

# A Study on the Relationship between the Professional Development of College Teachers and the Organizational Culture in China

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## Abstracts

This paper aims to explore the relationship between the professional development of college teachers and the organizational culture in China. The organizational culture questionnaire (OCQ) proposed by Denison et al and the teacher professional development scale compiled by Xu xiong-wei were used for quantitative research. Based on the theory of organizational culture and teacher professional development, this study proposed research hypotheses and used questionnaire survey to collect data, the relationship between organizational culture and teachers' professional development is explored through descriptive statistics, correlation analysis and regression analysis. The results show that school organizational culture has a significant positive impact on teachers' professional development. Among them, the three dimensions of consistency, adaptability and mission have a positive effect on teachers' professional development.

**Keywords:** Professional development; Organizational culture in China; College teachers

## Introduction

Teacher professional development is the key to improving the quality of education and has become the focus of current education scholars' attention (Zuo Chongliang and Wu Yunpeng, 2019 : 76-81). It involves continuous improvement of teacher knowledge, skills, and attitudes to improve educational quality and meet student needs (Avalos, 2011 : 10-20). As a complex Social phenomenon, teachers' professional development is affected by many factors, among which school organizational culture is one of the important factors affecting teachers' professional development (Lin Yigang and He Qiang, 2005 : 8-10). Therefore, studying the impact of school organizational culture on teacher professional development is of great significance for improving the quality of higher education and promoting teacher professional growth.

Organizational culture plays an important role in the field of higher education. It is a shared system of values, beliefs, behavioral patterns, and symbols that has a profound impact on the behavior and decision-making of members within an organization, Tierney (1988 : 2-21). Taye, Sang, and Muthanna's (2019 : 77-90.) study explored the impact of organizational culture on university performance. Positive organizational culture can stimulate teachers' enthusiasm and creativity, promote teamwork and learning development, and thus improve the performance level of universities. In China, there is relatively little research on school organizational culture. Currently, research mainly focuses on describing and comparing

different types of school organizational culture, the impact of school organizational culture on teacher career development, and the transformation and management of school organizational culture. In recent years, with the deepening of education reform, research on school organizational culture has gradually received attention, and related research has gradually increased.

Therefore, this study aims to explore the relationship between organizational culture and teacher professional development in Chinese undergraduate universities, and provide effective strategies for promoting teacher professional development for university managers and policy makers. On this basis, this study aims to answer the following questions: 1. How does the organizational culture of Chinese undergraduate universities affect the professional development of teachers? How do the various dimensions of organizational culture in Chinese undergraduate universities affect the professional development of teachers? Through the answers to these research questions, this study provides theoretical basis and practical guidance for university administrators and policy makers in promoting teacher professional development.

## Literature Review

Teacher professional development refers to the learning of teachers, including how to learn and how to apply newly acquired knowledge in practice (Avalos, 2011 : 10-20). The purpose of teacher professional development is to enhance teachers' professional knowledge and practice, thereby promoting students' learning outcomes. Teacher professional development is a continuous process that requires continuous self reflection and learning to adapt to the constantly changing educational environment. The professional development of teachers needs to be supported and promoted from multiple levels, including policy level, school level, educational institution level, etc. (Sun Zhilin, 2022 : 1-27).

School organizational culture refers to the norms, values, beliefs, and behavioral patterns commonly held within a school (Denison&Quinn, 1995 : 524-540). It can guide the thoughts, attitudes, and behaviors of school staff, solve internal and external problems within the organization, and is a unique cultural and spiritual atmosphere of the school. The organizational culture of a university is the spirit and physical expression accumulated during its creation, operation, and development. It has rich connotations and broad extensions, and is a reflection of the characteristics of the university organization. The research on school organizational culture at home and abroad mainly focuses on the definition and characteristics of connotation, influencing factors, effectiveness evaluation, and measurement.

