TEACHING ACKNOWLEDGEMENT PRACTICE USING THE INTERNET-BASED PLAGIARISM DETECTION SERVICE

Jerry Kirkpatrick

Instead of focusing on detecting and punishing plagiarism, this teaching innovation uses the Internet-based plagiarism detection service, turnitin.com, to teach better techniques of conducting research and source documentation. Syllabus content, referrals to the University Writing Center, peer review, lecture, and examples of good and bad acknowledgement practice, as well as the professor's own use of the service, are techniques employed to turn the submission of papers to turnitin.com into a learning event, rather than into a presumption of guilt and possible punishment. Data show that most students seem to appreciate the approach taken.

Introduction

Cut-and-paste plagiarism from the Internet, along with other forms of academic dishonesty among students today, has been well reported by various researchers (e.g., Scanlon and Newmann 2002; McCabe, Butterfield, and Treviño 2004). The assumed motivation of such behavior is to cheat and the assumed just remedy is to punish. The reasons for cheating range from procrastination to pressure brought on by too much work, the need to pass, to get good grades, or to succeed; the prevalence of peer cheating also affects the decision to cheat, but honor codes reduce the temptation (McCabe, Treviño, and Butterfield 2001). Martin (2004, p. 5), however, suggests that "Much if not most plagiarism in student essays is due to ignorance, sloppiness or panic rather than an attempt to cheat." And Wood (2004, p. 238) argues that students are confused about the meaning of paraphrasing, about what constitutes good source documentation, and about how to interpret and respond to the mixed signals of faculty who require group projects and other forms of collaboration yet demand the absence of any hint of plagiarism in the final product.

Indeed, the data in one study showed that only 48% of a sample of college students could cite primary sources correctly (Froese et al. 1995) and in another that more than half the sample of college students did not know how to paraphrase properly (Roig 1997). Landau, Druen,

and Arcuri (2002), in contrast, found that feedback on performance and examples of plagiarism taught to students significantly reduced their likelihood of not giving accurate credit. A challenge facing professors today, then, would seem to be not the detection and punishment of plagiarism, but the teaching of better mechanics of research and acknowledgement practice. This is precisely how I have approached the problem of plagiarism in my International Marketing course for the last three years.

The Innovation

Most marketing courses include a writing component that requires some research of secondary data, but none focuses so specifically on secondary data as the Country Notebook report (Cateora and Graham 2005, pp. 591-600) in the International Marketing course. The aim of the Country Notebook project is to choose a country, research key cultural and economic data about the country, then write a marketing plan introducing a product into that market. In my ten-week quarter-system classes, the marketing plan has been moved to extra credit and the cultural and economic analyses have been separated into two short assignments. The projects are individual, not group. Part of the requirement is to produce a draft that is peer reviewed in class, then, after final copy has been prepared, to submit the paper to the Internet-based plagiarism detection service, turnitin.com, for a an evaluation of originality. It is in the days leading up to the submission to turnitin.com that greatest importance is placed on how to do good research, how to cite sources properly, and how to give credit. It is during this time that I emphasize the skills of acknowledgement practice and minimize the anxiety-provoking punishment aspect of having one's work judged for possible plagiarism.

JERRY KIRKPATRICK (M.B.A. and Ph.D. in marketing, Baruch College, City University of New York; B.A. in philosophy, University of Denver) is Professor of International Business and Marketing at California State Polytechnic University, Pomona. Dr. Kirkpatrick is author of the 1994 book *In Defense of Advertising*, published by Quorum Books, Greenwood Publishing Group, and of the forthcoming *Montessori, Dewey and Capitalism: Educational Theory for a Free Market in Education*. His research interests focus on theoretical and ethical issues in marketing and in education in general. (email: jkirkpatrick@csupomona.edu)

My initial motivation for using turnitin.com was to detect plagiarism and, more importantly, to prevent the recycling of papers from previous sections. The service is effective at preventing the latter, because papers from previous sections are retained in its database. Detecting the former is more problematic, because the service works by highlighting (in a color) matching text and producing a score of similarity (a percentage). The matching text, however, might be a phrase, a subordinate clause, a properly quoted and cited passage, or a URL code. The service does pick up more extensive passages that are not properly documented, indicating possible plagiarism, but judgment by the professor is required to declare a paper unoriginal. Therein lies a quandary: is this paper plagiarized or is it the product of ignorance, confusion, or sloppiness? I quickly came to agree with Martin and Wood that many of my students really did not understand what good research is and what source documentation means. In an earlier paper Martin (1994, p. 37) states aptly, "Students are apprentices, and some of them learn the scholarly trade slowly."

