Teaching management innovation in Nanning Wutang Second Primary School, Guangxi, China

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ABSTRACT. The purposes of this research are as follows:1)To study the current situation of teaching management in Nanning Wutang Primary School.2)To propose innovative approaches to optimize teaching management and improve overall educational outcomes. The sample group for this research consisted of 297 individuals selected through random sampling included administrative staff, teachers, students (Year 4 to Year 6), and parents from Nanning Wutang Primary School in Guangxi, totaling The research instrument used was a questionnaire designed to assess the satisfaction level of teaching management effectiveness. The statistics used are percentage, average value, and standard deviation.

The research findings indicate that 1) the dimensions of Teaching Management, Teaching Process, Teaching Practice, and Home-School Cooperation in Nanning Wutang Primary School were rated as satisfactory, with average ratings ranging from 4.14 to 4.17. These positive perceptions suggest a favorable current situation of teaching management. 2) the analysis identified key measures for innovative teaching management, including conducting feedback surveys, implementing professional development programs, fostering open communication channels, providing comprehensive training for new teachers, establishing a culture of continuous improvement, encouraging collaboration among teachers, and promoting home-school cooperation. These proposed approaches aim to optimize teaching management and enhance overall educational outcomes.

Keywords: Primary schools, Teaching management innovation

1 Introduction

At present, many primary schools in China are still limited by outdated teaching frameworks and classroom models in teaching management, resulting in a single form of content and low level of information construction. In the process of primary school teaching management, we can still see the use of traditional teaching management methods, such as written reports recorded in class and regular meetings for discussion. These methods have indeed played an important role in the past educational environ-

ment, but in the rapidly changing new era of education, they are no longer able to fully meet the teaching and management needs of teachers and students, and cannot fully leverage the auxiliary role of information technology in teaching management. Educators lack the management ability to use modern technological means to improve the efficiency of primary school teaching management. The main reasons for this situation are internal and external: firstly, the education administrative department has insufficient attention and investment in improving modern teaching management, which has failed to effectively lead schools to achieve educational informatization transformation. At the same time, the uneven distribution of educational resources has caused objective restrictions on the introduction of funds and equipment for some primary schools, making it difficult to introduce more modern teaching technology means, This is an important factor that cannot be ignored from outside the school. Secondly, from the perspective of the school, the leadership education and management concepts of some primary schools still remain in the traditional mode, lacking the innovative awareness of actively embracing modern information technology, let alone carrying out comprehensive and in-depth reforms in school information construction; In addition, the low quality of media has led to the phenomenon of "technical estrangement" in the use of individual teachers.

The Ministry of Education of the People's Republic of China (2001) pointed out in the Outline of Basic Education Curriculum Reform (Trial) that China's"New Curriculum Reform (2001-2021)" aims to establish a modern education curriculum system that meets the requirements of the 21st century[5]. Teaching management, a crucial aspect of school administration, faces challenges during this reform. Efficient use of resources and adherence to educational policies are vital for achieving educational goals. The study focuses on primary school teaching management and aims to provide innovative solutions through analyzing challenges and experiences of Wutang Second Primary School in Nanning City, Guangxi. The research seeks to strengthen teaching management within the context of the new curriculum reform, offering strategic approaches to overcome obstacles and ensure successful implementation.

1)To study the current situation of teaching management in Nanning Wutang Primary School.

2)To propose innovative approaches to optimize teaching management and improve overall educational outcomes.

2   Theories and related Research

Concept of Teaching Management

The concept of teaching management in the current education system in China can be broadly and narrowly defined. Broadly, teaching management encompasses the management of the entire education system by educational administrative authorities, while narrowly, it is limited to the internal management of teaching within schools.

According to Liu Bangqi and Qi Ping in their work "Modern Teaching Management System" (1997), teaching management refers to the special management activities that coordinate and organize the teaching process to achieve teaching goals and objectives.

It is characterized by its educational nature, periodicity, and permeability in "School Management Theory and Practice"[1].

Principles of Educational (Management) Informatization

After entering the 21st century, modern information technology characterized by the Internet, computers, multimedia, cloud computing, and big data has rapidly developed worldwide.

In March 2010, the State Council of China issued the "National Medium- and Long-Term Education Reform and Development Plan (2010-2020)" (referred to as the "Plan" hereafter). The Plan emphasized the need to accelerate the process of education informatization, enhance the development of education information infrastructure, strengthen the development and application of high-quality educational resources, and establish a national education management information system.

Concepts of Teaching Management Innovation

In early 2013, the application of big data technology in the field of education research began.

Xu Peng et al. (2013) argued in their article "Analyzing Learning Transformation from the Perspective of Big Data" that the era of data-driven teaching had arrived[3].

Zhu Zhitian et al. (2016) combined the concept and theoretical framework of precision teaching with research on intelligent learning and proposed a recursive-based method for precise goal determination from the perspective of information-based instructional reform[4].

RESEARCH METHODOLOGY:

The Population

The study encompassed a total population of 1,292 individuals from Nanning Wutang Primary School in Guangxi, including 12 administrative staff, 80 teachers, 600 students from Year 4 to Year 6, and their parents 600 people, in the academic year of 2022.

The Sample Group

In this study, a random sampling method was employed. Based on Krejcie and Morgan(1970), a total of 310 questionnaires were distributed, out of which 297 were returned, detailed as below[2]:

Research Instruments:

The research utilized a questionnaire to gather data.

