Research Article
Teaching Reform of College Basketball Multimedia Video Image from the Perspective of Basketball Culture

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Computer-aided instruction (CAI) is a teaching method that uses modern media to present teaching content, optimize classroom teaching structure, and achieve teaching goals. Multimedia technology integrates graphics, text, and sound, with a large amount of information, rich content, and a good way of human-computer interaction. This article aims to study the reform of basketball teaching in colleges and universities from the perspective of basketball culture. This article mainly adopts the method of questionnaire survey and uses techniques such as big data statistics to investigate and analyze the composition of basketball teachers in colleges and universities from the perspective of basketball culture. This article mainly adopts the method of questionnaire survey and uses techniques such as big data statistics to investigate and analyze the composition of basketball teachers in colleges and universities from the perspective of basketball culture. This article mainly adopts the method of questionnaire survey and uses techniques such as big data statistics to investigate and analyze the composition of basketball teachers in colleges and universities from the perspective of basketball culture. This article mainly adopts the method of questionnaire survey and uses techniques such as big data statistics to investigate and analyze the composition of basketball teachers in colleges and universities from the perspective of basketball culture. This article mainly adopts the method of questionnaire survey and uses techniques such as big data statistics to investigate and analyze the composition of basketball teachers in colleges and universities from the perspective of basketball culture. This article mainly adopts the method of questionnaire survey and uses techniques such as big data statistics to investigate and analyze the composition of basketball teachers in colleges and universities from the perspective of basketball culture. This article mainly adopts the method of questionnaire survey and uses techniques such as big data statistics to investigate and analyze the composition of basketball teachers in colleges and universities from the perspective of basketball culture.

1. Introduction

The development of basketball sports has been for more than 100 years. In these years, the new basketball sports culture bred by basketball has been deeply rooted in people’s hearts. Basketball is moving to the world. It has been widely spread and rapidly developed in China. The form of e-sports sports games has transformed into a new type of basketball culture communication carrier that integrates the four abilities of basketball’s political and cultural influence, economic and cultural productivity, social and cultural affinity, and cultural education. It is a core sports event in the Olympic Games and a physical skill confrontation comprehensive sports centered on hands. With the continuous innovation and development of Chinese basketball, the professional culture of basketball has gradually formed. Chinese basketball culture in a broad sense generally refers to a substance that people constantly create in learning basketball, such as spiritual wealth. In the narrow sense, basketball culture contains various psychological aspects, such as people’s behavioral psychological level and mental quality level. The professional cultural education value of basketball is more and
more highly recognized by sports experts, and it also has a
positive educational impact on the normal physical and
mental development of college students in China.

With the continuous deepening, popularization and
development of basketball NBA and CNA basketball in
China, basketball sports culture is widely regarded by the
Chinese people as a type of sports cultural communication
phenomenon that has been widely loved and particularly
interested by basketball people [1, 2]. Therefore, it is neces-
sary for sports circles and sociologists to re-understand the
common formation of Chinese and foreign sports cultures
and their factors, evolution, concepts, systems, characteris-
tics and cultural differences. As for the school itself as a good
place to train a group of senior national talents, it is even
more necessary to have an in-depth understanding of its
profession [3]. As a sport of basketball, not only physical
confrontation, but also theoretical knowledge is also impor-
tant. Traditional teaching methods have fixed teaching pro-
cedures in theoretical learning, and the explanations are too
straightforward, relying on the oral explanations and demon-
strations of physical education teachers. It is difficult to
express abstract technical actions completely and correctly.
Therefore, it is particularly important to use multimedia
video teaching to reform basketball theory. The multimedia
courseware introduces basketball special teaching, which is
in line with the theme of the era of human text. Multimedia
courseware based on the application of computer technology
integrates multimedia elements such as pictures, videos,
audios, etc., while providing students with perceptual enjoy-
ment, it is easy for them to master knowledge and enhance
skills in a subtle way. Combining traditional basketball
teaching methods with multimedia teaching methods, and
developing basketball teaching multimedia courseware can
effectively improve the teaching effect of basketball technical
courses.

Georgehill and others once said, “Basketball is a team
sport, which is why the Spurs and Pacers can surprise many
people.” A basketball game is a professional team fighting
with other teams. Although the United States is a western
country that highly respects individual teams and heroism,
it has also fully reflected and issued a strong individual team
and heroism in the NBA. At the same time, the NBA League
is still a hero league that attaches great importance to team
building. DocRivers and others believe that in the playoffs
between the Rockets and the Clippers, the Rockets played a
strong sense of teamwork, and finally went into the Western
Conference finals with a decisive advantage when the score
was behind. This shows that the NBA attaches great impor-
tance to teamwork, which is a culture of the NBA and the
essence of the NBA. If we also want to improve the quality
and efficiency of basketball teaching, this basketball culture
is worth our learning.

The rapid economic development has promoted the
development of basketball culture in China, but if we want
to take it to the next level, it is an indispensable way to
absorb and learn from the basketball culture of other coun-
tries. It is nothing more than a shortcut. In today’s world,
the United States has the best basketball strength, and it is
recognized that the United States is the only one, but China
is still not on the list. As a country with a population of 1.5
billion and a strong cohesive force, we should also fully inte-
grate Chinese basketball sports culture into physical educa-
tion, inspire and ignite the dreams of Chinese basketball
ideals for the majority of students, and cultivate and train
generations of excellent basketball professionals [4]. This
article aims to study the reform of basketball teaching in col-
leges and universities from the perspective of basketball cul-
ture. This article mainly adopts teaching experiment
method, literature data method, interview method, mathe-
atical statistics method, logical analysis method, and ques-
tionnaire survey method and uses techniques such as big
data statistics to investigate and analyze the composition of
basketball teachers in colleges and universities in a certain
province; Understand the situation; analyze and understand
the impact of basketball culture on the reform of college bas-
ketball teaching; analyze the effect of the composition of col-
lege basketball teachers on the reform of college basketball
teaching; change educational thinking, improve one’s own
quality, build knowledge reserve and practical operation
ability for multimedia teaching and even teaching method
innovation, and investigate and collect experiments on the
impact of the integration of basketball culture on students’
basketball interests Data, analysis and statistics of experi-
mental data.

