Research on the Factors and Prevention Strategies of Academic Misconduct in Universities in the Era of "Internet+"

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Abstract. In the era of "Internet+", the types of academic misconduct are more complex and diversified and more challenging to detect. It is hard to distinguish true from false, which has caused adverse effects on the social climate and scientific research undertakings. This paper discusses the strategies to prevent academic misconduct from the perspectives of leading national policies and academic climate in universities, starting from the factors behind academic misconduct in colleges and universities.

Keywords: Internet+; colleges and universities; academic misconduct; factors; prevention strategies

1   Introduction

In recent years, the competition among countries in the world is more and more manifested as the competition in science and technology. China continues to increase investment in scientific research and make breakthroughs. However, the repeated academic misconduct in recent years has not only caused unfair competition for scientific resources but also wasted the limited scientific time and energy of others and seriously hindered the development of scientific undertakings. Especially with the booming development of digital publishing, the phenomenon and means of academic misconduct are endless and fancy, drawing significant attention from all walks of life. Many domestic scholars have conducted studies on academic misconduct and achieved specific research results. For example, Wang Anquan [1] proposed some preventive measures from the perspective of the journal editorial board, given the new characteristics of academic misconduct in the era of big data. Yang Juanhua [2] put forward corresponding suggestions to curb academic misconduct stemming from the lack of academic integrity, poor self-discipline and low research ability of college students. Xu Shiyong et al. [3] took Silk magazine as an example and introduced the effective measures taken by Silk to prevent academic misconduct. These scholars analyzed the

performance of academic misconduct and prevention suggestions from different perspectives, providing valuable references for subsequent studies.

2   Driving factors contributing to academic misconduct

2.1   Driven by academic interests

Driven by current academic interests, some universities' academic and research culture is gradually utilitarianism [4]. In many matters involving personal claims, such as title evaluation, annual evaluation assessment, and research fund application, the publication volume of academic papers are pivotal measurement indicator, and more representative papers often indicate more opportunities, as shown in Figure 1. They are not only the entrance ticket for title promotion but also the door knocker for talent awards and research fund grants. However, this orientation has unilaterally encouraged university teachers and researchers to be "enthusiastic" about publishing papers, primarily focusing on quantity rather than quality. To accumulate as many publications as possible, many authors split a research result into several small papers for publication. To achieve more results in a short period, some researchers may painfully abandon research directions in which they initially excelled and turn to those areas where results are faster and easier to produce. Some individuals are eager for quick success, even by falsifying data in their papers and plagiarizing as one of the shortcuts to obtaining success. The negative consequences of these behaviors are the decline of scientific research quality, unnecessary duplication of research [5], the waste of readers' energy and time, and the poor academic ecological environment.
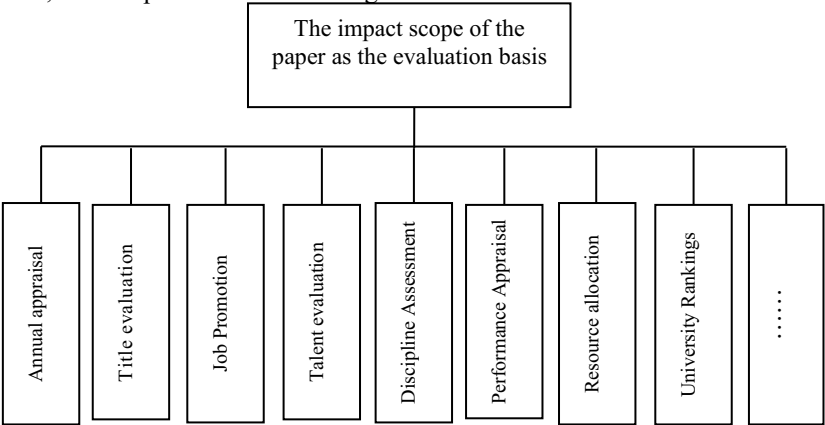

Fig. 1. The paper's impact scope (owner draw)

2.2   Deficiencies of the Academic Grading System

Chinese higher education has been developing rapidly in recent years, and under the fierce competition, all universities are striving hard to show the development trend of striving upward. The top universities in China such as the "985 project" and "211

project" are mostly aiming at world-class universities, while ordinary universities are trying to catch up with other domestic top-notch universities. Especially in recent years, the implementation of the "double first-class" university plan has intensified the competition for academic strength among them. Among the indicators of the evaluation system, thesis output occupies a very important position. In other words, the thesis is the most common indicator to reflect the level of academic strength of institutions, especially the number of papers published in core journals.

