

A Study on the Relationship between the Blended Teaching Model and Learning Interest in University Basketball Courses: A Case Study of Guangxi University of Foreign Languages

Xiangwen Deng ^{1*}, Usaporn Klinkasorn ², Zhu Chuping ³, Tanyavanun Punyathanaratana ⁴
and Lalit Bunnag ⁵

^{1, 2, 3, 4, 5} North Bangkok University

* Corresponding author. 2498437860@qq.com

ABSTRACT

This study investigated the implementation of the blended teaching model and its relationship with students' learning interest in university basketball courses at Guangxi University of Foreign Languages. The objectives were to: (1) examine the current level of blended teaching implementation, (2) analyze the relationship between the blended teaching model and overall learning interest, (3) explore the relationship between its dimensions and learning interest, and (4) determine its influence on different dimensions of learning interest.

A quantitative research design was employed. The sample consisted of 252 undergraduate students selected through cluster sampling from six intact basketball classes. Data were collected using a structured questionnaire based on a five-point Likert scale. The instrument demonstrated acceptable reliability (Cronbach's alpha > 0.80). Descriptive statistics, Pearson correlation, and regression analyses were conducted at the 0.05 significance level.

The findings indicated that the blended teaching model was implemented at a moderately high level ($M = 3.737$, $SD = 0.742$). A significant positive correlation was found between the blended teaching model and overall learning interest ($r = 0.728$, $p < 0.01$). Both online preview ($r = 0.502$) and offline practice ($r = 0.719$) were positively related to learning interest, with offline practice showing stronger explanatory power ($R^2 = 0.516$). Moreover, the blended teaching model significantly predicted all dimensions of learning interest, including positive interest ($\beta = 0.702$), participation ($\beta = 0.539$), autonomous learning ($\beta = 0.590$), and course awareness ($\beta = 0.566$) ($p < 0.001$).

These findings confirm that blended teaching effectively enhances students' learning interest in university basketball courses.

Keywords: Blended Teaching, Learning Interest, Basketball Courses, Physical Education, University Students

Introduction

Since the 21st century, the development of science and information technology has become a crucial indicator of a nation's technological strength and an important benchmark for social modernization. It also serves as a significant factor in evaluating the progress of educational modernization. Educational informatization has become a key task in China's ongoing educational reforms. With the advancement of information technology and the widespread use of the internet, an increasing number of schools are integrating traditional classroom instruction with online platforms to implement blended learning. Recent studies indicate that blended teaching effectively enhances teaching quality and promotes instructional innovation (Yan et al., 2024).

Against this backdrop, educational institutions at various levels are actively exploring and implementing blended teaching models. In physical education, blended teaching has gradually been applied to basketball courses, demonstrating positive effects in improving instructional organization and student participation (Liu, 2024).

Educational informatization in China has entered a new stage of development, accompanied by a shift in educational perspectives. The blended learning model not only reinforces the guiding role of teachers but also emphasizes students' central role in the learning process. In public physical education, research suggests that students' learning interest is influenced by instructional design, teaching methods, and classroom interaction (Li, 2025). Therefore, adopting blended teaching strategies may provide new pathways for enhancing students' interest in sports learning.

The online–offline blended teaching model has been increasingly implemented in higher education physical education courses. In basketball instruction, integrating online learning resources with face-to-face technical practice allows students greater flexibility while strengthening skill acquisition. Although previous studies have demonstrated the potential benefits of blended teaching in physical education, further research is needed to examine its application in university basketball instruction, particularly in relation to students' learning interest. Empirical studies suggest that blended teaching can optimize course implementation and enhance overall instructional effectiveness (Liu, 2024; Yan et al., 2024).

Therefore, this study applies a blended teaching model integrating online and offline components to university basketball instruction to examine its effect on students' learning interest, aiming to provide theoretical support and practical implications for future research in university basketball teaching.

Research Objectives

1. Research on the current application of the blended teaching model in university basketball courses.
2. Investigating the Relationship between the Blended Teaching Model and Learning Interest in College Basketball Courses.
3. This study investigates the relationship between the various dimensions of the blended teaching model in university basketball courses and student learning interest.
4. This study investigates the relationship between the blended teaching model in university basketball courses and the various dimensions of learning interest.

Methodology

1. Population, Sample, and Key Informants

1.1 This study employed a quantitative survey research design with a correlational approach. The population of this study consisted of undergraduate students enrolled in university basketball courses during the semester in which the research was conducted.