2. Basketball Culture and Teaching

2.1. Multimedia Technology. Multimedia technology refers
to the ability to collect, encode, store, transmit, process and
express a variety of media information (such as text, graphic
images, audio and video, etc.) based on digitization, and
comprehensively process multiple media information and
make it established. It is an organic logical connection, inte-
grated into a system and has good interactive technology.
The main characteristics of multimedia technology are:
resource integration. Resource integration refers to the com-
prehensive processing of multiple information resources
with the computer as the center. Including the integrated
processing of information media, and the second is the inte-
gration of equipment processing various media. First of all,
multimedia is not only the diversity of media forms, but also
that various media forms are related to each other in the
computer, such as the synchronization of text, sound, and
pictures. Secondly, the multimedia computer system should
have a high-speed CPU capable of processing multimedia
information, large-capacity storage devices, input and out-
put devices suitable for multimedia data transmission, etc.;
interactive. Interactivity means that users can interact with
computer application systems to control and use informa-
tion more effectively. This feature can increase the user’s
understanding and attention to the information, and pro-
long the time of information retention. With the help of
interactive communication, users can learn, think and solve
problems according to their own wishes. From the perspec-
tive of users, interactivity is the most important feature of
multimedia technology. It has changed the way of one-way
information exchange in the past. The computer
communicates. Figure 1 shows the principle diagram of multimedia technology.

Multimedia is converted to presentation media through the input device and stored in the storage media. After the computer processes the presentation media in the storage media, the presentation media is restored to sensory media through the output device, as shown in Figure 2.

2.2. Use Multimedia Technology to Cultivate Students’ Tactical Awareness. In traditional physical education, the teaching procedures are fixed and the explanations are too straightforward. Relying on the oral explanations and demonstrations of physical education teachers, it is difficult to completely and correctly express abstract technical movements. Using multimedia teaching methods, through the form of action videos or three-dimensional animations of outstanding athletes, with vivid pictures and targeted technical explanations, students’ subjective initiative can be aroused, students’ thinking, and a strong thirst for knowledge can be aroused. Avoid boring mechanical learning. The multimedia video teaching reform can enrich teaching methods, optimize teaching resources, mobilize students’ subjective initiative, acquire sensory cognition from multiple angles, deepen memory actions, and improve skills.

Basketball consciousness refers to a special function and ability that correctly reflects the regularity of basketball movement produced by the active thinking process of the brain when basketball players are engaged in basketball...
practice activities. It is the general name of a kind of correct mental and physiological function reflex action that basketball players have refined and accumulated in the process of long-term basketball practice activities. The main content includes the ability to observe the situation on the field, analysis and judgment ability, rapid reaction ability, tactical thinking ability, adaptability and self-control ability. Basketball awareness is an objective reflection of all players’ behaviors on the court. Athletes obtain information through observation of the game situation, analyze and judge, and quickly choose reasonable offensive and defensive strategies to control their technical and tactical activities, and they are selective and dominant in technical and tactical activities. And predictability. Therefore, basketball consciousness is regarded as the most precious “essence” of athletes and the “soul” that guides correct actions in the game. As shown in Figure 3.

Through the multimedia display system, understand the technical statistical information of the athletes’ scores, rebounds, steals, fouls, the adaptability of the competition venues and environment, the athletes’ own physical factors, technical factors, psychological factors, tactical factors, and the tendency of the audience to noise, Refueling and other behaviors will affect the athletes’ performance in the game to a certain extent, and ultimately affect the result of the game. As shown in Figure 4.

2.3. Basic Concepts of Basketball Sports Culture

(1) Basic definition of basketball culture in China

China’s basketball sports culture mainly refers to some sports cultural ideas, basketball sports concepts and a team spirit of teamwork and cooperation that are gradually formed by modern people in the development of basketball in China. They are also a type of sports culture. The important spiritual expressions, to a certain extent, fully demonstrate the basic moral values and core values of China’s sports, and can create endless various spiritual wealth and various material wealth during the development of basketball in China. The two core concepts held by them are the core values of the Chinese basketball and the consensus of the group. Its substantive significance is the “humanization” and “humanization” of Chinese basketball. Basketball sports culture is mainly composed of three basic aspects: basketball spiritual culture, material culture and institutional culture. Spiritual culture refers to the basic essence of China’s basketball sports culture, and its main meaning refers to the various aspects that have gradually emerged during the development of basketball in China. This kind of basketball cultural thought, sports spirit, ethics of cooperation and fair competition, and people’s positive psychology to respond to social challenges, etc.; material system basketball culture mainly refers to the rules of the basketball game gradually formed in the history of the development and evolution of basketball in China, The rules and regulations of basketball teams and the rules and regulations of basketball competitions; and the material culture in basketball culture refers to the cultural connotation represented by equipment such as basketball itself, the basket and the basketball court. They are no longer just a material symbol. It also contains a certain spiritual significance, highlighting the deep social spiritual and cultural value of Chinese basketball [5, 6].

(2) The spiritual connotation and cultural extension of basketball sports culture in China

Basketball sports culture itself is a special symbol of national cultural quality. In our country’s basketball sports culture, the humanistic spirit of basketball, which is highly admired by people, has received widespread attention. Therefore, most of the college basketball teachers and students in basketball sports teaching through activities to continuously improve college teachers and students The cultural physical quality and cultural psychological quality show its nationality and cultural regionality. Its sports cultural and artistic connotation is mainly displayed in its various social application functions; as far as the artistic extension of indoor basketball sports culture is concerned, the original intention of JamesNai Smith’s basketball design concept was to develop an interesting and easy-to-learn indoor basketball game. So that college students can easily pass the
boring winter indoor basketball physical education class, liberate their muscles and bodies, and get rid of the shackles of boring and inactive mechanical sports. Therefore, the cultural concept of indoor basketball teams can usually be said to originate directly from universities, so Indoor basketball is usually the main indoor sports activity that college students can participate in. Schools usually plan to set up a basketball team to promote the enthusiasm of college students and increase the interpersonal interaction between teachers and students. At present, the professional culture of college basketball is an important part of the professional culture of colleges and universities, and it has profoundly affected the overall mental outlook of teachers and students in colleges and universities [7, 8].

