



Relationship between the Dimensions of Professional Development among Female Teachers in Rural Primary Schools in Guangxi, China

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Abstract. Female teachers in rural primary schools are an important part of rural basic education, and their professional development has a direct impact on the quality of rural basic education. This paper takes 191 female teachers in rural primary schools in Guangxi as the research object and analyzes the current situation of professional development of female teachers in rural primary schools in Guangxi through a quantitative questionnaire survey. Data analysis was conducted by SPSS23.0 and the results showed that the overall professional development of female teachers in rural primary schools in Guangxi was at an intermediate level, and there were significant correlations among the four dimensions of role identity, professional knowledge, professional competence, and career development, and there were positive correlations between them and the overall development level. Among them, the levels of professional knowledge and professional competence were high, and the levels of role identity and career development needed to be strengthened. Finally, the researchers suggest feasible suggestions for them to enhance their professional development in the context of the actual situation.

Keywords: rural primary schools; female teachers; professional development

1 Introduction

The continuous balanced development of basic education has led to some improvement in the original backward situation of rural education. In 2015, the General Office of the State Council issued the Rural Teacher Support Program (2015-2020), which proposed effective measures to promote the development of rural teachers in eight aspects, including moral standards, living conditions, competence, and so on. As part of Chinese basic education, the quality of education in rural areas is in urgent need of improvement.

The quality of rural teachers is an important factor in improving the level of the teaching staff and promoting the reform and development of rural education. Due to traditional gender role stereotypes, most people believe that women are better suited for

the teaching profession (Sancar et al., 2021)^[1]. As the "major strength" of the rural teaching staff, female teachers play a significant role in rural education and culture. Primary education, as the interface between preschool and secondary education, is a critical period for training students in self-confidence, diligence, and the establishment of learning goals, and meanwhile, the guidance of teachers at this stage is particularly important (Smith & Gillespie, 2023)^[2]. As the guides of rural students on their learning journey, the professional development of female teachers in rural primary schools depends on the effectiveness of rural education. Regarding the connotation of teacher professional development, scholars Ye, Bai, and Wang (2002)^[3] argue that teacher professional development is the process of continuous renewal and evolution of professionalism, educational concepts, professional knowledge, professional competence, and educational wisdom (Bragg et al., 2021)^[4]. Professor Tang (1999) also considers teacher professional development as the transformation of a teacher's skills, emotions, and attitudes from novice to mature^[5].

In view of the above scholars' views, teacher professional development in this paper refers to the process of teachers' continuous acquisition of professional knowledge, enhancement of professional skills, and promotion of professional development in the teaching process, which mainly includes three aspects: professional knowledge, professional skills, and career development.

2 Problem Statement

Research on rural teachers has been the focus of the research field of basic education in China, and research on the professional development of rural teachers is also the focus of rural teachers. Female teachers in rural primary schools are the backbone of rural basic education development, and rural primary schools are the base for cultivating indigenous rural students (Hennessy et al., 2022)^[6]. In addition, most of the past studies on teachers' professional development have focused both on male and female teachers at a certain stage, but rarely have female teachers been the focus of research. As female primary school teachers who stick to the front line of rural education, their own role identification and the extent of their professional knowledge, professional competence, and career development reflect their professional development in a real way.

3 Research Objectives and Questions

In view of this, this paper takes female primary school teachers in rural Guangxi as the research object and prepares the questionnaire to conduct a survey in order to reveal the professional development of female primary school teachers in rural Guangxi and make appropriate suggestions. Based on the above research objectives, this paper attempts to address the following three questions:

(1) What is the level of professional development of female teachers in rural primary schools in Guangxi?

(2) Is there a correlation between the four dimensions of professional development of female teachers in rural primary schools in Guangxi?

(3) What are the suggestions to enhance the professional development of female teachers in rural primary schools in Guangxi?

4 Literature Review

Most of the international research on rural female teachers' professional development has focused on the needs of female teachers, and the starting point of these researches is still from the male perspective, which still reflects the stereotypical reflection of gender (Wang, 2011) ^[7]. Since the 1990s, teacher professional development research has entered the field of Chinese researchers and has experienced more than two decades of development. By the end of 2018, the number of female primary school teachers in China had reached 418,000, accounting for 68.75% of the total number of primary school teachers, and female teachers have become an important part of the teaching staff. However, the research on female teachers' professional development and rural female teachers' professional development is not sufficient, and through the collected literature, the research on Chinese rural female teachers' professional development mainly focuses on the current situation, problems, and solutions.