My goal, then, shifted from detecting plagiarism to teaching the fundamentals of source identification, selection of material, quotation, paraphrasing, citation, and referencing. This is achieved in several ways. My syllabus includes a two-page discussion from the University Writing Center titled "What Is Plagiarism?" Referral to the University Writing Center for help with research and writing is suggested and web sites discussing plagiarism and proper acknowledgement practice are listed, including The Nuts and Bolts Guide of College Writing, at http://www.nutsandbolts guide.com with its discussion of plagiarism at http://www. nutsandboltsguide.com/plagiarism.html. And several examples of citation format, including examples of citations to web sites, are included in the syllabus.The challenge of using a plagiarism prevention service as means of teaching acknowledgement practice is to take the edge of presumptive guilt off its use. And presumption of guilt is what professors are assuming when asking students to submit their papers to such a service. (For discussions of legal issues, see Strawczynski 2004 and Turnitin.com 2005.) To remove this edge my syllabus states, "Try to think of this [the submission to turnitin.com] as a learning experience. I have already submitted four of my own papers to the service." Class discussion, then, at the beginning of the term and throughout the course, up to the time of submission to turnitin.com, emphasizes learning rather than possible punishment. That I have submitted my own papers, I think, helps students see that I am willing to practice what I preach. It also enables me to report to the students the unusual and non-indictable highlights that the service can return, such as phrases and properly quoted and cited material.

After the peer review and prior to submission of the first paper to turnitin.com, I continue discussion via lecture and overhead transparency examples of what does and does not constitute plagiarism. This gives students a hint at what to expect from the service. My transparency examples range from those with one highlighted word or phrase to two undocumented sentences that constitute, as I tell my students, bona fide plagiarism. Then, I show them what needs to be done to fix the two sentences: either put in quotation marks and cite the reference or paraphrase and cite. I talk about paraphrasing and give three possible rewrites of the two unquoted sentences. One paraphrase is intended to be humorous ("The women cook and raise the children," which, of course, sounds like the women cook the children), but it also illustrates the need for careful editing. Finally, I talk about how to condense long passages by reducing a sentence to a subordinate clause, or a subordinate clause to a prepositional phrase, or a prepositional phrase to a single adjective or adverb.

Assessment

Thus, my initial goal was to detect and punish plagiarism; my subsequent aim has been instead to teach the basics of research and acknowledgement practice. The consequence, it is hoped, would be less plagiarism to worry about. In assessing the effectiveness of this technique, my general sense is that I have read better papers than I otherwise would have without the teaching and use of turnitin.com. I still receive papers with only a bibliography and no citations in the text and I still see poor paraphrasing in the form of word and sentence substitution, but these errors seem to show up on a small percentage of the total papers. This "general sense," of course, is highly subjective; the following quantitative assessment provides a better evaluation.

Turnitin.com supplies modest data on papers submitted. Of the 662 papers submitted in the past three years (eight sections of my International Marketing course), 88% came back with a similarity score of 24% or lower matching text. This includes all forms of matching text, including the isolated phrases and URL codes. Some papers (10.6% of the total) that received higher scores (25-49% matching text) often included many quotations (usually too many) that were properly cited but nevertheless highlighted. My syllabus states that any papers receiving a score of 25% or higher must be fixed, by adding quotation marks, citations, better paraphrasing, etc. Some students do quite well, others not so well, at the task of fixing high-score papers. The re-

maining high-score papers (greater than 50% matching text) included some attempts at recycling from previous sections. The students were immediately told to redo the papers. Interestingly, no attempts at recycling occurred in the last year, meaning, apparently, that "the word is out." The high proportion of students in the 24% or lower category would seem to indicate success in communicating what good research and acknowledgement practice are, although no doubt some of the success is due to the threat of punishment.