2.4. Characteristics of Basketball Teaching. College basketball teaching should follow the principle of health first. Health here refers not only to physical health, but also psychological and moral health. From a broader perspective, students’ health education also includes various individual social training abilities. Comprehensive diversification in terms of comprehensive training and individual training capabilities. In college basketball sports teaching, what we should do is to put the overall development goals of college students ‘health first, and all college students’ basketball sports teaching activities should also be closely centered on the overall health development goals of college students. Carry out. The content of leisure basketball sports culture is very extensive, and its own functions are also relatively rich. Under the guidance of leisure basketball culture, the educational function of college basketball teaching will make you more powerful. Therefore, the effective introduction of the concept of basketball leisure sports health culture education into college students’ basketball sports teaching can effectively improve the correct understanding of health among college teachers and students to a certain extent, thereby helping to guide college teachers to better organize the development of college basketball sports. The work of teaching activities has made the original single basketball teaching activities more diversified, from the original focus on improving the comprehensive quality of students’ physical and athletic skills to the efforts to promote the comprehensive and healthy development of college students [9, 10].

(2) Chinese traditional school basketball teaching is generally considered to be led by a teacher or by students to warm up first, and then to teach students basketball. Such teaching content is relatively single, boring, and there are few students in the classroom exposure to the study of professional theoretical knowledge. In this way, the effect of students’ independent learning in the concentrated classroom is not obvious. To actively and effectively reform the classroom activities of school basketball teams, we must give full play to the role of basketball culture, strengthen the penetration of basketball culture in basketball teaching, and organically combine basketball classroom teaching with basketball culture. For example, in the field of college basketball art culture education, college students’ basketball sports teaching activities will be actively carried out. The content of sports teaching will definitely be richer than China’s traditional sports teaching content, and this will effectively break the traditional basketball sports

![Figure 4: Analysis diagram of the influence factors of multimedia technology on athletes during the game.](image-url)
teaching technology in China. And strict restrictions on sports competition rules. Moreover, under this traditional teaching method, students’ participation methods can be diversified, allowing students to combine their own interests and choose the content that they are better at, thereby effectively improving the efficiency of candidates’ study and work [11, 12].

Adding multimedia elements such as animated Flash or video to the teaching demonstration makes the teaching classroom more lively and interesting. In the teaching of basketball technology, many actions are explained and expressed in language, or even if the meaning expressed will be There is a certain error from the original meaning, or the students may understand the error, etc., the use of multimedia teaching courseware can compensate for the shortcomings of traditional teaching, and more accurately and intuitively explain the difficult points of basketball technical movements, easy to make mistakes and other issues, so that students Grasp the essentials of basic techniques more quickly. As shown in Figure 5.

Using multimedia teaching to teach for 30 minutes each session, the main teaching content at this stage is the use of basketball skills and tactics and high-level national basketball team game playback. This can not only stimulate students’ enthusiasm for learning sports, stimulate their curiosity, but also make students have a deeper understanding of the ability of basketball sports to unite and cooperate. As shown in Figure 6.
2.5. Development Status of Basketball Course Teaching

(1) Chinese students’ basketball adaptability is not ideal

According to the analysis of relevant teaching data, when various colleges and universities in China are teaching basketball courses, their various teaching methods cannot meet the real basketball needs of Chinese students. The teaching mode is too simplistic and rigid, and students are easily boring and tedious in class. It is difficult to fully stimulate the enthusiasm of all students during the teaching discussion. Moreover, the school basketball team has a large amount of training and less training time. It is very difficult for students to keep up with the teacher’s teaching progress, and the teacher has a teaching plan, and rarely changes the original teaching plan to tutor the students. With more and more, physical and mental fatigue are extremely easy to occur. In addition, each student’s physical quality is different, but the teacher chooses a unified teaching method to teach knowledge and skills, and there are too many people at the same time. The teacher has emotional feelings in the class. It is very easy to produce when students cannot complete the corresponding teaching tasks. Failure and abandonment [13]. Traditional teaching methods need to spend a lot of time to complete the writing or the demonstration of technical actions. In the process of repeated demonstrations, subtle differences may lead to deviations in students’ understanding. The multimedia teaching method can save writing time or error in demonstrating actions, and while saving teaching time, it can reduce the labor intensity of physical education teachers and focus more energy on students. In addition, the time for the new teaching process is shortened, and students can get more thinking or practice time per unit of time, which reduces the burden on students after class. In addition, the multimedia teaching method can also ensure the effective connection between the teaching chapters, and avoid the incomplete teaching of knowledge due to the omission of the physical education teacher.

(2) Unreasonable teaching and training

Under the traditional teaching mode, some colleges and universities are mainly focused on increasing the amount of student training during the basketball game, so that during the basketball game, students are in a state of high intensity and increased training for a long time. After we completed this game, the outdoor basketball technical training of the students was significantly slacker than before. The training volume of the successive teams of the game was quite different, which would have an adverse effect on the physical and mental health of the students. Breeding the utilitarian psychology for the game, it is easy to mislead students’ views on the meaning of learning basketball. At the same time, the traditional single, rigid physical education teaching model will even directly result in the lower enthusiasm and incomplete concentration of students in our school, which will not only directly affect the basic mastery of our school students in basketball sports technology. It will even directly cause a serious decline in the level of school teaching management. At present, the emphasis and popularity of basketball technology teaching in colleges and universities are not high enough, the number of courses is small, and in most cases at noon and evening, students have less free time and lack of energy, which is difficult to fully in the practice of physical education teaching. Giving play to the normal technical level, the teaching content is difficult to be absorbed well, students progress slowly, and the sense of achievement is not high, so it is easy to give up.

(3) Less interaction between teachers and students in the classroom

When interacting with teachers and students in a basketball classroom, most basketball teachers may give full play to the leading role of the classroom. As soon as the class begins, they take the ball to warm up and then start teaching new content, although some teachers will decide according to the difficulty of the teaching content. Whether to review the content learned yesterday, but in the process, the teacher said and taught a lot, and the students have always been in an awkward state of passive and unacceptable. In the long run, students generally feel that there is a lack of new thinking development space. The learning method thinking is guided by the teacher in the classroom, and it is difficult to have his own opinions. As a result, when students learn basketball knowledge, they only focus on the teacher’s teaching content and pay too much attention to the actions and skills mentioned by the teacher. Failure to truly conduct independent rational exploration and innovative understanding will eventually lead to a dual decline in the ability of independent exploration and understanding and the ability of independent innovation [14].

