Seminar article

Educational approaches for discouraging plagiarism☆

Beth A. Fischer, Ph.D.,[a,b,]* Michael J. Zigmond, Ph.D.[a,c]

[a] *Survival Skills and Ethics Program, University of Pittsburgh, Pittsburgh, PA 15213, USA*
[b] *Department of Family Medicine, University of Pittsburgh, Pittsburgh, PA 15213, USA*
[c] *Department of Neurology, University of Pittsburgh, Pittsburgh, PA 15213, USA*

Abstract

Suggested approaches to reduce the occurrence of plagiarism in academia, particularly among trainees. These include (1) educating individuals as to the definition of plagiarism and its consequences through written guidelines, active discussions, *and* practice in identifying proper and improper citation practices; (2) distributing checklists that break the writing task into more manageable steps, (3) requiring the submission of an outline and then a first draft prior to the deadline for a paper; (4) making assignments relevant to individual interests; and (5) providing trainees with access to software programs that detect plagiarism.   © 2011 Elsevier Inc. All rights reserved.

"A student once asked me about the grade he received on his paper. He wanted to know why he got a "D." While I was explaining that to him, he stopped me and said "I just don't understand it—my roommate got a "B" on this paper two years ago." An actual case, paraphrased.

1. Introduction

If you have experience working with trainees or editing their research papers, you probably suspected that some of their work was plagiarized; you may even have been able to prove it. There are a myriad of reasons why individuals fail to properly cite their sources. Some, like the trainee mentioned above, clearly intend to deceive. Others do so because they lack knowledge or have sloppy work habits. In this essay, we explore common reasons why trainees and faculty sometimes plagiarize, and then we recommend strategies for education and prevention.

2. Why do they plagiarize?

Understanding the problem is the first step in addressing it. In general, plagiarists can be divided into two camps, those who knowingly plagiarize and those who inadvertently do so.

2.1. Deliberate plagiarism

At all levels of academe there are individuals who have made a conscious decision to plagiarize: pre-medical, medical, and graduate students, postdoctoral fellows, residents, faculty, and staff all have been found to be guilty of this behavior. The exact circumstances under which they made the decision to plagiarize differ. However, in our experience, there seem to be some common factors that underlie intentional acts of plagiarism: (1) an individual's intense desire to succeed coupled with (2) a situation in which they feel there is a high likelihood of failing or missing out on a plum opportunity, and (3) a lack of time, interest, or the abilities needed to complete the writing task properly. Premeds are competing to get into medical school, and once there they seek a choice residency position. Many residents seek faculty positions, and faculty want funding, tenure, promotions, and recognition. Under these pressures and others, some individuals succumb to the temptation to plagiarize.

Students in graduate, medical, and pre-medical programs may plagiarize to avoid the work associated with an assignment. They lift paragraphs from obscure texts, download an essay from the web, copy one of their friends' old papers, or buy one from an on-line paper mill. We once even dealt with a student who told us: "Yes, I copied from a published source. But I got the

book from the library of another university, so I didn't think anyone would notice." As an instructor, intentional plagiarists are the most difficult group with which to deal.

Some instances of plagiarism might be attributed to trainees who may have made poor use of their time, floundered, misjudged the effort required, or have been given the assignment unreasonably close to the due date by an over-zealous professor. These individuals may be helped by training in planning and time management along with a careful structuring of the assignment, as we discuss below.

2.2. Unintentional plagiarism

2.2.1. Lack of knowledge or understanding

All too often faculty assume that trainees understand what plagiarism is and how to avoid it. This seems like a great leap of faith. Not all individuals have had experience writing research articles containing proper references to the peer-reviewed literature, particularly those coming from very different cultural environments (see article by Heitman and Litewka in this issue). Furthermore, being able to define plagiarism, put simply, *the use of someone else's words or ideas without attribution*, does not necessarily equate with the ability to apply that definition and recognize instances of plagiarism.

