

Badminton Teaching in Xinjiang Colleges and Universities: An Evaluation

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Abstract: Badminton courses offered in colleges and universities are competed by college students has become the norm, and the teaching of badminton program has also become one of the most popular programs in sports teaching in colleges and universities. However, there are some problems in the teaching of badminton in colleges and universities. This paper utilizes the mixed research method, has taken 251 students and 5 teachers in 5 colleges and universities in Xinjiang as an example, and carried out a study on the survey respondents. The study found that the facilities of badminton courts meet the requirements, the equipment basically meets the needs, and the teaching quality is good. However, there were problems with teaching venues and facilities, such as lack of technical foundation and insufficient student interest. Solutions include increasing the number of courts, maintaining facilities regularly, providing individualized instruction, adding interesting and challenging teaching content, and creating a positive learning atmosphere. These findings suggest that colleges and universities should focus on facility maintenance and individualized instruction to stimulate student interest and motivation.

Keywords: Current Status of Teaching and Learning, Badminton Teaching, Colleges and Universities, Estimation.

1. Introduction

Badminton is currently one of the popular sports in general colleges and universities. Compared with the developed areas in the mainland, badminton teaching in general colleges and universities in Xinjiang generally exists problems such as weak teachers, backward basic hardware facilities, and insufficiently reasonable teaching methods and examination contents.

According to statistics as far as the faculty is concerned, badminton teachers aged 35-45 in Urumqi colleges and universities only account for 22% of the total number of teachers. The faculty is relatively young and has insufficient teaching experience. The badminton court is not able to meet the needs of students, and the teaching equipment is old. From the examination aspect single examination accounts for 35% and group examination accounts for 65%, the assessment can not reflect the real level of students, and it is easy to appear unfair phenomenon [17].

Badminton teaching is the process of teaching and instructing learners to learn and improve their skills in badminton. The purpose of badminton teaching is to enable learners to master the correct technical movements, tactical strategies and rules of the game in order to improve their competitive ability in badminton games[1]. Badminton courses into colleges and universities have a significant role and significance in the change of college and university curriculum, which is conducive to the improvement of the comprehensive quality of students as well as the construction of campus culture [11].

According to Donnelly et al [3]the current state of teaching and learning refers to the description of the current situation and condition of a particular topic or area within the field of education. It usually involves data and observations on teaching methods, educational policies, student learning outcomes, teacher training, etc.

Therefore, the current situation of badminton teaching in general colleges and universities is investigated and statistically surveyed and studied and analyzed to find out the

problems of teaching and put forward development countermeasures. Through the process of badminton teaching, students' motivation for sports is stimulated and students are guided to form the concept of lifelong sports.

1.1. Literature Review

Tao (2018) believed that badminton is a systemic sport, which is entertaining, flexible and national. Badminton is popular with sports fans because of less requirements for court equipment, easily adjustable sports load and participation of minor people. It is certainly difficult for badminton to be promoted in university sports because in university sports promotion, its importance is not high, and it is due to the limitation of site and coaches specialization, which has affected the development of badminton in colleges and universities.

Xiong (2019) started from the current situation of badminton teaching in colleges and universities, analyzes the existing problems, and finally comes up with innovative reform measures, so as to further improve the effect of badminton teaching in colleges and universities in China and to promote the reform of higher education.

Fei (2015) found that "the teaching team of physical education in private colleges and universities in Sichuan province consists of two parts: full-time teachers in our school and part-time teachers from outside schools, the teaching force in our school is very weak, the number of physical education teachers is short, teachers have to take on several physical education courses, teachers have a heavy teaching workload, teaching pressure, and cannot guarantee teaching quality".

Lu, L(2017) found that "badminton teachers in private colleges and universities rarely integrate new elements in teaching, and still carry out teaching according to the traditional teaching model . He suggested enriching the content of badminton teaching in private colleges and universities, establishing a good campus sports atmosphere, and promoting the development of badminton: changing the teaching guideline, teaching concept, and optimizing the

teaching format".

Liao (2020) proposed "a lifelong view of sports, an analysis of the current situation of badminton teaching in China's colleges and universities and the main problems therein, and then put forward the corresponding reform measures".