(4) The teaching level of school basketball basic tactics needs to be improved

In the course of students’ school basketball tactics teaching activities, because some students ignored and did not pay much attention to basic basketball skills, they were thinking about how to improve their individual ball skills, ignoring basketball as a team sport, leading to the theoretical foundation and technology of basketball. The basic knowledge is not solid, which causes the cooperation between basketball players to be inadequate. The tacit understanding is unsatisfactory. When teamwork is conducted, the tactics formulated by the teacher cannot be used to the maximum extent, and the teaching effect is not ideal. In basketball teaching, it is necessary to strengthen the training of students’ basic cooperation with technical skills and basic tactical skills to improve the sense of tacit understanding between players and players [15].

(5) The overall teacher training level of basketball sports teachers in universities still needs to be continuously strengthened

On the whole, although the current team of college basketball sports teachers can fully meet the overall needs of college basketball sports teaching, most of the basketball teachers are young basketball teachers, and there are
relatively few large-scale college basketball sports events. I have less experience in basketball, and I have just started teaching. I have less experience in teaching, and relatively lack practical basketball teaching experience. Therefore, how to enhance the professionalism of current school teachers is the most important thing for us to promote the reform of school basketball teaching. At present, most of the professional qualifications of in-service physical education teachers in colleges and universities are physical education, master’s degree, and postgraduate, and only a few have physical education doctoral degree or above. When developing sports scientific research activities in universities, the degree of attention in the school is not high, and the enthusiasm shown by the teachers is not too high. At the same time, once school teachers choose to participate in work, the employment opportunities for further studies will be significantly reduced. There are also school basketball sports equipment, unqualified training venues, backward equipment, and the school’s lack of attention. Will have a certain impact on whether school teachers can continue to study and concentrate on school basketball sports teaching work [16].

(6) Relatively scarce teaching resources of basketball sports in colleges

On college basketball courts, we often see several groups of people sharing a basketball court, more balls, less baskets, fewer people, less land, playing at night, etc. Some colleges and universities also have basketball baskets that look crumbling and the ground is cemented. In some cases, limited resources and inadequate equipment facilities make students wait longer to practice, which reduces the students’ desire to play. There are also some hidden dangers to personal safety. In addition to increasing teaching resources, teachers also need to adjust their teaching plans accordingly, use more efficient teaching methods to make up for the lack of equipment and venues, and improve teaching efficiency. Schools should also pay attention to the construction of basketball teaching equipment to give students a comfortable and safe training ground [1, 17].

2.6. Specific Measures and Policy Suggestions for College Basketball Leisure Teaching Reform

(1) The overall reform of the training objectives of school basketball sports teaching

In addition to the school’s expectation to strengthen the cultivation of students’ basketball physique and teach them the basic skills of using basketball, the school also needs to pay more attention to the leisure and entertainment of basketball teaching and the cultural heritage of inheritors.

(2) Innovation and reform of teaching content of professional basketball courses

Try to ensure that the teaching content of professional basketball courses in colleges and universities can meet the requirements of sports and leisure sports for students, and reorganize the teaching content of basic basketball sports techniques and skills classes in colleges and universities, and introduce fancy shooting basketball and professional basketball to sports such as professional league As an important learning content of teaching [20, 21].
(3) Reform of basketball teaching methods

In the course of four traditional traditional basketball teaching methods: demonstration method, explanation method, practice method and error correction method, innovative teaching methods are invented to stimulate students' class enthusiasm and improve class efficiency. In traditional physical education classrooms, the source of the students’ knowledge and the physical education teachers' own knowledge reserves, while using multimedia, two or more physical education teachers or experts can provide knowledge for the growth of students.

(4) Incorporate basketball culture into basketball classroom teaching

Although most colleges and universities have organized basketball games and college basketball sports teaching, they still continue the traditional basketball teaching methods of colleges and universities, and pay attention to the systematic teaching of college basketball game technology and college basketball sports basic knowledge. Systematic promotion and in-depth education research are still relatively scarce, and the college basketball game culture is distinguished from the college basketball sports teaching content, and the two have not been closely linked. Traditional basketball teaching makes classrooms very inefficient. Therefore, to actively and effectively reform the basketball classroom, and to enhance students’ love for basketball, we must build a basketball cultural environment, give full play to the role of basketball culture, make basketball culture a part of basketball teaching, and strengthen basketball culture. Infiltration in basketball teaching, organically combining basketball teaching and basketball culture, enriching and innovating basketball teaching methods, creating a platform for training, teaching and competition for students, making basketball teaching full of fun and creativity, allowing students to understand. At the same time as the education culture, health culture and entertainment culture contained in basketball, change the students’ views on basketball, so that students not only like basketball, but also feel its inherent charm and understand its value, from the whole Improve students’ basketball cultural literacy and basketball culture perception to achieve personalized health education for students, so as to truly achieve a comprehensive and balanced development of the physical and mental health of students at school [22].

(5) Continue to strengthen the construction of basic sports facilities in colleges and universities, such as outdoor basketball training venues

In the course of promoting the reform of teaching, the managers of school-related basketball and basketball teaching should be aware of the important role played by the construction of material culture. Only when the role of material culture is guaranteed can basketball teaching gain a good development opportunity. With the development of China's education reform, the overall scale of sports enrollment in China's colleges and universities has gradually expanded and the number has gradually increased. Therefore, the construction of sports infrastructure sports facilities in many colleges and universities has been unable to fully adapt to the scientific development of China’s sports education in the new historical period. Reform is needed, the area of the sports training ground is not enough, the equipment is outdated, and the training sports ground is tight. Therefore, it is urgent to expand the Chinese basketball competition field and create a good Chinese basketball professional culture and education environment. The school should also make a master plan for the development of campus basketball sports activities, encourage college students to actively participate in campus basketball sports activities, and increase the education and promotion of campus basketball sports culture according to the actual needs of college students. The basketball culture reading room creates a harmonious learning environment for ordinary college basketball sports culture for the growth of college students, improves the social influence of campus basketball sports culture on ordinary college students, and promotes the sustainable and stable development of college basketball teaching.

