

A STUDY ON THE CURRENT STATUS OF COLLEGE TEACHERS PROFESSIONAL DEVELOPMENT IN GUANGDONG COLLEGE OF TECHNOLOGY, CHINA

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Abstract: This study aimed to analyze the differences in teacher professional development under different demographic variables by investigating the current status of 183 teachers from Guangdong College of Technology in China. In this study, by questionnaire survey, with teachers at Guangdong College of Technology as the mother group, 186 teachers were selected as the research objects of this study. Finally, 183 valid questionnaires were collected and sorted out, and the effectiveness rate of the questionnaires was 98.39%. The research tool used in this study was the questionnaire on the status of teacher professional development compiled by Zhang. The results showed that the overall level of teacher professional development was different in gender, teaching age, education level, and professional title. Finally, based on the quantitative research results, this research put forward corresponding suggestions and countermeasures to help college teachers improve their level of professional development.

Keywords: Teacher Professional Development, College Teachers, Guangdong College of Technology

Introduction

In today's world, with the advent of the era of the knowledge economy, profound changes have taken place in the international situation, and international economic and cultural exchanges have become increasingly frequent. Rapid information transmission has provided strong impetus and good development opportunities for the whole society (Guskey, 2020). The level of teachers' professional development is the basis of teaching and the premise of teachers' professional success. The success process of teachers' profession is the process of teachers' professional development and construction. In this process, what kind of environment should be created and what measures should be taken to promote teachers' professional development have become issues that we must pay attention to today (Keith, 2016).

The 21st century is the era of the knowledge economy. Education plays an increasingly important role in social development, and people will pay more and more attention to and expect Education (Shi, 2015). With the implementation of China's strategy of "rejuvenating the country through science and education", the state has given priority to supporting domestic first-class universities to become "world-class". Education is the foundation of a long-term plan; Teachers are the priority in education. Now the world is in a new period of great development, change, and adjustment. socialism with Chinese characteristics has entered a new era, and the competition for talent resources has become the core of the competition for the comprehensive national strength of various countries (Tan, 2021). In January 2018, the opinions of the CPC Central Committee and the State Council on comprehensively deepening the reform of the construction of teachers' teams in the new era clearly stated: "comprehensively improve the quality of teachers in Colleges and universities and build a high-quality and innovative teaching team". In March 2018, the Ministry of Education and other five departments issued an action plan for the revitalization of Teacher Education (2018-2022), which proposed: "run several high-level teacher education institutions, improve the teacher training system, and significantly improve the comprehensive quality, professional level and innovation ability of teachers". The key to the construction of socialist higher education with Chinese characteristics in the new era lies in the professional level of the teaching staff, and excellent college teachers are the key driving force to achieve this goal (Tan, 2021).

As a strong province in education, Guangdong Province, China, the key to winning a competitive advantage in various industries lies in innovative talents, and the root of innovative talent training lies in teachers. The People's Government of Guangdong Province attaches great importance to the professional development of college teachers. Since the implementation of the "teacher strengthening project" 10 years ago, Guangdong Province has focused on building a teacher education system with integrated training development, taking the lead in launching the construction of "new normal schools" nationwide, establishing a sound teacher development mechanism, and building a high-level teacher team. The Guangdong College of Technology involved in this study is a full-time regular undergraduate college approved by the Ministry of Education and has been selected into the national applied talent training project training base, the national maker space pilot unit, and the e-commerce talent incubation base of colleges and universities in Guangdong Province. The Guangdong College of Technology proposed to strengthen and improve the professional development level of college teachers, give play to the leading role of the College Teachers' team and promote the comprehensive improvement of college academic research and teachers' professional development level.

The professional development of College Teachers is a hot issue in the field of higher education management research, but the research on the current situation of College Teachers' professional development lacks systematic theoretical research (Lei, 2022). Based on the three dimensions of Zhang



(2018), including teachers' professional knowledge, professional skills, and professional affection, this study investigates and analyzes the current situation of College Teachers' professional development in Guangdong College of Technology in China under different demographic background variables, to lay a theoretical foundation for enriching College Teachers' professional development. Therefore, it is of theoretical significance to explore the current situation of College Teachers' professional development in Guangdong College of Technology.