2.2.2. Lack of confidence in one's writing abilities

Some individuals inadvertently plagiarize because they lack the skills to adequately express their thoughts in their own words. One can imagine that such a problem might be particularly acute for individuals who must write in a language they have not yet mastered. Some trainees who have faced this situation have told us that they look at other papers for examples of what sorts of words to use or how to structure their arguments—a situation ripe for plagiarizing. Indeed, some individuals have even told us that having read someone else's text, they cannot imagine another way to communicate the same ideas.

2.2.3. Sloppy note taking practices

Research articles require scholarship, situating and interpreting what one has done in terms of the existing literature. Preparing to do this typically involves note taking. A common problem is that individuals may copy a text verbatim and in a rush fail to add quotation marks and/or reference the text from which the words or ideas were taken. Even some of the most experienced and best known of writers fall prey to this pitfall. In one highly visible incident, a well known author offered the following explanation: ". . . a few of the [sources] were not fully rechecked. I relied instead on my notes, which combined direct quotes and paraphrased sentences" [1]. This is just one of a number of similar cases that could be cited.

Easy access to the multitude of electronic sources on the internet and the technology of "cut and paste" exacerbate this risk. It is no longer necessary to copy down—let alone paraphrase—text or ideas; a few simple key strokes and that sentence or paragraph is "yours." Later, without adequate notes, writers may not remember which words were theirs and which were from a source that they copied wholesale.

2.2.4. Failing in proofreading

It is a truism that one cannot effectively write and edit at the same time. (Our source is Charles Sides [2] but the sentiment has been expressed by many others, as well.) A corollary is that when drafting a document, stopping to search for specific references is a distraction in time and intellectual focus. Yet the common alternative, planning to read through a later version and identify the places in which references are needed, is dangerous. It is too easy to skim over those places, especially given the fatigue that comes after reading multiple drafts of a document.

2.3. Teaching trainees about plagiarism

"I don't understand why you thought it was acceptable to submit a plagiarized paper in my biology course, especially since you took my course on ethics last term!"

"Well, I knew I shouldn't plagiarize in your ethics course, but no one told me I shouldn't do it in biology."

An actual discussion, paraphrased.

2.3.1. Write it down AND discuss it

Many academic institutions post their policy on plagiarism and its consequences on their website and/or require that instructors include a statement on the policy in course syllabi. Typical consequences range from automatically failing the assignment or class, to academic dismissal. Yet, faculty who have detected and reported cases of plagiarism have told us that legally it can be difficult to hold students responsible if the policy is not contained in the course syllabus. Thus, we strongly encourage faculty to include this information in their syllabi, whether or not their institution requires it.

Even this is not enough. Although providing written documentation may satisfy a legal requirement, trainees are assaulted with so much to read it is often hard for them to determine what is important, let alone understand and internalize that critical information. Thus, active discussion must be part of a serious effort to educate—and prevent—plagiarism. The distribution of the syllabus, presumably at the beginning of the course, presents the logical time to have a class discussion on the topic. How to do this?

2.3.2. Explain to trainees why they should not plagiarize

We are firm believers that people are more likely to follow the rules if they know the rationale for them. Thus, we suggest beginning by asking individuals to generate (either on their own or working in small groups) a list of reasons why they should not plagiarize. Afterward you can

ask them to share their ideas, supplementing the discussion with any reasons they have missed.

Some of the issues we would want to be sure are covered are these: (1) Plagiarism is stealing: it is theft of intellectual property, and (2) it hurts the individual who developed the material that was plagiarized, as it denies them of the credit they deserve. It also can be a disincentive for sharing in the future. Looking at it from a different perspective, (3) plagiarism limits what trainees will learn from the course in regard to course content as well as the development of their writing and analytical skills. In addition, (4) individuals found to have plagiarized could fail the class or be expelled from the program for it. If those reasons are not enough to convince a trainee that plagiarism is unacceptable, hopefully the next one will: (5) even if someone's plagiarism is not detected until years later, there still can be consequences—they could lose their job or even have their degree revoked (see [4]).

