Revisiting Plagiarism In An Internet Era: How Modern Technology Contributes To The Problem And Solutions

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ABSTRACT

Plagiarism is widespread in academia. A vast and profitable new Internet-based industry has developed around students' continued aversion towards doing their own work. Undergraduate and graduate students can acquire a paper on any topic for a cost of anywhere from free to over a hundred dollars a page. This article will acquaint the academic professional with the market place for college papers, name and evaluate several free and pay services for identifying plagiarism, and suggest assignment designs which aid in preventing the use of both the amateur and the professional paper.

INTRODUCTION

Andrea was an 18 year old coed at a top twenty university. She was in the University's honors program in humanities. These are all things to be proud of, but she needed to make top grades and get into law school. She got caught cheating and the academic probation consequences were severe. However, Andreas case is unusual; sadly, more so because she was caught and disciplined than because she was cheating. Consider the number of acts of academic impropriety that occur each day for each one that gets noticed when it is estimated that upwards of 40% of higher education students cheat (Moeck, 2002). Some students steal part or whole papers. Others gaze onto another's exam answers. There are test banks in athletic department or pan Hellenic societies and businesses that offer a variety of academic services. Movies like *National Lampoon's Animal House, Legally Blond, Slackers, Bad Bad Boys, The Perfect Score, Better Luck Tomorrow, Bardaasht* and others depict and often glamorize various forms of cheating at high school, undergraduate or graduate levels. Because faculty and students see cheating and plagiarism through different lenses, teaching students about academic integrity must be an ongoing process and consequences must be applied in a fair and consistent manner. Still, as long as students assume that they will not get caught or pay worrisome consequences, the expectation of academic integrity is unreasonable.

While cheating and plagiarism are nothing new to higher education, the Internet has taken the problem to a new level. Internet search engines now serve as a controversial form of research. Beyond enabling students to do superficial and unsubstantiated investigations, search engines make it extremely easy to find services that will do their research for them. What is astounding is the sheer number of services ready and able to aid students in cheating. This paper reflects on student cheating and plagiarism, and ways to combat their pervasiveness through the use of detection tools and prevention techniques.

AWARENESS

Plagiarism eludes a universal definition but the practice is captured by Sue Saltmarsh (2004) in the Journal of Higher Education. She quotes Leight (1999, p. 221):

The definition of plagiarism can be represented by four dominant metaphors: Plagiarism constitutes stealing and is therefore morally wrong; plagiarism is an ethical problem in which the plagiarist violates an unwritten code of

conduct for students; plagiarism is a "borrowing" in which "credit" is left undelivered; and plagiarism is a failure to intellectualize like a member of the academy.

Cheating and plagiarism make the goal of academic integrity impossible. Both practices operate in an unwelcome academic space. No rationale makes it acceptable. Time constraints, poor writing skills, or pressure for a grade do not count as extenuating circumstances. Extenuating circumstances simply help faculty learn why students cheat. It is easy with the Internet. It meets a variety of student's academic needs – all but learning and responsibility. It is not only easy but also widespread. Students make a place for cheating and plagiarism in the academy, welcome or not. Since the consequences are not felt and fairness and consistency vary, student handbook verbage on cheating or plagiarism carries little meaning. Without appropriate punishment, consistency, and obvious and transparent consequences, students are less likely to be deterred (Park, 2004). Faculty need to open their eyes, engage in training and become aware. Search engines such as www.google.com, northernlight.com, altavista.com offer a beginning point to search a cluster of words. There are term paper sites that can be found at www.coastal.edu/library/mills2htm, screwschool.com or www.plagiarism.com. This is the tip of the iceberg, but a beginning point for raising awareness. Professors cannot talk frankly with their studentsabout plagiarism if they are not aware themselves.