1.2. Conceptual Framework

Badminton is a highly skillful sport. Matthew (2013) argues that, the Lucky Choices Theory of Ability proposes that at least part of our ability in particular skills is the result of choices we make about our technique that are little more than guesses. The idea is that some people make luckier guesses than others, and these guesses contribute to their ability, along with genetic gifts and persistent hard work in developing skill.

One of the reasons this theory is an interesting one with the potential to explain a lot of the difference in ability between people is that there are aspects of skills that are very subtle. They are invisible, or almost invisible, or at least hard to notice, so it is easy for a person to completely miss them.

After hitting a badminton ball, the flight speed of the badminton ball in the air is the fastest among all sports. So we have to anticipate the landing point of the badminton ball in advance. The notion of tau is based on Gibson's (1966) work on ecological invariants in visual flow fields. Because tau is a measure on any motion-gap of any dimension, it explains how a single type of temporal variable can account for controlling the closure of perceptual information from different dimensions of motion gaps. The concept of a motion gap can generally be described as changing the gap between a current state and a goal state in a given event (Lee, 2005).

Using badminton as an example, we can make a statement regarding the motion gap for a player during a badminton rally. When a player is reaching for the shuttlecock with his/her racket would be an example of closing a distance motion-gap. Here, the current state would be the position of the player's racket, the effector would be the racket itself, and the goal state would be the shuttlecock. There are of course numerous other forms of motion-gaps in badminton. Changing your vision to examine a shuttlecock lobbed into the air is an example of an angular motion-gap between the current vision direction and the direction of the shuttlecock. A jump in badminton is an example of a force motion-gap between the current force and the force required for a satisfactory jump Minh (2011).

1.3. Significance of the Study

This study finds the situation in the teaching of badminton in Xinjiang general colleges and universities through statistics, objective and comprehensive understanding of the existing problems and factors that restrict the development of badminton teaching in Xinjiang general colleges and universities, so as to provide targeted measures and countermeasures for the optimization of badminton teaching and its improvement, improve and optimize the teaching of badminton in Xinjiang general colleges and universities, and provide reference for the healthy and sustainable development of badminton in Xinjiang general colleges and universities.

This study can help to understand the current quality of teaching and learning needs, provide effective information and guidance, and promote students' skill enhancement and healthy physical and mental development. For teachers, research findings can reveal the inadequacy of teaching

methods and resources, provide directions and strategies for improvement, and enhance teaching effectiveness and satisfaction. For the education system, the research study can provide a basis for decision makers and promote the standardization and scientificization of badminton teaching.

1.4. Objectives of the Study

Main objectives:

The purpose of this paper is to investigate and study the current situation of badminton teaching in general colleges and universities in Xinjiang. The objective analysis of the problems and factors affecting the teaching process, to deepen the reform of badminton teaching in general colleges and universities in Xinjiang and improve the quality of classroom teaching.

Specific objective:

- 1) What is the current status of badminton teaching in general universities in Xinjiang along:
 - a. Facilities
 - b. Material
 - c. Teaching Content
- 2) What are the problems of badminton teaching in general universities in Xinjiang
- 3) What countermeasures can be proposed to solve the problems of badminton teaching in general universities in Xinjiang.

2. Methodology

2.1. Section Headings

The research methodology used in this paper is a mixed research approach that combines qualitative and quantitative methods. A mixed research method is a research design in which both qualitative and quantitative methods are used in the study. A hybrid research method combines the qualitative analysis of qualitative research with the quantitative analysis of quantitative research, allowing for a more comprehensive understanding of the research question (Creswell & Plano, 2018).

Specifically, this study will use questionnaires and interviews to collect students' and teachers' opinions and feedbacks, and to comprehensively analyze the current situation and challenges of university badminton teaching. The combination of quantitative data and qualitative in-depth interviews can provide a comprehensive understanding of students' and teachers' needs and evaluations of teaching quality, teaching methods and resources, and provide scientific guidance and decision-making support for improving teaching.

By using a combination of quantitative and qualitative research methods, this study was able to test the hypotheses from multiple perspectives and in a comprehensive manner. Quantitative data analysis and statistical methods provide objective quantitative results, while qualitative research methods gain in-depth understanding from a subjective perspective. Comprehensively analyzing the results of these two methods can effectively validate and explain the hypotheses and ensure the appropriateness and reliability of the research methodology.

