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Assessing the Current Basketball Teaching in Primary School Hong Hua Gang District of Zun Yi City

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Abstract

This study investigated the effectiveness of primary school basketball teaching in Zunyi city, Guizhou province. Using quantitative methods, data were collected from 215 primary school physical education teachers through an online survey (Questionstar). The survey evaluated teacher demographics, assessment practices, technology integration, curriculum implementation, learning environment quality, and curriculum content delivery.Robust data screening confirms high reliability (Cronbach's alpha consistently above 0.70) and validity (KMO and Bartlett tests). Descriptive statistics show that the teaching force is dominated by young men, most of whom have bachelor's degrees but limited formal tutoring qualifications. While teachers reported relatively high levels of technology integration, the average score for curriculum implementation. Correlation analysis shows that there is a strong positive correlation between several structures. The results show that to improve the quality of basketball teaching, we should pay attention to improving the course planning and teaching methods, and enriching the course content. While technology integration exists, its effectiveness may be limited by factors such as teacher training and resource availability. There is a need for further research into the indirect effects of assessment and technology and the impact of teacher experience. Overall, the study highlights the importance of effective teaching strategies.

Keywords: Primary School, Basketball Education, Teaching

Introduction

Basketball, a team sport game, is an important branch of sports activity with a particular educational value(Doron, J., & Bourbousson, J. 2017). It combines, on one hand, the positive effects of sport and physical exercise and, on the other, the educational effects of the game(Terry et al. 2020).

According to the information, modern basketball originated in the United States. On December 21, 1891, physical education teacher James Naismith invented basketball(Cantwell 2004). In 1895.Bob Gailey, an American, introduced basketball to China, and it was first

introduced to Guizhou Province in 1908. Basketball from Tianjin to the whole country, 113 years ago.

China is one of the earliest countries and regions in the world to carry out basketball. The Chinese men's basketball team has been in the top 8 Olympic Games, the women's basketball team has been in the top 4 Olympic Games. Yao Ming, Yi Jianlian, Wang Zhizhi, Bateer and so on have shown the style of the "Great Wall of China Mobile" in the NBA arena in the United States. We have inherited the long Chinese basketball culture and will continue to write and create the glory of Chinese basketball.

Although the development of adult basketball to today has a certain achievement, but there are still many deficiencies, small basketball is a more prominent problem, yet to be developed. In the primary school physical education and health curriculum standards to clearly explain the small basketball. It is an elective course, so it does not get more attention, even because the students like it, but because of basketball teaching. For primary school students have a certain difficulty, the class students to master the progress of the skills is difficult to grasp.

So most physical education teachers choose basketball class, using basketball games. Leading to developed areas and less developed The gap in regional basketball teaching directly leads to the primary school basketball development gap is obvious (Song, C.2022).

The development of Chinese basketball needs to start from an early age education and reserve basketball talents(Wang Yuan, & Ji, 2024). In this way, we can ensure the continuous development of Chinese basketball, ensure that the blood of Chinese basketball is not coagulative, and will always be vigorous. The Chinese Basketball Association has released the "Rules of Small Basketball" for teaching, training and competition for primary school students. Besides, basketball is a multi-dimensional development sport which can improve students' physical quality. It is important to promote health effect.

In recent years, the development of urban small basketball is mainly reflected in the development of basketball courses in primary schools, the establishment of school basketball clubs, the training in basketball clubs, the increase of holiday (weekend) training classes, the frequent social events and so on. At present, there are 43 primary schools in Hong huagang District of Zunyi City, with 54,875 students.

In summary, by addressing these problems, this study not only contributes to the existing body of knowledge, but also provides actionable insights for improving the development of primary school basketball teaching.

Literature Review

The Development of Basketball

Basketball originated on December 21, 1891, and was invented by Dr. James Naismith, a physical education teacher at the YMCA School (now Springfield College) in Springfield, Massachusetts. At that time, the goal of throwing was to hold a basket of peaches, so it was named basketball(Zeng, 2021). The original ball used in basketball was a football, and it was not until the late 1950s that Tony Sinkel introduced the brown basketball for the sport. At the

beginning of the basketball game, the number of players, the size of the field, and the game time are not strictly limited, as long as the number of people is equal to the game.

