

Exploring the Path to Improve the Cultural Quality of Athletes Based on the Barrel Theory

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Abstract: *The importance and necessity of cultural quality education for athletes has become an international consensus on the cultivation of competitive talents. As a grass-roots sports school that cultivates a reserve army of sports talents, the importance of cultural quality education is needless to say, and it needs extensive attention and attention. The cultural quality education for athletes can not only make them develop in an all-round way, but also ensure the sustainable development of sports competition. This paper takes sports school college athletes as the research object, finds relevant literature to understand the current situation of cultural education, and uses the method of questionnaire to investigate the sports school student athletes, coaches and athletes' parents, and analyzes the influencing factors of cultural quality education. According to the barrel theory, it is unfeasible to improve the cultural quality of athletes only from the perspective of athletes or school cultural education courses. Only multi-faceted joint training can supplement the shortcomings of athletes' cultural quality. A training path for jointly cultivating the cultural quality of athletes from family, athletes and other aspects.*

Keywords: *Barrel theory, college athletes in sports schools, cultural quality, training path*

1. Introduction

At present, the cultural quality level of Chinese athletes is generally low, and the reason is the lack of cultural quality education. For an athlete to develop by leaps and bounds, not only good sports skills, but also cultural quality is still important. Only in this way can we cultivate athletes with excellent morals, intelligence and physique. Therefore, this paper has important research value to explore the improvement path of athletes' cultural quality.

So far, many scholars have conducted in-depth research on the path to improve the cultural quality of athletes based on the barrel theory, and have achieved good research results. For example, a scholar believes that in order to improve the cultural quality of athletes, it is necessary to change the concept of cultural education, vigorously promote the reform of the education system of sports institutes and colleges, pay equal attention to the importance of cultural courses and training courses, and cannot ignore the ideological and moral education and cultural knowledge of athletes [1]. A scholar mentioned that there are many factors that affect the cultural quality of athletes, including the subjective aspects of athletes, the construction of school cultural courses, family education, and social practice. To truly improve the cultural quality of athletes, we must start from these aspects. Point to explore the path to improve the cultural quality of athletes, which is in line with the educational thought of the barrel theory [2-3]. Although the research results of the path to improve the cultural quality of athletes based on the barrel theory are good, the level of the athletes' cultural quality is still low, and it is necessary to strengthen the research on the path to explore and improve the cultural quality.

This paper first expounds the concept of the barrel theory, and understands that to improve the cultural quality of athletes can not only start from one aspect, and multi-path synthesis can effectively improve the cultural quality of athletes. In this regard, this paper takes sports school student-athletes as an example to analyze the influence of athletes' attitudes towards cultural classes, social atmosphere, and parents' attitudes on cultural quality, as well as the school's handling of the special circumstances of athletes' cultural assessment. From these perspectives, we study their influence on the improvement of cultural quality, and finally put forward the path of cultivating the cultural quality of student-athletes.

2. Analysis of problems existing in barrel theory and cultural quality training

2.1 Barrel theory

The barrel theory can be understood that if the lengths of the wooden boards that make up the barrel are different, only when the difference between them is the smallest, the more water will be stored. When the planks are high enough, the bucket needs the most water. If you want to increase the capacity of the barrel, you should try to increase the height of the short wooden board, which is the most effective way [4-5].

In economics, the barrel theory can be understood from the concept of marginal utility. U is used to represent the total utility of the system, $TU_{i(i=1,2,3,n)}$ represents the utility of a certain aspect of the system, $MU_{i(i=1,2,3,n)}$ represents the marginal utility of a certain aspect of the system, Q_i is a quantitative description of an aspect of the system, then:

$$TU_i = f(Q_i) \quad (1)$$

$$MU_i = dTU_i(Q_i)dQ_i \quad (2)$$

For the improvement of the cultural quality of athletes, we should not only focus on finding the reasons for the athletes themselves, but also explore ways to improve their cultural quality by combining multiple levels.