2.2. Population of the Study

The participants of this study were 5 badminton specialized teachers and 251 students from 5 general universities in Xinjiang. All 5 teachers were male, aged between 30-45 years

old, from badminton specialties. Four of the teachers obtained master's degrees and one teacher had a bachelor's degree. The five teachers included three lecturers, one associate professor and one professor with years of teaching experience ranging

from 3-21 years. Detailed information is given in Table I. The students consisted of 120 male and 131 female students, all aged between 18-21 years old, from financial management, education, journalism and other majors.

Table 1. Distribution of teacher information

Teacher Participants	Sex	Age	special	education attainment	title	years of teaching experience
T1	male	31	badminton	Master's degree student	tutors	5
T2	male	36	badminton	Master's degree student	tutors	10
T3	male	40	badminton	Master's degree student	Associate Professor	16
T4	male	30	badminton	Master's degree student	tutors	3
T5	male	45	badminton	undergraduate	Professor	21

2.3. Data Gathering Tool

The questionnaire used in this study is from different sources combined to create a survey that will answer the requirements of this study. Sherwood (2018) and badminton curriculum were the basis of the construction of the items found in the survey. This questionnaire was to investigate students' evaluations about the current status of badminton teaching in general universities in Xinjiang along facilities, material, and teaching content. The questionnaire will be undergo reliability test before sending it to 251 students by Supernova.

The interview questions for objective 2 and 3 were formulated using a priori coding from the researches of Lian (2022) and Zhou (2016).

2.4. Data Gathering Procedure

The researcher will approach five school badminton specialists who will assist in distributing the questionnaire. A letter will be constructed to seek permission to distribute the questionnaire to the respondents. Once this letter is approved by the authorities, the researcher would distribute the questionnaire to the heads of the 5 schools. An informed consent form will be included in the questionnaire to inform

the respondents that their participation is purely voluntary. The questionnaires will be uploaded using Questionnaire Star with the assistance of the principals. The questionnaire will be open for a period of two to four weeks to allow respondents sufficient time to answer the questionnaire or withdraw their participation in the said study. After the stipulated period, the data will be generated, organized and analyzed using statistical means.

Through a combination of offline and online methods, five badminton teachers from general colleges and universities in Xinjiang will be interviewed for about 40 minutes each. The purpose of the interviews is to understand the current status and possible problems of badminton teaching in Xinjiang's general colleges and universities. The interviews will be audio-recorded with the consent of the interviewees.

2.5. Treatment of Data

Objective 1 Descriptive statistics such as mean and standard deviation will be used in order to understand the current status of badminton teaching in general universities in Xinjiang.

Table 2 shows the range of the 4-point Lee scale used to categorize participants' responses. The scale was based on Watrin (2015).

Table 2. Lee's Scale

4-point Likert Scale	Scale Range	Interpretation	Descriptor
1	1.00 – 1.75	Strongly disagree – completely rejects the statement as true	Current status of badminton teaching in general universities in Xinjiang is very problematic
2	1.76 – 2.50	Disagree – do not accept the statement as true	Current status of badminton teaching in general universities in Xinjiang is poor
3	2.51 – 3.25	Agree – accept the statement to be true	Current status of badminton teaching in general universities in Xinjiang is good
4	3.26 – 4.00	Strongly agree – fully agree that the statement is true	Current status of badminton teaching in general universities in Xinjiang is excellent

For objective 2, thematic analysis will be used in the coming up with relevant sub themes as the main themes are already pre-determined such as hardware, teaching and participation.

2.6. Ethical Consideration

The following ethical considerations were taken into account while conducting the study. The participation of the respondents was purely voluntary. They were not coerced into

participating in the study and could withdraw from the study at any time if they felt it was necessary. Their identity remained anonymous at all times. The filling of names was optional. Their answers will be kept confidential as only the researcher will be able to view see the answers from the questionnaire star.

In terms of risk management, the researcher first discussed the purpose of the study with the participants and read the questions to them to guide them through the indicators

presented. The researcher allowed participants to ask questions about areas or indicators that were not clear to them. They were also informed that if they felt uncomfortable while completing the questionnaire, they should contact the researcher to mitigate any negative impact the study may have had on them. The researcher will not ask for any other documents or information from the respondents other than what is included in the questionnaire and what will be discussed with the respondents. The researcher will not expend or use the resources of the research participants for this study. The results of the study will be communicated to the participants through paper presentation and publication.