Students need to learn how to write papers. This is the way faculty see it. In an era where writing is seemingly a lost art, it is no wonder that students opt out of the writing process, not bother with the writing center, avoid the risk of a bad paper or a missed deadline and choose some type of cheating scheme. It is almost as if the risk of a poor grade, no grade or the risk of taking the time to write is greater than that of getting caught. Students who cheat do not see their dishonesty as risky enough to avoid it at all costs (Park, 2004). Now students can type in the words 'buy paper' and come up with hundreds of web sites to aid students in their efforts to write a paper. Table 1 offers a small sampling of web sites that allow students to buy a paper:

Table 1: Paper Writing Web Sites

Web Site Offerings	
www.absolute-essays.com	Offers services for anyone in need of a dissertation, book report, term paper, research paper, propels or thesis papers
www.schoolsucks.com	An array of sites and access to a large selection of papers
www.buy-papers.com	Original, customized papers that are formatted and proofread at ten dollars a page.
www.research-paper-store.com	Offers pre written and custom papers and all varieties of essays.
www.cooltermpapers.net	This site offers custom ized papers and a discounted rate for members. It has a membership service.
www.acceptedpapers.com	Offers next day service and a guarantee for customized work that is not plagiarized
www.cheathouse.com	Offers an array of essays and essay types and also tips on how to go about cheating
www.junglepage.com	Offers papers of all types including college entrance essays
www.essay-lab.com	Sells some of the costliest papers; suggests the plagiarism detection and paper mills are owned by the same people.
www.slate.com/id/2059540	Reviews various sites to educate students seeking papers to become smart buyers

Even more interesting is what happens inside these Web sites. Instead of being learners, they are consumers, just as they are treated in some universities. Students who seek out papers are not able to use the learning products offered by their academic institution. Just like they purchase their degree through tuition payments, they purchase a paper that is likely to get them through a class and offer them a superior grade. Students need to understand their topic, know the style guidelines for their paper and type all these things into some web sites. Students need to learn enough about style to request a certain format and enough about their paper topic to make sure that the paper they purchase fits the instructions on the course syllabi. One site asks for topic, year, and style required (http://www.buy-papers.com/BP/order.aspx). Another site asks for key words to allow the student consumer to determine what paper is the most relevant to the class or the assignment (http://www.research-paper-store.com/). Some sites even educate students on how to become a smart buyer. One reviewed site identifies over 200 hundred other sites that they list as dishonest in an effort to teach student cheaters how not to get cheated when buying an essay online (http://www.essaytown.com/warning.html). The irony of one company identifying other paper writing companies that

are deemed 'dishonest' is out-and-out nervy Another site offers guidelines and guarantees that the paper purchased will be written properly in English and not be identified as plagiarism by detection tools. It offers papers at freshman, sophomore, junior and senior level. It asks students to identify their year in school and the length of paper. Yet another service is the offering of paper revision services.

Plainly, the array of paper writing services is dizzying. Students going this route can easily spend more time researching paper sites than they might have spent researching to write the paper themselves. These Web sites have information and details about who they are and what they do. There are so many to choose from that there is little time to wonder whether it is legal, ethical or right. After all, if Bill Clinton can lie during his presidency, Enron executives can remain rich and infamous, and Martha Stewart has not one but two television shows after serving jail time , where does skipping out on writing a paper rank? The point here is that getting caught neither seems likely nor comes with anticipated consequences, despite whatever is said in a university's student handbook. The sheer abundance of paper writing companies is suspect but not illegal; otherwise, it would be an easy preventative solution to go after these companies and take them to court. Some web sites tell students that they have rights and that paper buying is within their rights. One site goes so far to say that they are helping to educate students since they learn from the papers (http://www.snrinfo.com/myessays/faq.html).. Many sites assure students that the process is a safe one, especially those that scan the papers through software that detects the presence of plagiarism. Ironically, these are many of the same systems that teachers use to catch 'cheaters', identify plagiarism, and discover work that is not their own.

