the students at the beginning of the semester their policy on academic dishonesty.

It is the responsibility of the student to see that their academic integrity stays intact. They need to know that if they are having a problem with a subject, they can go to their professor or to a tutor.

The administration has the responsibility of developing an Honor Code, an Academic Integrity Policy, and displaying that policy in their student handbooks, course catalogs, on their website. In addition, strict enforcement of these policies is essential. They should also conduct campus-wide programs to encourage academic integrity

5. HONOR CODES

Students cheat less often at schools with an honor code and a peer culture that condemns dishonesty. (McCabe, Trevino, and Klebe, 2002)

Academic honor codes effectively reduce cheating. Surveys conducted in 1990, 1995, and 1999, involving over 12,000 students on 48 different campuses, demonstrate the impact of honor codes and student involvement in the control of academic dishonesty. Serious test cheating on campuses with honor codes is typically 1/3 to ½ lower than the level on campuses that do not have honor codes. The level of serious cheating on written assignments is ¼ to 1/3 lower. .(McCabe 2003) For sample honor codes: http://www.academicintegrity.org/samp_honor_codes.asp.

6. WHY DO STUDENTS CHEAT?

According to a survey done by Donald L. McCabe in May of 2001, surveying high school students, 32% cheat because of laziness/they didn't study/or were not prepared. 29% cheated to pass and get good grades. 12% because of pressures to succeed, 9% because they just didn't know the answers or understand, 5% said there was time pressure, too much work, etc, and 13% in the 'other' category.

In another study, students answered the question of why they cheated by simply saying the convenience of the Internet, a belief that they would not be found out, and dislike for the class or professor. Many teenagers develop bad habits in high school. Competition among applicants to elite colleges and

graduate schools has grown fiercer, leading some students to cut corners to maintain top grades. (Lester and Diekhoff 2002)

"Students would tell you there's no incentive anymore not to cheat," says University of Utah professor English Katharine Coles, who once had a student turn in Pink Floyd song lyrics as his own poem. "Because so many people are cheating, you almost put yourself at a disadvantage if you don't' cheat." The most widely blamed culprit is the Internet. Many high school students are growing up with the Internet and are having trouble distinguishing what is and is not plagiarism. Many of them feel that anything on the Internet is public domain.(McCabe 2002)

McCabe also found, in colleges and universities, that cheating was more likely to occur at the top and bottom of the class, which he described as a 'U-shaped graph." Moreover, cheating becomes less common later in college.

7. HAS COMPUTER TECHNOLOGY FASH-IONED A NEW WAVE OF CHEATERS; INTERNET CHEATERS?

Cyber Plagiarism

Cyber Plagiarism is copying or downloading in part, or in their entirety, articles or research papers found on the Internet or copying ideas found on the Web and not giving proper acknowledgment.

Has the increased use of the Internet caused students to increase their methods of cheating? According to a new study done by two professors at the Rochester Institute of Technology, online plagiarism is not nearly as widespread as has frequently been suggested. The study surveyed 698 undergraduate students at nine colleges and universities, eight in the United States and one in the Middle East. Donald L. McCabe says the amount that the new study found seems accurate to him. Nevertheless, he says the picture is changing rapidly.

Students are so use to searching on the Internet, they often justify cut and paste plagiarism, just a few sentences. In 1999, 10% of students admitted to plagiarizing in such a manner, but this rose to 41% in a 2001 survey with the majority of students

(68%) suggesting this was not a serious issue.(McCabe 2001)

8. KEEPING AHEAD OF THE GAME

What can the professor do to deter cheating? If students can use the Internet to cheat, professors can also use hi-tech methods to detect plagiarism by utilizing the many anti-plagiarism web sites available. In addition, one can use various strategies to deter plagiarism. Finally, mentioned in this paper are ten principles of academic integrity identified by McCabe and Pavela.