Research Objectives

- 1) To understand the current situation of College Teachers' professional development in Guangdong College of Technology.
- 2) This study analyzed the differences in teachers' professional development at the Guangdong College of Technology under different demographic variables (gender, teaching age, education level, professional title)

Literature Review

Research on Connotation of Teacher Professional Development

Some scholars believed that the understanding of teachers' professional development could be roughly divided into two categories: one was to regard teachers' professional development as the process of becoming a professional profession and obtaining the corresponding professional status, emphasizing the improvement of teachers' group and external professionalism. The issues concerned include the historical development of teachers' profession, social status, professional organizations, professional codes, etc; Another kind of understanding is to pay attention to the development of teachers as individuals. It is to pay more attention to the improvement of teachers' economic and social status and strive for the distribution of resources and power, but also to the improvement of teachers' individual and internal professionalism, and teachers' professional characteristics, such as professional knowledge, professional affection, professional self, etc. (Chen, 2013; Tan, 2022).

Xiao (2017) believed that teachers' professional development refers to activities carried out to develop teachers' individual skills, knowledge, expertise, and other qualities. Actively promoting teachers' professional development was an important measure to strengthen the construction of teaching staff in colleges, improve the quality of personnel training, and thoroughly implement the national medium and long-term education reform and development plan.

According to the understanding of domestic and foreign scholars on the connotation of teachers' professional development, this study used the view of Zhang (2018) to define the concept of teachers' professional development as teachers' continuous growth in their career was influenced by internal and external factors, and it was a process of sustainable improvement and development in terms of



professional knowledge, professional skills, professional affection, etc.

Theory and Related Research on Teacher Professional Development

Teachers are the main body of professional development, and teacher professional development is also a process of teachers' self-development (Chen & Huang, 2017). Most domestic scholars believe that the factors that restrict the professional development of teachers in college mainly come from two aspects, namely, external factors such as pressure from family, school, and society, and internal factors such as teachers themselves (Xu, 2015).

According to the research results of relevant scholars at home and abroad, it is not difficult to conclude that the factors that currently affect the professional development of teachers in higher education institutions can be roughly divided into the following three categories: the first category is social factors, the second category is school factors, and the third category is personal factors of teachers (Zhou, 2015).

By searching the literature on the topic of "teacher professional development" in major domestic and foreign databases, 3,442 relevant articles were obtained, including 2,865 Chinese articles and 577 English articles. By searching the literature on the topic of "research on the current status of professional development of college teachers" in major domestic and foreign databases, only 33 relevant articles were obtained. Currently, there are few studies on the current status of professional development of college teachers.

This study focused on the professional development of college teachers at Guangdong College of Technology in China. Through a questionnaire survey, it helped to gain a deeper understanding of the current situation of professional development among college teachers at Guangdong College of Technology in China.

Research on Professional Development of College Teachers Under Different Population Background Variables

There were significant group differences in the professional development of college teachers. There were significant differences between the male and female college teacher groups in the current status of teacher professional development (Zhang, 2018). It was not difficult to see the contradictions of female teachers themselves. On the one hand, they did not agree with the traditional gender division of labor, nor did they believe that women were good at teaching, men were good at scientific research, and men had advantages over women in the development process. Che (2016) found in the survey that 45.5% of teachers did not agree with the view that female teachers were good at teaching and male teachers were good at scientific research. It can be seen that most female teachers in colleges do not believe that physiological differences between men and women will affect the division of labor.

In terms of different teaching ages. According to the research of Tan (2021), this study divided

College Teachers' professional development into three stages: college teachers with teaching age of 1-3 years are in the adaptation period; College teachers with teaching age of 4-8 years are in the growth stage; College teachers with teaching age of more than 9 years were in the mature stage (Tan, 2021). Tan (2021) found that the level of teachers' professional development in the mature period was higher than that in the adaptation period and growth period. Teachers in the adaptation period were more eager to be recognized by leaders, colleagues and students through their professional development (Tan, 2021).