DETECTION

Indeed, in today's digital marketplace, genuine scholarly work and true academic creativity can easily be commoditized. Though just over a decade ago recycling written work may have meant to most people sharing a paper with a classmate or submitting the same document to multiple professors, the Internet now allows complete strangers around the world to buy and sell written works with minimal effort. As the incidence of plagiarism increases, so should the efforts of individual educators to stop the erosive and corruptive effects of this unethical practice, but thus far the battle is being lost (Mertz, 2005). Combating the rampant pla giarism found today in education can easily overwhelm even the most devout and best- intending educator.

With so many possible sources from which a student might have plagiarized, how is one supposed to efficiently and effectively verify the authentic novelty of written works? Although no failsafe solution presently exists to detect all forms and sources of plagiarism, several tools have been born out of the once extraordinary needs that are increasingly becoming ordinary requirements for the typical educator. The pervasive use of the Internet and continued rise in the rate of plagiarism has drawn increased attention to the anti-plagiarism industry; unfortunately, there are surprisingly few competitors offering defensive solutions through electronic detection against the onslaught of digital duplicity. This is likely due to the fact that while there have been significant advances made in electronic detection in recent years, the technology available today still cannot provide an adequate solution by itself. After investing the time and money to use such systems, today's tools still rely mostly on detecting duplication of text and require manual checking to determine if the text is properly cited (Barrett, Malcolm, & Lyon, 2003). Though the effort expended can be considerable, overtly employing some consistent form of electronic detection can be a powerful deterrent against the copy and paste phenomenon (Devlin, 2002; Park, 2004).

One of the simplest and surprisingly effective detection techniques doesn't use a specialized tool at all. Educators have found varying levels of success using familiar and free search engines commonly utilized to find most anything on the Internet. Searching for plagiarized text involves typing suspicious phrases into one or more Internet search engines, such as Google (Talab, 2004). Because most search engines automatically rank the results according to the number of times each word sought was found, some additional measures should be taken to produce a more manageable list of resulting potential matches. The focus of these searches can be greatly sharpened by entering longer phrases or complete sentences, and surrounding the specific excerpts with quotes. Rather than listing sources that contain any number of the words from the string provided, these techniques will greatly limit the results by only returning exact matches.

While the most blatant forms of unadulterated duplication from a publicly accessible Web source can often be identified by search engines, it is important to note that search engines largely limit their searches to what is known as the *visible* or *surface* Web (Tenner, 2005). This is because the programs responsible for indexing Internet content by the likes of Google cannot or will not enter specialized databases to extract data. These spiders or crawlers, as they are known, are designed to pull freely accessible text from public sites, not retrieve information by completing specialized database retrieval forms or entering subscription-only content areas (Bergman, 2001; Kay, 2005). Because a great deal of content is inaccessible to these automated processes, the areas that have been traditionally been off-limits have become known as the *deep* or *invisible* Web. In recent years, most search engines have added some deep web content to their search systems and are adept at cataloging various document formats beyond simple html, such as pdf and doc files. However, the results still represent only a small percentage of the content available through online databases; while Google, for instance claims to have indexed 8.2 billion Web pages and 2.1 billion images as of August 2005, the deep Web is believed to have 500 billion documents just counting those with English and European character sets (Kay, 2005). Consequently , various sources from which slightly more sophisticated students may plagiarize may be completely overlooked by routine search engine searches.

While search engines are competent and convenient for quick checks of suspicious phrases, many users demand a more systematic and comprehensive method of processing large volumes of text at once (Barrett, et. al., 2003). Fortunately, a few vendors have developed plagiarism detection systems that evaluate entire documents, rather than just phrases. Some of these services also promise more thorough comparisons by indexing a greater number of deep Web sources. The range includes stand-alone programs that are installed and run separately on each microcomputer to Web-based services that are accessible through any Web browser. Not all plagiarism detection tools are created equally; the costs, depth and breath of search mechanisms, and detection strategies vary considerably from vendor to vendor.