1.2 The sample was selected using cluster sampling. The university basketball courses were first organized into intact classes, which served as the sampling clusters. Six intact classes were selected, resulting in a total of 252 undergraduate students who were non-physical education majors.

Key informants included two university basketball instructors who provided information regarding the implementation of the blended teaching model and instructional practices in the course.

2. Research Instruments

The primary research instrument was a structured questionnaire developed based on relevant literature and research objectives. The questionnaire consisted of two main sections.

The first section collected demographic information of the respondents.

The second section measured the implementation of the blended teaching model and students' learning interest in university basketball courses. The blended teaching model included dimensions such as online preview activities, in-class practical activities, and online-offline integration. Learning interest included dimensions such as positive emotion, participation, autonomy, and course cognition.

All items were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The questionnaire was reviewed by three experts to ensure content validity. A pilot test was conducted prior to the formal data collection, and the reliability of the instrument was confirmed with a Cronbach's alpha coefficient greater than 0.80.

3. Research Hypotheses

H1: The blended teaching model is effectively implemented in university basketball courses.

H2: The blended teaching model is positively correlated with students' overall learning interest in university basketball courses.

H3: The dimensions of the blended teaching model are positively correlated with students' learning interest in university basketball courses.

H4: The blended teaching model is positively correlated with the various dimensions of students' learning interest in university basketball courses.

4. Data Collection

Data were collected during the academic semester after obtaining permission from the university and course instructors. The questionnaire was distributed to the selected classes during regular class time. Before completing the questionnaire, participants were informed about the purpose of the study and assured that their responses would remain confidential and used solely for research purposes. Participation was voluntary.

A total of 252 questionnaires were distributed and all were returned. After screening for completeness, all valid responses were included in the analysis.

5. Data Analysis

The collected data were analyzed using statistical software.

Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to analyze the current implementation of the blended teaching model and students' learning interest.

Pearson correlation analysis was used to examine the relationships between the blended teaching model and students' learning interest, as well as between their respective dimensions.

The significance level was set at 0.05.

Research Framework

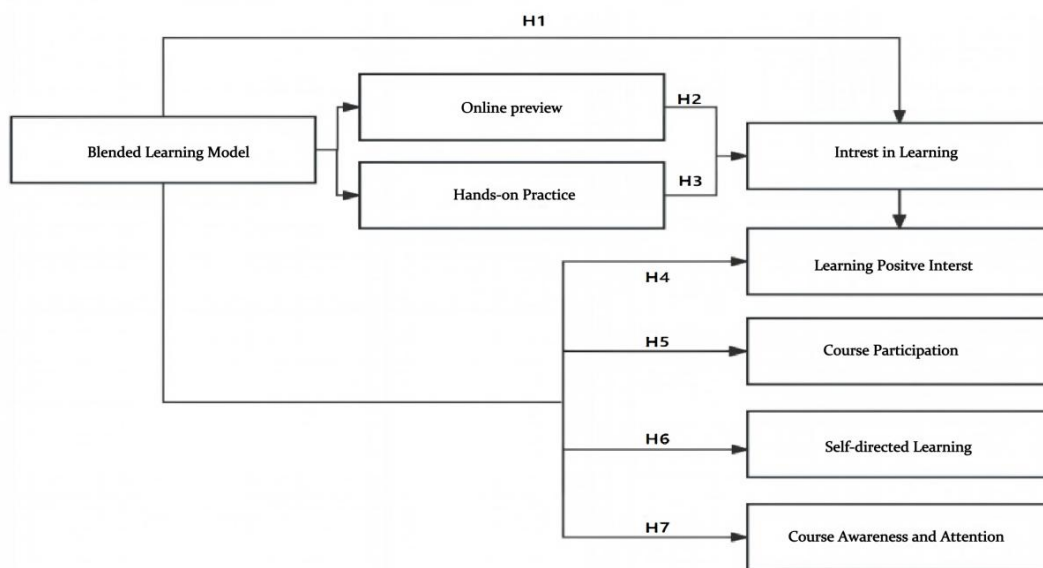


Figure 1 Research Content Framework Diagram

Results

This chapter presents the results of the data analysis based on the four research objectives. Descriptive statistics, correlation analysis, and regression analysis were conducted to examine the current implementation of the blended teaching model and its relationship with students' learning interest in university basketball courses.