2.3.3. Offer examples

In addition to providing a definition, it is helpful to trainees if they have specific examples of what is, and is not, plagiarism to use as a guide when they prepare their papers (e.g., see Birnbaum and Goscilo, 2001) [3]. One exercise that can be useful in this regard is to provide them with a paragraph of "original text" followed by a series of sentences based on that text, some of which represent proper citations and others that demonstrate a variety of improper practices. Ask individuals to identify which sentences are plagiarized and what would need to be done to correct them.

2.3.4. Teach trainees how to manage the task

There are several strategies that can help individuals pace their work and hopefully avoid the last minute crises that can lead them to plagiarize. One such approach is to provide a checklist in which the writing assignment is divided into a series of discrete steps that they can use to guide their work. This can be particularly valuable to individuals who procrastinate or flounder.

Following such a checklist can even be required and monitored. For example, a method that we have used to help trainees pace their work and avoid plagiarism is to set a series of deadlines at which students turn in different versions or sections of their paper (which may or may not be graded). This might consist of an outline, a first draft of the text, a draft of the bibliography, and the final version. (Turning in the bibliography before the final version helps students to complete the research and spend the last phase editing.) Interestingly, some publishers also use interim deadlines to encourage authors to meet the final deadline. For example, an author of a book chapter may be asked to provide a chapter outline a number of months before the final version is due. This approach also provides instructors and publishers with an opportunity to offer feedback on work in progress, at a time when the writer can apply that advice. Obviously, providing this level of assistance signif-

icantly increases the workload for those who are overseeing the task, thus it may not be practical for everyone. Yet, even without feedback, the process can be helpful to writers.

Setting a series of deadlines also is useful in discouraging cases of intentional plagiarism. Requiring trainees to submit an outline and a draft prior to their final paper provides extra hurdles for individuals planning to submit a papers written by someone else, and thus may dissuade them from that approach. Admittedly, this only works in some cases. A determined individual could pay someone to write each phase of the work or they could even work backward, creating an outline and even a rough draft from someone else's finished product.

2.3.5. Engage trainees' interests

Allowing trainees to focus on a topic that they want to know more about increases the likelihood that they will do the work. Moreover, it facilitates a better quality product as they are more likely to dig deeply and write creatively. Nevertheless, faculty may still wish to retain some constraints on the topics. This might be done to ensure that the subject is adequately challenging, or even to shape the focus of the paper so as to limit the recycling of papers written by individuals who previously took the course.

2.3.6. Encourage the use of placeholders

As we noted above, we encourage individuals to complete their writing before they edit. However, it is much easier to identify points at which references should be provided while one is writing. Thus we recommend using a placeholder such as "(REF)" in the text to indicate where citations are needed. When they are ready to work on the references, the writer can search for placeholders, filling in the references then. We use this technique in our own writing.

2.3.7. Help trainees identify when references are needed

When quoting or paraphrasing text, the decision is clear—a citation is needed. When else? This is another point at which it can be useful to provide a handout. We suggest using the information provided below.

References are not needed if no. 1 AND either no. 2 or no. 3 are true:

1. The idea is stated in your own words, i.e., you did not copy or paraphrase from another source.
2. The idea is common knowledge, i.e., it is widely known or theorized, such as the abbreviation DNA, or the concepts of gravity and evolution. (The definition of "common knowledge" will differ by readership; specialists in a field will be more familiar with technical terms than are the lay public.)
3. You are certain that you generated the idea; it did not originate from someone else.

In addition, trainees may find it useful to first skim the literature to get a general idea of what has been published,

taking only the sketchiest of notes, then write their rough draft, and only then do an in-depth search adding additional ideas and citations. Not only are they less likely to plagiarize, but they are also less likely constrain their thinking based on current dogma.