Therefore, to encourage teachers to publish more papers, some colleges and universities, by means of administrative management, set the number of papers published as teachers' workload and use it to determine their salaries and rewards, the more the number of articles, the higher the rank, the higher the number of scientific research rewards. Moreover, in the title evaluation and degree awarding, academic papers are also regarded as an essential condition, and are even given the supreme right of veto. Under the pressure of this mechanism, many institutions of higher education, from faculty to general administrators and even school logistics staff, are racking their brains in pursuit of dissertation publication. In addition, China's huge ranks of doctoral and master's students are also trying to fulfill the university's publication requirements at any cost to graduate successfully and obtain their degree certificates. The excessive pursuit of paper publication not only brings about the decline of academic quality and scientific research over teaching, but also inevitably breeds a large number of academic corruptions, paper fraud and other undesirable behaviors. In addition, in order to publish as many papers as possible, especially in core journals, many researchers tend to cater to the preferences and orientations of editorial departments and review experts, and solve problems by establishing various mathematical models [5]. Such a kind of paper may seem "glamorous", but it may ignore the real needs of the real world and go against the nature and original purpose of scientific research.

2.3   Boosting the Role of Information Technology such as "Big Data"

In the era of "Internet +", with the rapid development of information technology, the digital publishing trend is unstoppable [6], and more and more academic journals have realized network communication and digital management. At the same time, the popularity of cell phones and mobile Internet has made access to information more accessible. However, big data technology and mobile Internet are a double-edged sword, and while they benefit the public, they also breed many new academic misconducts. The rich educational resources on the Internet provide a huge platform for information sharing and academic exchange for academic research and teaching activities. While promoting science and culture's rapid development and giving readers a convenient reading experience, they also create "shortcuts" for "authors" of academic misconduct. First, online information sources are so extensive that copying and pasting become easy, reducing the cost of plagiarism and other "production" of academic misconduct. They often copy the theories and ideas of their predecessors and pass the check test by slightly changing the wording and phrasing and can complete thousands or even tens of thousands of words in a few hours. Such output is not so much "academic results" as "academic garbage" [7]. Secondly, the continuous development of information tech-

nology has opened a window for illegal acts such as thesis forgery and thesis trading. The advertisements of ghostwriting papers on the Internet are repeatedly prohibited, and all kinds of paper agencies and fake journal websites have emerged, with sellers being blatant and buyers being accustomed to them [8], which to a certain extent contribute to the destructive culture of academic misconduct and so on.

3   Preventive Mechanisms for Academic Misconduct in Higher Education

3.1   Giving the leading role in national policies

In 2018, the Ministry of Science and Technology, the Ministry of Education, the Ministry of Human Resources and Social Security and five other departments jointly issued a document requiring a special campaign to clean up "thesis-oriented, title-oriented, education-oriented and award-oriented approach" and improve the talent evaluation system. In 2020, the Ministry of Education issued the Circular of Several Opinions on Eliminating the Undesirable Orientation of "Essay-Only" in the Evaluation of Philosophical and Social Science Research in Universities to optimize the academic ecological environment comprehensively [9]. The introduction of these guidelines and policies reflects the country's determination to create a fair and just academic environment, and it also indicates that under the framework of the unsound relationship between state supervision and university autonomy, the obligation and responsibility of governance of academic misconduct cannot be fully endowed to colleges and universities, and more importantly, it is necessary to deepen the reform in the system with the help of administrative public power. It is undeniable that our government has a substantial leading role in the academic evaluation and governance of universities. Still, it is necessary to break the undesirable tendencies such as thesis and quantity only, which need substantial promotion by departments at all levels. Our government undeniably has an influential leading role in the academic evaluation and governance of universities. Still, it is necessary to break the undesirable tendencies such as thesis and quantity only, which need substantial promotion by departments at all levels. In addition to further improving the coordination mechanism of academic misconduct at the governmental level, we should also clarify the responsibilities and authority of various departments in the management of academic misconduct in colleges and universities and improve the enforceable measures such as supervision and disciplinary measures in the management of academic misconduct. In this way, we can promote the implementation of relevant policies on the ground and curb academic malpractice from the root.