Interestingly, although the need for such products has never been greater, the number of products available appears to have declined. A review of the marketplace compared to just a few years ago reveals a rather disturbing trend; new software and web sites surface and then disappear, making it very difficult to collect comparative data and choose the most suitable product (Devlin, 2002; Talab, 2004). The most recently departed include Edutie.com, Plagiserve.com, HowOriginal.com, Integriguard.com, and the freeversion of CopyCatch. Among the remaining plagiarism detection systems are two relative veterans that represent the two distinct approaches of these specialized tools: Turnitin.com by iParadigms, LLC offers a subscription-based Web service, whereas EVE (Essay Verification Engine) by CaNexus.com is a PCbased application.

Arguably the world's most widely recognized plagiarism detection system, Turnitin.com is actually a Web-based service to which faculty or the students themselves upload documents for plagiarism evaluation. The service ranges in is accessible through any Web browser and can be integrated with existing course management systems (CMS), such as Blackboard and WebCT, to facilitate and centralize document submission and evaluation practices. The proprietary *document source analysis* technology was developed by a team of researchers and computer scientists from UC Berkeley in the mid-1990s. In addition to scanning an extensive database of the surface Web and some deep Web content, iParadigms' unique detection process compares documents to a database of other students' previously submitted works estimated to contain more than one million document fingerprints (Talab, 2004). This results in a far more comprehensive analysis since submitted papers cannot be recycled, but has landed the company in legal controversy in recent years due to copyright infringement concerns even though the suspected matches are kept confidential (Barrett, et. al., 2003; Foster, 2002). While it is still unclear if students must consent in writing since their papers will be added to a commercial database, the company strongly advises instructors to include explanations in course syllabi and recommends that students submit their own documents for evaluation. Licensing is available for individuals, departments, and institutions, and can run well into the thousands of dollars for sites.

EVE uses a very different approach in that it is a stand-alone application that must be installed and run on each Windows-based microcomputer from which documents are to be evaluated. Whereas with Turnitin the analysis processing takes place on iParadigms' servers, EVE expects the user's computer and Internet connection to remain on during the entire time documents are being evaluated in order to receive the results. It simple interface pails in comparison to that of Turnitin, but is adequate for occasional use. Rather than processing entire documents, the

program selects and submits small chunks through an Internet search. Because the student's papers never leave the instructor's PC, there are no copyright issues to contend with, but it will not detect collusion among students. Although EVE does not search the deep Web or maintain a proprietary database of other students' papers, it is fairly competent at finding sources of plagiarism from the visible Web. Its $29.99 pricing for individuals and $299-$399 for institutions may make it the right choice for budget minded that seek some degree of automation to the plagiarism detection process and wish to avoid accusations of violating student rights under the Family Educational Rights and Privacy Act. Table 2 below summarizes the similarities and differences among the three types of commonly used tools to detect plagiarism.

Table 2: Plagiarism Detection Tools

	Google	EVE	Turnitin.com
Searches surface web	Extensive	Extensive	Extensive
Searches deep web	Limited	No	Limited
Cross-checks against other students' papers	No	No	Yes
User interface	Web browser	PC application	Web browser
Full document processing	No	client PC	remote server
CMS Interface (i.e. Blackboard)	No	No	Yes
Pricing model	Free	Purchase	Subscription
Potential copyright concerns	No	No	Yes

While Google, EVE, and Turnitin provide a good representation of the variety of detection tools widely used today, other programs and services are available, each with its own unique characteristics. Other PC-based software packages include Plagiarism-Finder, CopyCatch Gold, and another subscriptionbased Web service is MyDropBox.com. It is important to note that detection alone cannot solve the problem of plagiarism. None of the electronic detection systems cover all sources, and systems can only detect near identical duplication from sources available to the detection service being utilized, making unreferenced paraphrasing, collusion, and unpublished text recycling particularly challenging. Since detection systems are not a panacea to the plagiarism problem, one must view detection as one part of a broader prevention program and look to other ways of discouraging students from plagiarizing or making the act more difficult.

