

Rethinking the Scientific Integrity of Young College Teachers

A Study of the Retracted Publications from Journals*

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Abstract—Scientific integrity emphasizes teachers' innovation, self-restraint and self-development. However, pushed by the “publish or perish” norm and challenging evaluation regulations, teachers and researchers need more publications. Due to the high pressure, some teachers would risk their reputation and integrity and be reduced to committing academic fraud or misconduct in their researches or published articles. The direct possible consequence would be retractions of some published articles by some journals. In this paper, focusing on the research question “How to Set the Bottom Line of Scientific Integrity for Young College Teachers?”, an analysis of the retracted publications was conducted to evaluate the status quo of academic fraud. The principal methods applied in our research are literature analysis. According to the findings, reasons for retractions by journals are mainly misconduct accounting for more than 70% (including fraud, fabrication, plagiarism, faked peer review, duplicate publication, no permission from institutions or researchers), as well as error (honest/ administrative error), etc. Rethinking the retractions would help to offer suggestions in improving the academic level of young teachers and setting up a bottom line of scientific research, which can promote the progress of science and technology, create a good academic environment, and then contribute to the construction of a healthy and scientific education system.

Keywords—*scientific integrity; academic misconduct; young college teachers; retractions*

I. INTRODUCTION

As the successors and leaders of higher education in the future, young teachers' scientific integrity and innovative spirit directly affect the development of universities and higher education. Scientific researches and experiments would be of great importance in pushing forward the social progresses. Scientific researches observe and analyze typical problems so that some common corresponding approaches could be generalized to similar situations. The aim of scientific researches is to acquire more knowledge that can

be used to better society and improve human civilization, etc. According to Fichte [1], people who are working in the scientific field should pay considerable attention to the actual development of human beings and accelerate this process. College and university teachers belong to the main agents who are practicing such disciplines, and they should give full play to creativity and innovation, pursue truth and fact, and carry on the scientific ethics and meet the requirements.

However, in recent years, academic corruptions frequently occur in colleges and universities, causing widespread concern in the whole society, questioning the work ethics of college teachers. The continuous emerging academic misbehaviors and even fraud, have alarmed the researchers, journal editors, sponsors, administrators, etc., bringing about negative influence on studies and relevant researchers. Complying with scientific research norms and adhering to the bottom line of academic ethics are the necessary preconditions for building a healthy academic environment and the prerequisite for scientific and technological innovation. Young teachers in colleges and universities are the new generations and future pivots in scientific areas, shoulder the holy missions to teach students, cultivate talents, and improve the engineering practice. At the beginning of their research career, it would be urgent to set norms and guidance for young teachers. In addition, it would be very productive and significant to set the bottom line for scientific researches, also a major issue in higher education.

Among the misconducts, article retractions have aroused the concern of researchers all around the world. The number and frequency of retracted publications can reveal the condition of scientific enterprise [2]. Retraction reflects the corruption in education, especially higher education. It is a no-win situation for all stakeholders, for authors, research affiliations, journals, and publishers [3]. Some researchers would risk repeating the misconduct in their later publications. Rethinking from the reasons and consequences of retractions may help to prevent young teachers from going astray.

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II. CURRENT SITUATIONS OF ACADEMIC FRAUD AND THE HIDDEN REASONS

Academic misbehaviors and misconducts usually go to two extremes. On the one hand, the researchers brought to light may include assistant lecturers, lecturers, professors, department principals or even university presidents etc. Their positions are sometimes more and more senior, which has great negative impact on schools and society. On the other hand, some college students, including occupational students, undergraduates, postgraduates and even doctoral students, are also suspected of academic misconduct. According to the behavior types of scientific research ethics anomie, it includes academic plagiarism, bribery, dark box operation and so on [4]. In addition, it also includes the improper citation of achievements and so on, such actions belong to inadvertent misbehaviors which would be corrected after a period of professional writing education and training. The phenomena of younger average age among the agents committing academic misbehaviors should be paid more attention. Young students or college teachers have longer academic life in the future, if not corrected as early as possible, then great damage would be done to studies and industry.

Academic misconduct is a kind of behavior that gains fame and wealth through "illegal ways". There are many reasons for teachers' misconduct in scientific research. First, some teachers have no healthy working ethics in scientific research, and have the mentality of taking chances to get benefits through "shortcuts". They are not disciplined or committed to the scientific research career. Without genuine passion for researches, their personal sense of accomplishment is low, and cannot resist the temptation of money, fame and fortune and then go astray. University teachers should set themselves as brilliant models for young students. Teachers' behavior directly affects the establishment of students' outlook on the world, life and values, their distinction between right and wrong.

Second, the relevant teachers have low professional academic levels, in lack of research training, and cannot meet the requirements of school assessment. They cannot improve their own abilities in a short period of time. Almost every university is seeking better recognition and international standing through higher placement in rankings, the teachers and even students have come under intense pressure from "publish or perish" norm to publish in top journals [5].

Nowadays, it is becoming more challenging to get a tenure position in a university. Such pressures would pose many expected or unexpected academic misconducts, especially tough for young college teachers, who just start their career and would take risks. As described in Capital [6] about the relationship between capital profits and law restraints, if capital has 50% profit, it will take risks; if it has 100% profit, it will dare to trample all the laws of the world. This law can also be used to explain the motivation of teachers' misconduct in scientific research. They may risk being exposed and brought to light, and they would assume that no one will expose the misconduct. If they succeed,

fame and fortune can be double-earned, getting promotion. When the temptation of fame and wealth is far greater than its risk, some people will destroy the moral bottom line and make misconduct.

