

Understanding and reflecting on teacher development of private colleges and universities - A case of Guangdong University of Science and Technology

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Abstract. Private colleges and universities have become an important part of higher education system in China, but most of the full-time teachers in private colleges and universities are graduates of master's degree. They are young, willing to study, and have new ideas and the spirit of a pathbreaker. What is lacking is that they do not master the laws of education and scientific research methods. Moreover, they are short of the practice of teaching and training of scientific research. In this paper, we proposed the countermeasures of teacher development that the government, university and teachers should do in Guangdong University of Science and Technology.

1 Introduction

When the People's Republic of China was founded in 1949, there were 69 private colleges and universities, which were converted into public colleges and universities in the early 1950s. Since then, there has been no private higher education institution for nearly 30 years in China. Since the 1980s, private higher education began to recover. In recent years, they have been developed significantly and are gradually becoming an important force in the higher education system in China. Private colleges and universities refer to the institutions of higher learning and other educational institutions run by enterprises, institutions, social organizations, other social organizations and individual citizens who use non-state financial educational funds to run colleges and other educational institutions. The tuition fees of private colleges and universities are generally higher than those of public universities. The tuition fees of Guangdong University of Science and Technology are about 30,000 Yuan per year, with a four-year school system.

According to Ministry of Education of the People's Republic of China, there are a total of 3005 colleges and universities in Chinese mainland by June 30, 2020, including 265 adult and 2740 ordinary colleges and universities. Ordinary colleges and universities consist of 1468 higher vocational (junior colleges) colleges and 1272 undergraduate colleges and universities. Undergraduate colleges and universities are composed of 827 state-owned public, 436 private, 7 Chinese-foreign cooperatively-run, and 2 the mainland and Hong Kong, Macao and Taiwan colleges and universities.

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Private colleges and universities are more than half of state-owned public from Table 1. However, there is practical difference between private and state-owned public colleges and universities about achievements in the teaching competitions and scientific research. The *Analysis Report of the National Teaching Competition for Teachers in Colleges and Universities (2012-2019)* selected 46 national teaching competitions with public data, which are generally recognized by universities and the society. Private and state-owned public colleges and universities are large differences in national teaching competitions. The average number of awards by state-owned public colleges and universities was 16, while that of private, Chinese-foreign cooperatively-run, and the mainland and Hong Kong, Macao and Taiwan colleges and universities was 2. Moreover, there were no private, Chinese-foreign cooperatively-run, and the mainland and Hong Kong, Macao and Taiwan colleges and universities in the top 200, and only one in the top 300. According to the report, there was a considerable disparity in the number and the average score between private and state-owned public colleges and universities. [1]

Table 1. Data of Colleges and Universities in China.

Types of colleges and universities	Number	Types of colleges and universities	Number
Colleges and universities	3005		
Adult colleges and universities	265		
Ordinary colleges and universities	2740		
Higher vocational (junior colleges) colleges	1468		
		State-owned public	827
		Private	436
Undergraduate colleges and universities	1272	Chinese-foreign cooperatively-run	7
		The mainland and Hong Kong, Macao and Taiwan colleges and universities	2

Zhou and Zhao (2007) proposed that there are some problems in private colleges and universities, such as late start, lack of funds and so on, especially many difficulties and problems in the development of academic ability. [2] Wuhan University counted the number of Chinese Core Journals of Peking University published by universities and colleges in 2018. The Chinese Core Journals of Peking University are the journals listed in the general catalogue of Chinese Core Journals and developed and published by Peking University Library, which have been identified by many authoritative experts in academic circles. According to the statistics, the number of papers published by universities and colleges in Chinese Core Journals of Peking University reached 342,069 articles in 2018, and University of Chinese Academy of Sciences ranked first with 5,493 articles. Nevertheless, there was no private universities and colleges in the top 160.

Guangdong University of Science and Technology is representative in the emerging private colleges and universities, whether in the time of its establishment, or in teaching and scientific research. However, most of the full-time teachers in private colleges and universities are graduates of master's degree. They are young, willing to study, and have new ideas and the spirit of a pathbreaker. What is lacking is that they do not master the laws of education and scientific research methods. Moreover, they are short of the practice of teaching and training of academic research.

2 The characteristics of teachers in Guangdong University of Science and Technology

Guangdong University of Science and Technology is a full-time general undergraduate college established with the approval of the Ministry of Education, which is a full-time

regular undergraduate college with the development of management, economics, literature, art and other disciplines. It was established in Dongguan Nanbo Specialized College in 2003, which was upgraded to Dongguan Nanbo Vocational and Technical College in September 2004, and to General Undergraduate University and renamed Guangdong University of Science and Technology in 2011. It obtained the right to confer Bachelor's degree in 2015, and passed the undergraduate teaching qualification assessment of the Ministry of Education in 2018. The school has 11 secondary colleges, with more than 20,000 full-time students. There are more than 1000 full-time teachers in Guangdong University of Science and Technology. Among the full-time teachers, more than 80% just have master's degree and some teachers only bachelor's degree, therefore, they are apparent who have PhDs.