(6) Use flexible and testable assessment schemes

Different students have different physical and mental development characteristics and areas of expertise. Therefore, when evaluating the results of staged basketball skills training for college students, teachers must ensure that many details are taken into account to avoid serious problems with their individual development needs. Signs of conflict. The traditional teaching evaluation model advocates a one-stop approach, which means that all students are evaluated and certified according to a unified standard, and the differences in individual skills and qualities are completely ignored, which is obviously not fair. To reduce its unfairness, relevant teaching staff must keep this in mind and implement it. For example, during the development of shooting training activities, for some students with higher quality and physical fitness, strict assessments must be performed in accordance with preset standards. In the case of individuals with weak physical qualities, they are only required to complete basic actions, but We should promptly remind them of non-standard details, and ask them to improve after class, and check the results next time [23].

(7) Make full use of modern information network technology to continuously improve the athletes' own psychological literacy

In the process of a sports competition, in addition to its own psychological ability, there are a large number of people and occasional psychological factors that affect the performance of an athlete. The physical and psychological quality of one of the athletes is often the most important influencing factor that directly affects the performance of an athlete's international sports competitions. During the training process, the athlete's psychology may be relatively stable. However, during the competition, due to the difference between the competition environment and the training environment during normal time, the athlete's psychology may appear larger during the competition. Fluctuations. For example,
our students have the same test. The same test has different test locations. One is tested in our school, and the other is tested in an external school. Generally speaking, the performance of students in this school is better than that in external schools. At this time, psychological quality and resistance to stress have become factors that seriously affect the performance of athletes. In order to allow athletes to better control their psychology, coaches can use various information processing technologies during actual training. Provide athletes with effective scene videos of actual competitions. Through these videos, let the athletes bring themselves to the actual scenes of the live competitions, so that the athletes can better and faster adapt to the actual scenes of the live competitions, and wait for the athletes to start the actual themselves. At the time of the competition, I was able to adjust my various psychological and chemical reactions in a more conscious and timely manner, so as to heal my nervous mood, achieve to strengthen one’s own psychological ability, improve the athlete’s psychological quality, and increase the athlete’s ability to withstand pressure [1], the basic adjustment is shown in Figure 7.

2.7. Multimedia Video Image Processing Algorithm. The physical meaning of the compression ratio is the percentage of the compressed data to the original data, which can directly reflect the proportional relationship between the amount of data before and after compression. It is related to the amount of data after data compression and the size of the storage space required, so it is a measure of compression. One of the important indicators of algorithm quality. Among them, the most commonly used mathematical expressions in wireless multimedia sensor networks are:

\[ P_o = \frac{L_1 - L_2}{L_1} \times 100\% \]  

After the Haar wavelet first-level transformation of the target image, the data volume of the image is 1/2 of the original image, namely:

\[ P_o = \frac{\text{Num}(L_1) - \text{Num}(L_2)}{\text{Num}(L_1)} \times 100\% \]

Where L2 is the extracted region of interest, Num(L) is the number of blocks of the original image, which is the number of image blocks that need to be transmitted, so the compression ratios of MB1 and MB2 are:

\[ P_{o1}(MB1) = 98.31\%, P_{o2}(MB2) = 96.45\% \]

Although the Haar wavelet transform is simple, if the compression task is directly performed by the image acquisition node, its energy will be exhausted quickly. In the following experimental simulations, the distributed algorithm and the centralized algorithm will be compared to prove this chapter The advantages of distributed processing are used in the algorithm.

\[ \begin{align*} 
E_{Tx} &= E_{elec} + \varepsilon_{amp}d^2 \\
E_{Rx} &= E_{elec} \\
E_{C(i)} &= E_{jc} + (2E_{elec} + \varepsilon_{amp}^2)M \\
E_{S} &= E_{W} + \sum_{i=1}^{k} (E_{elec} + \varepsilon_{amp}^2)M \\
E_{S} &= E_{W} + kE_{jc} + k_0E_{bm} + \sum_{i=1}^{k} (E_{elec} + \varepsilon_{amp}^2)M 
\end{align*} \]
Among them, k is the number of image blocks that need to be transmitted.
Cluster head node i, among which 100 are used as transmission nodes, its energy consumption is:

$$E_C(i) = (2E_{elec} + \varepsilon_{amp} d_i^2)M$$

(11)

Encoding node i, taking 200 of them as transmission nodes, its energy consumption is:

$$E_B(i) = (2E_{elec} + \varepsilon_{amp} r_i^2)M$$

(12)

Since some of the cluster head nodes and coding nodes act as transmission nodes, among the common transmission nodes, only 100 of them are in working state. The energy consumption is:

$$E_e(i) = (2E_{elec} + \varepsilon_{amp} d_i^2)M$$

(13)

Regarding the determination of the positioning threshold, the method of taking the median value of the brightness is generally adopted. That is, the on-off threshold J is determined by the brightness value Don when the lamp is off and the brightness value Doff when the lamp is on. Calculated as follows:

$$J = Doff + \frac{Don - Doff}{2}$$

(14)

Take the average of the three larger values D1, D2, and D3 as the maximum reference background value, and add a fixed value M on the basis of this maximum value as the positioning threshold. Calculated as follows:

$$J = Df + \frac{Don - D}{2}$$

(15)

It is timed by the number of frames of the image collected. Each frame contains 100 rows of data, and the corresponding time for these 100 rows of data is 25 ms. From the moment when the trigger signal is received as zero, the frame number is counted, and the data count of one frame is received plus 1, and the time plus 25 ms. Therefore, each row of data corresponds to 0.25 ms. Calculated as follows:

$$\text{timenow} = \text{firmenow} \times 25 + m \times 0.25$$

(16)

The principle of mean filtering is to set a template for 36 pixels to be processed. This template contains multiple neighboring pixels, and the gray value of these points is replaced by the gray value of the original pixel.

$$g(x, y) = \frac{1}{m} \sum_{f(x, y)}$$

(17)

The image with a threshold of 128 may become completely white or completely black. Therefore, it is better to replace all possible value ranges with the actual value range of the image. First, it is necessary to find the maximum and minimum extreme values of the gray values of all pixels, and use their midpoints as the discrimination threshold. The image binarization can be completed by the following formula.

$$f(i, j) = \begin{cases} 0, & f(i, j) < T \\ 255, & f(i, j) > T \end{cases}$$

(18)

Different pixels have different judgment thresholds, which are more adaptable than the global threshold method, and will not be affected by uneven illumination, texture, etc. For any pixel, take the neighborhood, and the threshold is calculated by the following formula:

$$T(x, y) = \frac{Z_{max} + Z_{min}}{2}$$

(19)