To further assess the effectiveness of teaching acknowledgement practice using turnitin.com, I administered a brief questionnaire to three sections of students (spring quarter 2004 and winter and spring 2005). The questionnaire was administered on the day of the final exam, actually handed out with the exam, and students were instructed to finish the test before responding to the survey. The completed instruments were then placed face down on my desk and the data were analyzed after course grades were filed. There are many limitations to this survey, not least of which is the possible bias of providing responses for someone who is about to grade your exam. Nevertheless, the results do offer some insight into the effectiveness of the innovation.

One item on the questionnaire stated that submitting the Country Notebook papers to turnitin.com was a valuable learning experience; a five-point Likert-type agree-disagree scale was used for response followed by the open-ended questions "why or why not?" Before-after items were also used, which read: "My understanding of the nature of plagiarism before taking [or 'at the conclusion of'] this course was . . ." followed by a five-point high to low response scale. An F test of means across the three sections was not significant at the .05 level, so all three sections were treated as coming from the same population. Sample size was 125.

The mean of the before measure was 4.35, the after measure 4.78. The means are high because nearly half of the sample circled fives, indicating a high understanding of plagiarism on both the before and after measures. This self-report finding may be inflated, but for upper division college students one would hope that at least half have a firm understanding of the meaning of plagiarism. A paired samples t-test produced significance at the .000 level (t=-6.472, s=0.732). Some learning seems to have occurred. A moderate inverse correlation (r=-.32, p=.0003) was found between the first question—it was valuable to submit the Country Notebook to turnitin.com—and the before measure. Thus, this finding would seem to indicate the lower the understanding of plagiarism before taking my course, the higher the value of submitting the Country Notebook to turnitin.com.

The most interesting findings in the data come from answers given to the open-ended questions of why or why not submitting the papers to turnitin.com was valuable. Tables 1 and 2 summarize this data.

Several observations can be made about these student comments. By a three to one margin, between Tables 1 and 2, the comments were positive about submitting papers to turnitin.com. The majority of positive statements fell into the categories of doing better research, citing sources, fixing problems, and generally acquiring valuable information. The emphasis in the students' remarks seems to be on doing better research and giving credit where it is due. To this extent the teaching innovation is a success. Some comments in Table 2, however, are disturbing. Students who are already well-versed in the scholarly trade found no help in submitting their papers to turnitin.com. Some, indeed, expressed contempt and resentment over having to do so, perhaps an inevitable consequence of the presumption of guilt. Others seem not to have understood the purpose of using turnitin.com. A few, especially those who made the last three comments in Table 2, may still not understand the nature of research and source documentation. They seem to be complaining, "It's just facts. Why do facts have to be documented?" These students fail to understand—and marketing educators must teach this point to them—that even newspaper reporters, who work with nothing but facts, must document their sources.

There are two other indicators of possible success. One student after the final exam asked me if she could submit papers to turnitin.com while not being a member of my class; she found the service helpful in teaching her what was original and what was not and wanted to continue with subsequent papers. Two students who were not members of my classes did submit papers to turnitin.com using the class ID and enrollment password (both of which are printed in my syllabus). One paper was on environmentalism and the other on history. This perhaps can be taken as a compliment to turnitin.com, or at least as a sign that some students voluntarily want to know how well they have documented their papers.

