

Badminton Teaching Modes and Students' Academic Performance: Basis for Teaching and Learning Approaches

Youling Qian *

College of Education and Liberal Arts, Adamson University, Manila, Philippines

* Corresponding author Email: qyl267651@163.com

Abstract: This study aimed to determine the assessment of the application of mixed teaching mode in badminton teaching as perceived by the freshmen and sophomore students in selected universities in China. It utilized the descriptive comparative - correlational research design in the conduct of the study. To ensure the valid and systematic presentation, analysis and interpretation of the data the following statistical tools were obtained: frequency count and percentage, weighted mean, ranking, P value and t-test/ Analysis of Variance for independent samples, Pearson's r Correlation Analysis. Results of the study revealed that the diverse modalities for teaching badminton are necessary for effective badminton instruction however these modalities may not currently be optimized for student learning. There is a wide range of perceptions and preferences among the respondents on the different teaching modalities. The average academic performance of the respondents is categorized as medium. The diversity in opinions underscores the importance of offering flexibility and choices in teaching modalities to cater to the preferences and learning styles of students. The relationship between teaching methods (face-to-face, blended, hybrid, and pure online) and students' academic performance is multifaceted. It depends on various factors, including student characteristics, instructor quality, resource availability and motivation.

Keywords: Teaching Modes; Student's Academic Performance; Physical Education Teaching Approaches; Learning Approaches.

1. Introduction

With the continuous progress and development of modern technology, the Internet information technology updates and information technology teaching enters the campus, making the teaching reform of Chinese universities enter a new journey. The Mixed Teaching Mode is proposed on the basis of traditional teaching methods that cannot meet teaching needs. Through the organic combination of online learning and practical classrooms, it fully leverages the personalization of student subjects, and teachers make reasonable plans for teaching content, organization, and methods to improve teaching effectiveness (Diao Zhe, 2022). Mixed teaching organically combines two forms of teaching organization, leading learners' learning from presentation to deep learning. Driven by artificial intelligence, information technology, and the Internet, teaching and information technology are deeply integrated, which can integrate the personalized nature of online learning with the advantages of classroom based group learning (Liu Jinyang, 2021). Badminton, as one of the optional courses in university physical education, is highly loved by college students. However, learning badminton skills has certain difficulties, and some students begin to lose interest in learning after exposure, even showing resistance. Research has shown that new media tools such as WeChat, Weibo, Blogs, and smart APPs are the means for college students to learn sports skills and knowledge, and are also the most popular media for college students to accept (Xinxin, 2018). Therefore, how to combine new media methods with badminton teaching is a problem that teachers need to deeply consider. Mixed teaching combines online and offline teaching, which not only meets the needs of offline guidance, but also enriches teaching forms and enhances learning

interest. Perhaps it can effectively combine new media with traditional teaching. Therefore, this study will adopt research methods such as literature review, questionnaire survey, and interview, focusing on the correlation between students' evaluation of badminton Mixed Teaching Mode and academic performance. Select the students and teachers of the badminton elective class of Hubei Minzu University as the survey objects to understand the students' evaluation of the badminton mixed teaching mode, and formulate the development plan of the badminton Mixed Teaching Mode according to the research results, so as to provide strategic guidance and theoretical analysis for the Mixed Teaching Mode to better serve the badminton teaching, optimize the teaching mode, improve student movement 'sports skills, expand knowledge reserves.

2. Statement of the Problem

This study assesses the application of Mixed Teaching Mode in badminton teaching in universities, specifically seeking answers to the following questions:

1. What is the demographic profile of the student respondents in terms of the following:
 - 1.1 Sex;
 - 1.2 Age;
 - 1.3 Major;
 - 1.4 Year level?
2. What is the assessment of the respondents on the Mixed Teaching Mode for badminton in terms of the following:
 - 2.1 Face-to-Face teaching;
 - 2.2 Blended teaching;
 - 2.3 Hybrid teaching;
 - 2.4 Pure Online teaching?
3. Is there a significant difference in the assessment of

badminton Mixed Teaching Mode among student respondents when using their demographic profile as a testing factor?