1. Objective 1 Research on the current application of the blended teaching model in university basketball courses.

To examine the current implementation level of the blended teaching model, descriptive statistical analysis was conducted.

Table 1 Descriptive Statistics of the Blended Teaching Model

Variable	N	Min	Max	Mean	SD
Online Preview	252	1	5	3.730	0.946
Offline Practice	252	1	5	3.745	0.841
Blended Teaching Model	252	1	5	3.737	0.742

As shown in Table 1, the mean scores of Online Preview ($M = 3.730$) and Offline Practice ($M = 3.745$) were both at a moderately high level. The overall mean score of the Blended Teaching Model was 3.737 ($SD = 0.742$), indicating that the blended teaching approach was effectively implemented in university basketball courses. Therefore, H1 is supported.

2. Objective 2 Investigating the relationship between the Blended Teaching Model and Learning Interest

Pearson correlation analysis was conducted to examine the relationship between the overall blended teaching model and students' overall learning interest.

Table 2 Correlation between Blended Teaching Model and Learning Interest

Variables	Learning Interest
Blended Teaching Model	0.728**

Note: ** $p < 0.01$

Table 2 shows that the blended teaching model was significantly and positively correlated with learning interest ($r = 0.728$, $p < 0.01$). Therefore, H2 is supported.

3. Objective 3 The relationship between the dimensions of the blended teaching model and student learning interest

Correlation and regression analyses were conducted to examine the relationships between Online Preview, Offline Practice, and overall learning interest.

Table 3 Correlation between Dimensions of Blended Teaching Model and Learning Interest

Variables	Learning Interest
Online Preview	0.502**
Offline Practice	0.719**

Note: ** $p < 0.01$

The results indicate that both Online Preview ($r = 0.502$, $p < 0.01$) and Offline Practice ($r = 0.719$, $p < 0.01$) were significantly and positively correlated with learning interest. Offline Practice demonstrated a stronger correlation with learning interest than Online Preview.

Table 4 Regression Analysis of the Dimensions of Blended Teaching Model on Learning Interest

Variable	B	SE	Beta	R ²	F	p
Online Preview	0.429	0.047	0.502	0.252	82.045	0.000
Offline Practice	0.691	0.043	0.719	0.516	259.538	0.000

The regression results indicated that both Online Preview and Offline Practice significantly predicted learning interest ($p < 0.001$). Offline Practice demonstrated greater explanatory power ($R^2 = 0.516$) than Online Preview ($R^2 = 0.252$). Therefore, H3 is supported.

4. Objective 4 The relationship between the blended teaching model and the various dimensions of learning interest.

Correlation and regression analyses were conducted to examine the relationships between the blended teaching model and the different dimensions of learning interest.

Table 5 Correlation between Blended Teaching Model and Dimensions of Learning Interest

Variables	Positive Interest	Participation	Autonomous Learning	Course Awareness
Blended Teaching Model	0.702**	0.539**	0.590**	0.566**

Note: ** $p < 0.01$

Table 5 shows that the blended teaching model was significantly and positively correlated with all four dimensions of learning interest: Positive Interest ($r = 0.702$, $p < 0.01$), Participation ($r = 0.539$, $p < 0.01$), Autonomous Learning ($r = 0.590$, $p < 0.01$), and Course Awareness ($r = 0.566$, $p < 0.01$).

Table 6 Regression Analysis of Blended Teaching Model on Learning Interest Dimensions

Dependent Variable	Beta	R^2	p
Positive Interest	0.702	0.493	0.000
Participation	0.539	0.290	0.000
Autonomous Learning	0.590	0.349	0.000
Course Awareness	0.566	0.321	0.000

The regression results indicate that the blended teaching model had significant positive predictive effects on all four dimensions of learning interest ($p < 0.001$). The strongest predictive effect was found for Positive Interest ($\beta = 0.702$, $R^2 = 0.493$), followed by Autonomous Learning ($\beta = 0.590$, $R^2 = 0.349$), Course Awareness ($\beta = 0.566$, $R^2 = 0.321$), and Participation ($\beta = 0.539$, $R^2 = 0.290$). Therefore, H4 is supported.

Discussion

1. The findings related to the first research objective revealed that the blended teaching model in university basketball courses was implemented at a relatively high level. Both online preview and offline practice were positively evaluated by students. This may be because the combination of structured online preparation and guided face-to-face practice enables students to become familiar with learning content before class while allowing them to apply and reinforce what they have learned through actual practice.

