

# Work behavior ability, professional quality, and development of Chinese university teachers: Basis for teacher development plan

Wang, Weina ✉

Graduate School, Lyceum of the Philippines University – Batangas ([54395994@qq.com](mailto:54395994@qq.com))



ISSN: 2243-7703  
Online ISSN: 2243-7711

Received: 15 February 2024  
Available Online: 30 April 2024

Revised: 15 March 2024  
DOI: 10.5861/ijrse.2024.24623

Accepted: 30 March 2024

OPEN ACCESS

## ***Abstract***

The purpose of this study was to determine the work behavior ability, professional quality, and professional development of teachers in a Chinese university, and to propose a development plan for college teachers based on the above research. A total of 385 teachers from a university in China participated in this study. Weighted average and ranking, regression analysis, and analysis of variance were used for data analysis. The results of the study showed that teachers in universities had strong working abilities, among which the education ability was the strongest, the teaching ability was good, and the scientific research ability was relatively weak. Excellent professional quality, professional spirit is the best, professional ethics is also very good, professional knowledge is relatively weak. The overall trend of professional development is good, teachers participate in the most professional teaching activities, professional opportunities are many, and professional support is relatively weak. There were significant differences in the evaluation of teachers of different ages and educational backgrounds in work behavior ability, professional quality and professional development, but no significant differences in their gender and time of education. There was an obvious relationship among the three of them. The stronger the teacher's work behavior ability, the better the professional quality, the better the situation of professional development and the better the sustainable development of teachers. According to the above research results, the researchers formulated a college teacher development plan to help college teachers further improve their work behavior ability and professional quality, and promote their better professional development.

***Keywords:*** work behavior ability, professional quality, professional development

## **Work behavior ability, professional quality, and development of Chinese university teachers: Basis for teacher development plan**

### **1. Introduction**

Education is the foundation of a hundred-year plan. The quality of education and teaching is the lifeline of a university, which directly determines the quantity and quality of high-quality talents. Although the teaching quality, scientific research level, and school-running reputation of a university are affected by many factors, teachers are always the most important ones. The ideological beliefs, value tendencies, academic level, and mental state of college teachers will directly affect the efficiency and benefit of colleges and universities, and fundamentally affect the academic productivity of the higher education system. In other words, the overall level of teachers directly affects the quality of education and teaching in universities.

The overall level of university teachers develops under the combined effect of internal and external forces. The construction of college teachers cannot be separated from the joint efforts of colleges and universities and teachers, and it is necessary to establish a mechanism of coupling internal and external dynamics. On the one hand, relying on internal dynamics to stimulate and mobilize the enthusiasm of teachers to improve their self-ability and quality, and on the other hand, relying on external forces to create a good environment for the construction of teachers. The stimulation of internal motivation, including work behavior ability and professional quality, requires teachers to establish excellent teaching and learning styles in the construction of campus culture based on determining self-value. The external driving force is mainly the scientific promotion of organizational construction, which is embodied in the organizational activities to promote the development of teachers.

A teacher's work behavior ability is the teacher's unique teaching ability, and is the teacher's professional ability to complete their work. In his book *Principles of Pedagogy* argued that teachers' professional ability is the ability of teachers to teach students to learn, educate, and serve based on the knowledge logic solution of students' learning and development (Zhang, et. al., 2021). As the main practitioner of university functions, university teachers' working ability is mainly reflected in education and teaching, talent training, scientific research, serving the society, and other aspects. The academic research on the connotation of teachers' work behavior ability has not yet concluded, but with the deepening of the research, it has formed a common focus: taking students' learning characteristics and development needs as the starting point, possessing the intelligence of engaging in professional education and teaching activities, and including the intelligence of serving the society (Rang, 2019). Zhao, et al ( 2023 ) believe that the ability to teach is the key to teachers' work behavior.

With the proposal of the strategy of building "double first-class" universities in China, all universities have started to carry out the construction of world-class universities and first-class disciplines. These new changes and new requirements have undoubtedly put forward higher requirements for the working ability of college teachers. At present, the research on the work behavior ability of teachers in Chinese universities is relatively scattered, mainly focusing on the research of teachers' teaching ability and scientific research ability. As the basic task of education, the ability of teachers to cultivate talents is largely divided into a lack of a complete teachers' working ability system (Wang, 2018). Based on the teaching ability, talent training ability, and scientific research ability, this paper conducts in-depth, concrete, and systematic empirical research on teachers' work behavior ability, which provides first-hand information for the research of teachers' work behavior ability in China, and puts forward better suggestions for the improvement of teachers' comprehensive ability.

The professional quality of teachers refers to the physical and psychological qualities necessary for teachers to play the role of teachers based on professional and professional needs and acquired through social learning mainly includes moral cultivation, educational spirit, and cultural cultivation, etc. (Wang et al., 2019). The understanding of the connotation of "teacher accomplishment" in the *Modern Chinese Dictionary* mainly

includes two aspects. On the one hand, it refers to the relatively objective level of teachers, that is, the level of teachers in theoretical knowledge, literary reserve, and artistic accomplishment. On the other hand, it refers to the outlook on life formed by teachers, that is, teachers should develop an optimistic and positive attitude towards people. Professional quality is related to people's occupational activities and work, and is the embodiment of people's comprehensive ability to adapt to social life.

Teachers are imparted knowledge and practitioners of social norms. Teachers as a special social group, and their words and deeds will have a very important impact on society. The professional quality of teachers is not only related to the teachers' compliance with professional ethics and the active degree of involvement in education, but also requires teachers to have profound professional knowledge. However, in recent years, with the continuous advancement of the popularization process of higher education, colleges and universities have introduced a lot of new teachers with the increase in enrollment, and many of these new teachers are non-teachers. Zhang (2019) believes that non-normal graduate teachers have not received the knowledge related to pedagogy in the learning process, which leads to an imbalance in the knowledge structure of college teachers. As a result, there are some phenomena among the teachers in some colleges and universities, such as irregular dress and words, rigorous academic attitude, weak teaching organization ability, insufficient teaching research, poor teaching effect, etc. The main reason for these problems is the lack of professional quality of teachers. This study starts with professional ethics, professional spirit, and professional knowledge. It can actively explore the main influencing factors of professional ethics, professional spirit, and professional knowledge. The concrete measures to improve the professional quality of teachers are put forward.