2.3.8. Have them cite original sources

There are two reasons why individuals should cite original sources. First, the credit should go to the inventor of the idea. That is, after all, the principle from which the concept of plagiarism derives. In addition, secondary sources can be wrong. That author may have cited a source that was irrelevant (laziness?), supported a very different conclusion (dishonesty?), or was nonexistent (typographic error?). Finding the first documentation of the idea often entails following a trail of sources, and can require looking back many years. For trainees unfamiliar with how to do this, a presentation or handout from a librarian on available resources and instructions on how to use them can be valuable. If a paper refers to an earlier source that is not accessible or is in a language that cannot be translated, then "as cited in_____" will have to do.

2.3.9. Encourage use of software for managing references

One way that individuals can reduce the work associated with providing citations is to use software to create a database of their sources. Two commonly used programs are EndNote [5] and Reference Manager [6]. Those are retail products; however, there are a number of free programs as well, such as Connotea [7]. Such programs can be used to download, store, sort, and keep notes on citations. Common features include the ability to link a citation to a PDF of the paper or to the relevant URL. Moreover, when users insert references from their electronic library into text they are generating within their word-processing program, most reference programs will format both the inline citation and the bibliography in the desired style. In addition to reducing workload, such programs also help to reduce errors made when transcribing citations.

2.3.10. Encourage trainees to check for plagiarism before the instructor does!

A number of software programs for detecting plagiarism are available, e.g., Turnitin and eTBLAST [8,9] (see the article by Garner page 95). Some faculty now routinely process all of their students' papers through such a program. Using this type of software and announcing that fact at the beginning of the term is the final strategy we offer for reducing plagiarism in the classroom. In fact, it is likely to be the most useful approach to curbing intentional plagiarism. Moreover, trainees can also help themselves avoid unintentional plagiarism by passing their text through such programs before they submit it. This can be particularly valuable if they are unsure about the concept of plagiarism. Not only will it allow the them to correct such problems prior to submitting their work, studying the analysis report can help them gain a better understanding of what plagiarism is.

3. Conclusion

"I used to have all my students write a paper, but once I realized how many of them plagiarize, I stopped. Why bother? At best, it leads to more work for me; at worst, I'm encouraging cheating."

Comment from a faculty member, paraphrased.

The statement above represents an unfortunate attitude that some faculty have adopted. Yet, being able to research a subject and then express one's findings in a logical and convincing manner in a paper is one of the most important skills we teach. In fact, we firmly believe that effective communication skills are *the* most important skills they can learn. The facts that we impart to our students are seldom what is most important. Many will be forgotten, not used, or later even found to be wrong. Thus, we suggest that the "facts" are the *context* within which we teach what is truly important, and the ability to prepare a strong paper in an ethical manner is at the top of our list.

References

[1] Kearns Goodwin D: How I caused that story. Time 01/27/02 retrieved from http://www.time.com/time/nation/article/0,8599,197614,00.html. Accessed August 22, 2010.

[2] Sides CH: How to Write and Present Technical Information, 3rd ed. Cambridge, UK: Oryx Press and Cambridge University Press, 1999.

[3] Birnbaum D, Goscilo H: Avoiding plagiarism. 5/21/01, retrieved from http://clover.slavic.pitt.edu/~tales/02–1/plagiarism.html. Accessed August 22, 2010.

[4] Office of the General Council, University of Akron: Guidelines for avoiding plagiarism. http://www.uakron.edu/ogc/PreventiveLaw/plagiarism.php. Accessed August 22, 2010.

[5] EndNote: http://www.endnote.com. Accessed August 22, 2010.

[6] Reference Manager: www.refman.com. Accessed August 22, 2010.

[7] Connotea: http://www.connotea.org/guide. Accessed August 22, 2010.

[8] Turnitin: http://www.turnitin.com. Accessed August 22, 2010.

[9] eTBLAST: http://en.wikipedia.org/wiki/ETBLAST. Accessed August 22, 2010.