4.1 The Current Situation and Problems of Professional Development of Rural Female Teachers

Through a survey of more than seven hundred rural teachers, Xu and Zhao (2015) concluded that the professional development of rural female teachers needs to be further improved, mainly in terms of role conflict ^[8]. Compared to rural male teachers, female teachers may face more responsibilities, which originate from family and society, so they sometimes feel overwhelmed (Eroglu & Donmus Kaya, 2021) ^[9]. In addition to their teaching role in schools, female teachers in rural primary schools have to give more care to those left-behind children and thus play the role of mothers, so the intersection of their roles brings pressure. The ability to teach and research is a concrete indication of the teacher's professional competence, and the weak capacity to teach and research is a common problem for female teachers in rural primary schools, who rarely have the opportunity to participate in research activities, which, coupled with the limitations of rural educational resources, leads them to try but have no way to do so (Zhang, 2016) ^[10]. For female teachers in rural primary schools, weak awareness of professional development is also a symptom of low professional development (Wang, 2011) ^[7]. Compared to rural male teachers, female teachers have relatively fewer opportunities to study outside or to obtain training, and they can only improve their teaching skills through their continuous learning. Most rural school leaders still believe that male teachers are easier to manage, so if there are training opportunities, they tend to favor male teachers (Li & Yu, 2010) ^[11]. From the perspective of gender, rural female teachers believe that their value is not reflected in their work and that the effort

is not proportional to the reward, so it leads to a lower sense of efficacy (Zhao, 2014) [12].

4.2 Measures for the Professional Development of Female Teachers in Rural Primary Schools

In response to the current situation of female teachers' professional development in rural primary schools, some researchers have put forward suggestions, which can be summarized into the following two aspects: one is the personal aspect. Wang (2011) argued that female teachers should establish a correct view of professional development, give full play to their strengths, and balance the relationship between work and family to switch freely between various roles [7]. Integrate professional development and career goals, and make good plans for professional development. Sui (2017) believed that rural primary school teachers should actively seek ways to relieve stress at work, turn stress into motivation, and adjust their mentality in time as a way to improve their work efficiency [13]. Another one is the external aspect. Second, is the external level. School management, teaching reform, and the implementation of relevant policies can effectively promote the professional development of rural teachers. Christoforidou and Kyriakides (2021) argued that rural primary schools should give more attention to female teachers, value the role of female teachers, and encourage female teachers to participate in school management [14]. Abakah et al. (2022) believed that education authorities should also create good conditions and environment for rural female teachers, adhere to the principles of equal participation for male and female teachers, and fully consider the role of gender consciousness in decision-making to create a harmonious environment for rural female teachers [15].

A review and summary of the relevant literature show that there are fewer articles and books on rural female primary school teachers. Compared to teacher professional development, research on female teacher professional development is still in its infancy.

5 Methods

This paper adopted a quantitative research method and conducted questionnaires in rural primary schools in five counties of Guangxi based on the principle of purposive sampling. The Questionnaire on the Professional Development of Female Teachers in Rural Primary Schools for this paper was prepared through extensive reading of relevant literature on the professional development of rural teachers and female teachers, and also by referring to other researchers' documents and questionnaires.

To ensure a robust questionnaire design, the instrument included two main parts with clearly defined question types, scoring methods, and reliability indicators. The questionnaire employed both multiple-choice and Likert scale questions for quantitative analysis. In the first part, basic information was gathered through four multiple-choice questions, focusing on demographic data relevant to the study's context on teachers' professional development. The second part of the questionnaire employed a

5-point Likert scale for attitudinal assessment, enabling respondents to express their agreement across five levels: "strongly agree," "relatively agree," "moderate," "not quite agree," and "completely disagree." These responses were scored from 5 (strongly agree) to 1 (completely disagree). Each respondent's total score, obtained by summing individual item scores, provided an overall indicator of their attitude strength and alignment with each measured dimension.

The questionnaire was designed around four critical dimensions relevant to teachers' professional development: role identity, professional knowledge, professional competence, and career development. Each dimension was assessed with five targeted questions. Specifically:

Role identity: Questions 1, 2, 15, 16, and 17.

Professional knowledge: Questions 5, 6, 8, 9, and 18.