Teacher professional development is a complex concept that is closely related to practice. At present, academic circles have different opinions on this concept, and no unified conclusion has been formed. The more representative definition is Pan (2019) as he defines the professional development of college teachers in the broad sense and the narrow sense. In his view, the broad sense of professional development of college teachers means that all college teachers constantly enrich their theoretical level and improve their practical ability through various forms and using various resources. In the narrow sense, the professional development of college teachers refers to the college teachers who specialize in teaching and scientific research and improve their teaching ability. Specifically, teacher professional development refers to the process of teachers as professionals, from professional beginners to expert teachers, and it is also a process in which teachers constantly find problems and solve problems in their careers (Zhong, 2022). The professional development of teachers needs the support of colleges and universities, and schools need to create opportunities to actively promote the development of teachers. Teachers need to take the initiative to grasp the opportunities and actively participate in various teacher development activities.

In recent years, China has also attached great importance to the professional development of teachers, and promulgated a series of policies on improving teacher training, encouraging teacher innovation, optimizing teacher teams, and promoting teacher development (Wei,2021). The policy issued by The State Council in 2012 pointed out that the professional level of teachers should be improved and the professional development of young and middle-aged teachers in universities should be gradually promoted. However, from the perspective of the overall study of teacher professional development, there are still some problems, and the current research does not provide an in-depth analysis of the internal influencing factors of teacher career development (Yang & Wu,2022). First, some research objects are broad or mainly primary and secondary school teachers, while there are few studies on university teachers, which reflects that the research system on teacher professional development is still incomplete. Second, the mainstream teacher professional development model is based on the combination of mandatory policies initiated by local governments, and course training, seminars and lectures provided by colleges and universities (Pei, 2022). It is a top-down development model with the characteristics of isolation and externality, resulting in the final proposed strategies and suggestions being case-by-case. It is of no guiding significance to the actual work of teachers' professional development.

Based on the above analysis, the internal influencing factors of college teachers are selected for empirical

analysis and research. Firstly, it expanded the research perspective of teacher professional development needs and provided the theoretical basis for the path of teacher professional development. Secondly, through a large number of questionnaire analyses, it objectively and comprehensively reflects the support of Chinese universities for teacher development, and teachers' participation in teacher development, and puts forward a professional development plan that is more suitable for the actual situation of college teachers, which provides detailed and reliable empirical materials for the professional development needs of colleges and universities, and has strong guiding significance for practice.

To sum up, for the construction of university teachers, there are still some problems to be solved urgently. On the one hand, colleges and universities take the foundation of moral education, In the development of higher education, But educational ability is the focus of work ability and ability, It has not been effectively integrated with teaching ability and scientific research ability, The phenomenon of emphasizing teaching and education and neglecting scientific research appears, The scientific research function of colleges and universities has not been effectively played the phenomenon; On the other hand, there is still a problem of weak professional quality in the university teachers, For example, non-normal professional graduates lack professional knowledge of pedagogy, and their enthusiasm to participate in school activities is not high; Third, although colleges and universities have set up teacher development centers, Teachers are being trained, But the training relies more on the mandatory policies initiated by local governments and the original experience of schools, Did not fully mobilize the enthusiasm of the teachers, It has not played a role in promoting the comprehensive development of teachers in each career. Through the analysis, it could be seen that the main reasons for the above problems are teachers 'working behavior ability, teaching ability, educational ability, and scientific research ability; teachers' comprehensive professional quality, lack of professional spirit and professional knowledge; and lack of targeted teacher development.

On the one hand, it was hoped that college teachers could find their development direction according to the development plan and improve their ability and quality, and the relevant departments of colleges and universities could provide policy and financial support for teacher development according to the plan, actively participate in the professional development of teachers, and effectively promote the sustainable development of college teachers. At the same time, the researcher hoped to provide a reference teacher development plan for the same type of universities.

**Objectives of the Study** - The order of the objectives of the study will be: to describe the demographic profiles of the participants in terms of sex, age, teaching age, highest degree, to determine the work behavior ability as to teaching ability, talent training ability and science research ability, to identify the professional quality in terms of the professional ethics, professional spirit and professional knowledge also, to determine professional development in terms of professional teaching growth activities, professional opportunities and professional support also, to test the difference of responses on work behavior ability, professional quality and professional development when grouped according to the profile variables, to establish the significant relationship among the three variables, to propose a teacher professional development plan.

## 2. Methods

**Research Design** - The study used the descriptive method of research. It aims to accurately and systematically describe a population, situation or phenomenon. Thus, the profile of the respondents in terms of sex, age, education level, and time spent in teaching work was described. A questionnaire was used to determine the work behavior ability, professional quality, and professional development of Chinese University teachers. In addition, the study used correlation methods to test the significant differences and relationships among the three (3) variables in the study.

**Participants of the Study** - The teachers are from Hetao College, a comprehensive institution in China. The total number of faculty at the university is 826. These faculty members belonged to 14 different departments and

taught in 39 undergraduate programs. By using the sample calculator, the researcher get 263 samples. To expand the sample number and make the survey study more accurate, the researcher added 122 additional respondents to the survey, and the total number of respondents in the study was 385. The questionnaires were given to the teachers at the school and were effectively collected. There were three hundred eighty-five (385) respondents in the study, one hundred fourteen (114) were males and two hundred seventy-one (271) were females. Through the questionnaire analysis, the work behavior ability, professional quality, and professional development of the teachers in Hetao College were effectively evaluated.