In 1932, the first international basketball Conference was held in Geneva, Switzerland, and the International Amateur Basketball Association was established in Rome in the same year(Naismith, 1996). In 1948, FIBA decided to hold the World Basketball Championship every four years from 1950, and in 2012, it was renamed the Men's Basketball World Cup.In the professional league, the National Basketball Association (NBA) is the most famous, is the United States and even the world's highest level of professional basketball league, its teams all over the United States, the United States in the Olympic Games basketball gold medal monopoly, is known as the kingdom of basketball. The European Basketball League also enjoys a very high level and popularity. In addition to the NBA, there is also the Women's National Basketball Association (WNBA). In the international competition, the Olympic basketball event is the highest honor(Lu,2023) .The National Basketball Association (NBA), after more than 70 years of ups and downs, has grown from a little-known minor league to the world's highest-level basketball competition with 30 teams today. The NBA's operational model has become a benchmark for professional sports league development models in other countries in the world as it is among the most successful in the world's sports industry.

The Development of Asia Basketball

Basketball's growth in Asia has been remarkable over the past few decades, driven by increased investment, media exposure, and grassroots initiatives. Wang and Li (2022) highlight that the establishment of leagues such as the Chinese Basketball Association (CBA) has significantly augmented the sport's visibility and popularity across Asia. Similarly, Smith (2021) points out the influential role of Asian players in international leagues, which has inspired a new generation of athletes in countries like Japan and the Philippines. According to Kim and Park (2023), collaborations between NBA and Asian leagues have further enhanced skill development and professional opportunities, fostering a more competitive environment. Furthermore, initiatives such as the Basketball Without Borders program have promoted cross-cultural exchange and talent development across the continent. Collectively, these factors illustrate a dynamic landscape where basketball in Asia continues to flourish, bolstered by strategic partnerships and a growing fan base.

The Development of China Basketball

In 1896, basketball was introduced to Tianjin, China.Since the founding of New China, China's sports system began to imitate the former Soviet Union in sports system, learning from the former Soviet Union's training model, and also carried out the selection and training of sports talents in the way of "national sports system". The cultivation and development of reserve talents has formed a more mature and perfect model and system.

After 27 years of development, CBA has become the most famous professional sports event in China. (An ,2022)The research shows that China established the China Men's Basketball League, which was officially renamed the China Men's Basketball Professional League in 1995 and the China Men's Basketball Professional League (CBA) in 2005.

So far, CBA selection criteria are divided into two methods. First of all, each team has its own echelon, the youth training system, which is the most important selection method of

CBA. Secondly, since the CBA draft began in 2015, the enthusiasm of China CUBA(China University Basketball Association) college students to participate is not very high, 19 teams abstained in the first year, but so far, the first two CBA draft players are from the university team, which also marks the academic school can also embark on the road of professional basketball.

Not long ago, a video of a small village in Guizhou,(Gao ,2023) China playing basketball went viral on the Internet, and even invited NBA players to participate in the game. This basketball game has a special name "Village BA", which means a basketball league in the countryside. The origin and development of "Village BA" extends to Taijiang County, Guizhou Province, where basketball enjoys deep community roots.

For example, the villagers of Taipan Village, regardless of their age, are full of passion and enthusiasm for basketball. Even with rudimentary equipment in the early days, they were active, creating basketballs out of available materials such as cotton, rattan and cloth, and constructing makeshift hoops using wooden poles and planks. This shows their deep affection and perseverance for basketball, and its development momentum has not been slowed down by the impact of the epidemic. On the contrary, with the help of the Internet and social media, a rural basketball game has blossomed into an important national sports event. "Village BA" rapidly expanded its scope of influence, was jointly recognized by the General Office of the Ministry of Agriculture and Rural Affairs and the General Office of the General Administration of Sports, and successfully promoted across the country, thus further promoting the integrated development of rural sports and culture (Du & Du ,2023).

In conclusion, Professional basketball represents the highest level of basketball in a country. In addition, the youth basketball development system continues to provide new blood for professional basketball. These two aspects play a vital role in the development of Chinese basketball. At the same time, the rapid development of China's economy has promoted the development of the basketball industry, but the overall level of basketball in China is still at a backward level.Chinese basketball is gradually developing strong, but there is always a big gap with the world basketball powers, which requires us to constantly strive to pull the gap and learn foreign training models, training systems and training methods.