In recent years, Chinese scholars have also begun to pay attention to the relationship between teachers' professional development and school organizational culture. The research of Lin Yigang and He Qiang (2005 : 8-10) shows that organizational culture and curriculum leadership have a significant impact on teachers' professional development in the teaching and research groups in Chinese Mainland; Tang Yuxia (2009 : 53-57) explores school organizational culture from the perspective of supporting teacher professional development; Wang Benfu (2010 : 178) studied the impact of organizational culture in learning schools on teachers' professional development; Zhong Yaoming (2014 : 82-82) believes that schools should aim for the professional development of teachers and carry out organizational cultural

changes. Although these literature provide valuable perspectives and suggestions for studying the relationship between teacher professional development and school organizational culture, there is still a relative lack of situational research in applied undergraduate universities. Therefore, research on the professional development of applied undergraduate university teachers has become very important. Based on the above content, this study aims to explore the impact of school organizational culture on teacher professional development, and explore how various dimensions of school organizational culture affect teacher professional development. And propose several assumptions:

Hypothesis 1: The organizational culture of Chinese undergraduate universities has a significant positive impact on the professional development of teachers

Hypothesis 2: The participation of organizational culture in Chinese undergraduate universities has a significant positive impact on the professional development of teachers

Hypothesis 3: The consistency of organizational culture in Chinese undergraduate universities has a significant positive impact on teacher professional development

Hypothesis 4: The adaptability of organizational culture in Chinese undergraduate universities has a significant positive impact on the professional development of teachers

Hypothesis 5: The mission of organizational culture in Chinese undergraduate universities has a significant positive impact on the professional development of teachers.

## Research Methodology

### 1. Research design and sampling

The researchers selected teachers from eight undergraduate universities in Jilin Province, China as research samples, distributed a total of 400 questionnaires, and collected 381 valid questionnaires, with an effective rate of 95.25%. Among them, there are 126 males and 255 female teachers. The sample age is mostly between 36 and 45 years old (47.8%), followed by 26 to 35 years old (24.7%), 46 to 55 years old (21.5%), and 6.0% are under 25 years old and 56 years old and above. Among all samples, 67.2% obtained a master's degree, 23.6% obtained a doctoral degree, and the remaining 9.2% obtained a bachelor's degree.

### 2. Data collection and analysis

#### Teacher Professional Development Scale

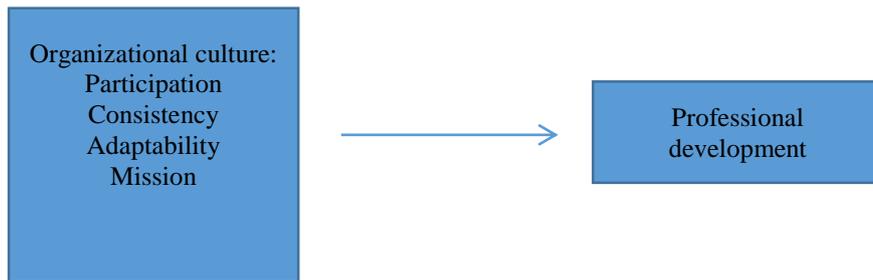
This study refers to the "Crobach Professional Development Scale for Teachers" developed by domestic scholar Xu Xiongwei (2017)  $\alpha$  The coefficient reaches 0.7 or above, and has been adjusted based on the original scale. The adjusted scale includes two dimensions: teaching investment and research investment, with 5 and 7 questions respectively; This scale adopts the Likert five point scale, and the questions in the scale are all positive questions. Set a score of 5 to 1 for "strongly agree" to "strongly disagree". The higher the score on the scale, the higher the professional development level of Chinese undergraduate university teachers.

### School Organizational Culture Scale

This study used the Organizational Culture Scale (OCQ) created by Denison for reference, and made improvements on the original scale. After adjustment, the scale consisted of four dimensions and 39 questions, including 8 questions for participation, 11 questions for consistency, 14 questions for adaptability, and 6 questions for mission. This scale used the Likert five point scale, and all questions in the scale were positive. Set a score of 5 to 1 for "strongly agree" to "strongly disagree". The higher the score on the scale, the higher the overall level of organizational culture in Chinese undergraduate universities.