***Instruments of the Study*** - The present study used the questionnaire as the data collection work, and the questionnaire consists of four parts. The first part includes the demographic data of the respondents, and the second part is the work behavior ability, which is divided into teaching ability, talent training ability, and scientific research ability. The third part is the professional quality, which is divided into professional ethics, professionalism, and professional knowledge. The fourth part is professional development, which is divided into professional teaching development activities, professional opportunities, and professional support.

The questionnaire is divided into four parts: the first part of the questionnaire is demographic information. Because different genders, ages, educational backgrounds and working hours in education, and teaching may have different views on work behavior ability, professional quality, and professional development, this study selects the following four aspects to investigate population information, mainly including the interviewer's gender, age, teaching age and degree of the highest degree. The second part is a standardized adapted questionnaire on the work behavior ability of university teachers. The questionnaire has three dimensions: Teaching Ability, Talent Training Ability, and Scientific Research Ability, including 23 items. The main reference questionnaire is (Wei, 2021) (Jin, 2021) (Wang & Yang, 2021). The third part is the adapted questionnaire about the professional quality of college teachers. The questionnaire has three dimensions: Professional Ethics, Professional Spirit, and Professional Knowledge, including 20 items. The main reference questionnaire is (Xu, 2021) (Chi, 2021) (Liu,2021). The fourth part is a standardized questionnaire about the Professional Development of college teachers, the questionnaire has three dimensions: Professional Teaching Development Activities, Professional Opportunities, and Professional Support, contains 24 items, Mainly reference to the literature (Zhang, 2018) (Yassir, 2021) (The EDC/NMEF Student-Centered Learning (SCL) Questionnaire for Teachers, 2016). The above is based on the standard questionnaire, and some of the words will be changed to meet the needs of the researchers.

***Data Gathering Procedure*** - Data for this study came from a research questionnaire survey of 385 teachers. This is the main tool for generating information on assessment objects to find correlations between work behavior ability, professional qualities, and professional development of Chinese university teachers. The questionnaire of this study consists of four parts: basic information, work behavior ability, professional quality and professional development. Each section is relatively independent, but all have close internal connections. Investigations of some questions can be mutually confirmed in the study, thus making the findings more accurate. The content of the questionnaire used the published study and the existing questionnaire. Meanwhile, and according to the specific actual situation of the study, the researchers made some changes to be more suitable for this study. The questionnaire was assessed using a 4-point Likert scale.

To determine the reliability of the study, the researchers first submitted a questionnaire to the subject expert in the teaching field, and corrected the content expression of the questionnaire to avoid the ambiguity of the questionnaire respondents when answering the questionnaire. All recommendations and comments have been reviewed and included in the final questionnaire. The reliability analysis of the 30 questionnaires shows that the results of the reliability test are very good. The Cronbach-  $\alpha$  coefficients of teaching ability, educating ability, and scientific research ability as indicators of teachers' work behavior ability were 0.854, 0.783, and 0.902, respectively, indicating good internal consistency among research projects. The Cronbach-  $\alpha$  coefficients of professional ethics, professional spirit, and professional knowledge, were 0.881,0.887 and 0.854, respectively, indicating that internal consistency between research items was also good. The Cronbach-  $\alpha$  coefficients for

professional teaching activities, professional opportunities, and professional support were 0.900, 0.913, and 0.913, respectively, indicating very good internal consistency between the research projects. Through the above analysis, we can see that the questionnaire reliability of this study is very good and can be used.

**Data Analysis** - Before the questionnaire survey, the researchers applied to the relevant departments of Hetao College, submitted the application form and the questionnaire form, applied for whether the questionnaire survey could be carried out, and obtained approval from the relevant departments. This study distributed the questionnaire through the Internet, mainly relying on the questionnaire star Internet platform. Online questionnaires are anonymous to teachers of Hetao College. Students can fill in the questionnaire by scanning the QR code on their mobile phones or logging in on the computer page. In this study, software was used to uniformly enter the collected data and build a database, and the data was cleaned and verified; SPSS 22 software was used to conduct statistical analysis of the data, and Cronbach's alpha coefficient calculation and confirmatory factor analysis were used to analyze work behavior ability, professional quality, and development scales were tested for reliability and validity.

**Ethical Consideration** - To acquire informed consent, respondents were fully educated on the study's goal, what their participation would entail, and how the data would be utilized. Individual respondents' replies to the questionnaire were kept anonymous and not revealed to anyone else by the researcher. Other ethical considerations were observed before the conduct of the study. These included conflict of interest, privacy and conflict, vulnerability recruitment, risks, benefits, compensation, and community considerations.

### 3. Results and discussion

**Table 1**

*Summary Table on Work Behavior Ability*

| Indicators                  | Weighted Mean | Verbal Interpretation | Rank |
|-----------------------------|---------------|-----------------------|------|
| Teaching Ability            | 3.47          | Agree                 | 2    |
| Talent Training Ability     | 3.52          | Strongly Agree        | 1    |
| Scientific Research Ability | 3.30          | Agree                 | 3    |
| Composite Mean              | 3.43          | Agree                 |      |

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Table 1 is a summary table of the teachers' behavior ability evaluation at work. Through the analysis of this table, it can be seen that the comprehensive average value is 3.43, which indicates that the teachers have a relatively high evaluation of the current work behavior ability. In terms of three evaluation indexes, the highest talent training ability is 3.52, teaching ability is 3.47 and scientific research ability is third at 3.30.

This result shows that the school teachers' talent training ability and teaching ability are relatively high. College teachers can adhere to the foundation of moral education, and cultivate people as the primary task. Their teaching ability is also relatively strong, actively promote the teaching reform, adhere to the result-oriented concept, and constantly improve the teaching level. They actively carry out scientific research, constantly learn new knowledge and new methods, and actively explore and serve the society. It can be seen that the primary task of university teachers is moral education, and the construction of teachers is being carried out around the three main tasks of higher education, education and teaching, talent training and scientific research. Zhao et al (2023) also supported the research results, they studied and put forward, now China's higher education opens a new era, as a new era of colleges and universities to improve talent quality as the core, adhere to fundamental task, continuously strengthen the construction of teachers' team, and improve teachers' teaching ability, for the connotative development of colleges and universities to lay a solid foundation. Song (2021) also believed that talent training ability is the most important ability for teachers.

