



ISSN: 2782-7550 (Print)
ISSN: 2782-7542 (Online)

ABMS

ANNALS OF BASIC AND MEDICAL SCIENCES

A Scientific Peer Reviewed Publication of The Faculties of Basic Medical and Basic Clinical Sciences, Usmanu Danfodiyo University Sokoto, Nigeria





Plagiarism: Its Causes, Consequences and Countermeasures

Aminu Chika

Department of Pharmacology and Therapeutics, Faculty of Basic Clinical Sciences,
College of Health Sciences, Usmanu Danfodiyo University Sokoto, Nigeria.

Abstract

Background: Plagiarism is a globally prevalent academic misconduct, especially among individuals writing in foreign languages. It involves idea and word theft and breach of trust, which is harmful not only to the original author but also to the entire system of research by transmitting false information about the origin of the idea.

Materials and Methods: This article reviews literature on the problem of plagiarism, focusing on its causes, consequences and potential countermeasures.

Results: The major categories of the causes of plagiarism include academic, personal, external, institutional and technological factors. Consequences of plagiarism include damage to reputation, retraction of the published article, publication embargo, withdrawal of an academic degree or loss of employment. Various educational and retributive approaches are needed to reduce the prevalence of the misconduct.

Conclusion: Combatting the menace of plagiarism requires effective guardianship as well as effective educational and retributive approaches involving multiple stakeholders.

Keywords: Plagiarism, causes, consequences

Corresponding author:

Aminu Chika,

Department of Pharmacology and Therapeutics,
Faculty of Basic Clinical Sciences,
College of Health Sciences,
Usmanu Danfodiyo University Sokoto.
Email: chika.aminu@gmail.com
Phone: +2348032284557

Introduction

Plagiarism constitutes a major category of academic misconduct, along with fabrication and falsification. While there is no consensus definition on what constitutes plagiarism (1), the current article will employ the definition by Yale University (2), which views plagiarism as “the use of another’s work, words, or ideas without attribution Plagiarism takes many forms, but it falls into three main categories: using a source’s language without quoting, using information from a source without attribution, and paraphrasing a source in a form that stays too close to the original.”

Plagiarism is harmful not only to the original author whose idea or expression was stolen but also to the entire system of research by transmitting false information about the origin of the idea (3). It represents an infringement of the author’s intellectual property (4). Plagiarism involves (i) breach of trust and (ii) taking credit for something one did not originate — attributes condemned in our religious books. For example, in the glorious Qur’an, Surah an-Nisa’, verse 58, Allah says: “God commands you to return things entrusted to you to their rightful owners” (5). Also, in the Qur’an, Surah Aal Imraan, verse 188, Allah says: “...who rejoice in what they have perpetrated and like to be praised for what they did not do – never think them [to be] in safety from the punishment, and for them is a painful punishment.” (5).

The purpose of this paper is to review the causes and consequences of plagiarism as well as the effective strategies for avoiding it.

The Prevalence of Plagiarism

A survey by Rohwer *et al.* revealed that as of 2016, only 26% of African biomedical Journals had a plagiarism policy. In addition, up to 63% of the 495 randomly-selected articles show some evidence of plagiarism (6), with the number of plagiarized sentences being four linked sentences or greater than six individual sentences in 17% of the journals, 3-6 sentences in 19% and one or two sentences in 27%.

Plagiarism was formerly quite prevalent in our Department, Pharmacology and Therapeutics, Faculty of Basic Clinical Sciences, College of Health Sciences, Usmanu Danfodiyo University, Sokoto. Between January-February, 2016, all the three MSc dissertations checked using Turnitin software in the Department revealed significant

levels of plagiarism (with text-similarity of 35-58%) (unpublished data).

In order to curb the observed trend, an intervention was immediately instituted in the Department with education and mentoring of Postgraduate students about reference management and plagiarism. The intervention resulted in a significant reduction in the plagiarism rate in the Department. Between November 2016 and August 2017, out of 4 MSc dissertations subjected to similarity check using Grammarly software, 1 (25%) turned out to have a significant level of plagiarism (text-similarity of 33%). Currently, the extent of plagiarism in the Department is relatively low (at 20%) (unpublished data).

Causes of Plagiarism

Various causes of plagiarism have been suggested, which can be grouped into five broad categories: academic, personal, external, institutional and technological.

Academic causes include the following: (1) not knowing how to cite and use textual appropriation successfully (7); (2) lack of experience in publishing, with older researchers being less likely to commit plagiarism compared to younger ones; (3) ignorance about ethics of publishing, such as: how to perform acceptable paraphrase and the need to insert quotation marks for a relatively lengthy statement copied verbatim.