Anti-Plagiarism Web sites

Listed below are just some of the websites that will help fight plagiarism. Turnitin.com, for example, checks papers against public available web sties and other electronic sources available to students. The service keeps student papers in order to enlarge its database of manuscripts, books, and journals. Other services, such as Copycatch and Eve2 run student papers through a computer program without holding on to the papers. (Foster 2002)

http://www.plagiServe.com/
http://www.EduTie.com
http://www.turnitin.com
http://www.copycatch.freeserve.co.uk/
http://www.canexus.com/eve/
http://www.plagiarism.com
http://www.plagiarism.org
http://www.wordchecksystems.com
http://www.integriguard.com

9. PROFESSOR BEWARE

Two online services that help professors check student papers for plagiarism, PlagiServe.com and EduTie.com, appear to have ties to Web sites that sell term papers to students. That has some professors worried that the two services might be secretly selling the very papers that they claim to check. (Young, 2002)

10. STRATEGIES TO DETER PLAGIARISM

According to Sally Cole and Elizabeth Kiss, the following are tips for discouraging plagiarism:

- ✓ Assign narrow and specific research topics

- ✓ Don't allow last-minute changes of topic

- ✓ Require that outlines be submitted three to four weeks prior to the deadline and that drafts be submitted with the final paper.

- ✓ Give written or oral pop quizzes in class

- ✓ Require detailed citations, including page numbers

- ✓ Put your school's academic integrity policy in your syllabus

- ✓ Clearly explain your expectations

- ✓ Encourage students to come to you if they are confused about citation practices

- ✓ Be a good role model. Cite sources in your lectures. Talk to student about how citation shows respect for other scholars.

- ✓ Talk about academic honesty with your students, and make sure they understand both the reasons and the tools for avoiding plagiarism.

In addition, try the following (Baldwin 2001):

- ✓ Teach students what plagiarism is and how to avoid it.

- ✓ Discuss the academic dishonesty policy at length

- ✓ Create meaningful assignments

- ✓ Create clear parameters for assignments

- ✓ Limit sources

- ✓ Review documentation style

- ✓ Hand out a model paper to emulate

- ✓ Require students to turn in copies of their sources

- ✓ Take advantage of plagiarism services and Internet search engines

- ✓ Penalize those who plagiarize

- ✓ Create consistent policies and follow them

11. LOOK FOR THE CLUES

There are various clues in papers that will identify the paper as plagiarized. As you read the papers, look for internal evidence that may indicate plagiarism. A few of these clues may include: (Harris 2002)

- ➢ Mixed citation styles. MLA style and APA styles are mixed.

- ➢ Lack of reference or quotations.

- ➢ Unusual formatting. Strange margins, skewed tables, lines broken in half. Mixed subhead styles.

- ➢ Off topic. If some parts of the paper develop the subject, but other parts seem oddly off, the product may be a cut and paste.

- ➢ Signs of datedness. If there are no references after some well past date (e.g. 1985), or if a data table offers a company's sales from 1989 to 1994, either the student is using very old material or the paper itself is rather old.

- ➢ Anachronisms. If the paper refers to long-past events as current ("Only after the Gulf War is over will we see lower oil prices" or "Why isn't the Carter administration action on this?").

- ➢ Anomalies of diction. Often students will cut and paste paragraphs. Often they will mix paragraphs of varying levels together.

- ➢ Anomalies of style. Is there a mixture of British and American punctuation or spelling, with consistent usage within large sections?

- ➢ Smoking guns. This category might be called "blunders of the clueless," since it includes obvious indicators of copying. Reported in the past have been labels left at the end of papers ("Thank you for

using TermPaperMania"), title pages stapled to Web printouts (complete with dates and URL in the corners), title pages claiming the paper is by Tom Jones when subsequent pages say "Smith, page 2," and papers with white-out over the previous author's name.

These clues may cause you to investigate the paper further. As another prevention measure, it would be a good idea to incorporate the ten principles of academic integrity, developed by McCabe and Pavela, into your curriculum.