PREVENTION

Robert Harris (2004) identifies three strategy areas for the prevention of plagiarism: awareness, detection, and prevention. Although a strong institutional framework for dealing with plagiarism may be most efficient approach, today confronting plagiarism frequently remains the purview of the individual instructor. This is the person who Park (2004) calls the "plagiarism buster". This instructor needs to develop intentional prevention strategies. First, the instructor must ascertain that the students understand exactly what plagiarism is. Often students may have come from cultures that do not have the same definition for academic dishonesty, and these students may need to be informed that handing in their own previous work is also plagiarism (Moeck, 2002). Many students may simply necessitate remedial instruction in the tenets of documentation, the first preventive strategy. Remediation may well end the plagiarism of the undereducated and first-year students; however, it is obvious that the student who is "buying" an academic assignment from a paper mill does not fit into the remedial category. After the instructor has ascertained student knowledge of plagiarism, the most important deterrent is to design the assignment so that the students must complete the writings themselves .This second preventive strategy incorporates assignment limiters into the design of the writing task. Each additional assignment limiter utilized increases the difficulty of the student writers to find readily available plagiarized text, therefore reducing the possibility of plagiarism. These assignment limiters include:

1.   Requiring that the paper focus on or integrate recent events
2.   Assigning a specific topic or thesis: a specific comparison, a theme, a point-of-view, an assertion, an argument, a specific question, etc.

3.   Requiring specific categories of references: i.e., two peer reviewed journals, one editorial, two internet articles, a book
4.   Providing specific, assigned reference(s) on which the paper must be based
5.   Requiring an interview
6.   Dividing the writing task among group members or some other group approach
7.   Requiring annotated references
8.   Requiring photocopies of references
9.   Administering oral examinations at the papers' presentations

Although these limiters may greatly affect the students' ability to plagiarize, they might not impede the determined students with ample financial resources. Students who are willing to pay the fifty to a hundred dollars a page for paper production have many available writers who will tailor the paper to meet the students' needs. To seriously decrease the possibility of plagiarism the instructor may well consider using both assignment limiters combined with process methodology.

The third preventive strategy is to integrate all or part of the "process method" into the written assignment. Here the instructor designs the assignment in a series of steps which guide the student through the "process" of the paper. As each part of the process requires a student submission, the student is prevented from plagiarizing by the incremental steps which must be submitted. In addition, the steps reinforce a theoretically sound process approach to writing papers which in itself is beneficial to the students. Some recommended steps in this process may include the requirement of the following submissions in chronological order:

1.   A topic or subject
2.   A working thesis or hypothesis
3.   An organizational plan
4.   Article(s) or other source(s) on which the writing is/will be based
5.   An assigned analysis for each reference.
6.   One or two drafts
7.   An annotated reference page/bibliography

Obviously, the prevention strategies listed and discussed above are best practice for specific populations. Indeed, it is the instructor who best knows what would be applicable to the specific population. Whatever preventive methods are adopted, these methodologies are necessary at all levels of academia. Recently, there was news of a doctoral student removing an entire thesis from a library of an academic institution with the reported intention of using excerpts of the thesis as his own. In addition, a second report was of a professor presenting a paper at a national conference that was replete with plagiarized material. These examples show how deeply the culture of plagiarism has infiltrated into the academic community. Two authorities, De Certeau (2000) and Saltmarsh (2004) consider plagiarism to be a consumptive practice perhaps inherent to our culture.

Whatever the causes or roots of plagiarism, the current student populations do not consider the consequences to plagiarism an effective deterrent (Hollinger & Lanze-Kaduce, 1996; Park, 2002). Perhaps the growth of plagiarism is due to the overwhelming abundance of digital and traditional academic sources as well as consumptive practice. Moeck (2002) and Gardner (2001) report that academicians should discuss with students the methods available to detect "cyber-cheating" as a further preventive strategy. The new increased ability of the academic community to detect the use of undocumented sources within the students' work may well be the final deterrent.

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