Methodology

Conceptual Framework of Research

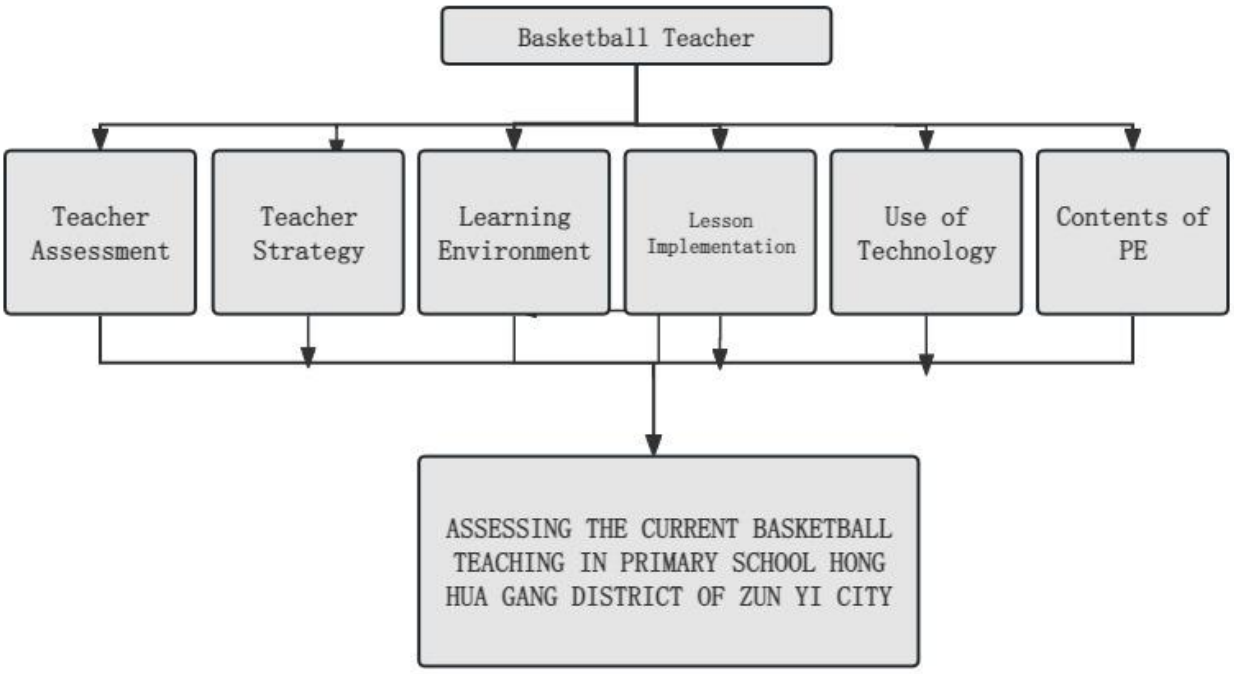

Figure 1.1. Conceptual framework3.2 Data Coding and Missing Value Check

The data collected for this study through Wen Juanxing, a highly efficient and user-friendly online survey platform, was designed to ensure completeness and accuracy. A notable feature of Wen Juanxing is its mandatory response mechanism, which prevents respondents from submitting questionnaires with unanswered questions. This feature eliminates the potential for missing values in the dataset, ensuring data integrity and reducing the need for post-collection handling of incomplete responses. Each survey question was structured with predefined answer formats, including Likert scales, multiple-choice options, and numeric inputs, facilitating standardized responses and straightforward coding for analysis.

Following data collection, the dataset was reviewed for consistency and accuracy. The responses were exported into a spreadsheet format for further processing. Each variable was assigned a unique code corresponding to its respective survey question to enable systematic analysis. Categorical variables, such as demographic attributes, were assigned numerical codes (e.g., 1 for male, 2 for female), while ordinal and continuous variables, such as Likert scale responses and age, retained their original values for statistical processing. Special attention was given to ensuring that all codes adhered to the logical structure of the survey, minimizing errors in data interpretation.

Given the absence of missing values due to the platform's functionality, the focus shifted to checking for outliers or inconsistencies in responses. Descriptive statistics were generated to identify anomalies, such as extremely high or low values in numeric fields, which might indicate potential input errors. Cross-checks were conducted between demographic data and survey responses to ensure coherence (e.g., verifying that years of teaching experience aligned with age). Outliers were assessed to determine whether they represented genuine data points or anomalies requiring adjustment or removal. However, given the platform's

robust data collection mechanism, no significant inconsistencies were identified. This ensured that the dataset was clean, accurate, and ready for subsequent analyses, supporting the reliability and validity of the findings presented in this chapter.

Preliminary Data Screening

Preliminary data screening is a critical step to ensure the dataset is prepared for reliable and valid analysis. This process involves evaluating the quality of the collected data by examining its internal consistency, validity, and distribution. Ensuring that the dataset adheres to these criteria is essential for performing meaningful statistical analyses in subsequent sections. In this study, screening began with an assessment of reliability to determine the consistency of the survey instrument. This was followed by evaluating validity to ensure that the questionnaire accurately measured the intended constructs. Finally, tests for normality were conducted to verify the data's suitability for parametric statistical analyses, providing a strong foundation for inferential analysis.