Professional competence: Questions 3, 4, 7, 10, and 11.

Career development: Questions 12, 13, 14, 19, and 20.

To ensure reliability, the questionnaire was tested for internal consistency using Cronbach's alpha, indicating strong reliability across items within each dimension. Additionally, item-total correlations were checked to confirm that each question contributed meaningfully to its respective dimension, enhancing the instrument's validity. All collected data were analyzed using SPSS 23.0, which included descriptive statistics, correlation analysis, and reliability testing, to ensure a comprehensive and accurate interpretation of the responses.

6 Results

A total of 220 questionnaires were delivered in this survey work, 202 questionnaires were recovered, the recovery rate was 91.8%, and after review and selection, 191 valid questionnaires were obtained, and the effective rate of questionnaires was 94.6%. For the data collected from the questionnaire, SPSS23.0 was used for statistical analysis. The questionnaire is determined by reliability and validity, and researchers generally use the Cronbach coefficient α to determine the reliability of the questionnaire and use the KMO and Bartlett's test of sphericity for factor analysis. Therefore, researchers using SPSS23.0 to analyze the reliability and validity of the questionnaire, the value of the Cronbach coefficient of the questionnaire is 0.908, $\alpha > 0.9$, which indicates that the reliability of the questionnaire is good; the value of KMO is 0.872, which is between 0.8 and 0.9, indicating that the validity is good and is very suitable for factor analysis.

6.1 Basic Information About the Sample

The basic information of the 191 female teachers in rural primary schools who participated in this survey is as follows: in terms of academic qualifications, 53.92% were university graduates, 45.03% teachers were graduate from higher vocational-technical colleges, and 1.05% teachers were graduate from secondary vocational-technical colleges; in terms of age, 48.17% were under 30 years old, 41.36% were 31-40 years old, 9.42% were 41-50 years old, and 1.05% were over 51 years old; in terms of teaching

experience, 35.08% of teachers were less than 5 years, 31.94% were 5-10 years, 23.03% were 11-20 years, and 9.95% were more than 21 years; in terms of job title, 31.94% of teachers had no job title, 25.65% were Grade 3 primary school teachers, 34.56% were Grade 2 primary school teachers, 4.71% were Grade 1 primary school teachers, and 3.14% were senior primary school teachers.

6.2 Findings and Discussion

6.2.1. Professional Development Level of Female Teachers in Rural Primary Schools in Guangxi.

According to the questionnaire design, this paper carried out survey analysis from four dimensions of professional development of female teachers in rural primary schools, namely: role identity, professional knowledge, professional competence, and career development, and gained an overall understanding of the current situation of professional development of female teachers (Table 1).

Table 1. Descriptive statistics of the overall level of professional development of female teachers in rural primary schools and the results of each dimension

	Samples	Number of questions	Mean	Standard deviation	Variance
Role identity	191	5	3.526	0.973	0.947
Professional knowledge	191	5	3.875	0.677	0.459
Professional competence	191	5	3.781	0.945	0.893
Career development	191	5	3.691	0.758	0.575
Overall level	191	20	3.718	0.633	0.401
Number of effective cases (in columns)	191				

According to the scores of scales 1-5, it can be seen from the above table that the overall mean value of the professional development status of female primary school teachers in rural Guangxi is about 3.72, which is in the middle to the upper level. The mean scores of the four dimensions are between 3.5-4.0, which are between moderate and relatively agreeable, and according to the scores from highest to lowest are professional knowledge, professional competence, career development, and role identity, the professional knowledge and professional competence dimensions are located above the mean value, while career development and role identity are below the mean value. This shows that teachers do not have enough knowledge about their professional identity and development, which is an important factor affecting professional development.

A cross-sectional comparison of the five questions in this dimension reveals that the scores on the role status of females in the workplace and their current level of satisfaction with the rural work environment are lower than the overall mean value of role identity, which leads to the low scores on this dimension. They generally believe that female teachers are less professionally developed than males in the same environment.

The professional knowledge dimension ranked first among the four dimensions, indicating that female teachers in rural primary schools have a better grasp of their

subject matter expertise and the most basic pedagogical and psychological knowledge as teachers. However, among the five questions within the professional knowledge dimension, there was not enough learning and reflection on extracurricular supplementary knowledge beyond professional knowledge, which was at the lowest position of the dimension, so rural female primary school teachers still need to continuously enrich themselves.