Personal causes incorporate lack of motivation (8); a desire to achieve high grades (8); Machiavellianism (9); lack of time management (7); belief that it is acceptable to borrow into one's writing entire paragraphs from other sources if the references are listed at the end (10); thinking that online content and materials are free to use without any restriction (11); and the perception of not being caught (7).

External causes comprise belief by students that their peers cheated and were not caught (12) and cultural influence (for instance, Australian students are less willing to plagiarise others' work than their Chinese counterparts) (13).

Institutional causes include unclear assignment (7); lenient attitude of lecturers towards plagiarism (14); poor assessment methods (15); deficient teaching of research methods (16) and poor supervision by lecturers (16).

Technological causes incorporate easy access to online academic sources (7).

Consequences of Plagiarism

Plagiarism is associated with several negative consequences. Researchers who plagiarise may suffer damage to reputation, retraction of the published article (17), publication embargo (17) or even loss of employment. Also, students involved in plagiarism may be expelled or have their academic degrees revoked if discovered after graduation (18-20). Plagiarists may also be convicted of infringement of other authors' intellectual property, leading to a fine or a prison sentence.

Typology of Plagiarism

According to Foltýnek *et al.* (21), plagiarism can be classified into five broad categories: characters-preserving plagiarism, syntax-preserving plagiarism, semantics-preserving plagiarism, idea-preserving plagiarism and ghostwriting.

Characters-preserving plagiarism (also referred to as "copy and paste" plagiarism, direct plagiarism or clone plagiarism) involves verbatim transcription of someone's work without appropriate attribution (putting quotation marks and a citation).

Syntax-preserving plagiarism includes using technical tricks to disguise plagiarism or replacing the original author's phrases with synonyms without changing the general structure and meaning of the original passage.

Semantics-preserving plagiarism is exemplified by translation plagiarism (3), in which a work is translated and published as original material, not as a translation. A classic example of translation plagiarism is represented by the case of an Indian Professor of Chemistry, Pattium Chiranjeevi (22).

Idea-preserving plagiarism: In this category, concepts and ideas are borrowed without attribution.

Ghostwriting involves hiring somebody to write unplagiarized material.

Pointers to Plagiarism

Plagiarism can be suspected if any of the following pointers exist in the writeup: sudden variation in writing style; lack of recent references (23) indicating that an up to date literature was not conducted; absence of in-text citations and list of references (23); and list of references in different styles.

How to Avoid Plagiarism

The following strategies are imperative for reducing the rate of plagiarism: (i) to educate the students and young academics about the concept of plagiarism and mentor them on how to write ethically (24); (ii) to

punish the deviants and reward the law-abiding students using grades (for students), publication embargo and retraction of published articles (for authors); (iii) to properly cite original sources; and (iv) to paraphrase.

Proper Attribution of a Source

Citation of sources can effortlessly be performed using free reference management software tools, such as Mendeley and Zotero, which interact directly with commonly used text processing systems, such as Word. Proper attribution of sources entails that original, rather than secondary sources, such as books, should always be cited, except if properly justified.

Students and authors should be guided by the following ethical practices related to citation of sources:

1. Any information or idea obtained from a source must be documented, provided it is not common knowledge. Common knowledge can be classified into: (a) General common knowledge, such as birth and death dates of prominent personalities (25); accepted dates of military combats, political activities, literary landmarks, and other historical events; factual information available in various standard reference sources, including specific mathematical facts such as formulae to solve a quadratic equation or to calculate the area of a circle; as well as specific geographical facts, e.g., capitals of different countries. (b) Field-specific common knowledge, such as commonly used methods in a particular field (25) If not sure whether the information is common knowledge, it is better to cite the source.

2. If any sequence of a phrase is directly borrowed from a source, even if the information is common knowledge, those words must be enclosed within quotation marks and the source credited. The phrase within quotation marks should be transcribed exactly as in the source. Also, (i) an ellipsis (...) may be employed to indicate a phrase omitted from the original source, and (ii) any clarifying comment may be put within brackets [.....]. However, researchers should note that too many quotations are academically unacceptable due to lack of originality, not plagiarism.

3. Recycling one's own previously published words is also considered plagiarism (self-plagiarism or recycle plagiarism). A publishing journal expects that any new article submitted should be original. By recycling their own previously published words, self-plagiarists are in defiance against such expectation.

4. One should avoid inadvertent plagiarism, which involves neglecting to cite or misquoting sources, or

unintentional cosmetic paraphrasing of a source using synonyms and similar sentence structure without appropriate attribution: putting quotation marks and a citation. Accidental plagiarism can result from uncertainty about citing conventions or about what constitutes common knowledge and limited second language resources (1).