In terms of different professional titles, there were significant differences in the professional development level of college teachers with different professional titles. The professional development level of junior (assistant) teachers is the highest, and the professional development level of intermediate (lecturer), associate senior (associate professor), and senior (professor) teachers shows a linear development trend. As the professional title increases, the professional development level also increases. Teachers with higher professional titles had stronger academic and teaching abilities and also had more opportunities to obtain research funding, training opportunities, and project applications (Che, 2016).

The differences in different educational levels were mainly reflected in the differences in academic ability. According to the research of domestic and foreign experts and scholars, the academic ability of college teachers with doctoral degrees was higher than that of college teachers with master's degrees and bachelor's degrees (Xu, 2015). The higher the educational level of college teachers, the more knowledge of education and scientific research ability they received, which could explain why they had more subject knowledge and academic foundation than other college teachers (Xu, 2015).

Methodology

The research object was the teachers of Guangdong College of Technology in Guangdong Province, China. There are 361 teachers in the college, and according to the Krejcie and Morgan (1970) scale, the sample size was determined to be 186, using convenient sampling. A total of 186 questionnaires were distributed for this survey, and after removing 3 invalid questionnaires, 183 valid questionnaires were returned, with a valid recovery rate of 98.39%, which was considered to meet the requirements.

This study used the scale developed by Zhang (2018) as a questionnaire for the professional development of college teachers. All these scales had Cronbach α coefficient over 0.8, the KMO value was 0.926, thus, the reliability and validity were at a good level.

Results

Demographic Analysis of the Respondents

This study took teachers at Guangdong College of Technology in China as the research object and analyzed the demographic variables of the 183 valid questionnaires collected, including the distribution of demographic variables such as gender, teaching age, educational level, and professional title of teachers. The number and percentage of subjects in this study with different demographic variables were as follows: 69 males, accounting for 37.7%; 114 females, accounting for 62.3%; in terms of teaching age, 62 teachers with 1-3 years of teaching age, accounting for 33.88%; 79 teachers with 4-8 years of teaching age, accounting for 43.17%; 42 teachers with 9 years or more of teaching age, accounting for 22.95%. In terms of educational level, 83 teachers with bachelor's degrees, accounting for 45.36%; 63 teachers with master's degrees, accounting for 34.43%; 37 teachers with doctoral degree, accounting for 20.22%. In terms of professional titles, 100 junior-level teachers, accounting for 54.64%; 46 intermediate-level teachers, accounting for 25.14%; 15 deputy senior-level teachers, accounting for 8.20%; 22 senior-level teachers, accounting for 12.02%.

Descriptive Statistics of College Teachers' Professional Development in Guangdong College of Technology, China

This study used descriptive statistics to analyze the current level of College Teachers' professional development in Guangdong College of Technology. According to the analysis results in Table 4.2, the overall average value of teachers' professional development was M=3.80, and the standard deviation was SD=0.96; In each dimension, the average score of professional knowledge was M=3.87, the average score of professional skills was M=3.57, and the average score of professional affection was M=3.95. The average score of each dimension of teachers' professional development was the lowest (M=3.57, SD=1.02), and the highest (M=3.95, SD=0.89). There were certain differences in the standard deviation of different dimensions, there were certain differences in the performance of each dimension of Teachers' professional development in college. The average scores of college teachers participating in the survey in the overall level and each dimension are higher than the average of 3, indicating that the overall level of teachers' professional development in this sample was relatively high.

Table 1: Descriptive Statistical Analysis of Teachers' Professional Development

Dimension	N	Min	Max	M	SD	Interpretation
Professional Knowledge	183	1	5	3.87	.98	High
Professional Skill	183	1.5	4.8	3.57	1.02	High
Professional Affection	183	1.5	5	3.95	.89	High
Overall Professional	183	1.3	4.9	3.80	.96	High
Development of Teachers						

Difference Analysis of Different Demographic Variables

This study used independent sample t-tests and one-way analysis of variance to analyze the differences in professional development among college teachers at Guangdong College of Technology

in China based on different demographic variables (gender, teaching age, education level, and professional title).