**Table 2***Summary Table on Professional Quality*

| Indicators             | Weighted Mean | Verbal Interpretation | Rank |
|------------------------|---------------|-----------------------|------|
| Professional Ethics    | 3.54          | Strongly Agree        | 2    |
| Professional Spirit    | 3.57          | Strongly Agree        | 1    |
| Professional Knowledge | 3.49          | Agree                 | 3    |
| Composite Mean         | 3.53          | Strongly Agree        |      |

Table 2 is a summary table of the teachers' evaluation of their professional quality. Through the analysis of this table, it can be seen that the comprehensive average value is 3.53, indicating that teachers have a very high evaluation of the current professional quality. In terms of the three evaluation indicators, professionalism is highest at 3.57; professional ethics at 3.54, the gap is very small, both very good; professional knowledge ranks third at 3.49.

This result shows that the professionalism and professional ethics of college teachers are relatively high. The overall spirit of the college teachers is particularly good, with a very good professional ethics, and their professional knowledge level is also relatively strong. This shows that college teachers consciously patriotic law-abiding, love education career, advocating science, professional ethics, have the ideal faith, constantly in new learning, new ideas, but because the teachers mainly from the normal professional, has not yet formed the perfect education teaching knowledge system, but they keep learning education teaching knowledge, constantly in progress. Yao et al. (2023) putted forward that teachers 'professional quality is the key factor affecting their teaching level and quality, and comprehensively improving teachers' professional quality is the key measure to meet the needs of talent training in China. At the present stage, the teachers at colleges and universities have been enhanced in terms of knowledge reserve, educational level and vocational skills. Wang(2019) pointed out professional spirit is the soul and power of teachers 'professional development, and it is the key factor and internal factor to promote teachers' professional development. Li et al (2018) also pointed out that professional ethics and professionalism are the key to the professional quality of teachers, which determines teachers' recognition of the education industry and their attitude towards practice .

**Table 3***Summary Table on Professional Development*

| Indicators                              | Weighted Mean | Verbal Interpretation | Rank |
|-----------------------------------------|---------------|-----------------------|------|
| Professional Teaching Growth Activities | 3.49          | Agree                 | 1    |
| Professional Opportunities              | 3.45          | Agree                 | 2    |
| Professional Support                    | 3.44          | Agree                 | 3    |
| Composite Mean                          | 3.46          | Agree                 |      |

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Table 3 is a summary table of the teachers' evaluation of their professional development. By analyzing the table, it can be seen that the comprehensive average value is 3.46, indicating that teachers have a relatively high evaluation of the current professional growth situation. For three evaluation indicators, professional teaching growth activities were 3.49; professional opportunities followed by 3.45; and professional support evaluation ranked third at 3.44. This result shows that university teachers participate in a lot of professional teaching growth activities, and teachers are satisfied, scoring 3.49; teachers have many professional opportunities at 3.45; the school gives them much professional support at 3.44. They actively participate in professional teaching promotion activities, and constantly practice the "student-centered" concept in curriculum teaching, curriculum resource construction, curriculum evaluation and other professional activities. There are many professional growth opportunities, they are interested in the "student-centered" concept, and there are many practical opportunities, such as classroom practice, academic communication, teachers' mutual learning, etc. They are satisfied with these opportunities. The growth of teachers has received good professional support from the school. The school strongly supports teachers to carry out teaching and research activities. Teachers learn from each other, participate in learning and training activities through multiple channels, and actively listen to teachers'

opinions.

This shows that teachers have a good professional growth trend. It can be seen that the school earnestly implements the concept of "student-centered", actively mobilizes teachers' consciousness to enhance their consciousness, and is developing into a first-class undergraduate university that attaches great importance to and supports the growth of teachers. This result is consistent with Wang (2023). He believed that the fundamental driving force of teachers' professional growth comes from teachers' consciousness and their internal needs and motivation. The formulation of professional development planning is also derived from the spontaneous, sincere and endogenous requirements of teachers, which are highly conscious and based on the pursuit of life value. Colleges and universities should actively mobilize teachers' consciousness and initiative, supplemented by corresponding supporting policies, comprehensively promote the professional development of teachers, build an excellent team of teachers, and promote the high-quality development of education.

**Table 4**

*Difference of Responses on Work Behavior Ability When Grouped According to Profile*

| Sex                         | F-value | p-value | Interpretation  |
|-----------------------------|---------|---------|-----------------|
| Teaching Ability            | 0.010   | 0.920   | Not Significant |
| Talent Training Ability     | 0.034   | 0.854   | Not Significant |
| Scientific Research Ability | 0.361   | 0.548   | Not Significant |
| <b>Age</b>                  |         |         |                 |
| Teaching Ability            | 7.587   | 0.000   | Significant     |
| Talent Training Ability     | 6.204   | 0.000   | Significant     |
| Scientific Research Ability | 4.250   | 0.006   | Significant     |
| <b>Teaching Age</b>         |         |         |                 |
| Teaching Ability            | 0.932   | 0.445   | Not Significant |
| Talent Training Ability     | 0.748   | 0.560   | Not Significant |
| Scientific Research Ability | 0.427   | 0.789   | Not Significant |
| <b>Highest Degree</b>       |         |         |                 |
| Teaching Ability            | 3.214   | 0.023   | Significant     |
| Talent Training Ability     | 3.049   | 0.029   | Significant     |
| Scientific Research Ability | 3.655   | 0.013   | Significant     |
| <b>Sex</b>                  |         |         |                 |
| Teaching Ability            | 0.010   | 0.920   | Not Significant |
| Talent Training Ability     | 0.034   | 0.854   | Not Significant |
| Scientific Research Ability | 0.361   | 0.548   | Not Significant |