This study conducted item analysis and validity analysis using statistical software SPSS22.0 to test its reliability and validity. Through reliability analysis, the pre test questionnaire was made more reliable and stable, and Cronbach was used to understand the internal consistency of various scales in this study  $\alpha$  Coefficient.

### Research Conceptual Framework



### Research Results

#### 1. Sample situation

This study collected a total of 381 valid questionnaires, including 126 males and 255 female teachers. The sample age is mostly between 36 and 45 years old (47.8%), followed by 26 to 35 years old (24.7%), 46 to 55 years old (21.5%), and 6.0% are under 25 years old and 56 years old and above. Among all samples, 67.2% obtained a master's degree, 23.6% obtained a doctoral degree, and the remaining 9.2% obtained a bachelor's degree. The professional titles, teaching experience, and job distribution of the sample are shown in Table 1 below.

**Table 1 Descriptive data of formal test samples**

Demography variable	classification	count (n=381)	percentage (%)
gender	male	126	33.1
	female	255	66.9
age	Under 25 years old	2	.5
	26-35 years old	94	24.7
	36-45 years old	182	47.8
	46-55 years old	82	21.5
	56 years old and above	21	5.5
	Junior college or below	-	-
	The highest education level	undergraduate course	35
	master	256	67.2
	doctor	90	23.6
Professional title level	primary	59	15.5
	intermediate	133	34.9
	Deputy Senior	147	38.6
	Regular senior	42	11.0
Length of teaching	0-5 years	86	22.6
	6-10 years	47	12.3
	11-20 years	159	41.7
	21-30 years	64	16.8
	Over 30 years	25	6.6
duties	Regular full-time teachers	303	79.5
	Full time teacher and middle level leader	37	9.7
	Middle level leader and teacher	25	6.6
	Senior leaders and teachers	16	4.2

## 2. Reliability and Validity Testing and Descriptive Statistics

Using internal consistency coefficient (Cronbach's  $\alpha$ ) To measure the reliability and consistency of various research tools ( $\alpha > 0.8$ , the scale has good reliability;  $0.8 > \alpha > 0.7$ , with good reliability;  $0.7 > \alpha > 0.6$ , acceptable reliability;  $\alpha < 0.6$ , poor reliability). The reliability coefficients of the overall scale and each sub dimension are shown in Table 2, with reliability coefficients of 0.90 or above, indicating good reliability of the tools used in this study. The discriminant validity was tested using the average variance extraction volume (AVE) when  $AVE > 0$  At 50, it indicates that the scale has good discrimination. From Table 2,

it can be seen that the AVE of each variable is above 0.50, indicating differentiation between variables.

Table 2 Reliability test results of various research variables during formal testing

variable	Cronbach's alpha	Number of items	CR	AVE
<b>organizational culture</b>	<b>.980</b>	<b>39</b>		
Participatory	.923	8	0.925	0.608
Consistency	.947	11	0.948	0.625
Applicability	.953	14	0.953	0.598
mission	.946	6	0.946	0.746
<b>Professional development</b>	<b>.951</b>	<b>12</b>		
Scientific research investment	.900	5	0.903	0.650
Teaching investment	.952	7	0.951	0.738

Table 3 shows the range, mean, and standard deviation of values for each variable and its dimensions. The total score of organizational culture and the average score of each dimension are at the upper middle level. The highest scoring dimension in organizational culture is the mission dimension, with an average of 82.3% within the range of values; Secondly, there is consistency, with its mean value at 80.3% of the range; The mean values of participation and consistency are equivalent, with the mean value being approximately 78% of the range. In the scores of various dimensions of professional development, the average score of teaching investment is the highest, at 81.1% of the value range, followed by research investment, with its average at 74.1% of the value range.