2.2 Problems existing in the cultivation of athletes' cultural quality

2.2.1 The lack of flexibility in the professional culture curriculum

Many colleges and universities do not have the flexibility to offer cultural courses for athletes, and do not consider the actual situation of athletes. When arranging cultural classes, the time for athletes to train and compete was not considered. Due to time constraints, the athletes postponed the cultural lessons. The curriculum of basic public courses is not flexible enough, and some courses do not require electives. For example, in sports, athletes are basically trained in sports, so they can use the time of physical education to learn cultural knowledge. In addition, English and computer classes are also very rigid. Athletes train most of the time in the afternoon. In some schools, English and computer classes are arranged in the afternoon, resulting in athletes being unable to attend classes and losing interest in course study over time [6]. The times are developing, and people's abilities and skills are gradually lagging behind with the passage of time. In addition to learning their own professional culture, athletes must continue to learn new knowledge in order to gain a foothold in society. English and computer courses can be said to be in line with international standards. Currently, most student-athletes are unfamiliar with either course. Schools should strive to stimulate athletes' interest in learning, rebuild their once-lost learning confidence, enhance the flexibility of professional culture courses, and allow students time to study in order to achieve their learning goals [7-8].

2.2.2 The ideological concept is backward

Many outstanding athletes in our country have started professional training since they were very young. If they want to win the gold medal, they must go through more than ten years of hard work. Training and competition are their main tasks. Especially with the simplification of performance appraisal in the national competitive sports system, sports management and business departments at all levels also put the results of training and competition first [9-10]. Therefore, after entering the sports school, it is difficult to fully consider the needs of the sports school athletes' cultural education in the actual arrangement of cultural courses, thus ignoring the training of the athletes' cultural quality. It should be said that college athletes go to college to receive higher education, which is the highest level and ideal goal of cultural education for college athletes. However, doing a good job in the basic education of college athletes before going to college is the focus of the cultural education work for college athletes in our country. If basic education is not done well, even if the problem of athletes going to college is solved, the problem of cultural quality of athletes cannot be solved [11]. This is why there is a great contradiction between the academic qualifications and skills of some elite athletes in our country.

2.2.3 Learning time and training time contradict each other

In the distribution of the athlete's study and training time, training occupies most of the athlete's activity time. Currently characterized by small-cycle, high-intensity training, intensity-based training programs are gradually replacing quantity-based training programs. Therefore, it is necessary to improve the scientific and technological content of physical training in my country [12]. In order to ensure the performance of the responsibilities of coaches, training time should be reduced, cultural education time should be increased, and the overall quality of elite athletes should be improved. This is not only a potential problem to be solved urgently in scientific training, but also a possible way to ensure the cultural education of athletes.

3. Experimental research

3.1 Research purpose

This paper analyzes the factors that affect the cultural quality of student athletes, aiming to improve the cultural quality of athletes, which is the most basic social demand for athletes' education. The development of sports skills is only a phased task for student-athletes, because ultimately they still have to use the cultural knowledge learned in school to serve the society, which is a long-term skill. Only by effectively improving the cultural quality of student-athletes can they better adapt to the development of the future society.

3.2 Research methods

(1) Documentation Law. The literature is mainly examined from two aspects. The first is related theoretical research on the cultivation of athletes' professional culture, vocational education and athlete training in recent years, as well as the development process, current situation, existing problems and research literature of athletes' professional culture and education. The second is the theoretical research on improving the cultural quality of Chinese college athletes and the bibliography of research on the development of Chinese college athletes' cultural education in recent years.

(2) Questionnaire survey and data statistics method. 150 student-athletes, 40 coaches, and 60 parents of athletes from 3 sports schools in a city were selected for investigation to understand the basic situation and professional culture of student-athletes, and statistics of the survey data were conducted to analyze the factors affecting the cultural quality of athletes .