Online preview may help students develop initial cognitive understanding and learning readiness, whereas offline practice provides opportunities for direct skill performance and immediate instructional guidance. The findings are consistent with Guo Li (2023) and Liu Binbin (2024), who found that blended teaching improves instructional organization and perceived learning effectiveness in university physical education courses.

2. The findings related to the second research objective revealed that the blended teaching model was positively associated with students' overall learning interest. This may be attributed to the complementary nature of online and offline learning. Online learning provides flexibility and opportunities for students to review learning materials at their own pace, while structured in-class activities provide direct interaction, participation, and opportunities to apply knowledge and skills. The combination of these learning experiences may create a more engaging and supportive learning environment, thereby increasing students' interest in learning. These results are consistent with Yan Aiping et al. (2024) and Fan Guiqing and Chen Hong (2023), who reported that blended teaching significantly enhances students' motivation and learning engagement.

3. The findings related to the third research objective revealed that both online preview and offline practice were positively related to students' learning interest. However, offline practice appeared to play a more influential role, with greater explanatory power ($R^2 = 0.516$) than online preview ($R^2 = 0.252$). The explanatory power of offline practice was therefore more than twice that of online preview. This finding may be explained by the tactile and motor-skill nature of basketball, which requires students to learn through actual movement, repeated practice, real-time motor execution, and immediate feedback. Online preview may function primarily as a cognitive precursor by helping students understand basic content and prepare for practice; however, the actual development of basketball skills depends largely on face-to-face practice. During offline practice, students can perform movements, interact with peers, receive immediate feedback from instructors, and experience the progress and achievement associated with skill improvement. These direct physical and social experiences may therefore contribute more strongly to students' learning interest than online preparation alone. These findings align with Jiang Bingting (2024), who emphasized the importance of practical instruction in promoting student engagement and skill mastery in physical education.

4. The findings related to the fourth research objective revealed that the blended teaching model positively influenced all dimensions of learning interest, including positive emotional engagement, autonomous learning, course cognition, and participation. This may be because the integration of online and offline learning provides students with multiple ways to engage with the course. Online learning may support students' independent review and preparation, thereby contributing to autonomous learning and course cognition, while face-to-face practice may promote participation, interaction, and positive emotional experiences. The combination of flexible learning opportunities and direct practical experiences may therefore support the development of learning interest across multiple dimensions rather than only increasing students' general enthusiasm for the course. These results are consistent with Ma Yue and Ma Aihua (2024) and Wang Jiayao et al. (2024), who highlighted the multidimensional impact of instructional design on students' learning interest.

Summary of research results

This study examined the implementation of the blended teaching model in university basketball courses and its relationship with students' learning interest.

The findings show that the blended teaching model was effectively implemented and positively associated with students' learning interest. The findings further indicate that both online preview and offline practice were positively related to learning interest, with offline practice demonstrating greater explanatory power. The model supports students' motivation, participation, autonomous learning, and overall engagement in the basketball course.

Overall, the blended teaching model contributes to enhancing students' interest and enthusiasm in university physical education. The findings suggest that the combination of online preparation and face-to-face practical learning is particularly valuable in basketball instruction, as online components support students' preparation while offline practice provides the direct motor execution, social interaction, and instructor feedback necessary for deeper engagement in skill-based learning.

Recommendation

1. Policy Recommendations

1.1 Universities should establish a systematic support framework for implementing the blended teaching model in physical education courses. This includes developing standardized instructional guidelines, strengthening digital infrastructure, and ensuring the alignment between online and offline teaching components.

1.2 Institutions should provide continuous professional development programs for physical education teachers to enhance their competence in instructional design, educational technology integration, and blended teaching strategies.

1.3 Universities should promote resource integration and quality assurance mechanisms to ensure that online learning materials are pedagogically sound, regularly updated, and effectively connected with offline practice activities.

2. Recommendations for Future Research

2.1 Future studies should expand the sample scope to include different types of higher education institutions and diverse student populations to improve the generalizability of research findings.

2.2 Subsequent research may incorporate additional mediating or moderating variables, such as self-efficacy, peer interaction, or learning anxiety, to further explore the underlying mechanisms influencing learning interest.

2.3 Future research could adopt mixed-method approaches by combining quantitative data with qualitative interviews or classroom observations to obtain deeper insights into students' learning experiences within the blended teaching environment.

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