Legend: Significant at p-value < 0.05

Table 4 shows the comparison of responses on work behavior ability when grouped according to profile. It was observed that there was a significant difference when grouped according to age and highest degree because the resulting p-values were less than the alpha level. This means that there was a significant difference and based on the post hoc test conducted, it was found out that those who are 30 to 39 years old and obtained master degrees have better work behavior ability than others. From the above results, you can see the age in 30-39 years old, and obtained a master's degree of personnel is the backbone of universities, they are in middle age, the golden age of the career, the school and their own efforts, has entered the experience in teaching, research direction, have ideas, most have won the lecturer and associate professor title, has received certain social recognition, so most of them has become the teaching backbone or scientific research backbone, so their work ability is superior to others. The results are consistent with the results of Zhang & Shen(2021), they put forward the teachers teaching expertise development five stage theory, think in about 10 years, aged 30-40 teachers, through the accumulation of knowledge and experience, may become a proficient teacher, with strong intuitive judgment, teaching skills close to the cognitive automation level, teachers' teaching behavior has reached the degree of fast, smooth, flexible.

Table 5 depicts the comparison of responses on professional quality when grouped according to profile. It was observed that there was a significant difference when grouped according to age, professional knowledge when grouped according to teaching age and professional ethics when grouped according to highest degree since the resulted p-values were less than the alpha level.



**Table 5***Difference of Responses on Professional Quality When Grouped According to Profile*

| Sex                    | F-value | p-value | Interpretation  |
|------------------------|---------|---------|-----------------|
| Professional Ethics    | 0.016   | 0.899   | Not Significant |
| Professional Spirit    | 1.094   | 0.296   | Not Significant |
| Professional Knowledge | 0.168   | 0.682   | Not Significant |
| <b>Age</b>             |         |         |                 |
| Professional Ethics    | 10.257  | 0.000   | Significant     |
| Professional Spirit    | 7.663   | 0.000   | Significant     |
| Professional Knowledge | 22.330  | 0.000   | Significant     |
| <b>Teaching Age</b>    |         |         |                 |
| Professional Ethics    | 1.088   | 0.362   | Not Significant |
| Professional Spirit    | 1.243   | 0.292   | Not Significant |
| Professional Knowledge | 4.688   | 0.001   | Significant     |
| <b>Highest Degree</b>  |         |         |                 |
| Professional Ethics    | 2.784   | 0.041   | Significant     |
| Professional Spirit    | 2.254   | 0.082   | Not Significant |
| Professional Knowledge | 1.279   | 0.281   | Not Significant |

Legend: Significant at p-value < 0.05

This means that there was significant difference and based on the post hoc test conducted, it was found that those who are 30 to 39 years old, working for more than 30 years and obtained master degrees have better professional quality. Age in 30 to 39 years old master's degree teacher is actually the backbone of the school teachers, they are in the peak of career development, is able to grow up to be the backbone of the school also because they actively motivated, rigorous serious, to abide by professional ethics, adhere to the professional spirit, have enough professional knowledge, so as to make them stand out in the teachers. In this process, this part of the teachers have already had a very good professional quality. This is consistent with Li (2020). She believed that college teachers can properly deal with career and family problems such as graduation, entry and marriage in the early career, and generally move from the beginning to the middle of their career, with the age between 35 and 50. Middle age is the period when teachers' personal career tends to reach the peak. During this period, they have sufficient teaching experience and excellent professional quality. Teachers who have worked for more than 30 years have high professional quality, which is their adherence to the profession of teachers. Thirty years ago, the profession of teacher has not been able to have such generous treatment as now, this generation of people can stick to the post of teacher, more is the adherence to this profession, is the love of education. The result is consistent with the results of Xie et al,(2022). They pointed out that according to the demand level theory, human demand is a development process from low to advanced, older teachers, they have a relatively high level of culture, they have accumulated rich experience, have knowledge background, they love teachers this profession.

Table 6 illustrates the comparison of responses on professional growth when grouped according to profile. It was observed that was a significant difference in professional support ( $p = 0.002$ ) when grouped according to sex; when grouped according to age and professional opportunities when grouped according to a highest degree since the resulting p-values were less than the alpha level. This means that there was a significant difference and based on the post hoc test conducted, it was found that those who are male, 30 to 39 years old and obtained master degrees have better professional growth.

From the results of the analysis, we can see that men can have better professional support. This is mainly due to the influence of family factors, female teachers at home need to undertake housework, to educate children, in school also need to undertake teaching tasks, individual teachers also undertake other work, it is difficult to concentrate. Male teachers are able to put their time and energy into their work, so they can get higher professional support.

**Table 6***Difference of Responses on Professional Development When Grouped According to Profile*

| Sex                                     | F-value | p-value | Interpretation  |
|-----------------------------------------|---------|---------|-----------------|
| Professional Teaching Growth Activities | 0.362   | 0.548   | Not Significant |
| Professional Opportunities              | 2.064   | 0.152   | Not Significant |
| Professional Support                    | 10.106  | 0.002   | Significant     |
| <b>Age</b>                              |         |         |                 |
| Professional Teaching Growth Activities | 11.153  | 0.000   | Significant     |
| Professional Opportunities              | 12.609  | 0.000   | Significant     |
| Professional Support                    | 8.856   | 0.000   | Significant     |
| <b>Teaching Age</b>                     |         |         |                 |
| Professional Teaching Growth Activities | 0.842   | 0.499   | Not Significant |
| Professional Opportunities              | 1.039   | 0.387   | Not Significant |
| Professional Support                    | 0.999   | 0.408   | Not Significant |
| <b>Highest Degree</b>                   |         |         |                 |
| Professional Teaching Growth Activities | 1.583   | 0.193   | Not Significant |
| Professional Opportunities              | 2.799   | 0.040   | Significant     |
| Professional Support                    | 1.224   | 0.301   | Not Significant |

Legend: Significant at p-value < 0.05

This view is consistent with Zhang(2018), who believed that "traditional gender concept" is one of the fundamental reasons for the influence of the career development of female teachers in universities. The progress of ideas and the backwardness of practical actions form contrast and inconsistency, which leads to the family responsibility and the division of housework of women still follow the old social norms, thus hindering the upward mobility and sustainable development of female teachers in colleges and universities. Master's degree of teacher's learning ability is stronger, work after a period of experience, in the growing age, personal experience is becoming more and more rich, strong subjective initiative, to deep thinking about each work, so can get more professional opportunities, this opportunity can be the school, also can be created by their exploration.