4. What is the level of the student respondents' academic achievement based on their general weighted average last semester?

5. Is there a significant relationship between the assessment of badminton Mixed Teaching Mode and academic performance of badminton elective student respondents?

6. What insights do students have related to badminton mixed teaching modes?

7. Based on the research results, what plans must be proposed for the development of Mixed Teaching Models?

2.1. Significance of the Study

This study will benefit the following groups/individuals:

Badminton elective student. This study applies a Mixed Teaching Model to the teaching of badminton elective courses, integrating the advantages of online and offline teaching. For badminton elective students, it helps to comprehensively and multi-level learn badminton knowledge and skills, stimulate learning interest, and improve learning efficiency and grades.

Athletes. This study will provide new ideas for the learning of badminton athletes, break traditional teaching models, and strive for the development of athletes' personalities and the improvement of sports performance.

Coach. The Mixed Teaching Mode, as a new teaching mode, will provide teaching reference for badminton coaches, help enrich their teaching experience, and explore new teaching modes.

Physical education teachers. This study will enrich the teaching forms of physical education teachers, provide them with more abundant teaching resources, and reasonably integrate and plan resources, which will help improve their teaching abilities.

PE Curriculum makers. Physical Education Curriculum Makers refer to individuals or teams responsible for designing, developing, and creating the educational framework and content for physical education programs within educational institutions. These professionals play a crucial role in shaping the curriculum, which includes defining learning objectives, selecting appropriate activities and exercises, determining assessment methods, and aligning the curriculum with educational standards and goals. Curriculum makers in physical education aim to provide students with a structured and comprehensive plan for developing physical fitness, motor skills, sportsmanship, and overall health through a well-designed curriculum.

School administrators. This study will provide reference for school administrators as a basis for developing teaching models and improving student performance. Therefore, it will guide their design in the physical education teaching mode.

Future researchers. This study will provide reference for future researchers engaged in sports mixed teaching research. The research results will provide theoretical support and guidance for their paper.

2.2. Scope and Delimitations of the Study

This study mainly focused on the mixed teaching mode of badminton elective courses for college students, with the goal of understanding the relationship between students' evaluation of mixed teaching mode and their academic performance, and designing development plans for the blended teaching mode of badminton. This study determined the evaluation of mixed teaching models by badminton

elective students, including Face to Face teaching, Blended teaching, Hybrid teaching, and Pure Online teaching.

This concentrates on the 500 first-year junior and sophomore badminton elective students from the following four universities in Hubei Province namely: 1. Hubei Minzu University, 2. Hubei University, 3. Wuhan University of Technology, and Central China Normal University as survey subjects to understand the relationship between students' evaluation of blended teaching mode and their academic performance.

2.3. Conceptual Framework

The mixed learning theory originated in the West, and with the integration and development of computer technology and internet technology, it has continuously improved to form a unique integrated teaching model. Its purpose is to provide learners with knowledge, resources, etc. Researchers believe that the mixed learning theory integrates multiple educational and learning principles, which is currently aimed at promoting deepening teaching reform and is also a product of teaching development to this day. The mixed learning theory integrates teachers, teaching resources, teaching organization forms, and teaching aspects. Teachers organize and implement it through available teaching methods to achieve teaching objectives most effectively (Diao Zhe, 2022). The mixed learning theory integrates the advantages of traditional teaching and online teaching, and through the guidance and support of online technology, more comprehensive and detailed teaching planning is carried out, reasonable use of teaching time is made, and teaching efficiency is improved.