Analysis

Reliability refers to the consistency of a measurement instrument in producing stable and reliable results across repeated applications(Souza, A. C. 2017). In this study, Cronbach's Alpha was used to assess the internal consistency of the survey questionnaire, a widely recognized method for evaluating reliability in social science research(Jeong, Y. J., & Kang, J. 2019). A threshold value of 0.70 is commonly accepted as the minimum for adequate reliability, while values above 0.80 indicate good reliability, and 0.90 or higher suggest excellent internal consistency(Golbraikh A.2019). By ensuring the reliability of the instrument, the analysis provides confidence that the survey items accurately reflect the constructs under investigation.

Table 1
Reliability Test of Cronbach's Alpha

Constructs	No. of Item	Cronbach's Alpha(α)
Teacher Assessment	5	0.879
Use of Technology	4	0.852
Teaching Strategy	4	0.803
Lesson Implementation	4	0.846
Learning Environment	5	0.888
Contents of Physical Education	4	0.766
Overall	26	0.944

The reliability analysis of the survey instrument was assessed using Cronbach's Alpha, which measures internal consistency among the items for each construct. The results, as presented, indicate that the instrument exhibits high reliability across all constructs, with Cronbach's Alpha values well above the commonly accepted threshold of 0.70 .

The construct Teacher Assessment, comprising 5 items, achieved a Cronbach's Alpha of 0.879, demonstrating strong internal consistency. Similarly, Use of Technology (4 items) and Lesson Implementation (4 items) showed high reliability, with alpha values of 0.852 and 0.846, respectively. These results indicate that the survey items within these constructs consistently measure their respective dimensions.

The Teaching Strategy construct, with 4 items, exhibited a Cronbach's Alpha of 0.803, suggesting good reliability. While slightly lower than other constructs, this value still exceeds the minimum acceptable threshold, confirming the construct's adequacy. The Learning Environment construct displayed exceptional reliability, with a Cronbach's Alpha of 0.888 across its 5 items, highlighting strong coherence in measuring the associated variables.

For the construct Contents of Physical Education, the reliability coefficient was 0.766 for 4 items, which is satisfactory and indicates acceptable internal consistency. The overall instrument, encompassing 26 items across all constructs, achieved an impressive Cronbach's Alpha of 0.944, reflecting excellent reliability and ensuring that the survey instrument as a whole is robust and dependable.

Validity

Validity assesses whether the instrument measures the constructs it intends to measure accurately. In this study, construct validity was evaluated using the Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity(Hao, L.2022). A KMO value greater than 0.70 indicates sufficient sampling adequacy, ensuring the data's suitability for factor analysis (Braeken, J. 2017). Bartlett's Test of Sphericity evaluates whether the correlation matrix is significantly different from an identity matrix, with a p-value < 0.05 confirming data appropriateness for dimensional reduction (BARTLETT M. S. 1950).

Table 2
Validity of KMO and Barlett's Sphericity Test

Constructs	No. of Item	KMO	P value
Teacher Assessment	5	0.845	0.001*
Use of Technology	4	0.792	0.001*
Teaching Strategy	4	0.771	0.001*
Lesson Implementation	4	0.794	0.001*
Learning Environment	5	0.866	0.001*
Contents of Physical Education	4	0.731	0.001*
Overall	26	0.936	0.001*

The validity of the survey instrument was assessed using the Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity for each construct and the overall instrument. These tests determine the adequacy of the data for factor analysis, ensuring that the constructs are appropriately measured by the survey items.

The KMO measure assesses sampling adequacy, with values above 0.70 considered acceptable and values above 0.80 indicating strong sampling adequacy (Kaiser, 1974). The Teacher Assessment construct, consisting of 5 items, achieved a KMO value of 0.845, signifying robust sampling adequacy. Additionally, Bartlett's Test of Sphericity yielded a statistically significant result (p = 0.001*), confirming that the data matrix is not an identity matrix, thus suitable for factor analysis.

Similarly, the Use of Technology construct, with 4 items, had a KMO value of 0.792, slightly below 0.80 but still within acceptable limits. Bartlett's test confirmed significance (p = 0.001*), validating the construct's suitability for analysis. The Teaching Strategy construct demonstrated a KMO value of 0.771, accompanied by a significant Bartlett's test (p = 0.001*),

further supporting its validity. For Lesson Implementation, the KMO value was 0.794, along with a significant Bartlett's result (p = 0.001*), both indicative of adequate construct validity.

The Learning Environment construct had a strong KMO value of 0.866, reflecting excellent sampling adequacy. Its Bartlett's test was also significant (p = 0.001*), verifying its validity. The construct Contents of Physical Education recorded a KMO value of 0.731, slightly lower than other constructs but still meeting the acceptable threshold. Bartlett's test (p = 0.001*) reinforced the construct's validity.

For the overall instrument, comprising 26 items, the KMO value was an exceptional 0.936, demonstrating strong sampling adequacy across all constructs. Bartlett's Test of Sphericity was highly significant (p = 0.001*), confirming the dataset's suitability for factor analysis and its validity for capturing the intended constructs comprehensively.