Table 3 Descriptive Statistics of Various Research Variables

	Value range	minimu m value	Maximum value	average value	standard deviation
<b>organizational culture</b>	1~5	1.70	4.98	3.999	0.584
Participatory	1~5	1.63	5.00	3.920	0.653
Consistency	1~5	1.09	5.00	4.017	0.630
Applicability	1~5	1.64	5.00	3.944	0.626
mission	1~5	2.00	5.00	4.114	0.642
<b>Professional development</b>	1~5	2.00	5.00	3.878	0.691

Scientific investment	research	1~5	1.00	5.00	3.703	0.767
Teaching investment		1~5	2.00	5.00	4.053	0.717

### 3. Difference Analysis

#### 4.3.1 Gender Differences

The independent sample T-test shows that there are no significant gender differences in organizational culture, total scores of teacher professional development, and various dimensions.

#### 4.3.2 Age differences

Using analysis of variance to test the age differences of various research variables, it was found that there was only a significant age difference in teaching investment. Specifically, teachers aged 46 and above had significantly higher teaching investment than teachers aged 26-35.

#### 4.3.3 Educational Differences

Using analysis of variance to test the educational differences of each research variable, the results are shown in Table 6. The results showed that there were significant educational differences in the total score and various dimensions of organizational culture. In the professional development of teachers, only research investment had significant educational differences. Specifically, the overall organizational culture level of master's and doctoral programs is relatively higher than that of undergraduate programs, and the participation and consistency of master's programs are higher than that of undergraduate programs. The applicability and mission of doctoral programs are significantly higher than that of undergraduate programs; In terms of research investment, the investment of doctoral students is significantly higher than that of undergraduate students.

#### 4.3.4 Differences in professional titles

Use analysis of variance to test the differences in professional titles among various research variables. There are significant differences in professional titles in terms of participation, total score of professional development, research investment, and teaching investment. Specifically, the participation of senior executives is significantly higher than that of deputy senior executives; The total score of professional development at intermediate level and above is significantly higher than that of junior level, the investment in scientific research at deputy senior level and above is significantly higher than that of junior level, and the investment in education at intermediate level and above is significantly higher than that of junior level.

#### 4.3.5 Age difference

Use ANOVA to test the seniority differences of each research variable. The results showed that there was a significant seniority difference only in teaching investment. Specifically, teachers with 21-30 years of teaching experience had significantly higher teaching investment than teachers with 10 years or less.

#### 4.3.6 Job Differences

Use ANOVA to test the job differences of each research variable. The results showed that there were significant job differences only in the total score of professional development and teaching investment. Specifically, the professional development of full-time

teachers and middle level leaders was significantly higher than that of senior leaders and teachers, and the teaching investment of full-time teachers and middle level leaders was significantly higher than that of middle and high level leaders and teachers.

4. Related analysis

Table 11 shows the correlation coefficient matrix between each variable and its dimensions. From the table, it can be seen that there is a significant positive correlation (correlation coefficient between 0.71 and 0.85) between various dimensions of organizational culture; There is a significant positive correlation (correlation coefficient of 0.73) between the two dimensions of professional development. In addition, there is a moderate level of significant positive correlation between various dimensions of organizational culture and the two dimensions of teacher professional development (correlation coefficient between 0.43 and 0.54), indicating that the higher the perception level of teachers on various aspects of organizational culture, the better their personal development level.

**Table 11 Relevant Results of Organizational Culture and Teacher Professional Development**

	organizational culture							
organizational culture	1							
Participatory Consistency	.918**	1						
Applicability	.930**	.846**	1					
Mission	.931**	.803**	.821**	1				
Professional development	.888**	.715**	.745**	.796**	1			
Scientific research investment	.556**	.484**	.531**	.511**	.514**	1		
Teaching investment	.544**	.473**	.519**	.516**	.490**	.936**	1	
	.489**	.427**	.468**	.434**	.466**	.926**	.734**	1