4. Analysis of experimental results

4.1 Analysis of the components of the cultural quality of college athletes in sports schools

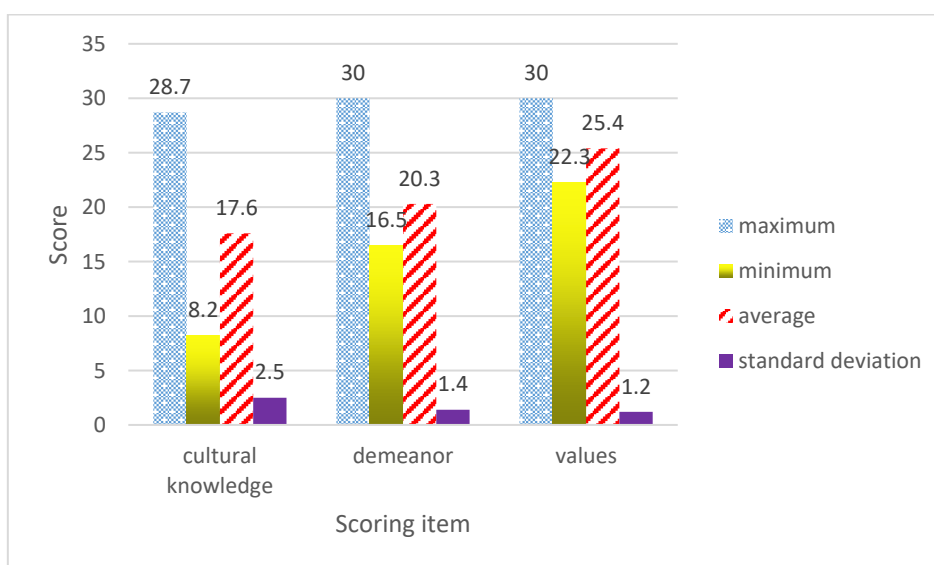


Figure 1: Score results for the cultural quality component of athletes

150 athletes were randomly selected from 3 sports schools in a city, and their cultural knowledge, behavior, demeanor, values, etc. were tested and scored. The total score for each item was 30 points, and the scores were scored by professional quality teachers. As shown in Figure 1. In terms of cultural knowledge, among the 150 people, the highest score was 28.7 points, and the lowest score was only 8.2 points. The average score of cultural knowledge of 150 people was 17.6 points, and the standard deviation was 2.5; in terms of behavior and manners, there were 150 people who scored full marks, the lowest score also has 16.5 points, the average score is 20.3 points, and the standard deviation is 1.4; in terms of values, the highest score is also a full score, and the lowest score is 22.3 points, with an average score of 25.4 points and a standard deviation of 1.2. Among these items, the largest standard deviation is cultural knowledge, and the smallest is value. The larger the standard deviation, the greater the gap between athletes. There is a small gap in values and behavior. This shows that the most important thing to improve the cultural literacy of athletes is to improve their cultural knowledge.

4.2 Analysis factors affecting the cultivation of athletes' cultural quality

4.2.1 Athlete's angle

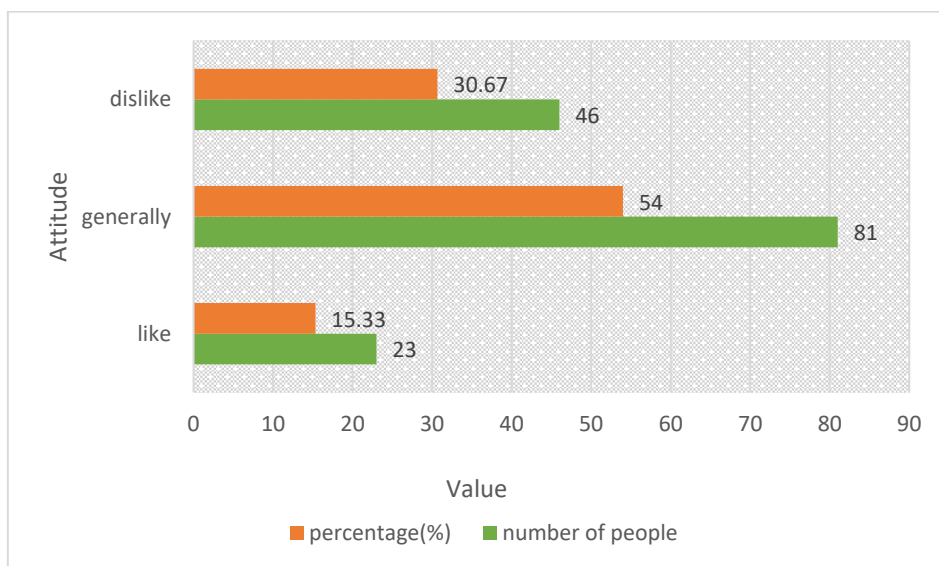


Figure 2: Attitudes of athletes towards cultural lessons

From the survey results in Figure 2, it can be seen that among the 150 college athletes in sports schools, 30.67% of the athletes did not like to take cultural classes and were not interested in cultural classes; 54% of the athletes had a general attitude towards learning, whether they liked it or not. Not to mention, just abide by the school's regulations and go to school when it's time to go. In addition, only 15.33% of those who like to take cultural classes will take the initiative to ask to learn and improve their cultural knowledge level. Through our contact with athletes and coaches, we learned that many athletes even hate cultural education. When taking cultural classes, they will find various reasons not to take cultural classes, and some students even skip classes. We also learned from the conversation that most athletes believe they just need to train to keep improving their technique. If they have a good skill level, then the education level is not necessary. This is also one of the reasons why athletes don't like cultural classes. Therefore, most athletes have little interest in their own cultural activities and think that good skills are enough. From the current situation of cultural learning of athletes in the city's sports school, it reflects the low cultural level of athletes in our country, so that athletes are overwhelmed by lack of culture. What, it also appeared that the athletes did not have jobs after retiring due to their low culture, and they could not work and live like normal people all the time. In addition, the reason why athletes lack interest in cultural education is that the state has very loose preferential policies for high-level athletes. In a social environment dominated by sports, it is wrong to think that the higher the level of sports, the better the development.