Normality

Normality was assessed using skewness and kurtosis values, which provide insight into the data distribution(Arnau, J.2013). Skewness evaluates symmetry, with values between -1.96 and +1.96 indicating an approximately normal distribution, while kurtosis assesses peakedness, with acceptable values ranging from -3 to +3 (Brumelle S.1984). The constructs in this study displayed skewness and kurtosis values within these ranges, confirming that the data adheres to the normality assumption. This validation ensures the suitability of the dataset for parametric analyses, such as correlation and regression, which depend on normal data distributions for accurate and reliable results.

Table 3
Normality of Skewness and Kurtosis Test

Statistics						
		Teacher Assessment	Use of Technology	Teaching Strategy Implementation	Lesson Implementation	Learning Environment	Contents of Physical Education
N	Valid	215	215	215	215	215	215
	Missing	0	0	0	0	0	0
Skewness		.009	-.329	.262	1.302	1.067	.352
Std. Error of Skewness		.166	.166	.166	.166	.166	.166
Kurtosis		-.452	-.187	.630	2.722	2.183	.101
Std. Error of Kurtosis		.330	.330	.330	.330	.330	.330

The analysis revealed that all constructs adhered to these criteria, confirming the data's normal distribution and suitability for parametric statistical analyses. For Teacher Assessment, skewness was 0.009 (standard error: 0.166) and kurtosis was -0.452 (standard error: 0.330). These values indicate a nearly symmetrical distribution and acceptable peakedness. Similarly, the Use of Technology construct displayed skewness of -0.329 (standard error: 0.166) and kurtosis of -0.187 (standard error: 0.330), reflecting a distribution close to normal. Teaching Strategy Implementation exhibited skewness of 0.262 (standard

error: 0.166) and kurtosis of 0.630 (standard error: 0.330), further confirming adherence to normality. Lesson Implementation had skewness of 1.302 (standard error: 0.166) and kurtosis of 2.722 (standard error: 0.330), both within the acceptable thresholds, supporting the normality of the data despite a mild positive skew. The Learning Environment construct showed skewness of 1.067 (standard error: 0.166) and kurtosis of 2.183 (standard error: 0.330). While slightly skewed, the values remain within the acceptable range for normality. Lastly, the Contents of Physical Education construct exhibited skewness of 0.352 (standard error: 0.166) and kurtosis of 0.101 (standard error: 0.330), indicating a distribution close to perfect normality. In conclusion, based on the skewness and kurtosis values, all constructs meet the criteria for normal distribution. This ensures the dataset's appropriateness for further parametric analyses, such as correlation and regression, which rely on the assumption of normality for accurate and reliable results.

Analysis of Participants' Demographic Profile

Analysis in this section corresponds to the first research question(What are the demographic characteristics of basketball teachers in Zunyi City?),This section analyzes the demographic characteristics of the 215 primary PE teachers in Zunyi City who participated in the survey. Key demographic variables include age, gender, educational qualifications, years of teaching experience, and professional development participation. The data provides valuable insights into the background of the respondents, enabling a deeper understanding of their perspectives on basketball teaching practices. Descriptive statistics, including frequencies and percentages, were used to summarize these characteristics, offering a comprehensive overview of the participants. This analysis lays the foundation for interpreting the relationships between demographic factors and the effectiveness of basketball education.

Table 4
Descriptive Statistics of Demographic Profile of Participants

Variable	Options	Frequency	Percent
Age	20-30	187	85.0
	31-40	12	5.5
	41-50	15	6.8
	51-60	1	.5
Gender	Male	163	74.1
	Female	52	23.6
City	Guiyang	8	3.6
	Zunyi	200	90.9
	Bijie	7	3.2
Major	Basketball	173	78.6

	Football	10	4.5
	Badminton	5	2.3
	Track and field	16	7.3
	Aerobics	11	5.0
Educational Qualification	Bachelor	182	82.7
	Master	16	7.3
	PhD	8	3.6
	others	9	4.1
Coaching Level	Level E coach	92	41.8
	Level D coach	32	14.5
	Other types	37	16.8
	No coaching credentials	54	24.5
Teaching Experience	Less than 1 year	28	12.7
	1-5 years	113	51.4
	6-10 years	59	26.8
	more than 10 years	15	6.8

The respondents predominantly fall into the younger age bracket, with 187 teachers (87.0%) aged between 20-30 years, indicating that the majority of primary PE teachers in Zunyi City are relatively young. This is followed by 15 teachers (7.0%) aged 41-50, 12 teachers (5.6%) aged 31-40, and a single teacher (0.5%) aged 51-60. The concentration of younger teachers suggests a dynamic and evolving teaching workforce, potentially more receptive to innovative practices in basketball education. The cumulative percentage shows that 92.6% of the respondents are under 40, further highlighting a youthful demographic.