In addition, there are limitations in academic mechanism and regulatory system. At present, teachers in colleges and universities are facing enormous pressure of scientific research, and the current orientation of attaching greater importance to scientific research rather than teaching is ubiquitous. For some primary humanities disciplines, such as foreign languages, arts, and psychology and so on, Teachers in such fields need to undertake the teaching of basic courses in the whole school. The workload in class is very heavy, so they have less time and energy to engage in scientific research, hard to strike a balance between teaching and researches.

Furthermore, there are flaws and loopholes in the technical supervision and evaluation system, and the review mechanism needs to be improved. Some blamed the culture and its deeply rooted tolerance toward misconduct as the law cannot be enforced when there are many offenders [3]. Since scientific research is a creative activity, explicit violations are easy to be detected and punished. However, covert plagiarism and "improper reference" are sometimes difficult to define. For example, in some articles in journals of humanities and social sciences, authors may restate the academic viewpoints of previous scholars using their own words instead of copying the original words of the initiators. Although they do not use the original words, they are still suspected of plagiarism. Usually, the word game in this situation is more concealed, and it is very difficult to detect evidence. It is not easy to operate, so it needs to be appraised by very professional scholars.

III. YOUNG TEACHERS' SITUATION FOR ACADEMIC RESEARCHES

With the expansion of university enrollment, the proportion of young teachers in colleges and universities is getting larger, and their development and growth are also a key issue. Usually, young teachers have received more specialized scientific research training and have a clearer understanding of academic norms. However, it is also a fact that their survival pressure is relatively immense, and their motivation for scientific research is comparatively adequate. Analyzing the current situation and finding out the problems will help young teachers as well as universities to develop better in scientific research.

Higher education is an important mission in every country, education of teachers deserves more and more attention. The Ministry of Education, the Ministry of Science and Technology, state or provincial government have authorized special projects for young teachers. Even so, it is still difficult to meet the development desires of a large number of young teachers. According to the investigation and analysis of the predecessors, most of the young teachers have been bothered by the following problems: challenging project application and authorization, insufficient scientific research support, heavy teaching tasks, inadequate scientific research engagement. Besides, improper teamwork and

guidance is also a big headache. Another serious problem might be lack of peer communication and continuing education after graduation, so much devotion to scientific research with weaker sense of achievement [7].

IV. ANALYSIS OF THE RETRACTED PUBLICATIONS

Ferric et al. [2] found that misconduct accounts for the majority (67.4%) of retracted scientific publication, such as fraud or suspected fraud, duplicate publication and even plagiarism. In fact, only 21.3% of retractions were because of error. The fact is that the proportion of retracted articles has increased (ibid). Lei Lei[8] studied the status quo of article retractions by Chinese researchers, through the bibliometric information of 834 retractions, the authors found also the increase of retractions numbers during the past two decades, and misconduct (such as plagiarism, fraud and faked peer review etc.) explained about 75% of the retractions, more shocking than previous studies.

Among the common types of misconduct, faked peer review problems seems so outrageous. Serving as the pivot and mainstays of academic publishing peer review has now arrested a lot of criticism for its flaws and has been manipulated by both authors and even editors [9]. In fact, journals also bear the pressure of “publish or perish”. Many “smart” researchers have taken advantage of the anonymous peer review system and the loopholes during the review procedures. Lack of transparency, author-suggested peer reviewers, journals preferring quantity over quality and the publishers’ pressure, etc., leave much room for peer review manipulation, threatening the scientific integrity and academic ethics.

V. SETTING THE BOTTOM LINE OF SCIENTIFIC INTEGRITY TO AVOID RETRACTIONS

According to the previous researches, the average age of researchers who commit academic misconduct seems younger than before. It is possible that they would repeat misconduct in the future publications [10]. In order to prevent the academic misconduct of young teachers, it is necessary to strictly enforce the academic rules and regulations, establish the bottom line of scientific research ethics, and make every teacher dare not transcend the bottom line. The aim of implementing regulations is to ensure a fair and healthy research field. Besides, strict subsequent accountability afterwards are needed to prevent the occurrence of academic misconduct.

In addition to academic norms, moral norms should also be established, which is not only a system norm, but also contains the spirit and the cultural orientation of a university. Moreover, this cultural trend has strong appeal and inheritance [11]. The development of scientific research cannot be separated from the bottom line, which can make scholars' scientific research and creation activities more standardized, stimulate their innovative spirit. Furthermore, more transparency would be effective in protecting publishing ethics, concerning the experimental data, procedure, open peer review, etc. Journals should allow for the papers to be scrutinized and discussed openly [9].

Besides, it is necessary to improve young teachers’ capacities and professional skills. Scientific research morality is the union of norms and moral concepts in scientific researches. It starts from institutional restraint and rises to the level of virtue and self-restraint. Strengthening young teachers' scientific education has been incorporated into the training plan of young teachers to stimulate their understanding of cultivation, seeking truth, innovation and critical thinking.

VI. CONCLUSION

Young college teachers should stimulate their own potentials and deal with the key issues in the process of growth. In higher education, the most important thing is genuine talent, practical learning and unremitting pursuit of scientific spirit. As the guider of college students, young teachers should be full of self-confidence, self-discipline and strive to contribute their wisdom to the school and the world. Preventing young teachers' academic misconduct is conducive to establishing a healthy academic development system. Admittedly, there are researchers arguing that the transparency censorship system would damage science as duplicability may can never be conducted sometimes [12], the nature of scientific researches need such objectivity, or the published articles would mean less for later studies.

With the unremitting efforts of many parties, the establishment of academic norms will be more effective. Young teachers should give full play to their initiative and regard the norms as working ethics. In summary, systematic and orchestrated efforts are needed to foster integrity among all relevant people, including researchers, organizations, journal editors, publishers, reviewers, funding agencies, and whistle-blowers [13]. It would be possible to curtail academic misconduct starting from young teachers.

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