- 1) Test Results of the Research Hypothesis H1-1
- H1-1: There were significant differences in the professional development status of college teachers of different genders

According to the research hypothesis H1-1, it could be seen from Table 4.3 that there were significant differences in the professional development status of college teachers of Guangdong College of Technology between different genders by using an independent sample t-test. The specific analysis of each dimension is as follows:

Gender had a significant effect on professional knowledge (t=-4.621, P=0.000), and the specific comparative differences show that the average value of men (3.44) was significantly lower than that of women (4.10). Different genders had significant effects on professional skills (t=-6.647, P=0.000), and the specific comparative differences showed that the average value of men (2.97) was significantly lower than that of women (3.93). There was a significant difference in professional affection between different genders (t=-2.775, P=0.006), and the specific comparison showed that the average value of men (3.72) was significantly lower than that of women (4.09).

Table 2: Analysis on the Differences of Professional Development of College Teachers of Different Genders (N=183)

Dimension	Gende	$er(M \pm SD)$	T	P
	Male (N =69)	Female (N =114)		
Professional Knowledge	3.44±0.99	4.10 ± 0.84	-4.621	0.000**
Professional Skill	2.97±1.00	3.93 ± 0.84	-6.647	0.000**
Professional Affection	3.72±0.90	4.09 ± 0.85	-2.775	0.006**
Overall Professional	3.38±0.61	4.04 ± 0.70	-6.526	0.000**
Development of Teachers				

Note: * p<0.05 ** p<0.01

- 2) Test Results of Research Hypothesis H1-2
- H1-2: There are significant differences in the professional development status of college teachers with different teaching ages

According to the research hypothesis H1-2, it could be seen from Table 4.4 that there were significant differences in the professional development status of college teachers of Guangdong College of Technology with different teaching ages by using one-way ANOVA. The specific analysis of each dimension was as follows:

Different teaching years had a significant effect on professional knowledge (F=10.542, p=0.000), and the specific comparison difference showed that the comparison result of the average score of the group with an obvious difference was "9 years and above > 4-8 years > 1-3 years". Different

teaching years had a significant effect on professional skills (F=4.501, p=0.012), and the specific comparison difference showed that the comparison result of the average score of the group with an obvious difference was "9 years and above > 4-8 years > 1-3 years". The professional affection of different teaching years was significant (F=6.237, p=0.002), and the specific comparison difference showed that the comparison result of the average score of the group with a significant difference was "9 years and above > 4-8 years > 1-3 years".

Table 4.3: Differential Analysis of the Professional Development of College Teachers with Different Teaching Ages (N=183)

Dimension	Tes	F	P		
	.1-3 years	.4-8 years	9 years and more		
Professional Knowledge	3.45±1.11	3.96 ± 0.76	4.25±0.83	10.542	0.000**
Professional Skill	3.30±1.05	3.61±0.96	3.89 ± 1.00	4.501	0.012*
Professional Affection	3.69±1.00	3.98±0.80	4.29±0.75	6.237	0.002**
Overall Professional	3.48±0.66	3.85±0.71	4.14±0.73	11.770	0.000**
Development of Teachers					

3) Test Results of Research Hypothesis H1-3

H1-3: There were significant differences in the professional development status of college teachers with different education levels.

According to the research hypothesis H1-3, it could be seen from Table 4.5 that there were significant differences in the professional development status of college teachers of Guangdong College of Technology with different education levels by using one-way ANOVA. The specific analysis of each dimension was as follows:

Different levels of education had significant effects on professional knowledge (F=5.970, P=0.003), and the specific comparison difference showed that the comparison result of the average score of the group with an obvious difference was "doctoral degree > master's degree > bachelor's degree". Different levels of education have significant effects on professional skills (F=10.065, P=0.000), and the specific comparison difference showed that the comparison result of the average score of the group with an obvious difference was "doctoral degree > master's degree > bachelor's degree". Different education levels showed significant influence on professional affection (F=13.251, P=0.000), and the specific comparison difference showed that the comparison result of the average score of the group with a significant difference was "doctoral degree > master's degree > bachelor's degree".