Questionnaire

The research utilized a questionnaire to collect data on the satisfaction level of teaching management at Nanning Wutang Second Primary School. The questionnaire comprised two parts: Part 1 collected personal information using multiple-choice questions, while Part 2 measured satisfaction using a five-point Likert scale. The construction process involved extensive literature review, expert feedback, and integration of relevant indicators. The questionnaire demonstrated good consistency and reliability with an acceptable consistency index (IOC) score of 0.67-1.00. A sample group of 297 individuals participated in the study, and data analysis was conducted using online software on WenJuanWang.

Table 1. Reliability of Questionnaire

Cronbach's α	Item	Sample
0.914	20	297

Table 1 presents the reliability of the questionnaire utilized in the study. The table showcases the Cronbach's alpha value, which is a measure of internal consistency and reliability of the questionnaire. A Cronbach's alpha value of 0.914 suggests a high level of reliability. The table also indicates that the questionnaire comprised 20 items and was administered to a sample of 297 participants.

Table 2. Validity of Questionnaire

KMO test and Bartlett's test		
KMO		0.884
	Approximate chi-square.	2725.456
Bartlett's sphericity test	df	190
	P	0.000***

Table 2 outlines the validity measures of the questionnaire employed in the research. The Kaiser-Meyer-Olkin (KMO) measure, which assesses the sampling adequacy, yielded a value of 0.884. This result suggests that the sample size is adequate for factor analysis. Furthermore, Bartlett's sphericity test was conducted to ascertain the appropriateness of the factor analysis. An approximate chi-square value of 2725.456 with 190 degrees of freedom and a p-value of 0.000*** indicates that the factor analysis is appropriate for the data.

Data collection:

Data for this study was collected through a questionnaire survey distributed to students, parents, teachers, and staff of Nanning Wutang Second Primary School (297 valid responses, 95.8% effective rate). Simple random sampling was used. The questionnaire's reliability and validity were ensured through tests. Statistical analysis (percentages, mean, and standard deviation) was performed. Additionally, ten expert teacher interviews provided insights and suggestions for innovative teaching management at the school.

Data Analysis:

This research analyzed data on satisfaction with teaching management at Nanning Wutang Second Primary School. Personal information (gender, age, education, position) was assessed using percentages. Satisfaction levels were analyzed using mean and standard deviation, with specific score ranges indicating different levels of satisfaction.

RESEARCH RESULTS:

The researcher proposed a hierarchical classification of data analysis results in order to understand each other when providing the following information

4.50-5.00	Most innovative
3.50-4.49	Innovative

2.50-3.49   Moderate innovative
1.50-2.49   Less innovative
1.00-1.49   Least innovative

Table 3.   The Average Value (M) and Standard Deviation (S.D.) of Effectiveness of Teaching Management in five dimension

	Dimension	M	S.D.	Level	Rank
1.	Teaching Management	4.15	0.78	Satisfied	3
2.	Teaching Process	4.14	0.81	Satisfied	4
3.	Teaching Quality	3.52	0.785	Satisfied	5
4.	Teaching Practice	4.16	0.82	Satisfied	2
5.	Home-School Cooperation	4.17	0.82	Satisfied	1
	Total	4.03	0.80	Satisfied	

Table 3 displays the average value (M) and standard deviation (S.D.) of the effectiveness of teaching management across five dimensions, along with their respective levels and ranks. The dimension of Teaching Management achieved an average rating of 4.15 (M) with a standard deviation of 0.78 (S.D.), indicating a satisfactory level of effectiveness and ranking at 3. The dimension of Teaching Process received an average rating of 4.14 (M) with a standard deviation of 0.81 (S.D.), suggesting a satisfactory level of effectiveness and ranking at 4. In contrast, the dimension of Teaching Quality garnered an average rating of 3.52 (M) with a standard deviation of 0.785 (S.D.), indicating a comparatively lower level of effectiveness and ranking at 5. On the other hand, the dimension of Teaching Practice obtained an average rating of 4.16 (M) with a standard deviation of 0.82 (S.D.), signifying a satisfactory level of effectiveness and ranking at 2. Lastly, the dimension of Home-School Cooperation achieved an average rating of 4.17 (M) with a standard deviation of 0.82 (S.D.), indicating a satisfactory level of effectiveness and ranking at 1. The overall rate 4.03 (M) with a standard deviation of 0.80 (S.D.) indicates a satisfactory level of effectiveness.

3   Conclusion

Based on the study's objectives, the following conclusions can be drawn:

1) Teaching management at Nanning Wutang Primary School is generally effective, with dimensions like Teaching Management, Teaching Process, Teaching Practice, and Home-School Cooperation receiving satisfactory ratings. However, there is room for improvement in the dimension of Teaching Quality.

2) Innovative approaches, including feedback surveys, professional development, open communication, comprehensive training for new teachers, continuous improvement culture, teacher collaboration, and home-school cooperation, can optimize

teaching management and improve educational outcomes. Implementing these guidelines can enhance teaching efficiency and overall educational results.

4   Future Researches

1.Although this article provides a systematic exposition of the theory of teaching management based on literature research, analyzes current problems and their causes, and explores corresponding strategies, there are still notable limitations and areas that deserve further research and exploration.

2.Firstly, although there have been numerous studies on teaching management in recent years, most of the research focuses on teaching management in middle and high schools. Therefore, the available content that can be truly referenced and utilized in the writing process is limited, which may result in a narrow research perspective in this article.

3.Secondly, due to practical experience and limitations in knowledge structure, some issues may not be sufficiently grasped and elaborated upon, causing many ideas to remain as mere conceptualizations on paper. To make them more practical and feasible, there is still a need for further specific work.

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