4.2.2 Influence of bad social atmosphere

People are the product of the environment, and the development of any education is inseparable from the environment. We live in the environment, and our thoughts and behaviors are always affected by the environment. With the continuous integration of my country with the world, great progress has

been made in all aspects, but the cultural level of athletes has not been improved. The bad social atmosphere has a negative impact on the quality and cultural education of athletes, and confuses the audio-visual image of young athletes.

Table 1: The influence of social atmosphere on the cultural quality of athletes

	great influence	generally	has little effect	no effect
Number of people	29	7	4	0
Percentage (%)	72.5	17.5	10	0

In this experiment, 40 coaches from 3 sports schools were interviewed and investigated, and the results are shown in Table 1. 72.5% of the coaches believe that the bad social atmosphere has a great impact on the development of sports school athletes' cultural quality, 17.5% believe that the impact is average, and 10% believe that the impact is not great. This bad atmosphere in today's society has gradually become an important factor hindering the healthy development of athletes. Therefore, a good environment is particularly important for improving the cultural quality of athletes. The government needs to strengthen publicity and guidance, and the media must actively create a healthy, civilized and progressive social atmosphere. By improving the ideological and moral quality of athletes to promote the improvement of the level of cultural quality.

4.2.3 Influence of family

In addition to personal talent, hard work, and close relationships with teachers and coaches, the quality of the home environment plays a crucial role in the cultural performance of sports student-athletes. A telephone survey was conducted among 60 parents of students to investigate the degree of parental concern about the students' cultural and athletic performance. In terms of cultural performance, 57% of the 60 parents are concerned about their children's cultural performance in school, 28% of parents show a general relationship, and 15% of parents show an attitude of indifference. From this result, it can be seen that today's parents are gradually paying more attention to the cultural performance of their students, and they no longer care about their children's cultural performance when they send their children to sports schools as before. In terms of sports performance, 63% of parents still hope to have good sports performance, only 15% of parents want their children to study well in school, and 22% of parents only want their children to stay out of trouble in school. Today's parents have begun to pay more attention to their children's cultural and sports activities, hoping that their children will not only have good sports results in sports schools, but also have good results in cultural quality. This puts forward higher requirements for the undertakers of sports schools, who can no longer focus on training only and ignore cultural education as before. Through conversations with school administrators, it was found that the current sports school has a poor source of students. On the one hand, it is because parents do not want their children to train hard. On the other hand, parents think that it is only technical training, lack of cultural education, and it is difficult to keep up with the times. This problem is also a problem faced by most sports schools in the country, and it is also the main root cause of the poor student source of most sports schools in the country. Therefore, effectively solving the contradiction between "learning and training" in sports schools is an important hub for the sustainable development of sports schools.

4.2.4 The school handles the special circumstances of the cultural assessment of athletes

Table 2: The handling of cultural class exams

	Number of people	Percentage
Exemption	64	42.67%
Postponement	33	22%
Rebuild	47	31.33%
Other	6	4%

Athletes in sports academies must not only master professional cultural knowledge, but also take into account training. When competition and cultural learning conflict, schools force athletes to train. And the better the performance of the athlete, the more competitions he will participate in, resulting in the athlete spending most of the time in the competition and no time to study, which is inevitably contrary to some cultural assessments. When this situation is encountered, the methods adopted by the school are shown in Table 2. 42.67% of the athletes are exempted from the test, 22% of the athletes are to be postponed, 31.33% of the athletes are to be reworked, and 4% of the athletes are to use other methods. According to the analysis of the survey results, the number of athletes exempted from the test

is the largest. Although this method can reduce the pressure on athletes to study, it will reduce the improvement of their cultural quality.