12. TEN PRINCIPLES OF ACADEMIC INTEGRITY (MCCABE AND PAVELA 1997)

1. Affirm the importance of academic integrity
2. Foster a love of learning
3. Treat students as ends in themselves
4. Promote an environment of trust in the classroom
5. Encourage student responsibility for academic integrity
6. Clarify expectations for students
7. Develop fair and relevant forms of assessment
8. Reduce opportunities to engage in academic dishonesty
9. Challenge academic dishonesty when it occurs
10. Help define and support campus-wide academic integrity standards

13. CONCLUSION

We as educators have more than just the responsibility of teaching students our respective disciplines. We have an obligation to the student to see that they uphold 'academic integrity'. Cited in this paper were various methods to do just that.

There is no doubt that today's technology has increased the capability of students to cheat. There is no solution to violations of Academic Integrity, whether or not it is online. There are strategies, however, that we must follow to instill in our students that, as Samuel Johnson said, "knowledge without integrity is dangerous and dreadful".

14. REFERENCES

Argetsinger, A., U-Md. Says Students Use Phones to Cheat; Text Messaging Delivers Test Answers. 2003, January 25). *The Washington Post*, P B01.

Baldwin, A, (May 2001) Practice Plagiarism Prevention, *The Teaching Professor, Vol 15, Number 5.*

Brown, C. M., (March 15, 2002), Academic Integrity at Trinity and Across the Nation, A Report, a PowerPoint Presentation. Retrieved February 13, 2003, at http://www.trinity.edu/departments/academic_affairs/integrity/AI_report.htm

Bugeja, M., (2001), *Plagiarism Guidelines for Professors*, retrieved February 13, 2002 at

Carnevale, D., (November 21, 2002). 2 Students Arrested for Alleged High-Tech Cheating on GRE. *The Chronicle of Higher Education.*

Cole, S, and Kiss, E, (2000), What Can We Do About Student Cheating? *About Campus*.

Ehrlich, H, (last revised March 20, 2000), *Plagiarism and Anti-Plagiarism*, retrieved February 12, 2003 from http://newark.rutgers.edu/~ehrlich/plagiarism598.html

Foster, A. L., (November 20, 2002) Up to 14% of Australian University Students May Be Plagiarizing From Web, Study Suggests., *The Chronicle of Higher Education.*

Fundamental Values of Academic Integrity, retrieved July 6, 2003, http://www.ualberta.ca/STUDENTSERVICES/tie/Values.htm

Guide to Plagiarism and Cyber-Plagiarism, retrieved February 12, 2003, at http://www.library.ualberta.ca/guides/plagiarism/

Harris, R., (March 7, 2002), *Anti-Plagiarism Strategies for Research Papers*. Re-

trieved February 12, 2003, from http://www.virtualsalt.com/antiplag.htm

Internet Cheaters: Who Are They? Why Do They Do It? (January, 2003)*The Teaching   Professor.*

Kellogg, A, P., (February 15, 2002) Students Plagiarize Online Less Than Many Think, New Study Finds. *The Chronicle of Higher Education.*

McCabe, D, Trevino, Klebe, L, Honest and Honor Codes, *Academi, JanFeb 2002, Vol 88, Issue 1, p37.*

McCabe, D*.,* Academic Integrity*:* Fundamental Values in the Modern University*, Paper presented at the Instruction Development workshop at Saint Mary's University, May 6, 2003.*

Skinner, N. F., (March 2002), Passive Cheating: Student Ethics Come Up Wanting, *The Teaching Professor*.

The Center for Academic Integrity website, at   http://www.academicintegrity.org

The Internet Gives College Cheaters a High-Tech Edge. (2003, November 18). *The Salt Lake Tribune,* P A.

Thornburg, D, (January 2002) Cheating in the Internet Age, *TeacherLine.* *http://teacherline.pbs.org/teacher-line/resources/thornburg/thornburg0102.cfm*

Timiraos, N, (November 15, 2002). Professor Discusses Research, Trends in Cheating on College Campuses, *The Hoya, Georgetown University's Newspaper*

Whitley Jr., Bernard E, Keith-Spiegel, P*,* (July 2001) Academic Integrity as an Institutional Issue, *Ethics & Behavior,* Vol. 11, Issue 3, P325, p 18.

Young, J. R., (March 12, 2002). Anti-Plagiarism Experts Raise Questions About Services With Links to Sites Selling Papers. *The Chronicle of Higher Education*.

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