Hold the same view is also have Yu&Yu(2021) , they believed that teachers' professional development needs show high and low-level reverse changes. In terms of professional development needs, there are significant differences between teachers with different academic levels and professional titles. Teachers with a master's degree have the highest demand for professional development and promotion. They have strong subjective initiative and can achieve better growth. Wang & Wang(2018) also believed that teachers with a master's degree are more motivated to participate in further study.

**Table 7***Relationship Between the Work Behavior Ability and Professional Quality*

| Education and Teaching Ability     | r-value | p-value | Interpretation     |
|------------------------------------|---------|---------|--------------------|
| Professional Ethics                | .765**  | 0.000   | Highly Significant |
| Professional Spirit                | .755**  | 0.000   | Highly Significant |
| Professional Knowledge             | .773**  | 0.000   | Highly Significant |
| <b>Talent Training Ability</b>     |         |         |                    |
| Professional Ethics                | .835**  | 0.000   | Highly Significant |
| Professional Spirit                | .816**  | 0.000   | Highly Significant |
| Professional Knowledge             | .783**  | 0.000   | Highly Significant |
| <b>Scientific Research Ability</b> |         |         |                    |
| Professional Ethics                | .639**  | 0.000   | Highly Significant |
| Professional Spirit                | .668**  | 0.000   | Highly Significant |
| Professional Knowledge             | .664**  | 0.000   | Highly Significant |

Legend: Significant at p-value < 0.01

Table 7 presents the association between work behavior ability and professional quality. It was observed that the computed r-values indicate a strong direct correlation and the resulting p-values were less than the alpha level. This means that was significant relationship exists and implies that the better the work behavior ability, the better the professional quality. This shows that college teachers attach great importance to the improvement of working ability after they go to work. They closely focus on the fundamental task of cultivating morality, and

constantly improve their teaching ability, talent cultivating ability and scientific research ability. In the process of learning and training, their sense of responsibility is getting stronger and stronger, and their professional quality has been greatly improved. Their professional ethics, good professional spirit, and solid professional knowledge, and they are a team of teachers with great potential for development.

The results are the same as Zhan et al, (2023), Wang (2022). Zhan et al pointed out that the teacher's main responsibility is to train students, to give students a glass of water, first of all they need a bucket of water, teachers need to continuously strengthen knowledge accumulation, improve education, education ability, at the same time, teachers to constantly regulate their own, line, truly "teacher, behavior the fan". Wang also believed that teachers' sense of responsibility is generated by their love and selfless dedication, and comes from the correct cognition of the concept of education and rejuvenating the country, and from the lofty sense of mission of cultivating high-quality talents for the country. In the continuous exploration of education and teaching, teachers constantly improve their teaching ability. At the same time, they have a stronger sense of responsibility for students, and they will be more willing to improve their professional quality to obtain a greater sense of achievement.

**Table 8**

*Relationship Between the Work Behavior Ability and Professional Development*

| Teaching Ability                        | r-value | p-value | Interpretation     |
|-----------------------------------------|---------|---------|--------------------|
| Professional Teaching Growth Activities | .805**  | 0.000   | Highly Significant |
| Professional Opportunities              | .727**  | 0.000   | Highly Significant |
| Professional Support                    | .657**  | 0.000   | Highly Significant |
| <b>Talent Training Ability</b>          |         |         |                    |
| Professional Teaching Growth Activities | .796**  | 0.000   | Highly Significant |
| Professional Opportunities              | .756**  | 0.000   | Highly Significant |
| Professional Support                    | .691**  | 0.000   | Highly Significant |
| <b>Scientific Research Ability</b>      |         |         |                    |
| Professional Teaching Growth Activities | .725**  | 0.000   | Highly Significant |
| Professional Opportunities              | .703**  | 0.000   | Highly Significant |
| Professional Support                    | .653**  | 0.000   | Highly Significant |

Table 8 displays the association between work behavior ability and professional development. It was observed that the computed r-values indicate a strong direct correlation and the resulting p-values were less than the alpha level. This means that was significant relationship exists and reveals that the better the work behavior ability, the better is the professional growth. From this analysis results, we can see that the teachers with high professional ethics, good professional spirit, and solid professional knowledge can better grasp the professional opportunities and get better professional support. This result is consistent with Wang(2022). She believed that improving teachers' professional quality can also ensure that advanced teaching concepts, teaching methods, teaching modes, and teaching systems are fully, comprehensively and effectively applied to the teaching process, so that the modern education process has more characteristics of The Times. Improving teachers' professional quality can promote their professional growth, help teachers accumulate teaching experience better, and make them work out unique and targeted talent training programs for the school. Noble professional ethics and full of spirit are the basis for teachers' professional development.

Table 9 shows the association between professional quality and professional development. It was observed that the computed r-values indicate a strong direct correlation and the resulted p-values were less than the alpha level. This means that was significant relationship exists and proves that the better the professional quality, the better the professional growth.