If it is the smallest, there is a problem that di may be positive or negative. The method of calculating the absolute value and then adding is more cumbersome, so the calculation is changed to the smallest. Which is:

$$D = \sum_{i=1}^{n} d_i = \sum_{i=1}^{n} (y_1 - a - bx_i)^2$$

(20)

Integrated square difference (integrated square difference) is also a commonly used basis for similarity. It compares the similarity by accumulating the square of the error, and the integrated square error is:

$$\varepsilon^2 = \int_{x \in R} (f_R(x) - f_T(x))^2 dx = \|f_R(x) - f_T(x)\|$$

(21)

For image I and template T, the integrated square error can be calculated by the following formula:

$$D(u, v) = \sum_{x} \sum_{y} [T(x, y) - I(x - u, y - v)]$$

(22)

The individual entropy of A and B H(a), H(b) and the joint entropy H(,) can define mutual information I as follows:

$$I(a, b) = H(a) + H(b) - H(a, b)$$

(23)

According to the translation characteristics of the transform domain, the researchers proposed a phase correlation method to characterize the translation changes of the two images. Let f(x,y) be two graphs, then the Fourier transform between them satisfies the following formula.

$$F_2(u, v) = \exp(-j2\pi(u(x_0 + vx_0) + vy_0)) * F_1(u, v)$$

(24)

3. Experiments

3.1. Experimental Data Sources. Divide basketball students in a certain college into two groups, one group adopts
traditional teaching method, the other group adopts multimedia video teaching method, and analyzes the basketball teaching situation and effect of the two groups. In order to ensure the fairness of the experiment, before the experimental research, the experimental subjects were tested on the basic level of basketball to ensure that there was no significant difference between the experimental class and the control class in the basic part of basketball.

(1) Randomly select a number of students from a college to conduct a questionnaire survey. According to them, they put forward the understanding of basketball culture, and understand the impact of basketball culture on the reform of college basketball teaching; Conflicts occurred in their thoughts; they asked students what they have in common in college basketball teaching

(2) Collect, count and analyze the questionnaire, analyze the students’ understanding of basketball culture; analyze and understand the impact of basketball culture on the reform of college basketball teaching; analyze the effect of college basketball teachers on the reform of college basketball teaching; The degree of influence of cultural integration on students’ basketball interest

(3) Strictly discuss and summarize the analysis of data, discuss the authenticity, reliability and rigor of the results; discuss students’ understanding of basketball culture; analyze and understand the impact of basketball culture on the reform of college basketball teaching; analyze the strength of college basketball teachers The effect of composition on the reform of college basketball teaching; and the degree of influence of the integration of basketball culture on students’basketball interest. Finally, it summarizes and summarizes the reform of college basketball teaching from the perspective of basketball culture

3.2. Experimental Setup

(1) Experimental overview

This article focuses on the reform of basketball teaching in colleges and universities from the perspective of basketball culture. This article mainly adopts the method of questionnaire survey and uses techniques such as big data statistics to investigate and analyze the composition of basketball teachers in colleges and universities in a province; Situation; analyze and understand the impact of basketball culture on the reform of college basketball teaching; analyze the effect of the composition of college basketball teachers on the reform of college basketball teaching; and investigate and collect experimental data on the impact of the integration of basketball culture on students’basketball interests, and collect experimental data, Analysis and statistics of experimental data.

(2) Analysis of questionnaire validity

This article aims to study the reform of basketball teaching in colleges and universities from the perspective of basketball culture. Investigated and analyzed the detailed situation and effects of students and teachers after the reform of basketball teaching, including the problems in teaching. Compared with traditional teaching, the advantages and disadvantages of multimedia video teaching, it uses techniques such as surveys, interviews and statistics to analyze and study the content and methods of basketball teaching, and statistically analyzes the expectations of teachers’ basketball teaching goals. Including learning situation, teaching content, students’ attitudes towards multimedia video basketball teaching, and teachers’ mastery of teaching. To ensure the validity of the questionnaire, 10 experts were asked to evaluate the validity of the questionnaire’s content design and structure design before the questionnaire was issued. The validity of the questionnaire was tested by relevant experts. The student questionnaire reached 8.7 and the teacher questionnaire reached 8.79 (rated on a 10-point scale). The validity of both questionnaires met the needs of this study. The survey data is shown in Table 1.

Control group: This group of students adopts traditional teaching methods. First, they start with the preparation activities and enter the regular teaching content after 15-20 minutes. From explanations and demonstrations to group practice of students, and then to teachers’ tour guide to correct wrong actions. Students are doing Traditional physical education teaching methods of practice. The two groups of students were tested on basic basketball, such as fixed-point shooting, dribbling through the pole, and testing the basic skills of the two groups of students to ensure that there is no significant difference in the basic basketball skills of the two groups of students. The experimental design process is shown in Figure 8.

4. Discussion

4.1. Analysis of the Impact of Basketball Culture on College Basketball Teaching Reform

(1) College students and teachers’ awareness of basketball culture

The spirit culture of basketball in colleges and universities has substantial existence and strong expressiveness,
and this is inseparable from the material, the presentation and inheritance of the carrier. The classroom teaching of basketball is an important content of physical education. It also exists as a material carrier of basketball spiritual culture. Basketball teachers are the disseminators of knowledge in classroom teaching. The mental quality of basketball teachers has a certain role in promoting the spread of basketball spiritual culture. By investigating the level of recognition of 100 students and 10 basketball teachers in 3 colleges and universities in a province on basketball culture, the specific data are shown in Table 2 and Figure 9. The results show that about 70% of students believe that basketball can enhance physical fitness and recreation, while most teachers believe that basketball can enhance student physical fitness.
impacting student skills, promote physical and mental health, indicating that teachers pay more attention to student physical fitness. The expectations of leisure entertainment and inheritance culture are less than 20%, which can also reflect that college basketball teachers do not pay much attention to the spirit of students. Therefore, in the entire process of basketball sports teaching, teachers should pay more attention to the interactive entertainment of the entire process of basketball teaching, so that students can experience the liberation of body and mind in basketball teaching, thereby promoting the development of basketball teaching.