The overall score of the professional competence dimension is slightly higher than the overall level, but the use of modern educational technology and the writing of teaching and research papers are still unsatisfactory. Their ability to apply modern technology to the curriculum needs to be further improved due to a certain degree of limitations in rural teaching conditions. The unsatisfactory effectiveness of teaching and research of female teachers in rural primary schools is also influenced by the environment, the single teaching, and research activities in rural schools, and the lack of guidance in writing teaching and research papers. Therefore, professional competence still needs to be strengthened.

The scores of the career development dimension are lower than the overall level, indicating that female teachers in rural primary schools are not clear about their career development and planning. Analysis of the five questions in this dimension shows that most female teachers are more comfortable with the current situation and do not have clear plans for their future careers. These are the factors that resulted in the low scores of the career development dimension.

6.2.2. The Relationship Between the Dimensions of Professional Development of Female Teachers in Rural Primary Schools in Guangxi.

To understand the level of professional development of female teachers in rural primary schools and the existence of correlations among the dimensions, Pearson correlation analysis was conducted.

Table 2. Correlations among the four dimensions of professional development of female teachers in rural primary schools

		Role identity	Professional knowledge	Professional competence	Career development	Overall level
Role identity	Pearson Correlation	1	0.303**	0.492**	0.424**	0.776**
	Significance (2-tailed)		0.000	0.000	0.000	0.000
Professional knowledge	Pearson Correlation	0.303**	1	0.311**	0.391**	0.617**
	Significance (2-tailed)	0.000		0.000	0.000	0.000
Professional competence	Pearson Correlation	0.492**	0.311**	1	0.563**	0.814**
	Significance (2-tailed)	0.000	0.000		0.000	0.000
Career development	Pearson Correlation	0.424**	0.391**	0.563**	1	0.777**
	Significance (2-tailed)	0.000	0.000	0.000		0.000
Overall level	Pearson Correlation	0.776**	0.617**	0.814**	0.777**	1
	Significance (2-tailed)	0.000	0.000	0.000	0.000	

** At the 0.01 level (2-tailed), the correlation is significant.

As can be seen from Table 2, the p-values between the dimensions were all statistically significant at $0.000 < 0.05$. Therefore, there is a significant correlation between role identity, professional knowledge, professional competence, and career development of female teachers in rural primary schools. From the above table, it can be seen that the r-values of the three dimensions of role identity, professional competence, and career development and the overall level of professional development of rural female primary school teachers are 0.776, 0.814, and 0.777, respectively, which are highly positively correlated with the overall level of development according to the criteria of product difference determination; the r-value of the professional knowledge dimension and the overall level is 0.617, which is moderately positively correlated with the overall level of development.

7 Conclusions

According to the survey and analysis, it can be seen that the overall professional development of female teachers in rural primary schools in Guangxi is at an intermediate level. The level of professional knowledge and professional competence development is high, and the level of role identity and career development needs to be strengthened.

There are significant correlations among the four dimensions of role identity, professional knowledge, professional competence, and career development of female teachers' professional development in rural primary schools in Guangxi, and all of them have positive correlations with the overall development level. In terms of role identity, there is a general problem of differential treatment of gender roles; in terms of professional knowledge, there is a need to further expand the knowledge reserve and optimize the knowledge structure; in terms of professional competence, there is a lack of teaching and research ability; in terms of career development, there is a lack of clarity in career planning and positioning, and there is no motivation for development.

8 Suggestions

Given the current situation and problems of the professional development of female teachers in rural primary schools in Guangxi, the following suggestions are made.

First, female teachers in rural primary schools should first establish a sense of self-development. Establishing a sense of self-development is the first step for them to take the initiative to control their development, and it is also a key step to getting rid of passive development. It is only by clarifying their tasks and roles as rural primary school teachers and fully affirming their profession that they can motivate professional development.

Second, they should continue to learn and acquire more professional knowledge. The teaching profession requires knowledge updating and skill enhancement. Rural primary schools should vigorously carry out various activities to stimulate their interest in continuing their studies.

Third, female teachers in rural primary schools should actively participate in teaching and research activities within and outside the school to find out the problems

in teaching and continue to solve them through mutual consultation with their colleagues.

Finally, female teachers should plan their career development reasonably according to their actual situation, taking into account their educational background, learning experience, and teaching practice experience, and listening to the opinions of experienced teachers to plan their career development reasonably.

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