Table 4.4 Differential Analysis of the Professional Development of College Teachers with Different Educational Levels (N=183)

Dimension	Educat				
	Bachelor	Master's	Doctoral	F	P
	Degree	degree	Degree		
Professional Knowledge	3.70±0.89	3.78±1.04	4.32±0.80	5.970	0.003**
Professional Skill	3.27±1.03	3.65±0.97	4.12±0.81	10.065	0.000**
Professional Affection	3.63±1.00	4.11±0.70	4.42±0.60	13.251	0.000**
Overall Professional	3.53±0.65	3.85±0.73	4.28±0.67	15.766	0.000**
Development of Teachers					

4) Test results of Research Hypothesis H1-4

H1-4: There were significant differences in the professional development of college teachers with different professional titles.

According to the research hypothesis H1-4, it could be seen from Table 4.6 that there were significant differences in the professional development status of college teachers of Guangdong College of Technology with different professional titles by using one-way ANOVA. The specific analysis of each dimension was as follows:

Different professional titles had significant effects on professional knowledge (F=7.059, p=0.000), and the specific comparison difference showed that the comparison result of the average score of the group with an obvious difference was "senior > deputy senior > intermediate > primary". Different professional titles had significant effects on professional skills (F=8.392, p=0.000), and the specific comparison difference showed that the comparison result of the average score of the group with an obvious difference was "senior>deputy senior>intermediate>primary". The professional affection of different professional titles was significant (F=3.645, p=0.014), and the specific comparison difference showed that the comparison result of the average score of the group with an obvious difference was "senior>intermediate>primary>deputy senior".

Table 4.5 Differential Analysis of the Professional Development of College Teachers with Different Titles (N=183)

Dimension	Professional Title (M ± SD)				F	P
	Primary	Intermediate	Deputy Senior	Senior		
Professional Knowledge	3.69 ± 0.98	3.74±0.97	4.16±0.69	4.62±0.37	7.059	0.000**
Professional Skill	3.32 ± 1.08	3.57±0.92	4.17±0.34	4.30 ± 0.70	8.392	0.000**
Professional Affection	3.86 ± 0.89	3.97±0.80	3.69±1.18	4.49 ± 0.60	3.645	0.014*
Overall Professional Development	3.63±0.75	3.76±0.69	4.01±0.50	4.47 ± 0.49	9.478	0.000**
of Teachers						

Discussion

Differences in the Professional Development Status of College Teachers Among Different Genders

According to the results of this study, it was found that the number of male teachers was less than that of female teachers in Guangdong College of Technology, and there were significant differences in the professional development status of College Teachers between different genders. From the average value, the professional development level of female teachers was higher than that of male teachers. This research result was consistent with the research conclusion of Zhang (2018). According to the results of this study, specific analysis and discussion were carried out. This study analyzed the reasons for this situation may be the following: first, the number of female teachers was more than that of male teachers in Guangdong College of Technology. Secondly, with the change in history, the content and form of gender would also change. This generation of female teachers was in the era of "men and women are the same". Like women in other fields, the status and identity of female teachers had been improved, and they had gradually obtained the "speech right" in the field of higher education. Finally, if women want to achieve the same achievement as men, female teachers need to pay more effort than male teachers. Therefore, there were significant differences in the professional development of College Teachers in Guangdong College of Technology between different genders.

