



OPINION

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Ethics in Scientific Writing

Pitt Supaphol

Directing graduate students in conducting successful, quality research has been fun since the beginning of my academic career at the Petroleum and Petrochemical College, Chulalongkorn University, in 1999. As we all know, the scientific process comprises the successive steps of identifying the objectives, establishing the hypotheses, laying out the methodology, conducting the experiments and, finally, analyzing the results. However, prior to setting up the objectives, one must have a thorough knowledge of what has been done on the subject matter of interest in the past. This will, to some extent, guarantee that the results of such studies should be of benefit to prospective readers in the field: viz. the results of the studies add to the knowledge mass of the subject matter. In order to disseminate the findings to the readers, the task of writing up the findings into any given form of manuscript is time-consuming and involves considerable effort on the part of the author(s).

In the Thai scientific community, the needs for publishing research findings are driven by many external constraints: for example, meeting the requirements for the graduation of a student, fulfilling the requirements for academic promotion of a faculty member, satisfying the minimum work load requirement of a staff member in a research institution, and so forth. While writing up research findings into a manuscript is not problematic to some, it is to a lot of people, especially those whose native language is not English. Over the years that I have been reading through manuscripts that my own students have written, I have found on numerous occasions that they would cut and paste paragraphs from various journal papers, paraphrase them and, finally, weave them together. Even though many of them did properly cite the sources of those “borrowed” texts, some did not. Whenever this malpractice of cut-and-paste and not giving the proper citation was identified, I had to make sure that they knew the seriousness of such action which can jeopardize one’s career. This is an immediate case of “plagiarism”.

Pitt Supaphol, Ph.D., is a Professor of Polymer Engineering at the Petroleum and Petrochemical College, Chulalongkorn University, Bangkok. During his ten-year tenure, he has received numerous awards, e.g., a Thailand Young Scientist Award from the Foundation for the Promotion of Science and Technology under the Patronage of H.M. the King in 2002, an Outstanding Researcher Award from Chulalongkorn University in 2007, The Highest Citation Award from Chulalongkorn University in 2008 and, most recently, an Outstanding Researcher Award in the field of Chemical and Pharmaceutical Sciences from the National Research Council of Thailand (NRCT) in 2009.

Plagiarism, by definition, is the action of taking either ideas or text that belong to someone else to make them appear as his/her own. In other words, plagiarism is the stealing of ideas or words of others. In this OPINION article, only the cases of plagiarism of text are considered. The worst case of plagiarism in academic and scientific circles is when someone takes material of someone else and then simply puts his/her name on the material as if it were his/her own. Surprisingly, this kind of practice is quite common among Thai students when they are asked to write reports on an assignment. In fact, copying answers to homework questions from a friend is also an immediate case of plagiarism. Recently, I encountered this type of malpractice myself. While searching through the 'Internet' for interesting articles to read, I came across a published article (International Journal of Chemistry, Vol.1, Issue 2, Page 68, Year 2009). Upon taking a close look at it, I recognized that the majority of the article belonged to a published article of my colleagues and myself (Journal of Biomaterials Science - Polymer Edition, Vol. 17, Issue 5, Page 547, Year 2006). The authors had merely changed the title, added a new paragraph as the first paragraph in their manuscript and submitted it to the journal. I then contacted the editor of the journal as well as the authors of the "stolen" paper. When informed, the editor acted expeditiously by removing the paper from the journal website. In the meantime, the first author admitted that he did it because he needed the paper to graduate, but he was afraid that his own written English was poor. This raises the question: had they taken the paper, paraphrased/modified it completely, and then had the paper accepted, would that have been acceptable? The answer is still "No" because, even after their modifications, they would still have led the editor, the reviewer(s) and the prospective readers of that article into believing that they were the actual owners of the ideas and the results that appeared in the article.

Being an author of a scientific article, one needs to bear in mind a commitment to report, to the best of one's knowledge, the whole truth to the prospective readers. This also transcends to the analysis of the obtained results. Fabrication, falsification and omission of some, if not all, of the results should not be done. Once this has been well taken care of, the writing up of the research findings into a manuscript calls for a tremendous effort. However, it is often difficult to avoid the use of previously-written materials of oneself and/or others as supportive information. To avoid plagiarism, one must realize that whenever parts of text from previously-written materials of others need to be used, they should be summarized, paraphrased, structurally-modified (viz., the whole "borrowed" text needs to be restructured completely) and provided with a proper citation of the source (so that the prospective readers can identify and access the source). Failure to do so would mislead prospective readers into believing that what was written originated solely from the author's ideas. In the discussion of the results (i.e., in the Results and Discussion section), it is necessary for the author to provide not only supportive but also contradictory evidence, if any, in his/her writing. This can be considered a part of the commitment that an author owes to his/her prospective readers.

In the case of using one's own previously-written materials as supportive information, is it acceptable to cut-and-paste parts of the text directly into a new manuscript? There is no simple answer to this question since it depends on many factors. Certainly, if the materials have already been published in publicly-accessible sources, directly cutting and pasting into the new manuscript would infringe the copyright of the published materials. So, basically, even when

we use our own previously-written materials, the concept of summarizing, paraphrasing, structural modification and providing a proper citation still applies, especially when the authors of the previously-written materials are different from the ones in the new manuscript. This type of copying is referred to as “self-plagiarism.” The most serious type of self-plagiarism is when one attempts to publish two almost identical articles with identical or, at most, slightly different sets of data in two different sources without making their existence clear to the editors and the prospective readers. This type of malpractice is called “dual, duplicate or redundant publication”. One needs to bear in mind at all times that once an article has been published, all the rights of the contents therein have already been transferred to the publisher (when we signed the Copyright Transfer Form), so they are protected by copyright laws.

Other less serious forms of self-plagiarism are “data partitioning” and “text reuse or text recycling”. Data partitioning is when one attempts to increase the number of publications by breaking down a set of data into smaller portions for submission to different journals. This is quite distinct from an extensive piece of research work that is clearly a series of successive but well-defined parts. By slicing up a set of data into smaller portions, it could lose its impact. However, in some cases, this type of practice may be acceptable if writing up the set of data would make the manuscript too lengthy or unwieldy for the target journal (most journals limit the number of manuscript pages, but this is an editorial decision). Text reuse or text recycling is when an author uses his/her previously-written materials as templates for composing new material. While this type of dubious practice might not be so serious, borrowing text from materials that have already been published in publicly-accessible sources may infringe copyright laws. However, this type of self-plagiarism does become more serious if the list of authors in the previously-written materials is different from the one he/she is working on.