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Application of Computer Aided Teaching Software in Football Tactics

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Abstract: With the development of science and technology, teaching methods are constantly innovating. In the field of football teaching, the multimedia football teaching model has become the new mainstream of football teaching. How to make the teaching effect of football tactics better is a problem to be solved at present. Based on the analysis of the shortcomings of computer-assisted teaching and traditional football teaching methods, this paper selects students from the football class of a college physical education college as the research object through a questionnaire survey and experimental methods, and conducts football tactics teaching in different ways, and concludes that the computer auxiliary teaching software used in football teaching can mobilize students' learning enthusiasm and improve their learning efficiency.

1. Introduction

The 21st century is the era of knowledge, economy, and high-tech products. Since the 1980s, with changes in lifestyles, people have had to rethink more convenient and effective solutions for life, study, and work to cope with the high pace and high pressure that followed [1-2]. During this period, with the advancement of science and technology, many electronic digital products have made great progress. Among them are electronic game consoles and electronic game software that were specially created for people's entertainment. On the whole, sports are the theme. The computer- assisted teaching software developed has a relatively fast development [3-4].

In football teaching in colleges and universities, this part of tactics teaching is usually taken over or even ignored. Students cannot learn proper football skills and tactics, nor can they cultivate tactical awareness [5-6]. In the traditional football teaching process, there are many problems. It is difficult for the football teachers to explain the tactics verbally in the classroom to make the students understand clearly, ignoring the creativity and subjectivity of the students' learning; in the practical game, the football teachers do not pay enough attention to the cultivation of students' tactical awareness and are in the process of training. It takes a long time and the effect is not outstanding. E-sport is a sport in which people use high-tech equipment to engage in intellectual confrontation. This sport can cultivate some abilities such as thinking, reaction, coordination, and

will, as well as the spirit of teamwork[7- 8].

This article uses a questionnaire survey and experimental methods to select physical education students from a certain university as research objects. The experimental group learns in software-assisted teaching mode, and the control group learns in traditional teaching. After a semester of study, two analysis of the test results of the group of students showed that the application of computer-assisted teaching software to football teaching can mobilize students' enthusiasm for learning, provide a new teaching method for football tactics teaching in colleges and universities, and reduce the teaching pressure of teachers under multimedia-assisted teaching, improve student learning efficiency.

2. Research on the Application of Computer Aided Teaching Software in Football Tactics

2.1 The Characteristics of Computer-assisted Teaching

(1) Situation, inducing interest

Using the ability of teaching software, with the help of computers, graphics, and text, and powerful virtual scenes, creating images, interactions, dynamic and static, suitable for classroom teaching scenes, can stimulate the eyes, ears, hands, brain and other senses of students to receive stimulation at the same time. To stimulate and maintain interest in learning, and enhance the initiative to participate in teaching [9-10].

(2) Turn deep into shallow and overcome the difficulties

Computer-aided simulation and demonstration technology makes the teaching content lively and interesting. It explains abstract theories and problems that are difficult to solve with language and teaching aids. It is intuitive and fascinating. In addition, the unique speed and convenience of multimedia and its superiority in time and space can reduce the distance of space and reduce the process of time [11-12].

(3) Increase capacity and improve efficiency

In the traditional teaching method, teachers must use chalk to teach on the blackboard, which is time-consuming and laborious. Through multimedia teaching, you only need to scan the information on the computer to make appropriate edits and customizations. In the classroom, audio, video, graphics, and text can be easily presented according to the teaching program, clearly and standardized, which saves the time of writing on the blackboard in the classroom, avoids distracting students, and improves the ability to convey information in the classroom.

2.2 Insufficiency of Traditional Football Teaching Methods

(1) Individual skill training

1) From the perspective of the nature of sports competition, athletes and sports teams compete in the same field of competition, and football is no exception. In addition to basic ball control skills, football players must also have special skills. It can be seen that the process and essence of football teaching is nothing more than solving the two aspects of technology and skills, and in the comparison of these two aspects, it is obvious that technology is easy to learn and easy to teach while skills are difficult to learn and difficult to teach.

