

Technology and Academic Dishonesty – Part II: A Focus on Academicians and Other Researchers

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Abstract

The rapid technological developments of the last twenty years have been a catalyst in creating new avenues of academic dishonesty for both academician and other researchers. Although this vice has ravaged the academic and research communities for years, it has reached epidemic proportions because of the Internet. Academicians and researchers at every level are submitting works verbatim, most of such works downloaded from the Internet and falsifying and sexing up data. This article is part II in our two part series of articles discussing academic dishonesty. In this part we continue our discussion academic dishonesty but this time focusing on academicians and other researchers highlighting how the Internet has impacted these practices, the efforts being made to curb them and the effects they are having on society.

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1. INTRODUCTION

In part I of this series which appeared in the in the Special Issue of *International Journal of Computing and ICT Research* Number 1, 2009, we discuss academic dishonesty among students, focusing on what it is, how wide spread it is and ways to counter it. In this part II, a continuation of our discussion of academic dishonesty, let us focus on both faculty and other researchers. These popular vices and a less known but more pervasive one, self-plagiarism, are discussed here highlighting how the Internet has impacted these practices, efforts being made to curb them, and the effects they are having on society.

The rapid technological developments of the last twenty years have been a catalyst in creating new aids in research and avenues for faculty to publish their works. However, technological developments have also given impetuous and a new fire into an old vice of academic dishonesty. Although this vice has ravaged the academic community for years, it has reached epidemic proportions because of the Internet. Academicians at every level are submitting works verbatim, most of such works downloaded from the Internet. Faculty and scientists, under the weight of publish or perish, or seeking a minute of fame, can very easily sex up data or publish works of others as their own.

Lifting of others works to benefit and expound your minute intellectual might and/or to blemish and sex up otherwise less appealing research is to damage the academic research integrity and commitment which is detrimental to the trustworthiness of the whole research process by the greater scientific community. Do not forget that trustworthiness in our research is the engine that drives the research

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community to have the vigor to innovate and flourish. Researcher trustworthiness is the glue that binds us together to ensure a climate that promotes confidence and trust in our research findings, encourages free and open exchange of research materials and new ideas and brings about respect of the intellectual contributions of all researchers wherever they are.

The U.S. based National Science Foundation (NSF) defines **research misconduct** as "fabrication, falsification, plagiarism, or other practices that seriously deviate from those that are commonly accepted within the scientific community for proposing, conducting or reporting research. These are by no means new vices, but they have been given momentum, visibility, made easy, seemingly decriminalized, and at times even legitimized through the use of the Internet.

2. TYPES OF ACADEMIC DISHONESTY

There are several types of academic dishonesty including:

- Plagiarism - the act of using another person's ideas or writings as one's own without acknowledgement for their use
- Fabrication - making up results and recording or reporting them
- Falsification of information, data or citation through authorized or unauthorized access and presenting that data as original; presenting information or data that were not gathered in accordance with standard guidelines defining the appropriate methods for collecting or generating such data and failing to include an accurate account of the method by which the data were gathered or collected

2.1 Plagiarism

The word *plagiarism* comes from a Latin verb meaning *to kidnap*. It describes the process of intentionally or even unintentionally "kidnapping" which in every aspect is stealing others people's work and intellectual property without their consent. On academic institutions and research sites across the globe, this vice has been sky-rocketing ever since the start of the Internet.

Although the known statistics of academicians and researchers plagiarizing are low, there is a growing problem within the academic ranks propelled by pressure for publication as prerequisite for promotion and tenure. The problem is not only limited to groups of universities based on their academic rankings or regions of the country or world but it cuts across the board in university rankings, geographical regions, faculty and researchers ages and rankings. For example, there is a small but growing number of well established scholars who have not only resorted to sexing up ideas but are doing cut and paste. According to a report in the *Chronicle of Higher Education*, of Friday, October 25, 2002, Michael Bellesiles, a well renowned history professor at Emory University resigned from his position. His resignation was sparked by allegations of plagiarism in his award winning book *Arming America*. Emory launched an investigation into his misconduct. The findings documented in the report state that Bellesiles's "carelessness in the gathering and presentation of archival records" raised questions about his "scholarly integrity" [CHRONICLE]. Following these allegations and findings of Emory University, Columbia University rescinded the 2001 Bancroft Prize in American History and Diplomacy for his book, *Arming America: The Origins of a National Gun Culture*. The trustees determined that Bellesiles' book "'had not and does not meet' the standards associated with the prestigious prize" [CHRONICLE]. In the same year (2002), renown American historians Stephen Ambrose and Doris Kearns Goodwin both best-selling historians were accused of plagiarism and improper citations for passages of their books apparently taken from other writers.