3. Results and Discussion

This section presents pertinent data gathered during the conduct of the research.

Current Situation of Badminton Teaching in General Colleges and Universities in Xinjiang

3.1. Facilities Statistics

Through Table 3, it was learned that the badminton court facilities generally met the requirements, and the badminton courts in the school met the specifications (mean score of 3.19, standard deviation of 0.68), with which the participants generally expressed strong agreement. Specifically, the school's badminton courts met the marking requirements for doubles and singles (mean score of 3.16, standard deviation of 0.69), the indoor courts were high enough to allow badminton balls to float over the net without touching the ceiling (mean score of 3.25, standard deviation of 0.67), and the courts were adequately lighted (mean score of 3.27, standard deviation of 0.66), as well as providing enough space for players to play comfortably (mean score of 3.15 with a standard deviation of 0.72). This indicates that the school has done a good job in providing good facilities for badminton courts and providing a good environment for students to engage in physical activities.

Table 3. Statistics on Badminton Venue Facilities

Indicators(n=251)	Mean	SD	Description
1. School badminton courts meet specifications.	3.14	0.67	Agree
2. There are markings for doubles and single plays.	3.16	0.69	Agree
3. Indoor facility has enough height for the shuttlecock to float across the net without hitting the ceiling.	3.25	0.67	Agree
4. The badminton court is well lit.	3.27	0.66	Strongly Agree
5. The badminton court has enough space for players to play comfortably.	3.15	0.72	Agree
Overall	3.19	0.68	Agree

The reference list must be typed in manually. Do not use Word's References feature or numbered list. In the reference list, provide up to three authors' names; if more than three authors, use "et al." Place a space between an authors' initials. Papers that have not been published should be cited as "unpublished" [7]. Papers that have been submitted or

accepted for publication should be cited as "submitted for publication" [8]. Please give affiliations and addresses for personal communications [9]. Use sentence case for the words in a paper title.

3.2. Statistics on Teaching Equipment

Because of its own sports characteristics, badminton consumes the ball faster, and many students practice badminton less in normal times because they are not willing to buy badminton, which is one of the important hindrances to the development of badminton in schools. Through Table 4, it was learned that the school's badminton equipment generally met the requirements (mean score of 3.12 with a standard deviation of 0.74) and the participants agreed. Specifically, the school provided a sufficient number of rackets for students and teachers to use (mean score of 3 with a standard deviation of 0.85) and a sufficient number of badminton balls for them to use (mean score of 3.02 with a standard deviation of 0.83). In addition, the nets were always hung 5 feet above the center netting (mean score of 3.18 with a standard deviation of 0.67) and the net struts were made of sufficiently strong materials such as iron (mean score of 3.27 with a standard deviation of 0.60). This shows that the school is doing a fairly good job in providing badminton equipment and providing good conditions for students and teachers to engage in physical activities.

Table 4. Statistics of Badminton Teaching Equipment

Indicators(n=251)	Mean	SD	Description
1. There is sufficient number of rackets to be used by the students and teachers.	3	0.85	Agree
2. There is sufficient number of shuttlecocks to be used by the students and teachers.	3.02	0.83	Agree
3. The net is always hung 5 feet above in the center net line.	3.18	0.67	Agree
4. The net pole is made of sufficiently strong material such as iron.	3.27	0.60	Strongly Agree
Overall	3.12	0.74	Agree

3.3. Teaching Content Statistics

Table 5. Teaching content statistics

Indicators(n=251)	Mean	SD	Description
1. I usually teach proper grip of the racket to the students.	3.35	0.57	Strongly Agree
2. I usually teach proper stance to the students.	3.34	0.58	Strongly Agree
3. I usually teach proper racket motions to the students.	3.36	0.58	Strongly Agree
4. I usually teach critical thinking and proper solving skills during gameplay to the students.	3.28	0.65	Strongly Agree
5. I usually teach basic strategies and tactics that coordinate effort with others to my students.	3.31	0.61	Strongly Agree
Overall	3.33	0.60	Strongly Agree

Through Table 5, it was learned that badminton teaching in the school is generally compliant (mean score of 3.33 with a standard deviation of 0.60), and the participants strongly agreed. Specifically, teachers usually teach students proper racket grip (mean score of 3.35, standard deviation of 0.57), proper stance (mean score of 3.34, standard deviation of 0.58), proper racket movement (mean score of 3.36, standard deviation of 0.58), critical thinking and proper solving skills during matches (mean score of 3.28 with a standard deviation of 0.65), and teaching students basic strategies and tactics to coordinate their efforts with others (mean score of 3.31 with a standard deviation of 0.61). This indicates that the teachers are doing a fairly good job in teaching badminton and providing a good teaching environment and guidance to the students.