4.2.5 The impact of heavy competition tasks on the cultural quality of young athletes

Sports college students must regularly participate in certain sports competitions, strive to win prizes in competitions, and even have the responsibility to gain a reputation in the country. With the vigorous development of sports, the flowers and applause that athletes win through the game is also indisputable. College athletes often participate in different competitions and prepare for different competitions, and a lot of training also means that they spend a lot of time and energy, which will affect their time and energy to learn cultural knowledge.

4.3 Athletes' cultural quality training path

From the above analysis, it can be seen that the cultivation of the cultural quality of the athletes of sports schools lies in the improvement of cultural knowledge, and to improve the cultural knowledge of athletes, it is impossible to effectively improve the cultural quality of athletes only from one aspect. Explore the path to improve the cultural quality of athletes from multiple perspectives, which is the role of the barrel theory.

4.3.1 Stimulate student-athletes' interest in learning cultural knowledge

It is often said that interest is the best teacher, and only with interest can we have the patience to learn. When people do something, their interests often come first. Many people are only willing to do what they are interested in and resist those that are not, resulting in not wanting to learn or try to do it. Therefore, the learning interest in cultural knowledge determines the learning outcomes that the athlete will achieve.

In order to change the status quo of the cultural quality of student athletes, it is necessary to change the athletes' ideological concepts, strengthen the ideological education of cultural quality, let them understand the importance of cultural knowledge, and have a clear understanding of cultural quality education. Second, cultivate their study habits and attitudes, and gradually encourage student-athletes to take the initiative and learn cultural knowledge consciously. Teachers should also adopt new teaching methods to gradually instill interest in cultural lessons in athletes, thereby stimulating their interest and motivation in learning.

4.3.2 Joint training of society, school and family

Society, school, and family play an irreplaceable role in the development of student-athletes. In order for athletes to grow up healthily, these three aspects must be interrelated. Therefore, schools need to communicate with parents. Parents can't just send students to school and leave their hands behind. Schools should also strengthen contact with parents of student-athletes, for example, by holding more parent-teacher meetings and conducting home visits to further establish contact with parents. The society should pay more attention to student-athletes, create a good social environment for their healthy development, give them more opportunities to exercise, communicate more with the society, and get exercise in practice. It is believed that through the integration of society, school and family, the cultural quality of student-athletes can be improved.

4.3.3 Scientific allocation of teaching and training time

Learning takes time, and training takes time. But human energy is limited. In particular, these two aspects require long-term persistence and reasonable time allocation. Additionally, athletes should use their time each day to improve their training patterns. College athletes have dual identities, both to practice well and to learn well, and they must provide more energy than the average student to do both well. In addition, coaches and athletes themselves should pay attention to scientific rehabilitation methods and means after training, so that they can quickly regain vitality after training and devote themselves to learning. Finally, college athletes need to understand the future employment situation, understand the relationship between the current employment situation and cultural knowledge, and encourage athletes to study hard to meet the social needs after graduation. Only in this way can athletes actively learn professional cultural knowledge.

4.3.4 It is necessary to strengthen the course guidance before the exam and after the competition

It is a fact that student-athletes are less literate. After entering the school, a lot of training and competition will inevitably lead to a lack of energy for student-athletes to study. Therefore, it is

recommended to strengthen pre-competition investigation and post-competition counseling to ensure the coherence and coordination of athletes' cultural learning. In addition, the academy can respond to the athletes' usual teaching situation in a timely manner, and submit the results of each test to the school's Academic Affairs Office, and the Academic Affairs Office will arrange for classroom teachers to further train the athletes' cultural education. Secondly, schools can also adopt a "guiding system". Generally speaking. After the student number is passed and after entering the university, there will be a special tutor. The tutor can choose a major for the athlete according to the situation of the athlete. Whenever student-athletes finish training or competing, instructors guide them through the cultural lessons they have fallen behind.

5. Conclusion

In order to truly solve the problems of quality cultural education in sports schools, it is not enough to improve cultural quality by reforming the system, redesigning courses, and adapting teaching materials. Athletes must also subjectively recognize the importance of quality cultural education and improve cultural quality. Only the role and influence of quality on oneself can be successfully carried out in education. This paper analyzes the influencing factors of the current situation of cultural quality education for student athletes in sports schools, aims at the contradiction between student athletes in cultural learning and sports training, corrects wrong learning concepts and educational concepts, and proposes a reasonable allocation of learning and training time combined with the barrel theory. It is suggested that the research results of this paper can be used for reference by other sports schools when they decide on the improvement plan of the cultural quality of student athletes.

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