(2) Through further statistical analysis of the questionnaire survey, Table 3 and Figure 10 are obtained. The results show that in the basketball teaching content of colleges and universities, the basic rules of basketball games, basketball referee methods, other basic basketball skills and basic knowledge of tactics have always been the teaching with the largest proportion content. The students in the school are interested in the NBA and other professional leagues and street fancy football games. The basketball courses offered by the school do not meet the basketball learning needs of the students. Therefore, in the actual reform, we must increase this part of the teaching content as much as possible to meet the students’ interest in basketball.

4.2. Survey Statistics of the Composition of College Basketball Teachers

(1) College teachers are important disseminators of college basketball teaching and the main disseminator of basketball culture. Table 4 and Figure 11 show the results of a team of basketball teachers from a survey of 3 colleges in a province. It can be seen from Table 4 and Figure 4 that the age structure of college basketball teachers accounts for about 20% of the total number of teachers; 31–40 years old teachers account for about 27%; 41–50 years old teachers account for 33%; teachers over 50 years old account for about 13%; those over 60 years old account for about 7%. From the perspective of the age structure of teachers, the basketball team of colleges and universities shows a younger character, and teachers under 40 years old account for more than 70% of the total. Young and middle-aged teachers are energetic, have rich teaching experience, and are easy to accept new educational concepts and teaching ideas.

(2) According to the survey of basketball teachers surveyed in ordinary colleges and universities, as shown in Table 5 and Figure 12, the academic qualifications of basketball elective teachers in colleges and universities are mainly graduate students accounting for 81.0%. The proportion of basketball teachers with doctoral qualifications is obviously low at only 13.0%; some colleges and universities even do not have a doctorate of basketball teachers, mostly graduate students and undergraduate degrees. Some colleges and universities still have college students. The generally low education level affects the improvement of teaching and scientific research, and restricts the deepening reform of basketball teaching.

Table 3: Analysis of college basketball teaching content.

| College   | A  | B  | C  |
|-----------|----|----|----|
| Basic rules of basketball | 30% | 35% | 34% |
| Basketball referee method | 20% | 21% | 23% |
| Other basic basketball skills | 42% | 27% | 35% |
| Basic knowledge of tactics | 8%  | 17% | 8%  |

In order to have a macro understanding of the students’ initial comprehensive level of basketball, we conduct a diagnostic survey. The method is mainly based on students’ self-evaluation standards. According to the initial survey results of the level of dribbling and jump shooting skills, for the basketball dribble level, the two groups have a good grasp of at least 66.7%, and the students who have at least 76.7% of the basketball jump shooting skills do not know much about it. From this we can see that the initial level of students is basically the same. As shown in Table 6.

76.6% of teachers believe that it is meaningful to use multimedia for basketball technology teaching, and 10% of teachers believe that multimedia teaching is meaningless. We can conclude that most teachers think that multimedia courseware is psychologically important to basketball technology. The explanation is still meaningful. As shown in Table 7.

4.3. Multimedia Teaching Analysis. In order to further analyze the influence of multimedia-assisted teaching on the teaching effect of shielding cooperation, the seven connotative characteristics of shielding cooperation are statistically analyzed. The results show that: time characteristics analysis, the average value of the experimental group is 3.3, the average value of the control group is 2.7, the T value is 2.384, P =0.028<0.05, the difference is significant, the performance of the experimental group is better than the control group; spatial characteristics analysis, the experimental group The average value is 3.5, the average value of the control group is 2.95, the T value is 2.905, and P=0.009<0.05, indicating that the two groups’ performance differences are significant, and the experimental group’s performance is better than the control group; the regularity feature analysis, the average value of the experimental group is 2.85, The average value of the control group was 3.15, the T value was -1.511, and P=0.148>0.05, indicating that there was no significant difference between the two groups. P=0.013<0.05, there is a significant difference in the performance of the two groups, and the performance of the experimental group is better than that of the control group; analysis of effectiveness characteristics, the average of the experimental group is 2.85, the average of the control group is 3.25, the T value is 1.986,
After 32 hours of multimedia-assisted teaching of basketball center’s personal offensive and defensive skills, and the analysis of the test results after the experiment, there are significant differences in the technical evaluation of the students in the control class and the experimental class. This shows that the basketball center’s personal offensive and defensive technology multimedia plays an auxiliary effect in the teaching of center technology, and it can improve and strengthen students’ understanding and memory of the center’s various technical movements. As shown in Table 9.

In order to further analyze the impact of different teaching methods on the effect of exchange defense teaching, statistical analysis of the connotative characteristic scores of the 7 exchange defense cooperation results shows that the average time characteristic score of the exchange cooperation is 3.4 in the experimental group and 3.4 in the control group. 3.35, T value 0.187, P = 0.675 > 0.05, there is no significant difference; the average spatial feature score is 3.45 in the experimental group, 2.95 in the control group, T value 2.554, P = 0.020 < 0.05, there is a significant difference, the results of the experimental group Better than the control group; as shown in Table 10.

Before starting the experimental research, a conversation survey of 120 students was conducted. In the survey and research, it was found that most of the students rarely participated in sports activities, and rarely cooperated with others to complete sports activities, and the sense of cooperation was poor, which shows that the experiment It can be implemented. After the multimedia teaching experiment, the results of investigation and research show that the proportion of students in the experimental group in the number of physical exercises, morning exercises, extracurricular activities, and cooperation with others is significantly higher than that of the students in the control group. This shows that the application of multimedia teaching methods in basketball teaching can improve students’ athletic ability, make
them willing to show their basketball skills on the court, enrich students’ extracurricular sports activities, and play an important role in the cultivation of students’ lifelong sports awareness. As shown in Table 11.

The excellent rate of sports performance of students who adopt the multimedia teaching mode is 33.8% higher than that of students in the traditional teaching mode. This experimental data shows that the multimedia teaching method has a great role in promoting students to master basketball skills. As shown in Figure 13.
After the experiment is completed, the two groups of students are tested for their ability to evaluate the basketball jump shot technique. The teacher organizes the students to watch the basketball game video. There are 15 errors in the basketball jump shot movement in the video. According to the basketball jump shot that the teacher usually explains in physical education teaching Knowledge evaluates basketball jump shots, and every time a wrong move is found, one point is added. The results of the study found that the proportions of students in the experimental group at 0-7 and 8-15 were 25% and 75%, respectively, and the proportions of students in the control group at 0-7 and 8-15 were 58.3% and 41.7%, respectively. %, in the 8-15 points experimental group is 33.3% higher than the control group, which shows that the students in the experimental group have a stronger ability to evaluate basketball jump shots than the students in the control group. As shown in Table 12.