2) From the perspective of technical training, teachers only need to correctly demonstrate in the teaching process, require students to practice a lot, and as best as possible to enable students to complete several links such as observation, imitation, feedback, correction, etc., that can be guaranteed students learn the correct technical movements, and then achieve the purpose of solidification and proficiency. However, judging from the inherent confrontational characteristics of football, special skills determine the level of football players and the strength of a team. In other

words, in teaching, not only do students learn to use their skills proficiently in the game, but also the timing and route of passing and running positions, completing the overall tactical deployment of the team, and having a deeper understanding of football. Sports connotation but these things that have been called "consciousness" in the past are often considered to rely more on the competitor's understanding because of the inability to find a suitable training method. In fact, although students have differences in innate intelligence, acquired training can still improve students. The key to the problem lies in finding more suitable and effective teaching methods.

(2) Cultivation of tactical awareness

Because football is a team competition event, when the individual skills of the two players are not very different, the tactical understanding and implementation capabilities included in the skill category have become one of the key links in determining the level of the two sides and the outcome of the confrontation. Although many teachers can personally run back and forth in the sports field to make demonstrations, and even use auxiliary equipment to mark the field, or use auxiliary tools such as rubber bands to make learners feel the position relationship between themselves and their teammates, but after analyzing the practical effect, it is found that this kind of method has not achieved the expected purpose. The reason is that although different teachers' understanding of the essence of football is not much different.

3. Experiment

3.1 Questionnaire Survey Method

According to the research needs of this article, from the basic situation and common problems of football tactics teaching in colleges and universities, the feasibility of computer-aided teaching software in college teaching, the prospects for the application of computer-aided teaching software and football tactics teaching and the satisfaction of students. The questionnaire was designed and distributed to students in the physical education class of a university in 2019. A total of 300 questionnaires were issued, and 287 valid questionnaires were returned, with an effective rate of 95.7%.

Reliability test of the questionnaire: The correlation in the correlation analysis method mainly refers to the existence of a relationship between objective phenomena, but the dependent relationship is not strictly corresponding in quantity. There are two forms of correlation determination here: qualitative and quantitative analysis. Qualitative analysis is mainly based on the theoretical knowledge and practical experience of the researcher to determine whether there is a correlation between objective phenomena and what kind of relationship. This analysis method is subjective relatively strong. Among them, the commonly used calculation formula is:

$$r = \frac{S^2 xy}{S_x S_y} = \frac{\sum (x-x)(y-y)/n}{\sqrt{\sum (x-\bar{x})^2 / n} \cdot \sqrt{(y-\bar{y})^2 / n}} \tag{1}$$

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{n\sum x^2 - (\sum x)^2}\sqrt{n\sum y^2 - (\sum y)^2}} \tag{2}$$

3.2 Experimental Method

This article uses football tactics as the experimental project. To make this experiment have a certain accuracy and objectivity, two major football classes of a college physical education major are selected. One class is the control group, the other is the experimental group, and the control group mainly teaches traditional football tactics to students, with practical training courses as the

main teaching. The experimental group uses computer teaching software to introduce into the classroom as an auxiliary teaching method, takes pictures and videos to make teaching materials to teach students three important moments of tactics. The assessment content consists of three parts: theory, of tactics, tactical situation recognition, and practical operation. The theory test is conducted in the form of test papers. The tactical situation recognition is to enable students to identify tactics by playing videos. In the teaching competition, the students' tactical ability is scored and the teacher scores the main points and processes explained in a tactical training class personally guided by the students. Statistics and comparative analysis of the performance of the two groups of students before and after the implementation of tactics and the performance of the guidance process. To provide real experimental data for the application of computer-assisted teaching software in college football courses, to verify the application value of computer-assisted teaching software in teaching.