5. Unacknowledged use of ideas from grant proposals and manuscripts by a reviewer with privileged access to the materials is a shameful form of plagiarism involving a breach of trust.

Steps of a Successful Paraphrase

A good paraphrase is focused and shorter than the original sentence/paragraph. It includes only the part of the passage which serves as the focus of one's writeup, not the whole passage. It should be written in one's own words, without looking at the original passage. It is essential to change both the structure and the wording of the original sentence/paragraph.

Changing a sentence/paragraph structure can be achieved by starting at a different place in the passage and/or sentence(s), based on the focus of one's writeup. This will automatically result in some changes in wording. It may involve breaking up long sentences, combining short sentences, expanding certain phrases for clarity, or shortening phrases for conciseness. Changing the original wording involves replacing the words with synonyms using a thesaurus or a collocation dictionary.

Unethical Methods of Avoiding Plagiarism

These strategies involve using tricks to make a highly plagiarized work escape detection by plagiarism software and be scored low in plagiarism rate. Some of the methods include: (i) Employing Mojibake (a Japanese term denoting transformation) technique: In multiple-layered documents, such as pdf files, it is possible to transform the textual bottom-layer (read by the plagiarism software) to meaningless characters (without changing the characters of the top-layer visible to the reader and the printer). Consequently, the plagiarism software will score the plagiarism rate as 0%, even if the material is highly plagiarized; (ii) Use of Cyrillic Letters: Anti-plagiarism software recognizes the Cyrillic letters "a", "o" and "e" as different from the corresponding Latin characters; (iii) Space Replacement: In this technique, spaces between words are replaced with dots or Chinese characters in the bottom layer of multilayered documents (not visible to the reader and the printer). The meaningless replacement confuses plagiarism software; (iv) Automatic Translation; (v) Synonyms Replacement (Cosmetic paraphrase); (vi) Text Image: If the text of a writeup is put in an image, it will not be processed by anti-plagiarism software. Therefore, plagiarized images will not be detected.

Resources for Avoiding Plagiarism

The resources which are useful in avoiding plagiarism include: 1. Anti-plagiarism software, such as Turnitin software (<https://www.turnitin.com/>), Grammarly Premium version (<https://www.grammarly.com/premium>), iThenticate software (<https://www.ithenticate.com/>); 2. Google Images for Reverse image search (<https://images.google.com/>); 3. Reference Management tools, such as Mendeley, Zotero and EndNote (26); 4. Phrasebanks, collocation dictionaries and corpora: Examples include Manchester Academic Phrasebank (27), Oxford Collocation Dictionary of English (<https://www.freecollocation.com/>) (28,29) and OZDIC.COM - English collocation dictionary (<https://ozdic.com/>) and Corpus of Contemporary American English (<https://www.english-corpora.org/coca/>).

Conclusion

The present review reveals that plagiarism is globally prevalent, especially among researchers writing in foreign languages. It also indicates that various contributory factors (academic, personal, external, institutional and technological) to plagiarism need to be addressed to reduce the unwholesome practice to the barest minimum. Accordingly, to combat the problem of plagiarism, it is recommended that: 1. Each university should have a clear plagiarism policy, which should be well publicized to students and academic staff; 2. Mechanisms to monitor the effectiveness of the plagiarism policy should exist and be functioning; 3. Supervisors should look for pointers to plagiarism in addition to using plagiarism detection software; 4. Word file, not pdf file, of a writeup, should be used to check for plagiarism; 5. Plagiarism should be discouraged, and originality encouraged, using methods such as grades in students and academic staff; 6. Each university should create a centre to support and educate students and researchers about academic writing skills and proper citation methods; 7. Awareness should be raised about intellectual property law among students and researchers.

Conflict of interest

None declared.

References

1. Gullifer JM, Tyson GA. Who has read the policy on plagiarism? Unpacking students' understanding of plagiarism. *Studies in Higher Education*. 2014;39(7):1202–18.
2. Yale University. What is plagiarism? [Internet]. Yale University web page. 2021 [cited 2021 Dec 22]. Available from: [https://poorvucenter.yale.edu/undergraduates/using-sources/understanding-and-avoiding-plagiarism/what-](https://poorvucenter.yale.edu/undergraduates/using-sources/understanding-and-avoiding-plagiarism/what-plagiarism#:~:text=Plagiarism takes many forms%2C but,too close to the original)