Problems and Adaptability

Technology in education often presents challenges and surprises to both instructor and student. Turnitin.com is no exception. A learning curve for the instructor will last at least one term. The system is user-friendly and software upgrades are made during the summer. Students who put off their submissions to the last minute often find the system bogged down and

Table 1

Submitting my Country Notebook papers to turnitin.com was a valuable learning experience. Why?	Count	Pct.
It made me do better research, cite sources, put in my own words.	19	20.9
It helped me to avoid plagiarism, enabled me to fix problems.	15	16.5
It helped, gave me valuable information, was good to see 3rd party evaluation	12	13.2
I learned how much came from other sources, wondered if I was citing too little or too much.	9	9.9
It teaches honesty, it let me know how well I paraphrased.	8	8.8
It made clear how easily plagiarism is done and noticed.	8	8.8
It was okay, interesting.	6	6.6
It was fair, it deters cheating.	4	4.4
It encourages critical and creative thinking, it forced me to think and restructure writing	3	3.3
It showed me how original my paper was.	3	3.3
I couldn't procrastinate.	1	1.1
It was an incentive to give credit to get a good originality score.	1	1.1
I learned the meaning of plagiarism.	1	1.1
I could change a few words around and improve the score.	1	1.1
	91	100.0

Table 2

Submitting my Country Notebook papers to turnitin.com was not a valuable learning experience. Why not?	Count	Pct.
Didn't help, didn't learn anything; it's just for professors.	7	21.9
I don't plagiarize, it wasn't valuable.	6	18.8
Just data and facts were highlighted, common phrases; should do the whole paper.	3	9.4
It was a hassel to use, waste of time and paper; it was a burden.	3	9.4
Everything in quotes came back in red.	2	6.3
It's not a perfect tool; there are still ways to cheat.	2	6.3
Why do it? Should know how to cite.	1	3.1
Learned only that it exists; how could it have been a learning experience?	1	3.1
Database not yet large or strong enough.	1	3.1
One can be unfairly punished.	1	3.1
It made me paranoid.	1	3.1
It's fickle about certain phrases.	1	3.1
Info from other sources, not my ideas—good for English class.	1	3.1
Notebook all facts from somewhere, naturally looks like plagiarism.	1	3.1
A lot of it was research stuff and numbers, why upload it?	1	3.1
	32	100.0

sometimes do not receive their originality reports until after they have turned in their papers for grading. Some students, during the first two years of use, would try to improve their originality scores by resubmitting their papers only to find them matching at nearly 100% their previous versions. Turnitin.com now provides a means of submitting revisions without having them compared to the earlier paper. The ability to submit revisions further enhances student learning. I do not require such revisions, but a small percentage of students do take advantage of the service.

The technique of teaching acknowledgement practice by using an Internet-based plagiarism detection service is probably adaptable to most undergraduate courses. I have used it in one section of Principles of Marketing and one section of the capstone case course. In the former, my written component is similar to that of the International Marketing course in that I assign two short papers that cumulatively describe the marketing strategy of a real company. Most of the research is of secondary data. In the latter, I used turnitin.com strictly as a defense against downloading previously written cases from the Internet and as a means of uploading the current cases to turnitin.com's database to prevent future recycling. Because these cases do not require research of secondary data, the technique is less on target for teaching acknowledgement practice.

Conclusion and Need for Further Research

Using an Internet-based plagiarism detection service to teach acknowledgement practice is not perfect, but it does give students information about their writing that I could not give without the technology. Like many of the reward-and-punishment techniques we use in teaching, though, this one intimidates some students. Renard (1999-2000) suggests other ways to teach source documentation: have the students "compile a bibliography without writing the actual paper" (p. 41). Research must be done, but focus is on preparing a properly formatted reference list. Renard also emphasizes that we as teachers should be certain to reference comments we make in class and allow and encourage students to reference each other in their various projects. Documenting sources in research papers is a tedious task that requires attention to detail. College students, including those at the upper division level, can always use extra practice properly quoting, paraphrasing, citing, and referencing their sources.

To further verify the effectiveness of this innovation, additional research needs to be done. One possible study could compare the results of classroom teaching with combined classroom teaching and submission to an Internet-based plagiarism detection service. A test or other subsequent assignment could be compared to earlier work, before the intervention of teaching or plagiarism-detection submission, to measure amount of learning accomplished. Student reactions probably also should be more accurately profiled. The student population at my university consists largely of minority groups, particularly Asian and Hispanic, and most are first generation college students. Background factors, therefore, such as ethnicity, parental education, and English as a second language, should be examined to determine their relevance to learning the skill of acknowledgement practice.

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