Male teachers represent the majority, with 163 respondents (75.8%), while female teachers constitute 52 respondents (24.2%). This male dominance reflects the traditional gender representation in sports teaching roles, particularly in basketball. However, the presence of a significant proportion of female PE teachers indicates a degree of inclusivity, contributing diverse perspectives to basketball education in primary schools.

The data indicates that most respondents (93.0%) are from Zunyi City, the study's focus area, followed by Guiyang with 8 respondents (3.7%) and Bijie with 7 respondents (3.3%). The

overwhelming representation from Zunyi ensures that the findings are highly relevant and localized, reflecting the specific characteristics and challenges of basketball teaching in this region.

Basketball is the most common major among respondents, with 173 teachers (80.5%) specializing in it. Other sports majors are less prevalent, with 16 teachers (7.4%) in track and field, 11 (5.1%) in aerobics, 10 (4.7%) in football, and 5 (2.3%) in badminton. This dominance of basketball-specialized teachers underscores a strong foundation for basketball education in Zunyi, with a workforce trained specifically in the sport.

Most respondents hold a bachelor's degree, comprising 182 teachers (84.7%). Teachers with a master's degree account for 16 respondents (7.4%), while 8 (3.7%) hold a PhD, and 9 (4.2%) fall under the "others" category. The high percentage of bachelor's degree holders demonstrates a solid educational base for PE teaching, though the relatively low proportion of postgraduate qualifications suggests room for further professional development to enhance expertise in basketball education.

Among respondents, 92 teachers (42.8%) hold Level E coaching credentials, the most common qualification. Another 32 teachers (14.9%) hold Level D credentials, while 37 (17.2%) fall into "other types" of coaching qualifications. However, 54 teachers (25.1%) lack coaching credentials altogether. This distribution highlights the prevalence of basic coaching certifications but also reveals a significant gap in formal qualifications, with a quarter of respondents needing credentialing. This gap could impact the effectiveness and quality of basketball coaching in primary schools.

The majority of respondents, 113 teachers (52.6%), have 1-5 years of teaching experience, followed by 59 teachers (27.4%) with 6-10 years of experience. Teachers with less than one year of experience account for 28 respondents (13.0%), and 15 teachers (7.0%) have more than 10 years of experience. This distribution indicates that most PE teachers are relatively early in their careers, suggesting that basketball teaching in Zunyi City is supported by a newer and less experienced workforce. However, the presence of a small group of highly experienced teachers may provide valuable mentorship and guidance to younger educators.

Descriptive Statistics

Analysis in this section corresponds to the second, third, fourth, fifth, and sixth research questions(how effective are basketball teachers in applying the content of physical education in Zunyi City primary schools and how effective are basketball teachers in implementing lessons in Zunyi City primary schools and how effective are basketball teachers in lesson implementation and in fostering a conducive learning environment in Zunyi City primary schools and how effective are basketball teachers in employing teaching strategies and conducting teacher assessments in Zunyi City primary schools and How effective are basketball teachers in utilizing technology in their teaching at Zunyi City primary schools).

This section presents the mean values for the key constructs assessed in the study, providing insights into the effectiveness of teachers across various aspects of physical education. Mean values offer a summary of teachers' self-assessed performance and perceptions regarding their teaching practices, use of technology, lesson implementation, and learning

environment. By analyzing these averages, this section evaluates the strengths and areas for improvement in teachers' effectiveness in basketball education. High mean values indicate strong performance and alignment with effective teaching practices, while lower means highlight areas requiring attention. These findings form the basis for understanding the overall effectiveness of physical education teachers in fostering a supportive and impactful basketball learning environment in primary schools across Zunyi City. The descriptive statistics serve as a precursor to inferential analyses, ensuring a comprehensive understanding of the teachers' roles and contributions to physical education.

Table 5
Descriptive Statistics of Construct

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Teacher Assessment	215	1.00	5.00	2.4372	.82264
Use of Technology	215	1.00	5.00	2.9163	.84380
Teaching Strategy Implementation	215	1.00	5.00	2.2256	.70565
Lesson Implementation	215	1.00	5.00	1.7279	.69740
Learning Environment	215	1.00	5.00	1.8288	.66481
Contents of Physical Education	215	1.00	5.00	2.0640	.67215

Inferential Statistics

Analysis in this section corresponds to the fourth research question (how effective are basketball teachers in lesson implementation and in fostering a conducive learning environment in Zunyi City primary schools).