3.4. Problems and Countermeasures of Badminton Teaching in Xinjiang General Colleges and Universities

3.4.1. Problems

The interviews with teachers revealed that there are some problems and deficiencies in the condition of badminton teaching grounds and facilities. Some universities do not have enough badminton courts for students to teach and practice. This can lead to long waiting times in queues, limiting students' practice and training time. Some venues and facilities may be aged and inadequately maintained, such as broken badminton court surfaces and loose nets, which affects students' experience and training results. Some universities lack advanced badminton teaching equipment, such as high-quality badminton rackets and scoring systems, which constrains the quality of teaching and skill improvement for students.

Problems that arise in teaching badminton include the fact that students may lack some of the basic technical fundamentals, such as grip, stance, and swinging motion, which can affect their technical development and performance. Students may lack individual instruction and adjustments to adequately correct individual technical problems due to large classroom sizes or insufficient number of teachers. Students may be faced with other academic commitments, resulting in insufficient time and energy to focus on badminton learning.

In teaching badminton in schools, there are the following problems with student engagement and motivation: some students may lack interest in the sport itself, resulting in a lack of initiative and motivation to teach the content. Students may be faced with other academic tasks and examination pressures, resulting in them not having sufficient time and energy to devote to badminton learning. Lack of clear learning objectives and incentives may cause students to lack motivation and lose interest in teaching badminton.

3.4.2. Countermeasures

According to the results of the interviews summarize the following countermeasures, for the site and facilities we can increase the number of badminton courts to ensure that students have enough teaching and practicing space. Regularly maintain and update the badminton facilities to ensure that they are in good working condition to improve students' experience and training effect. Introduce advanced badminton teaching equipment, such as high-quality badminton rackets, scoring systems, etc., to improve the teaching level and technical improvement.

In response to instruction, teachers should endeavor to provide individual instruction, focusing on students' individual technical problems and giving targeted guidance and advice. Break down the teaching content into appropriate steps and techniques to help students master the techniques step by step and reduce their learning burden. Encourage students to participate in active learning activities, such as competitions and camps, to stimulate their interest and motivation.

In response to student engagement, teachers add interesting and challenging content to capture students' interest and attention. Create a positive learning atmosphere and encourage students to demonstrate their skills and progress to boost their self-confidence and motivation. Setting up clear learning objectives and reward systems to motivate students to participate and work hard at badminton. Teachers should provide support and guidance to students to help them overcome learning difficulties and frustrations and to stimulate their participation and motivation.

In the teaching of badminton, we should encourage teachers to adopt different forms and methods of teaching organization, and use different teaching methods for different students to give full play to their own maximum ability, so as to teach students according to their aptitude.

4. Conclusion and Recommendations

4.1. Conclusion

Using a mixed qualitative and quantitative research methodology, this study investigated the current status of badminton teaching in Xinjiang's general colleges and universities and found that students generally believe that badminton courts meet specifications and are well-equipped, but some still feel that badminton rackets and balls are not sufficiently used. Teachers usually teach correct technical and tactical content, but students may lack individual instruction and adjustments to adequately correct individual technical problems. Students lack sufficient time and energy to focus on badminton learning, and the lack of clear learning goals and incentives may make students unmotivated.

4.2. Recommendations

Based on this, this study has the following recommendations for the reform of badminton teaching in colleges and universities: firstly, in terms of venue facilities, increase the supply of badminton courts and improve facilities and teaching equipment, such as updating the number of rackets and badminton balls, to ensure that students and teachers can use them fully.

Secondly, in terms of badminton teaching, strengthen individual instruction to ensure that students can receive targeted technical guidance and adjustment to improve the quality of teaching. Next, a reasonable study plan is formulated to balance students' academic tasks and badminton learning, providing students with enough time and energy to devote to badminton learning.

Finally, for the badminton teaching problem countermeasures set up, set up clear learning goals and incentives to stimulate students' learning enthusiasm and motivation, and promote their better participation in badminton teaching.

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