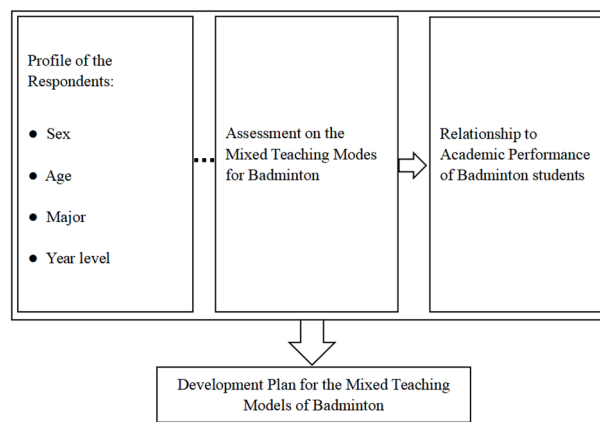


Figure 1. Research Paradigm

As shown in the figure 1, the researchers determined the gender, age, major, and years of badminton activity of the respondents to the badminton elective course. The researcher also examines the evaluations in Face-to-Face teaching, Blended teaching, Hybrid teaching, and Pure Online teaching and conduct interviews with students to understand their badminton academic performance. The results of these analyses will then serve as the basis for formulating a development plan for the mixed teaching mode of badminton.

2.4. Research Design

Research design refers to the overall strategy used to conduct research, which defines a concise and logical plan to solve established research problems through data collection, interpretation, analysis, and discussion. This study will focus on quantitative research.

Quantitative research is a method of exploring real-world

problems using numbers and mathematical operations. Researchers use quantitative methods to collect data and analyze it to test hypotheses. In quantitative research, statistics, probability theory and other mathematical tools are mainly used to make accurate judgments on research results. This research will collect data in the form of questionnaires, and use SPSS mathematical statistics software to sort out and statistically analyze the data, so as to investigate the relationship between students' evaluation of badminton Mixed Teaching Mode and their academic achievements.

2.5. Research Locale and Research Participants

This study assessed the Badminton teaching modes and students' academic performance from four universities in Hubei Province of China. These four universities, all with physical education majors, have extensive experience in training sports professionals to assess the teaching modes of badminton.

Stratified random sampling was used from the total size of 850 freshmen and sophomore students and data collection using Qualtrics identified 265 students from the four educational institutions. To avoid research bias, this study selected survey subjects using stratified sampling method. Stratified sampling is a method in which researchers divide a group into homogeneous subgroups called strata based on specific characteristics. Each member of the research group should be exactly at the same level. Contribute to the generalizability and effectiveness of research.

3. Data Gathering Procedure

After passing the questionnaire content verified by experts, the researchers personally sent a request letter to the leaders of Hubei University for Nationalities, requesting permission to conduct this study. After approval, the survey questionnaire was distributed online or offline to the target respondents for data collection. The personal information and privacy of participants collected by researchers will be protected.

4. Summary of Findings

1. The respondents come from a varied group with a varied and differentiated points of views. Hence, a rich background for investigation and inquiry.

2. Face-to-face teaching, blended teaching, hybrid teaching, and pure online teaching are assessed as agree by the respondents. This implies that these modalities are necessary in teaching badminton however, their state is not in its optimum towards student learning;

3. There is a broad spectrum of perception along Face-to-face teaching, blended teaching, hybrid teaching, and pure online teaching when the respondents are grouped according to different test variables. The variations brought by the differences are manifestations of their rich needs which requires a revitalized and sound teaching procedures;

4. The average academic performances of the respondents are 3.09 which falls under medium category. This implies that the performances of the respondents in badminton is not yet maximized and there are still ways to improve it based on the newer psychology of learning.

5. The relationship between teaching methods (face-to-face, blended, hybrid, and pure online) and students' academic performance in badminton is multifaceted. It depends on various factors, including individual student characteristics,

instructor quality, resource availability, and motivation

6. The respondents' opinions vary, with some emphasizing the benefits of a mixed approach while others prefer the traditional face-to-face method as the primary means of teaching

5. Conclusion

Based on the provided information, here are some key conclusions:

1. Diverse Modalities for Teaching Badminton: The respondents' agreement on face-to-face teaching, blended teaching, hybrid teaching, and pure online teaching suggests that a variety of teaching modalities are considered necessary for effective badminton instruction. However, it's noted that these modalities may not currently be optimized for student learning.