After the experiment, the fixed-point shooting points of the experimental class were more concentrated in more than 4 points. In the experimental class, the scores of the dribble around the club are more concentrated above 3 points. It shows that the multimedia teaching method has a more obvious effect in improving the basic level of students' basketball. In college basketball teaching, multimedia teaching method has advantages compared with traditional teaching method. As shown in Figures 14 and 15.

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application of computer-assisted teaching methods to the basic basketball tactics teaching. As shown in Table 14.

In this experiment, according to the standard of basketball jump shooting technique, the students are scored according to the completion of the students, so that the students are divided into excellent (95-100), good (85-94), medium (75-84), and poor (60-74) and fail (0-60) five levels. The statistical analysis of the data shows that the passing rates of the experimental group and the control group before the start of the course are very low, 32.2% and 35.6%, respectively; but after the course teaching, the passing rate of the experimental group is 94.4%, which is obviously good. In 68.9% of the control group, it shows that the multimedia teaching method has a better promotion effect on the improvement of basketball jump shot technique than the traditional teaching method. As shown in Table 15.

5. Conclusions

In this basketball teaching experiment, whether it is the multimedia teaching method of the experimental class or the traditional teaching method of the control class, the physical fitness of the experimental subjects has been significantly improved, but the data shows that the increase of the experimental class using the multimedia teaching method is significantly higher than that Control classes using traditional teaching methods.

(1) It can be seen from the survey and recovery data in this article that the multimedia video teaching studied in this article is also applicable to other sports. The teachers are more seriously affected by traditional education concepts in basketball teaching. Therefore, the reform of basketball teaching
objectives in colleges and universities from the perspective of leisure sports needs to pay attention to the leisure and entertainment of teaching, so that students can relax in basketball teaching activities and feel the happiness of basketball teaching activities. And the concept of leisure and entertainment is also an inevitable trend of the development of college basketball teaching in modern society. Whether the teaching ideology of physical education is correct or not is directly related to the success or failure of physical education reform in schools. To carry out the Sunshine Sports, we must aim at “achieving standards, striving for excellence, strengthening our physical fitness”, and combining it with physical education. Incorporating the leading ideas of Sunshine Sports into the reform of basketball teaching is to teach students the basic skills, skills, and knowledge of basketball through the teaching of basic basketball skills and skills in the teaching, through physical fitness exercises, and teaching competitions to meet the needs of students’ fitness and entertainment. Interests and needs, enhance physical fitness, and lay the foundation for lifelong sports.

(2) Education is one of the basic conditions that reflect the knowledge level and intelligent structure of teachers. Judging from the survey results, the basketball teachers in the surveyed universities are mainly master’s degree holders, and the number of doctors or higher is relatively small. In addition, among the teachers of basketball optional courses, due to the lack of school teachers, some colleges are equipped with non-basketball teachers to teach, reflecting that college basketball teachers can not meet the needs of basketball teaching and extracurricular training. In addition, from the perspective of the age structure of teachers, the basketball team of colleges and universities shows younger characteristics, and teachers under 40 years old account for more than 70% of the total. Young and middle-aged teachers are energetic, have rich teaching experience, and easily accept new educational concepts and teaching ideas.

(3) In short, about 70% of students believe that basketball can enhance physical fitness and recreation, while most teachers believe that basketball can enhance student physical fitness, impart student skills, and promote physical and mental health. The expectations for leisure, entertainment and heritage culture are less than 20%. From the perspective of the age structure of teachers, the basketball team of colleges and universities shows younger characteristics, and teachers under 40 years old account for more than 70% of the total. 81.0% of college basketball teachers are mainly graduates, but the proportion of basketball teachers with a doctorate is significantly lower. Some colleges and universities do not even have a doctorate. Most of them are graduates and undergraduates. Some colleges and universities still have college students. Therefore, it is expected that college basketball teaching can integrate basketball culture and innovate and reform college basketball teaching.

The use of multimedia courseware for auxiliary teaching in basketball tactics basic teaching is an effective teaching method, which can stimulate students’ interest in learning, improve learning enthusiasm and learning effect, and

### Table 14: Investigation on the Evaluation of Multimedia-assisted Teaching by Experimental Group Students.

| Survey content                                                                 | Affirm Number of People | Affirm Percentage | Generally Number of People | Generally Percentage | Negative Number of People | Negative Percentage |
|-------------------------------------------------------------------------------|-------------------------|------------------|---------------------------|---------------------|--------------------------|---------------------|
| Is it useful to use multimedia assisted teaching to help you master the learning content? | 27                      | 84.4             | 5                         | 15.6                | 0                        | —                   |
| Can the use of multimedia-assisted teaching speed up your mastery of tactical basic coordination? | 26                      | 81.3             | 5                         | 15.6                | 0                        | 3.1                 |
| Does the use of multimedia-assisted teaching help to increase your interest in learning? | 30                      | 93.8             | 2                         | 6.3                 | 0                        | —                   |
| Can the use of multimedia assisted teaching improve the ability to observe and analyze problems? | 18                      | 56.3             | 11                        | 34.4                | 3                        | 9.4                 |

### Table 15: The distribution of technical evaluation scores of experimental group and control group before and after course teaching.

| Group               | Score distribution | Before the experiment | After the experiment | Passing rate % | Excellent rate % |
|---------------------|--------------------|-----------------------|----------------------|----------------|-----------------|
| Test group          |                    | 95                    | 85 75 60 <60         | 32.2           | 10              |
| Control group       |                    |                      |                      | 68.9           | 32.2            |

Test group: Before the experiment: 3 6 5 15 61 32.2 10  
Test group: After the experiment: 36 25 15 9 5 94.4 67.8  
Control group: Before the experiment: 3 6 6 17 58 35.6 10  
Control group: After the experiment: 17 12 15 20 28 68.9 32.2
actively explore the application of multimedia teaching in physical education.

**Data Availability**

This article does not cover data research. No data were used to support this study.

**Conflicts of Interest**

The author(s) declare(s) that they have no conflicts of interest.

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