4. Discussion

4.1 Experimental Results

This article uses students from a college's physical education school as the teaching object. The students in the two classes are divided into an experimental group and a control group. The students in the control group learned about football tactics using traditional teaching methods. The students in the experimental group used computer-assisted teaching software. Integrate into the football classroom to learn football tactics, and the overall level of the two groups of students taught is relatively close, and the experimental effects of teaching are also comparable. Before the teaching experiment, this article surveyed students' views on the integration of computer-assisted teaching software into football tactical teaching. The results are shown in Table 1:

Table 1: Students' views on the integration of computer-assisted teaching software into football tactics teaching (n=287)

Questions	Number	Percentage
Support this new teaching method	264	92%
Increase interest in learning	230	80%
Improve the efficiency of learning	215	75%
Strengthen learning and memory	238	83%
More advantages than traditional teaching	270	94%
Improve tactical knowledge	244	85%
Improve tactical awareness	232	81%
Improve technical ability	57	20%
Easy to find a variety of tactics	83	29%
Reduce the teaching burden of teachers	241	84%

It can be seen from Figure 1 that most students agree with this new teaching model, and 94% of students believe that integrating computer-assisted teaching software into football tactics teaching has more advantages than the original traditional teaching method. According to the survey of students, 80% of the students who integrate computer-assisted teaching software into football tactical teaching think that they can increase their interest in learning, so that they can learn not boring, not boring and effective. More than 80% of the students think it can improve their tactical knowledge and awareness, only 20% of the students think it can improve their technical skills, and 29% of the students think it is easy to find a variety of tactics. From these surveys, we can learn that, when computer-assisted teaching software is integrated into football tactics teaching, most students think that the knowledge and awareness of learning tactics can be improved, which also shows the

high efficiency of this new teaching method. Even 84% of students believe that this teaching method can reduce the teaching burden of teachers, so our football tactics teaching classroom needs to be gradually improved. Combined with the current teaching classroom, it is more scientific and three-dimensional. At the same time, college students need such a scientific and three-dimensional education, and computer-assisted teaching software is integrated into football teaching tactics. This teaching method does not require much financial investment and technical support is more advantageous in comparison with traditional teaching.

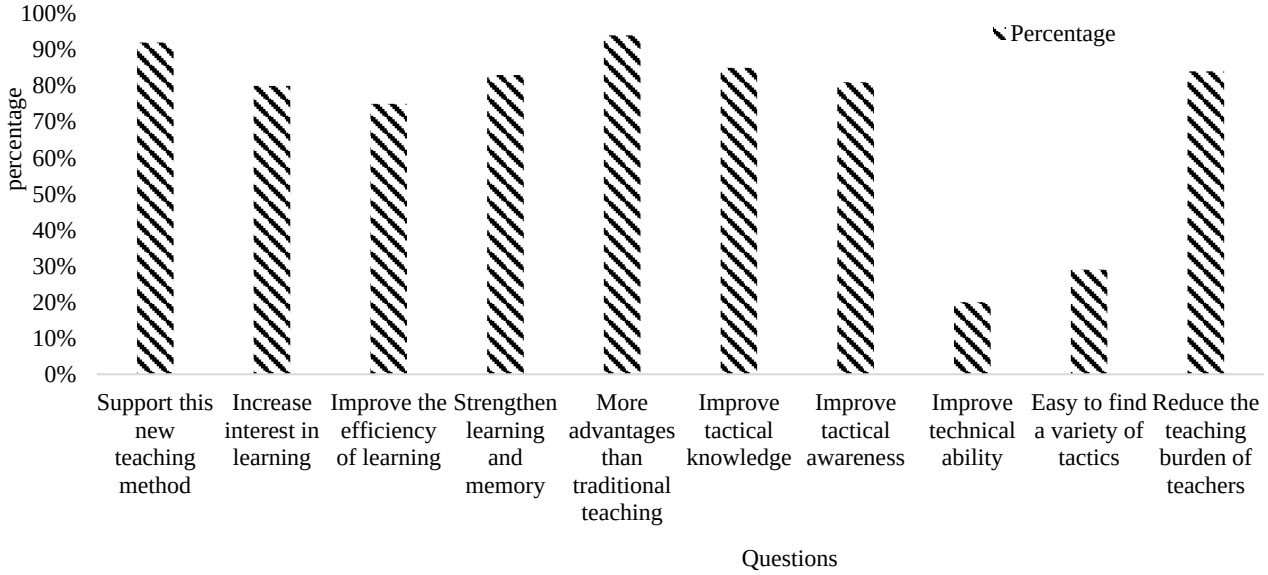

Figure 1: Students' views on the integration of computer-assisted teaching software into football tactics teaching (n=287)