3.2   Establish a Good Academic Climate in Universities

The management of academic misconduct is a global and systematic problem that requires the efforts and cooperation of many parties, such as government, universities,

society, and individuals. From the perspective of colleges and universities, we can start from the following three aspects.

1) Strengthen the purpose and mission of universities. The idea of classifying and running higher education in China is evident. It is roughly divided into three major categories according to the responsibilities of different colleges and universities, namely research universities (dedicated to high-level talent training and scientific and technological research and development), application-oriented universities (focusing on undergraduate education) and technical universities (focusing on training operational talents). However, there is no clear standard or mandatory requirement for this division of colleges and universities, and many are still in the preliminary transformation stage. However, no matter which type, they are pursuing a more significant number of publications, better academic prestige, and a higher level of schooling to improve social influence and popularity. Therefore, to fundamentally solve this problem, we need to rely on the educational authorities to do good top-level planning and redefine the talent training objectives and missions of different types of universities [5]. For application-oriented or technical universities, high-quality teaching and service should be encouraged from policy orientation rather than scientific research results.

2) Remove the drawbacks of the title evaluation system. Presently, in domestic higher education institutions, it is true that many scientific researchers and teaching staff have been well deserved to be awarded senior titles because of their outstanding scientific research achievements and excellent teaching ability. Most staff have to meet the mandatory requirement of thesis publication for promotion, and the higher the number of publications, the higher the ranking. Therefore, colleges and universities need further to strengthen the professional title evaluation system's reform and eliminate the single evaluation standard, especially those non-research universities. In addition, teaching and academic level should be measured objectively and comprehensively from many aspects by broadening the evaluation channels to explore the professional title evaluation channels that effectively meet educational development needs.

3) Adjust the salary system of faculty. Nowadays, the salary structure of many colleges and universities in China is divided into two parts: basic salary and performance reward, and the latter amount is more substantial. And inside the second part, thesis rewards again tend to occupy the bulk, undoubtedly leading to the emergence of many papers with mere padding. Therefore, teachers' basic salaries should be substantially increased to make teachers return to the curriculum and concentrate on teaching, education, research, etc. Secondly, the amount of reward for publication should be reduced. One important cause of academic misconduct is its related interests, so a reasonable reward policy should be formulated, neither simply by the number of articles as a reference nor by the level of published journals as a standard. It has been reported that some universities even reward teachers up to 500,000 yuan for papers published in high-impact journals such as Science and Nature [5], which is excessive and lacks scientific basis, and to some extent, leads to the spread of academic misconduct.

4   Conclusion

An in-depth analysis of academic misconduct in universities in China shows that the causes are driven by academic interests, defects in the academic evaluation system and the role of information technology. And it is closely related to the academic personality of scientific subjects, the strength of policy implementation and the soundness of supervision and disciplinary mechanism. Some universities adopt the attitude of harboring the discovered academic misconduct based on localism and protectionism, contributing to academic misconduct to a certain extent. When the cost of academic misconduct is less than the benefit of academic misconduct, coupled with the insufficient academic quality of some researchers, academic misconduct will be fostered. Therefore, in addition to the suggestions made in this paper, the government, universities and society should cooperate to improve the ethical and moral standards of scientific researchers, recreate a sense of reverence for scientific norms, and effectively maintain the fairness and justice of scientific research, so as to curb the breeding and proliferation of academic misconduct fundamentally and to adopt a multi-pronged approach in terms of moral guidance, policy formulation, disciplinary measures, evaluation guidance and social supervision.

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