2. Perceptions Vary Widely: There is a wide range of perceptions and preferences among the respondents regarding the different teaching modalities. These variations reflect the diverse needs and expectations of students, indicating the need for more robust and adaptable teaching procedures to cater to these differences.

3. Medium Academic Performance: The average academic performance of the respondents in badminton is categorized as medium (with an average score of 3.09). This suggests that there is room for improvement in terms of maximizing student performance, potentially by incorporating newer psychology of learning principles into the teaching approach.

4. Complex Relationship between Teaching Methods and Academic Performance: The relationship between teaching methods (face-to-face, blended, hybrid, and pure online) and students' academic performance in badminton is multifaceted. It's influenced by various factors, including individual student characteristics, instructor quality, resource availability, and motivation. This complexity highlights the need for a holistic approach to teaching and learning.

5. Divergent Opinions on Teaching Approaches: The respondents' opinions vary, with some favoring a mixed teaching approach that combines online and offline methods, while others prefer the traditional face-to-face method as the primary means of teaching. This diversity in opinions underscores the importance of offering flexibility and choices in teaching modalities to cater to the preferences and learning styles of students.

In summary, the findings indicate the need for a nuanced and adaptable approach to teaching badminton. Educators should consider the diverse needs and preferences of students, continually work on optimizing teaching modalities, and consider the multifaceted factors influencing academic performance in the sport. This approach may lead to improved learning outcomes and a more inclusive educational experience for students.

6. Recommendations

Based on the conclusions drawn from the provided information, here are some recommendations:

1. Diversify Teaching Modalities: Recognize the importance of offering a variety of teaching modalities, including face-to-face, blended, hybrid, and pure online teaching, in the context of badminton instruction. This allows instructors to cater to the diverse needs and preferences of students.

2. Revitalize Teaching Procedures: Given the broad

spectrum of perceptions among respondents, consider revitalizing teaching procedures to better address the rich and varied needs of students. This may involve creating more flexible and adaptable instructional methods.

3. **Enhance Academic Performance:** Aim to improve the academic performance of students in badminton by incorporating principles from the newer psychology of learning. Explore innovative teaching techniques and assessment methods to maximize student learning outcomes.

4. **Holistic Approach:** Recognize that the relationship between teaching methods and academic performance is complex and influenced by various factors. Take a holistic approach to teaching and consider individual student characteristics, instructor quality, resource availability, and motivation when designing instructional strategies.

5. **Flexibility and Choices:** Offer flexibility in teaching approaches to accommodate the preferences and learning styles of students. Allow students to choose the modality that best suits their needs, whether it's traditional face-to-face instruction, a blended approach, or online learning.

6. **Continuous Improvement:** Continuously assess and improve teaching methods based on feedback from students and performance data. This iterative process can lead to more effective and engaging instructional practices.

7. **Professional Development:** Invest in the professional development of instructors to equip them with the skills and knowledge needed to excel in various teaching modalities. This includes training in online instruction techniques and the use of technology.

8. **Student-Centered Approach:** Adopt a student-centered approach by tailoring instruction to individual student needs. Provide opportunities for students to have a say in their learning experience and incorporate their feedback into course design.

9. **Resource Allocation:** Ensure that adequate resources are allocated to support both online and face-to-face teaching. This includes providing access to technology, instructional materials, and facilities needed for effective instruction.

10. **Collaborative Learning:** Promote collaborative learning experiences, both online and offline, to enhance student engagement and skill development in badminton. Group activities and peer interactions can be valuable components of the learning process.

By implementing these recommendations, educators and institutions can create a more inclusive and effective badminton instruction program that addresses the diverse needs of students and leads to improved academic performance and overall learning outcomes.

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