This section examines the relationships and predictive dynamics among key constructs related to basketball teaching effectiveness using inferential statistical methods. Pearson correlation analysis is employed to explore the strength and direction of linear associations between constructs, providing insights into how variables such as Teacher Assessment, Use of Technology, and Lesson Implementation interact. Subsequently, multiple regression analysis evaluates the predictive power of independent variables on dependent constructs, enabling a deeper understanding of the factors contributing to teaching effectiveness. Together, these analyses provide a robust framework for interpreting the interdependencies and causal relationships among the study variables.

Table 6

Pearson Correlation Analysis

Correlations							
		Teacher Assessment	Use of Technology	Teaching Strategy Implementation	Lesson Implementation	Learning Environment	Contents of Physical Education
Teacher Assessment	Pearson Correlation	1	.676**	.621**	.442**	.483**	.633**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	215	215	215	215	215	215
Use of Technology	Pearson Correlation	.676**	1	.582**	.263**	.343**	.525**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	215	215	215	215	215	215
Teaching Strategy Implementation	Pearson Correlation	.621**	.582**	1	.608**	.626**	.615**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	215	215	215	215	215	215
Lesson Implementation	Pearson Correlation	.442**	.263**	.608**	1	.775**	.587**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	215	215	215	215	215	215
Learning Environment	Pearson Correlation	.483**	.343**	.626**	.775**	1	.725**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	215	215	215	215	215	215
Contents of Physical Education	Pearson Correlation	.633**	.525**	.615**	.587**	.725**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	215	215	215	215	215	215
**. Correlation is significant at the 0.01 level (2-tailed).							

Table 4.6
Pearson Correlation Analysis

Correlations							
		Teacher Assessment	Use of Technology	Teaching Strategy Implementation	Lesson Implementation	Learning Environment	Contents of Physical Education
Teacher Assessment	Pearson Correlation	1	.676**	.621**	.442**	.483**	.633**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	215	215	215	215	215	215
Use of Technology	Pearson Correlation	.676**	1	.582**	.263**	.343**	.525**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	215	215	215	215	215	215
Teaching Strategy Implementation	Pearson Correlation	.621**	.582**	1	.608**	.626**	.615**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	215	215	215	215	215	215
Lesson Implementation	Pearson Correlation	.442**	.263**	.608**	1	.775**	.587**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	215	215	215	215	215	215
Learning Environment	Pearson Correlation	.483**	.343**	.626**	.775**	1	.725**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	215	215	215	215	215	215
Contents of Physical Education	Pearson Correlation	.633**	.525**	.615**	.587**	.725**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	215	215	215	215	215	215
**. Correlation is significant at the 0.01 level (2-tailed).							

Findings and Conclusion

Demographic Characteristics of Basketball Teachers

The majority of basketball teachers in Zunyi City are young (85.0% aged 20 - 30), male (74.1%), and hold a bachelor's degree (82.7%). Basketball is the dominant major. While their youth might bring energy and new ideas, the relatively low proportion of postgraduate qualifications and the significant number without coaching credentials (24.5%) suggest a need for further professional development to enhance teaching expertise.

Effectiveness of Applying Physical Education Content

With a mean score of 2.0640, teachers show moderate effectiveness. However, there is room for improvement in aligning content with students' developmental levels and making it more engaging. Incorporating more interdisciplinary knowledge and using innovative teaching methods could enhance this aspect.

Effectiveness of Lesson Implementation

The low mean score of 1.7279 indicates significant challenges. Limited preparation and resources likely contribute. Teachers need more training in lesson planning and execution, and schools should provide better support to ensure effective delivery of basketball lessons.

Effectiveness in Lesson Implementation and Fostering Learning Environment

A strong positive correlation exists between these two. Lesson implementation is the most influential predictor of the learning environment. By improving lesson quality, teachers can create a more conducive learning atmosphere, such as by ensuring clear learning objectives and engaging activities.

Effectiveness of Teaching Strategies and Teacher Assessment

The correlation between teaching strategies and teacher assessment is significant. Teachers who adopt effective strategies can better assess students. Professional development focusing on innovative teaching methods can improve both aspects and enhance overall teaching effectiveness.

Effectiveness of Technology Utilization

Although the mean score is relatively high (2.9163), the relationship between technology use and lesson implementation is weak. Teachers need training to better integrate technology into teaching, ensuring it effectively enhances learning rather than being used superficially.

The Relationship among Dimensions of Event Quality

Taking the primary school basketball teaching in Honghuagang District, Zunyi City as an example, there is a complex relationship between the dimensions of competition quality. The teaching strategy dimension has a significant influence on the curriculum implementation dimension. The effectiveness of curriculum implementation can be improved when teachers adopt diverse, student-centered teaching strategies such as tactical play or collaborative learning methods. This can be seen by the strong positive correlation between them.