2.2 Fabrication and Falsification

Fabrication is the practice of "doctoring" data or results to suite a "wished", expected or prescribed outcome or reporting. Falsification on the other hand is the process of "sexing up" existing data to fit a specific study. Both of these schemes are dangerous to research because they alter the reliability of data that may be used in systems that are sometimes vital to life putting thousands of lives in danger and sometimes death. Ideally, the research community would not expect fabricated and falsified data. However, we do not live in Utopia. We live in a real world of money making schemes and competition. Studies have shown that fabrication and falsification are widespread practices through all sectors of society including academia. Just as plagiarism diminishes the value of the works and tarnishes the integrity and ethics of the author, fabrication and falsification of research data diminishes the status of the research and

may create a dangerous situation for those who use such data.

For example pharmaceutical and medical research fraud has potentially devastating implications because doctors base treatment on published research. It was reported in the U.S. sometime back that technology has enabled some unscrupulous individuals to manufacture imitation drugs and labels (imitations of expensive drugs like those for cancer treatment) with disastrous consequences.

In a story by David Burge of CNSNews.com Academic Affairs and Satire of March 15, 2002, in September 2000, a renowned Princeton psychology professor Victor Agee published a monograph in the *Journal of Social Psychology* measuring test-cheating behavior among undergraduate students at Columbia. The results of Agee's cheating study were widely cited in the popular press, and he quickly gained fame as a television talk show panelist.

In June 2001, Agee was suspended after two Cornell University statisticians, Dipak Sharma and Peter Millard, published a paper in the journal *Biometrika* accusing Agee of data manipulation and outright falsification. The results of their study were widely cited in the popular press, and the pair quickly gained fame as television talk show panelists.

According to Yale historian Alan Levin, however, Sharma and Millard's expose of Agee was in large part also plagiarized from a 1993 University of Michigan paper chronicling fraud in a Duke study of cheating at the University of California, which itself appears to have been plagiarized by Agee. Levin was later forced to cancel several television talk show appearances to defend himself against charges that he was engaged in an inappropriate relationship with NYU professor Olivia Nolan, editor of *The Journal of University Ethics*.

This account throws light on the dimension of the data fabrication and falsification in academia. However, this is not limited to academia alone. It is widespread in the greater research community.

2.3 Self-Plagiarism

Self-plagiarism occurs when an author re-uses portions of his or her previous published work in subsequent works. Sometimes a few bits and pieces are stitched and pasted together scattered all throughout the paper; sometimes a whole paper is copied with a simple change of the title. According to Christian Colleberg and Stephen Kobourov, self-plagiarism is more prevalent than other forms of academic dishonesty [COLLEBERG, CHRISTIAN and STEPHAN KOBOUROV], and one of the reasons might be because it is difficult to determine what is fair use and what constitutes self-plagiarism.

There are confusing and sometimes uncaring policies on self-plagiarism on the part of major professional organizations and publishing houses. For example IEEE Computer (http://www.computer.org/portal/site/transactions/menuitem.eda2ca84d8d67764cfe79d108bcd45f3/index.jsp?&pName=transactions_level1&path=transactions/tmc/mc&file=author.xml&xsl=article.xsl&) states: "Papers previously published in conference proceedings, digests, preprints, or records are eligible for consideration provided that the author informs the Transactions Assistant at the time of submission and that the papers have undergone *substantial revision*. The question regarding concurrent submission appears on Screen 1 in Manuscript Central." ACM (http://www.acm.org/pubs/sim_submissions.html) also has the following statement: "the paper has been *substantially revised* (this generally means that at least 25% of the paper is material not previously published; however, this is a somewhat subjective requirement that is left up to each publication to interpret". Too many, substantial revision means anywhere around at least 25% new material in the paper. But again this is subject and it is usually left to the author or the publishing agent to decide. There is also little agreement among professionals and academicians what this means. Colleberg et al list the different types of self-plagiarism as follows (the word re-use is used here because it is soft) [COLLEBERG, CHRISTIAN and STEPHAN KOBOUROV]:

- **Textual re-use** - Incorporating text/images/other forms of previously published works in a new work
- **Semantic re-use** – Incorporating ideas from published works in a new work
- **Blatant re-use** - Incorporating text/ideas of previously published works in a new work almost verbatim
- **Selective re-use** – Borrowing bits and pieces from previously published works in a new work
- **Incidental re-use** - Incorporating text/ ideas not directly related to the new ideas in the current document
- **Re-use by cryptomnesia** - Incorporating text/ideas from previously published works in a new work unaware of its existence

- **Opaque re-use** - Incorporating text/ideas from previously published works in a new work without acknowledging its existence
- **Advocacy re-use** - Incorporating text/ideas from previously published works in a new work when writing for a different audience

While most agree that blatant and opaque re-uses are ethically and legally wrong, there is disagreement of other forms of re-use especially advocacy. Colleberg et al suggest some solutions to self-plagiarism [COLLEBERG, CHRISTIAN and STEPHAN KOBOUROV]:

- Conference organizers and journal publishers to clearly state what practices will be considered self-plagiarism
- Publishing houses to take more of the burden of checking self-plagiarism
- Making the price of self-plagiarism high.

3. CAUSES OF ACADEMIC DISHONESTY

For academicians and to some extent other researchers, the pressures caused by the policy of “publish or perish” is the main culprit causing a bigger percentage of academic dishonesty. The tenure system is the bedrock of academic longevity and rewards. However, without publishing in quality journals, no academician in any self-respecting institution of higher learning can secure the cherished tenure. In non-academic research institution, it is promotions, pay rises, and recognition among peers that drives publication and subsequently academic dishonesty.

4. EFFECTS OF ACADEMIC DISHONESTY

Academic dishonesty and sexing up of ideas have many very negative effects on society. Such effects include ethical and moral decay as people’s actions become routine and eventually mainstreamed. Florence King notes in the *National Review* that “once plagiarism becomes an officially designated addiction, its sufferers will not only be forgiven, but admired.” [KING, FLORENCE] This is the way it has been working and it will continue to work especially with the public so dependent on technology and still mesmerized by it. Another effect is highlighted by Elliott J. Gorn, professor of History at Purdue University. According to Gorn, “beyond the ethical issues lays a serious challenge to the historian's craft, for the foundation of [historical] narratives, the bedrock of our interpretations, are the facts we uncover in primary documents. Put another way, it is not only our skill at interpreting historical sources, but also our integrity in presenting them -- with all of their contradictions and complexity -- that authorizes us to bear witness to the past.” [GORN, ELLIOTT]. Further academic dishonesty erodes our ability as academicians and researchers to speak with authority of our disciplines. There are also serious psychological effects on individuals who commit these vices as they tend to become reclusive and self-isolated which may lead to dangerous consequences on the individual and society. Finally, it causes serious security and safety problems to society because essential products like software and hardware systems which may be made from fabricated and falsified data may become mainstreamed and may cause harm to life.

5. GOING AFTER STUDENTS’ ACADEMIC DISHONESTY:

Fighting these vices among academics and researchers needs to have a multi-faceted approach that includes policies and detection tools.

5.1 Policies

A cheating and plagiarism policy would include a definition of the vice, a list of items that would constitute the offense resulting from the vice, the enforcement mechanisms available to university and research institutions administrators and the penalties for the offenders.

5.2 Plagiarism Detection Software & Services

Because the numbers of students usually taught by one instructor may be big, it may be a challenge to teachers to find less tedious ways to find cheaters. Fortunately the technology that is spearheading the growth of these vices is the same technology that is providing the remedy for them. With the growth of plagiarism, fabrication, falsification, and cheating, there is a growing base of technologies to fight them.

There are several software tools (sometimes free) like Viper on (<http://www.scanmyessay.com/viper-plagiarism-scanner.php>), WCopyfind on (<http://plagiarism.phys.virginia.edu/Wsoftware.html>), pl@giarism (<http://www.plagiarism.tk>). Other sorces include:

- EVE2: <http://www.canexus.com/eve/index.shtml>
- WordCheck Systems: <http://www.wordchecksystems.com/>
- iParadigms: <http://www.iparadigms.com/>
- Glatt Plagiarism Program: <http://www.plagiarism.com/>

Depending on the nature of the suspected work, a teacher can use the software to compare the paper against textbooks, literature, works of other students, or the products of online paper mills--sites where students can download papers. Although we cannot explore all efforts being made to curb academic dishonesty here because of time limits, literature on the topic abounds. You can find useful information on this topic, guess where - Internet

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