Differences in the Professional Development Status of College Teachers with Different Teaching Ages

There were significant differences in the professional development of college teachers with different teaching ages. The results of this study showed that there were significant differences in the professional development of college teachers in Guangdong College of Technology in terms of teaching age. The difference showed that the professional development level of college teachers with a teaching age of 9 years or more was significantly higher than that of teachers with a teaching age of 8 years or less. This result was consistent with that of Tan (2021). This study analyzed the reasons for this situation in the following aspects. First of all, college teachers with 1-3 years' teaching age were generally new teachers, most of whom were newly graduated students. Although young teachers had rich theoretical knowledge, they lacked practical work experience, and only practice could produce true knowledge. Therefore, new teachers' professional development level was not as good as teachers with 9 years' teaching experience and above. Secondly, with the continuous growth of teaching age, teachers with 9 years and above had accumulated more teaching age and work experience, which had led to the continuous improvement of teachers' professional development level. Finally, teachers with longer teaching years participate in teaching seminars more often, have more opportunities to go out to study and improve their professional development level, and have more experience in scientific research and

more fruitful scientific research results. Therefore, there were significant differences in the professional development of College Teachers in Guangdong College of Technology of China with different teaching ages.

Differences in the Professional Development Status of College Teachers with Different Educational Levels

The results of this study showed that there were significant differences in the professional development of college teachers in Guangdong College of Technology with different education levels. The comparison of the differences showed that the professional development level of teachers with doctoral degrees was significantly higher than that of teachers with master's degrees or below. This research result was consistent with the research result proposed by Xu (2015). This study analyzed the reasons for this situation in the following aspects. First, according to the research of experts and scholars at home and abroad, the academic ability of college teachers with doctoral degrees was higher than that of college teachers with master's degrees and bachelor's degrees. Secondly, the higher the education level of college teachers, it could be explained that they received more knowledge education, and scientific research ability than other teachers, so they would have more subject knowledge and academic foundation than other college teachers. Finally, the reason for this situation was that with the improvement of teachers' academic qualifications, teachers with doctoral degrees had deeper professional knowledge and scientific research ability, had deeper disciplinary understanding in the fields involved, and the level of teachers' professional development had also been greatly improved (Shen, 2022). Therefore, there were significant differences in the professional development of College Teachers in Guangdong College of Technology with different education levels.

Differences in the Professional Development Status of College Teachers with Different Professional Titles

The results of this study showed that there were significant differences in the professional titles of college teachers in Guangdong College of Technology in China. The difference showed that the professional development status of teachers with positive senior titles was significantly higher than that of teachers with deputy senior titles and below. This result was consistent with the research results proposed by Ma (2019). This study analyzed and discussed the reasons for the formation of this research result, which might come from the following aspects: first, with the rise of teachers' professional titles, the level of teachers' professional development also increased. Secondly, the higher the professional title, the stronger the teachers' academic ability and teaching ability, and the more opportunities to obtain subject applications, and scientific research funded and trained (Che, 2016). Finally, there were differences in the professional titles of teachers' professional development. In the actual teaching work,



professors and associate professors were rich in work experience and teaching research results and were more likely to become subject leaders. Therefore, there were significant differences in the professional development of College Teachers at Guangdong College of Technology with different professional titles.

Conclusions

This study conducted a questionnaire survey on the current situation of College Teachers' professional development in Guangdong College of Technology in China. The data of 183 valid questionnaires were statistically analyzed. The main research results were summarized as follows:

- 1. In this survey, the number of female teachers was slightly more than that of male teachers.
- 2. There were significant differences in the professional development status of college teachers with different genders, teaching ages, education levels, and professional titles.

The main hypothesis test conclusions of this study were as follows:

Conclusion 1. There were significant differences in the professional development status of College Teachers between different genders, and the professional development level of female teachers was higher than that of male teachers.

Conclusion 2. There were significant differences in the professional development of college teachers with different teaching ages, and the professional development of teachers with a teaching age of 9 years and above was significantly higher than that of teachers with a teaching age of 8 years and below.

Conclusion 3. There were significant differences in the current situation of teachers' professional development in colleges with different levels of education, and the level of teachers' professional development of doctoral students was the highest.

Conclusion 4. There were significant differences in the professional development status of college teachers with different professional titles, and the professional development level of teachers with senior professional titles was the highest.

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