Teacher evaluation is also closely related to teaching strategies. Faculty members implementing effective assessment techniques are more likely to adapt and improve their teaching strategies accordingly. For example, the use of video analysis or digital evaluation tools in faculty evaluations can provide valuable feedback for modifying teaching strategies to better meet student needs.

The learning environment dimension has a profound impact on both curriculum implementation and teacher evaluation. A supportive and well-equipped learning environment promotes the smooth implementation of the curriculum by providing the necessary resources and a positive atmosphere. This also makes teachers' assessment more accurate, as students are more engaged and motivated in such an environment.

Technology use, while showing potential, has relatively weak relationships to some aspects compared to others. However, if properly integrated, it can improve teaching strategies and curriculum implementation. For example, using educational apps or video playback can make teaching more vivid and interactive, thereby improving the overall quality of the activity.

Understanding and utilizing the relationship between these dimensions is crucial to optimizing primary school basketball teaching and promoting the development of students' basketball technology and sports.

The Relationship among Dimensions of Model

In the model of primary school basketball teaching in Honghuagang District, the dimensions are highly interdependent. The dimension of teacher qualifications and training is fundamental. Well-trained teachers with solid pedagogical knowledge and basketball skills are more likely to effectively implement various teaching strategies. They can better design lessons, manage classrooms, and engage students.

The curriculum design dimension closely relates to teaching strategies. A well-structured curriculum that aligns with students' cognitive and physical development levels enables teachers to choose appropriate teaching strategies. For example, if the curriculum emphasizes skill progression and game-based learning, teachers can adopt corresponding methods like small-sided games to teach basketball skills.

The learning environment dimension has a reciprocal relationship with other dimensions. A good learning environment, including adequate facilities and a positive classroom atmosphere, supports the implementation of teaching strategies and enhances the effectiveness of curriculum delivery. It also affects teacher motivation and student participation.

Technology integration dimension can enhance other dimensions when utilized properly. It can provide new tools and resources for curriculum design, such as virtual reality training modules. It can also assist teachers in implementing teaching strategies more effectively, like using video analysis to improve students' performance feedback. Understanding these relationships helps in optimizing the teaching model, improving teaching quality, and promoting students' learning outcomes in primary school basketball teaching.

Implications and Recommendations

The research findings of primary school basketball teaching in Honghuagang District, Zunyi City, carry significant implications. Given the demographic characteristics of teachers, it is essential to develop targeted professional development programs. These should focus on enhancing the skills and knowledge of the young and inexperienced teaching staff, especially in obtaining coaching credentials and advanced pedagogical training in basketball.

To improve the effectiveness of applying physical education content, innovative teaching approaches need to be encouraged. Teachers should integrate more practical examples and interdisciplinary knowledge to make the curriculum more engaging and relevant. For lesson implementation, schools should allocate sufficient resources and offer training in instructional design to assist teachers in better planning and executing lessons.

Regarding the relationship between lesson implementation and the learning environment, schools should invest in enhancing infrastructure and creating a more supportive atmosphere. This entails ensuring the availability of proper equipment and safe facilities.

To enhance the effectiveness of teaching strategies and teacher assessment, a more comprehensive and continuous assessment system should be established. This system could incorporate student feedback, peer evaluation, and self-assessment to provide a more holistic view of teaching effectiveness.

Concerning technology utilization, training sessions should be organized to help teachers make better use of technological tools. This could involve training in using video analysis software, educational apps, and online teaching platforms.

In conclusion, a holistic approach is necessary to address the various issues identified in the research. By implementing these recommendations, it is expected that the quality of primary school basketball teaching in Honghuagang District can be significantly enhanced.

Conclusion

This study has comprehensively investigated primary school basketball teaching in Honghuagang District, Zunyi City. Through a detailed analysis of data collected from 215 primary school PE teachers, valuable insights have been gained.

The demographic profile of the teachers shows a young and bachelor's degree-dominated workforce, with a need for further professional development. In terms of teaching effectiveness, while technology integration has shown some progress, there are clear deficiencies in lesson implementation and learning environment.

The correlations among different dimensions highlight the importance of integrated improvements. For example, enhancing lesson implementation can have a positive impact on the learning environment. Recommendations based on these findings include providing more professional training for teachers, improving curriculum design, and increasing investment in infrastructure.

The study also acknowledges its limitations, such as the restricted sample area. Future research could expand the scope and further explore the indirect effects of assessment and technology, as well as the influence of teacher experience. Overall, this research lays a foundation for continuous efforts to improve primary school basketball teaching in the district and provides a reference for similar studies in other regions.

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Not applicable

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