- plagiarism#:~:text=Plagiarism takes many forms%2C but,too close to the original
3. Anderson MS, Steneck NH. The problem of plagiarism. *Urologic Oncology: Seminars and Original Investigations*. 2011;29(1):90–4.
4. Berk RN. Is plagiarism ever insignificant? *American Journal of Roentgenology*. 1991;157(3):614.
5. Khattab M. *The Clear Qur'an : English Translation of the Quran*. Lombard, Illinois: Book of Signs Foundation 2006; pp. 378
6. Rohwer A, Wager E, Young T, Garner P. Plagiarism in research: A survey of African medical journals. *BMJ Open*. 2018;8(11):e024777.
7. Kayaoğlu MN, Erbay Ş, Flitner C, Saltaş D. Examining students' perceptions of plagiarism: A cross-cultural study at tertiary level. *Journal of Further and Higher Education*. 2016 Sep 2;40(5):682–705.
8. Chien SC. Taiwanese College Students' Perceptions of Plagiarism: Cultural and Educational Considerations. *Ethics and Behavior*. 2017 Feb 17;27(2):118–39.
9. Quah CH, Stewart N, Lee JWC. Attitudes of Business Students' Toward Plagiarism. *Journal of Academic Ethics*. 2012;10(3):185–99.
10. Mohammed RAA, Shaaban OM, Mahran DG, Attellawy HN, Makhlof A, Albasri A. Plagiarism in medical scientific research. *Journal of Taibah University Medical Sciences*. 2015;10(1):6–11.
11. Gomez G. Do Easily Copied Internet Media in the Library Lead to Plagiarism ? In: Tokar A, Beurskens M, Keuneke S, Mahrt M, Peters I, Puschmann C, et al., editors. *Science and the Internet*. Düsseldorf Uni-versity Press; 2012. p. 131–43.
12. Rettinger DA, Kramer Y. Situational and personal causes of student cheating. *Research in Higher Education*. 2009 May;50(3):293–313.
13. Ehrlich J, Howard SJ, Mu C, Bokosmaty S. A comparison of Chinese and Australian university students' attitudes towards plagiarism. *Studies in Higher Education*. 2016 Feb 1;41(2):231–46.
14. Ashworth P, Bannister P, Thorne P. Guilty in Whose Eyes? University students' perceptions of cheating and plagiarism in academic work and assessment. *Studies in Higher Education*. 1997;22(2):187–203.
15. Carroll J. *A Handbook for Detering Plagiarism in Higher Education*. Oxford Centre for Staff and Learning Development.
16. Awujo CG, Agbakwuru C. Research anxiety among education undergraduates in Nigeria. *International Journal of Quantitative and Qualitative Research Methods*. 2018;6(3):1–9.
17. Traniello JFA, Bakker TCM. Intellectual theft: pitfalls and consequences of plagiarism. *Behavioral Ecology and Sociobiology*. 2016;70(11):1789–91.
18. Deutsche Welle. University of Heidelberg finds Koch-Mehrin guilty of plagiarism. [online]. 2011 Jun 15; Cited 2022 January 01
19. Deutsche Welle. University says ex-defense minister "deliberately cheated" on thesis. [online]. 2011 May 6; Cited 2022 January 01
20. Deutsche Welle. Wanka appointed German education minister in wake of Schavan plagiarism scandal. [online]. 2013 Feb 14; Cited 2022 January 01
21. Foltýnek T, Meuschke N, Gipp B. Academic plagiarism detection: A systematic literature review. *ACM Computing Surveys*. 2019 Oct 1;52(6):1–42.
22. Schulz WG. A massive case of fraud: Journal editors are left reeling as publishers move to rid their archives of scientist's falsified research. *Chem Eng News*. 2008;86(7):37–38.
23. Visser L, Haidegger T, Papanikolopoulos N. Pitfalls of publications: On the sensitive issue of plagiarism. *IEEE Robotics and Automation Magazine*. 2012;19(4):85–7.
24. Chen Y, Chou C. Are We on the Same Page? College Students' and Faculty's Perception of Student Plagiarism in Taiwan. *Ethics and Behavior*. 2017 Jan 2;27(1):53–73.
25. Shi L. Common knowledge, learning, and citation practices in



- university writing. *Research in the Teaching of English*. 2011;45(3):308–34.
26. Ivey C, Crum J. Choosing the right citation management tool: EndNote, Mendeley, RefWorks, or Zotero. *Journal of the Medical Library Association*. 2018;106(3):399.
27. Scholnik M. Digital Tools in Academic Writing? *Journal of Academic Writing*. 2018;8(1):121–30.
28. Duan M, Qin X. Collocation in English teaching and learning. *Theory and Practice in Language Studies*. 2012;2(9):1890–4.
29. Nizonkiza D. Improving academic literacy by teaching collocations. *Stellenbosch Papers in Linguistics*. 2017;47(1):153–79.