After a one-semester teaching experiment, this article issued a satisfaction survey questionnaire to the students in the experimental group and the control group. The acceptance level of the two different teaching modes was investigated as shown in Figure 2:

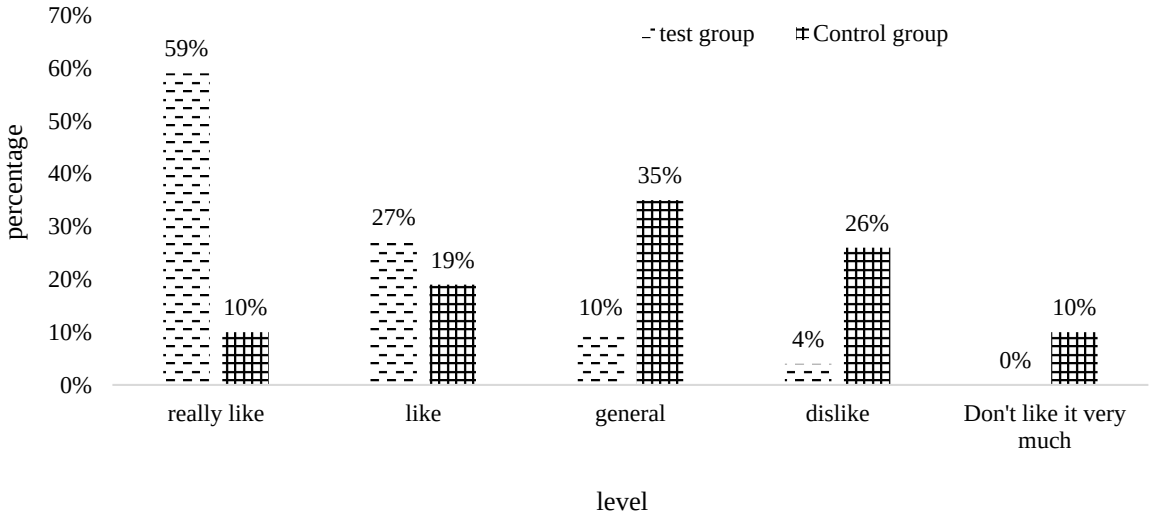

Figure 2: Analysis of the acceptance of the two groups of students after the experiment

It can be seen from Figure 2 that among the two groups of students' acceptance of different teaching modes, the experimental group's students, particularly like the integration of computer-assisted teaching software into football tactics teaching accounted for 59%, like students

accounted for 27%, generally like students accounted for 10%, students who dislike 4%, there are no students who dislike very much, and nearly 86% of students are above the level of liking, indicating that most students accept this new teaching method, while only 29% of the students in the control group like the traditional football teaching tactics. Other students generally dislike the traditional teaching method.

4.2 Suggestions

(1) Before computer-assisted teaching software teaches students, teachers should intercept and produce correct and reasonable teaching materials from multiple angles according to the tactics taught. In the process of playing the video to the students, the teacher can pause at the key timing of the tactics when the video is played, and ask the students questions, such as: the subsequent evolution of the tactics, the running route of a certain player, etc. After the video is played, analyze the entire tactics for students. If students do not understand, they can play and tell repeatedly.

(2) While implementing the use of computer-assisted teaching software to teach students tactics, teachers should arrange extracurricular homework for students so that students can use their spare time to strengthen their proficiency in software operations, deepen students' understanding of tactics and strengthen their awareness of tactics memory in the brain.

(3) For the vigorous development of football in our country, this article hopes to introduce computer-assisted teaching software into football tactics teaching in colleges and universities, and hopes that football educators should consider the school's own conditions and ensure the quality of teaching, actively play to the teaching advantages of modern multimedia, and introduce e-sports into teaching to seamlessly connect with the original teaching mode.

5. Conclusions

Through the analysis and application of computer-aided teaching software to college football classroom tactics teaching mode, the application gradually changes the traditional teaching mode of college football classes, to enrich students' theoretical knowledge of tactics, cultivating students' tactical awareness, improving their ability to use tactics in actual games, and improving the efficiency of teaching quality, to provide a reference for realizing the application of computer-assisted teaching software to tactical teaching in college football lessons.

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