**Table 9***Relationship Between the Professional Quality and Professional Development*

| Professional Ethics                     | r-value | p-value | Interpretation     |
|-----------------------------------------|---------|---------|--------------------|
| Professional Teaching Growth Activities | .817**  | 0.000   | Highly Significant |
| Professional Opportunities              | .766**  | 0.000   | Highly Significant |
| Professional Support                    | .680**  | 0.000   | Highly Significant |
| <b>Professional Spirit</b>              |         |         |                    |
| Professional Teaching Growth Activities | .863**  | 0.000   | Highly Significant |
| Professional Opportunities              | .790**  | 0.000   | Highly Significant |
| Professional Support                    | .699**  | 0.000   | Highly Significant |
| <b>Professional Knowledge</b>           |         |         |                    |
| Professional Teaching Growth Activities | .862**  | 0.000   | Highly Significant |
| Professional Opportunities              | .796**  | 0.000   | Highly Significant |
| Professional Support                    | .703**  | 0.000   | Highly Significant |

From the results of this analysis, it can be seen that teachers with high professional ethics, good professional spirit and solid professional knowledge can better grasp professional opportunities and obtain better professional support. This result is consistent with the research conclusion of Han et al,(2022). They believed that improving the professional quality of teachers can also ensure that advanced teaching concepts, teaching methods, teaching models and teaching systems are fully, comprehensively and effectively applied to the teaching process, making the modern education process more characteristic of The Times. Improving the professional quality of teachers can promote the professional growth of teachers, help teachers better accumulate teaching experience, and make them work out unique and targeted talent training programs for schools. Noble professional ethics and full spirit are the basis for teachers to achieve professional growth.

***Teacher Development Plan***

According to the research results, leaders of Chinese universities and relevant departments should formulate teacher development plans based on the work behavior ability, professional quality and professional growth of teachers to improve the overall level of teachers. The professional development plan were crafted and develop. The university's strategic plan for enhancing work behavior ability, professional quality, and professional development encompasses multifaceted initiatives aimed at empowering teachers and fostering student growth. Under the Information Technology Upgrading program, teachers are equipped with advanced teaching tools through targeted training and resource provision, ensuring effective utilization of technology in the classroom. The Whole Process Education Plan emphasizes holistic student development, integrating moral education and personalized teaching approaches to nurture talent effectively. Concurrently, the Research Output Capacity Enhancement program strengthens teachers' research acumen and collaboration with industry, elevating scientific contributions and innovation. In enhancing professional quality, the Education Responsibility Enhancement Program instills a strong sense of duty among educators, while the Building a Harmonious School initiative promotes a vibrant school community. The Teaching Context Knowledge Popularization program augments pedagogical expertise, enhancing teaching efficacy. Lastly, the Professional Development initiatives, including Informal Classroom Assessment and Training Activities, Career Planning Training, and Community Service Enhancement, empower teachers with growth opportunities, ensuring their continuous professional advancement and societal impact. Led by various departments and stakeholders, these strategic endeavors strive to create an enriched educational ecosystem conducive to both faculty and student success.

**4. Conclusions and recommendations**

The majority of the respondents were female teachers, aged 30-39, with 11-20 years of teaching experience, and had a master's degree. On the work behavior ability of teachers, they highly agreed on the ability of talent training ability and only agreed on their ability of teaching ability and scientific research ability. On the professional quality of teachers, they highly agreed on the performance of professional spirit and professional ethics, only agreed on the performance of professional knowledge. On the professional development of teachers,

they believed that in terms of professional development, they participate in the most professional teachers' development activities, with the highest support rate, there were many professional opportunities, ranked second, Getting professional support was the lowest ranking. Teachers with different genders, ages, and educational backgrounds have significant differences in work behavior ability, professional quality and professional development. There is no significant difference in teaching age, namely education work time, work behavior ability, professional quality, and professional development. There is an obvious relationship between the three variables of teachers' work behavior ability, professional quality, and professional development. The better the teachers' work behavior ability, the stronger their professional quality, and the better their professional development. A teachers' development plan to improve university teachers' work behavior ability and professional quality, and promote teachers' development was proposed.

For the universities officials, may pay more attention to teacher development and give more support to teacher development, which can be either policy or economic. For the personnel management department of universities, it may strengthen the assessment and evaluation of teachers, and incorporate teachers' work and behavior ability, professional quality, and professional development into the evaluation system, which will improve the overall level of teachers. For teachers, may refer to the research results and comprehensively examine their comprehensive ability and quality. According to their age, gender, and educational background, they can continue to study targeted pertinently and participate in corresponding activities in the future to gain growth. For other researchers in the future, they will start by investigating other philosophical factors that affect teacher development. The proposed development plan may be tabled and discussed for implementation.

## 5. References

- Chi Xinyu. (2021). Research on the construction and promotion strategy of information technology teachers' literacy framework based on the new curriculum standard [D]. Qufu Normal University
- Han, Yanlun & Liu, Ruogu.(2022). Feelings of Education: Teachers' moral consciousness and professional adherence. *Educational Research* (05),83-92.
- Jin Yule.(2021). Discussion on the general education ability of college teachers in the new era. *University education management* (04), 1-12. Doi: 10.13316 / j.carol carroll nki jhem. 20210625.001.
- Li Tong-tong, Wang Zhi-Jun, Zou Rui & Li Lei.(2018). A study on the professional quality structure of Maker teachers. *China Audio-visual Education* (06),80-86+142.
- Li Ying. (2020). Characteristics and management of mid-career development of university teachers. *China Science and Education Innovation Guide* (34),238. doi:CNKI:SUN:GWDT.0.2020-34-208.
- Liu Qianqian. (2021) Research on the construction of teachers' professional literacy index system based on curriculum thinking and politics[D].Yili Normal
- Pan Maoyuan. (2019). University teacher development theory concept, connotation, way, organization, power. *Higher Education Research* (01), 62-65. doi:CNKI:SUN:HIG.0.2019-01-015.
- Pei Lina.(2022). An exploration of college teachers' Professional development strategies from the perspective of Professional Learning Community. *The Road to Success* (15),122-125. doi:CNKI:SUN:CCZL.0.2022-15-041.
- Rang Kaili. (2019). Local applied university teachers' professional ability for engineering studies (master's degree thesis, tianjin vocational technology normal university). <https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD202001&filename=1020622326.nh>
- Song, Kelin.(2021). A study on the structure and measurement of university teachers' scientific research ability and its relationship with scientific research performance. *Adult Education in China* (21),39-45. doi:CNKI:SUN:ZCRY.0.2021-21-008.
- The EDC/NMEF Student-Centered Learning (SCL) Questionnaire for Teachers(2016).Measuring the implementation and impact of student-centered learning: Teachers' experience and attitudes.
- Wang A.na.(2022). Research on strategies for improving professional quality of Finance and accounting teachers in universities. *Journal of Jiangxi Electric Power Technical College* (08),70-72.