2.1 Teaching

According to the *Analysis Report of the National Teaching Competition for Teachers in Colleges and Universities (2012-2019)*, Guangdong University of Science and Technology won only four awards, ranked 847, scored 23.56 points. [1]

There are many reasons why teaching needs to be improved greatly. Although Guangdong University of Science and Technology has made a lot of efforts to improve teachers' teaching, the effect is inconspicuous. Firstly, it provides offline or online training for all teachers every semester. The training teachers who give lectures are famous teachers from the university and professors from other universities. However, the effect of this kind of training for all teachers is not significant. More than 80% of the teachers participating in the training are playing with mobile phones or sleeping, because they feel that the discipline they teaching is unable to use that method. Therefore, the method wastes manpower and financial resources. Secondly, the school hold the Teaching Report Competition, Teaching Competition and Courseware Competition. Some secondary colleges hold Teaching Report Competition every week. This method not only make teachers feel exhausted, but also the teaching effect is not perfect. Because peers feel that certain teacher was good at teaching, which is not related to students learning well. Thirdly, Guangdong University of Science and Technology pays too much attention to the form. No matter what class should have curriculum ideology and politics.

There are other reasons for the unperfect teaching effect in Guangdong University of Science and Technology. On the one hand, there are more than 40 students in one class, which no matter professional courses or public courses are taught in classes. Language teachers complain that "There are too many students in the class. Only a part of students has the opportunity to speak each time. But learning foreign languages requires students to speak more." On the other hand, the management of Guangdong University of Science and Technology is mostly from the side of teachers. If students sleep or play mobile phones in the classroom, the performance pay of teachers will be deducted.

2.2 Scientific research

There is a great connection between the scientific research results of the university and the degree and professional title of full-time teachers to some degree. However, only a small number of teachers have doctoral degrees in Guangdong University of Science and Technology. Moreover, most of the professors and associate professors are retired professors, who are hired from public universities. Zhu *et al.* (2015) proposed that the elder professors have limited energy and lack the motivation and strength to engage in scientific research. [3] Therefore, there is a great room to progress in scientific achievements for Guangdong University of Science and Technology.

In recent years, the teachers of Guangdong University of Science and Technology have published more than 6000 articles in various academic journals, but just more than 500 articles in the four major retrieval (EI/CPCI/CSSCI/CSCD) and Chinese Core Journals. It obtained 365 scientific research awards at municipal level and above, only 127 at provincial and ministerial level, published 189 textbooks and academic works, presided over 223 scientific research projects at municipal level and above, just 65 provincial key and major projects, and presided only two national new engineering research and practice projects.

Table 2. Scientific Research Results in Guangdong University of Science and Technology.

Articles in various academic journals	6000
Articles in four major retrieval (EI/CPCI/CSSCI/CSCD) and Chinese Core Journals	500
Textbooks and academic works	189
Scientific research projects at municipal level and above	223
Provincial key and major projects	65
National new engineering research and practice projects	2

In addition to the deficiencies of the teacher groups of Guangdong University of Science and Technology, there is also a lack of the professional scientific research management team, which leads to lack the gradient of scientific research awards. For example, the published articles are retrieved and included in the Science Citation Index (SCI) or the Social Science Citation Index (SSCI), with a bonus of 10,000 Yuan for each article, according to *The Incentive Measures for Scientific Research Achievements of Guangdong University of Science and Technology (Revised in 2019)*. Therefore, the bonus is not in line with JIF quartile, and teachers are lack of enthusiasm in the development of scientific research ability. The bonuses of most of universities are in line with JIF quartile in China, such as Jinan University and Guangdong University of Finance & Economics.

3 Improving countermeasures of teachers development in Guangdong University of Science and Technology

Lim et al. (2020) suggested that teachers' access to quality teacher professional development was a challenge due to geographical limitations, gender, special needs, marginalized communities, and the government's policies. [4] There are three key stakeholders—the government, university, and teachers, which play significant roles in improving countermeasures of teachers development in Guangdong University of Science and Technology

3.1 Government

The government should also encourage doctoral graduates to go to private colleges and universities to work, and give preferential policies to them, and encourage private colleges and universities to treat doctors in the same way as or higher than public universities, so as to attract doctors to private colleges and universities to work.

The support of government for private colleges and universities should be strengthened. Moreover, government should give more opportunities to them. Jiang et al. (2020) proposed that the government's university financial support projects should not be concentrated in some universities and impede fair competition among them. [5] Therefore, the government's university financial support projects should pay attention to not only "Project 211" and "Project 985", but also private colleges and universities.

The National Social Science Fund of China was established with the approval of the State Council in 1986, which supports basic research in the field of scientific research and focuses

on supporting researchers in universities and scientific research institutions with excellent research conditions and research ability. It includes six categories, including major projects, annual projects, special commissioned projects, later funded projects, western projects, and Chinese academic translation projects, and focusing on supporting young social science researchers and social science research in remote and ethnic areas. Subjects supported by the National Social Science Fund of China reflect not only the development needs of the country but also the basic needs for disciplinary development and academic study, and the achievements of the academic research also demonstrate high academic standards to some degree. The National Office of Philosophy and Social Sciences announced the list of Major Projects of National Social Science Fund in 2020, including 342 items. However, there are no private colleges and universities.