NOTE: \* $P < 0.05$ , \*\* $P < 0.01$

5. Regression analysis

Table 12 shows the regression coefficients of various dimensions such as participation, consistency, applicability, and mission on research investment, teaching investment, and the total score of teacher professional development. From the table, it can be seen that in addition to participation, consistency, applicability, and mission have significant positive predictive effects on scientific research investment. Among them, consistency has the highest predictive power, followed by mission, and finally applicability. These results indicate that the higher the level of participation and sense of mission of teachers in organizational culture, the greater their scientific research investment; Consistency and applicability have a significant positive predictive effect on teaching engagement, with applicability having a slightly higher predictive power than consistency. These results indicate that the higher the level of applicability and consistency of teachers in organizational culture, the more teaching

engagement they have; Consistency and applicability also have a significant positive predictive effect on the total score of teacher professional development, with consistency having the highest predictive power on the total score of teacher professional development, followed by applicability. These results indicate that the higher the level of organizational culture consistency and applicability perceived by teachers, the better the corresponding overall teacher professional development results.

表 12 组织文化与教师专业发展的回归系数结果

	Scientific research investment	input of teaching	Professional development
Participatory	-.001	.033	.017
Consistency	.251**	.251**	.270**
Applicability	.152*	.260**	.220**
mission	.189*	-.006	.102

NOTE: \* $P < 0.05$ , \*\* $P < 0.01$

## Conclusion

This study concludes that school organizational culture has a significant positive impact on teacher professional development. Among them, consistency and adaptability both have a positive impact on the professional development of teachers.

The research conclusion also explains why organizational culture in universities can promote the improvement of teachers' professional development. The reason is that a consistent culture helps to form common educational concepts and teaching objectives, promote consistency and collaboration in teachers' professional development, and an adaptive culture also helps to stimulate teachers' innovative thinking and learning motivation. Therefore, we can believe that organizational culture can promote the motivation, consistency, and direction of teacher professional development by encouraging teacher participation in decision-making, creating consistent educational values, supporting adaptation to change, and emphasizing educational mission.

## Discussion

The healthier and more positive the organizational culture of universities, the greater the promoting effect on the professional development of their teachers, which is consistent with the research results of Lin Yigang and He Qiang (2005 : 8-10), Qiu Xianyi and Xiao Jiachun (2019). Universities provide motivation and guarantee for the professional development of teachers by improving the quality of school organizational culture (Wang Guangming et al., 2018 : 47-54). The research results emphasize the importance of building a healthy and positive school organizational culture for improving teachers' professional development level. Therefore, Chinese undergraduate universities should pay attention to the construction of organizational culture to promote the professional development of teachers. The specific suggestions are as follows:

(1) Strengthen the construction of mission culture. Schools should clarify and convey their mission and vision, so that teachers can clarify their work goals and value

orientations, thereby improving their educational and subject knowledge abilities.

(2) Enhance adaptive culture. Schools should pay attention to changes in the external environment, adjust education and teaching strategies and teacher training content in a timely manner to adapt to social and market demands, and promote the development of teachers' research and organizational coordination abilities

(3) Emphasize the cultivation of participatory culture. Schools should encourage teachers to participate in school management and decision-making, and increase their sense of belonging and participation in school development. Through the active participation of teachers, the quality of education and teaching as well as the level of professional development of teachers can be improved.

(4) Create a culture of consistency. Schools should strengthen internal communication and collaboration, form common values and behavioral norms, in order to improve teachers' psychological counseling ability and educational teaching level. At the same time, schools should focus on cultivating team spirit among teachers and promoting mutual assistance and cooperation among teachers.

### **Limitations and Recommendations**

This study explores the relationship between school organizational culture and teacher professional development in the context of undergraduate universities in China, but there are still the following limitations:

(1) This study only focuses on the direct impact of school organizational culture on teacher professional development, without considering other possible mediating or moderating variables. Subsequent research can further expand the model to reveal more comprehensively the relationship between school organizational culture and teacher professional development.

(2) The research object of this study is limited to universities in Jilin Province and does not involve universities in other regions. Future research can expand its scope to more universities to enhance the universality and practicality of research.

In summary, this study provides useful insights for the study of the relationship between school organizational culture and teacher professional development, and also provides practical guidance for the construction of organizational culture and teacher professional development in Chinese undergraduate universities. In future research, there is a need to further expand and improve the theoretical and empirical research on the relationship between school organizational culture and teacher professional development.

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