- doi:CNKI:SUN:DLZG.0.2022-08-018.
- Wang Guangming, Wei Qianping, Zhang Yongjian & Wu Libao.(2019). Reexploring the structural system of Teachers' core literacy and competence. *Chinese education science (both in English and Chinese)* (4), 59-73. C.s. ci doi:10.13527/j.cnki.edu. China. 2019.04.006.
- Wang Hai-Ling.(2019). Stimulating Teachers' professionalism from the perspective of Teacher Professional Development. *Education and Teaching Forum* (44),45-46. doi:CNKI:SUN:JYJU.0.2013-44-032
- Wang Wenli& Wang Guigui. Explore the factors affecting the scientific research and innovation ability of young teachers in local universities [J]. *Chizi*, 2018 (6) : 253.
- Wang Xinan, (2023). Building excellent teachers to promote high-quality development of education. *Gansu Education* (18),1. doi:CNKI:SUN:GSJY.0.2023-18-001.
- Wang Yangyang. (2018). Research on the influence mechanism of the driving force of Teachers' Professional Development in undergraduate universities in Jiangxi Province (Master Dissertation, Nanchang University).
- Wang Zhibiao & Yang Panpan.(2021). Analysis on Influencing factors of university teachers' scientific research ability: Based on the investigation of Chongqing. *Journal of Hubei University of Arts and Sciences* (11),55-61. doi:CNKI:SUN:XFXY.0.2021-11-008.
- Wei Changjiao. (2021). Research on the Development of Teaching Ability in College Teachers under the Background of New Engineering (D). And Northeastern Petroleum University.
- Wei Qingyi.(2021). Current Situation, Problems and Improvement of professional development policies for young teachers in Chinese colleges and universities: A textual analysis of the policies of 42 "world-class universities". *Journal of Higher Education Research* (04),68-76. doi:CNKI:SUN:GJYJ.0.2021-04-012
- Xie Ranran, Liang Shuguang, and Shan Yourou.(2022). Analysis of influencing factors on the willingness of knowledge-based young and old teachers to work again. *Science and Technology and Industry* (09),138-144. (in Chinese) doi:CNKI:SUN:CYYK.0.2022-09-020.
- Xu Zusheng. (2021). Research on the Professional Literacy of College Teacher Educators in China [D]. (doctoral thesis) Northeast Normal University
- Yang Zhongdong & Wu Chaoya.(2022). Coupling strategies of Internal and external dynamics in Professional development of university teachers. *Journal of Chengdu Polytechnic of Aviation* (02),8-11. doi:CNKI:SUN:CDHK.0.2022-02-003.
- Yao Lu, Ge Yingying & Qiu Fengxiang.(2023). Research on Teacher Professional quality Training based on "Industrial and aesthetic Integration" aesthetic education system in engineering universities. *Journal of Jilin Radio and Television University* (01),64-66. doi:CNKI:SUN:JLGB.0.2023-01-021.
- Yassir Alzahrani.(2021).The Relationship Between Motivation and Professional Learning for Teachers in Makkah,Saudi Arabia Yassir Alzahrani University of South Florida
- Yu Shenggang & Yu Bingjie.(2021). Research on Satisfaction and Demand of young teachers' Professional Development in Local universities. *Journal of Beihua University (Social Sciences Edition)*(01),130-136+155-156. (in Chinese) doi:10.19669/j.issn.1009-5101.2021.01.014.
- Zhan Zhengxiang, Wen Yihan & Li Zhuo.(2023). Chongdeqiang Education: Achievements and development Suggestions of university teacher team construction. *Modern Commerce and Industry* (16),113-115. doi:10.19311/j.cnki.1672-3198.2023.16.039.
- Zhang Junjie & Yang Li.(2021). Construction of Professional Development ability model for teachers in applied universities based on QFD theory and improvement countermeasures. *Journal of Chongqing Liberal Arts College (Social Science Edition)* (4), 130-140. The doi: 10.19493 / j.carol carroll nki issn1673 8004.2021.04.013.
- Zhang Kun. (2019). Professional Development of college teachers: Knowledge dilemmas and Solutions. *Journal of Inner Mongolia Normal University (Education Science Edition)*(11),79-82. doi:CNKI:SUN:NMJX.0.2019-11-025.
- Zhang Peng. (2018). Research on influencing factors and improving strategies of young teachers' scientific research ability in application-oriented universities. *Anhui Literature (Second Half)*(11),220-222. doi:CNKI:SUN:AHWA.0.2018-11-089.

- Zhang Xuting. (2018). An Empirical Research on the Professional Development Requirements of University Teachers [D], Nanchang University;
- Zhang, Xue-min, Shen, Ji-liang (2021). A review of foreign teachers' teaching expertise and development theories. *Comparative Educational Research*, 3:1-5
- Zhang, Xuemin&Shen, Jiliang (2021). A review of foreign teachers' teaching expertise and development theories. *Comparative Educational Research*, 3:1-5
- Zhao Gaoli, Song Junping & Fu Yu.(2023). Research on the formation factors and construction paths of quality culture in local undergraduate universities. *Journal of Henan University of Science and Technology*(08),34-39+61. doi:CNKI:SUN:ZJXY.0.2023-08-005.
- Zhao Guodong & Shi Jia.(2023). Review and Prospect of scientific moral education after the founding of New China. *Educational Theory and Practice* (25),46-51.