3.2 University

Private colleges and universities play an important role in the teacher development, especially for young teachers. Palermo et al. (2019) emphasized the importance of understanding teachers' psychological characteristics, for example, motivations, expectations, ability beliefs, and values. [6] Guangdong University of Science and Technology should provide the targeted training of teaching and scientific research to young teachers, and improve the performance appraisal system.

3.2.1 Training

It is younger of the age composition of teachers in private colleges and universities in China. Young full-time teachers have development potential and vigor, but their academic and teaching level still need to be improved. Desimone (2009) and Scher et al. (2009) suggested that effective professional development should improve the teacher knowledge, which should have a strongly positive influence on instruction, and in turn, effective instruction should have an influence on student achievement. [7-8] Although Guangdong University of Science and Technology has organized a lot of teaching and research training, the effect is not obvious, which can be easily seen from the number of awards in teaching competitions and articles published in core journals. Therefore, both teaching and scientific research should be targeted training, rather than the whole teachers to participate in the training.

In terms of teaching training, professional and public courses should have different training, because the teaching purposes between the professional and public courses are different. Besser et al. (2020) proposed that teacher professional development courses can support teachers in building up pedagogical content knowledge and in improving the quality of teaching. [9] However, some young teachers don't think that the teacher professional development are significant. Therefore, Guangdong University of Science and Technology should give priority to young teachers for improving the perception of the importance of the quality of teaching. Different professional courses should have different training. Professors in secondary colleges should carry out teaching training on how to teach a certain part of a subject. Kraft et al. (2018) and Battay et al. (2013) proposed that plenty of evidence shows that professional development programs have null effects on teacher and student outcomes. [10-11] Moreover, Liu et al. (2020) suggested that a more comprehensive approach would consider a professional development program's true effect as the combination of learning and forgetting. [12] Therefore, the effectiveness of the training course should be evaluated after the training course have been employed. Teachers should also teach in different ways according to different subjects and professional contents, but following certain teaching standards is the basic premise to ensure good teaching quality, that is, to adhere to the organic combination of standardization and creativity.

More than 80% of teachers just have master's degree in Guangdong University of Science and Technology. However, they seldom have the opportunity to receive the scientific research training systematically before their study. Therefore, it is necessary to carry out academic training for young full-time teachers with master's degree. In the training, in addition to the project application and paper writing, we should also carry out training on the topic selection. Moreover, we can share the research on interdisciplinary integration.

3.2.2 Improving the performance appraisal system

At present, the performance pay of teachers in Guangdong University of Science and Technology is mainly composed of students' evaluation of teaching, teaching competitions and scientific research achievements. However, scientific and reasonable teacher evaluation needs to combine quantitative and qualitative evaluation, and reflect the integrity and comprehensiveness. Jiang et al. (2020) pointed out that the university's own assessment should be continually implemented to analyze the inputs and outputs, performance and efficiency associated with the research. [5] It is necessary to improve the investment strategy and operating system of universities based on the results of university evaluation.

The evaluation of teaching should be enlarged, from single dimension evaluation of students to multi-dimensional evaluation of teaching participated by leaders, experts, peers, students and teachers themselves. If we only regard students' evaluation of teaching as the standard to evaluate the teaching effect, it will lead some teachers to reduce the requirements of teaching, in order to obtain a higher score of students' evaluation of teaching by meeting the needs of students. When students enter the classroom with untidy clothes, play with mobile phones in class, sleep in class, and do not hand in their homework, teachers dare not criticize students because they are afraid of low teaching evaluation scores. Teachers whose scores are down to the bottom will not only be deducted from their performance pay, but also be interviewed by their leaders.

3.3 Teachers

In China, the full-time teachers of many private colleges and universities are graduates. Moreover, most of the full-time teachers in private colleges and universities, like Guangdong University of Science and Technology, are graduate students of master's degree. Most of these young teachers who only have master's degree are preparing for the postgraduate entrance examination. After they pass the examination, some of them will choose to study for on-the-job doctorates, while others will choose to study as full-time doctoral students. Although they are new to their jobs, they are young, willing to study, have new ideas. What is lacking is that they do not have a comprehensive understanding of teaching and scientific research.

After working for about two years, these young teachers have a clearer understanding of their own work. At this time, they should formulate their own future development direction. It is better to combine teaching and scientific research, and choose the same or similar scientific research direction as their own disciplines, because scientific research can promote teaching to some extent.

4 Conclusions

Guangdong University of Science and Technology is a private undergraduate university, rapidly growing. However, most of full-time teachers just have master's degree who are graduates. What is lacking is that they do not master the laws of education and scientific

research methods. Moreover, they are short of the practice of teaching and training of scientific research. Firstly, the support of government for private colleges and universities should be strengthened. Secondly, the university should provide the targeted training of teaching and scientific research to young teachers, and improve the performance appraisal system. Thirdly, those young teachers should formulate their own future development direction, which is better to combine teaching and scientific research. There is no end to the construction of private colleges and universities but a long-term dynamic process for the government, universities and teachers.

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