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Computer Aided Teaching System for Football Teaching and Training Based on Video Image

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Abstract: With the improvement of instructive changes, PC media innovation has been increasingly more broadly utilized in current training and readiness. The development of new media first depends on our cognition and grasp of the Internet. New media innovation is a new media innovation concept formed on this basis: Internet thinking and "Internet +". In addition, teachers generally feel the adaptability and proficiency that modern multimedia technology brings to education. Multimedia technology can allow students to obtain more knowledge and information in a shorter period of time, ensuring that students can learn complex learning in a simple and easy-to-understand mode. This paper focuses on the application of AI (artificial intelligence) in football teaching and puts forward the related ideas of AI, neural network and computer-aided teaching. This paper embraces the exploration techniques like writing information strategy and numerical measurement strategy, and behaviors as an overview and examination by giving surveys to educators and understudies partaking in open actual instruction classes in a specific college. The experimental results show that 23.3% of the total students think that CAI has a promoting effect on the mastery of knowledge and skills, while only 12.8% of the total students think that it has no promoting effect. Therefore, CAI teaching can undoubtedly promote physical education teaching and improve students' learning efficiency.

1. Introduction

With the application and popularization of science and technology in the field of education, teaching assistance systems based on AI are increasingly popular. The smart teaching assistant system has the function of taking pictures and uploading, which is convenient for students to quickly upload photos or videos, such as experimental reports, creative design drawings, mind maps, homework completion, troubleshooting, and activity process records, to the teaching interactive platform in the form of photos or video. In physical education, CAI makes up for the limitations of

textbook illustration and text description, as well as teachers' explanations and demonstrations, overcomes the defects of traditional teaching aids, and simplifies complex movements and concretizes indecomposable movements. With the rapid development of computer technology, digital image processing technology has the characteristics of rapid update, wide application fields, and cross-field fusion.

The growth process of an excellent football player is a long process, which generally takes 10 to 14 years, and the training of tactics runs through the entire training process. Tactical ability is an important part in the composition of football players' competitive ability, and tactical training is one of the important contents of sports training. Individual tactics are the basic elements that form part of the whole team's offensive and defensive tactics, and passing is the main content in the composition of individual football tactics, and is an important basic tactical means in football matches. The purpose of this paper is to analyze and discuss the computer-aided teaching system of football teaching and training based on video images, to make certain contributions to the auxiliary teaching.

The innovations of this paper are: (1) The application of AI to the computer-aided teaching system of football teaching and training has certain innovation and practicability; (2) This article aims to promote the vigorous development of campus football, uses the theory of system science to regard campus football training and competition as a complete system, and uses system-based hardware and software to construct a scientific and sustainable campus football competition training system; (3) This paper constructs a relatively comprehensive and scientific sample of the football sustainable development index system, and provides a reference value for talent selection and an innovative model for educating people for the development of campus football. (4) The experiment of the computer-aided teaching system of football teaching and training based on artificial intelligence has been carried out, which has made sufficient preparations for the exploration of the auxiliary teaching system.

2. Related Work

With the gradual rise of sports, increasingly scholars have gradually carried out research on football teaching and training. Zhao L took the intellectual education project to drive children's sports development as the main research object, selecting sports events represented by children's football as a case study [1]. Wu C analyzed the development of college football from two aspects of sports, values and multimedia teaching [2]. Aleksandrovi M provides continuous, detailed verbal descriptions of actions to interpret incomplete visual information and relate it to continuous tactile information [3]. The main objective of the Duda H study was to determine the effectiveness of using a program-based teaching approach to provide information on the athletic activity of football players [4]. However, the shortcomings of these studies are that the detection accuracy and efficiency are not high.

With the advancement of economy and innovation, the utilization of computerized reasoning is turning out to be increasingly significant, and numerous researchers have done explore on it. Rongpeng further introduces the basic concepts of AI and demonstrates the effectiveness of AI in managing and coordinating cellular network resources [5]. Hassabis D studied the interaction between artificial intelligence and neuroscience [6]. Liu R introduced the fault diagnosis method of rotating machinery based on artificial intelligence and summarized a large number of research results in the industrial field [7]. Thrall J H proposed a new and promising method for image data analysis [8]. However, there are still some problems in the current research, namely: the quality of the data is uncertain, and the calculation and analysis of a large amount of data are very complicated, so further improvement is needed in the research. To improve this situation, this paper analyzes and

discusses the computer-aided teaching system of football teaching and training based on video images.

3. Artificial Intelligence Video Image Algorithm

Digital image processing is a professional elective course for many majors such as communication engineering, computer, and medical imaging technology. Digital image processing is high-tech in the field of information science. It is the basic method, technology, and means of denoising, enhancement, restoration, segmentation, compression, and other processing of images, as well as the representation, internal relationship, and essential laws of image information. research techniques. Therefore, in the process of digital image processing, it should be highly integrated with the background of artificial intelligence, integrate cutting-edge theoretical technologies, and combine with computer vision real application scenarios to cultivate innovative practical talents.

3.1. Artificial Intelligence

(1) Overview of AI

Artificial Intelligence (Artificial Intelligence) English abbreviation is AI. Computer-based AI is another specialized science that aims to study and cultivate speculative, technological, progressive, and applied frameworks that mimic, broaden, and extend human knowledge [9]. A major direction of artificial intelligence is computer vision, including familiar image recognition, video recognition, face recognition, and so on. One might argue that these advances come from human insight, but superior to human knowledge, which is also the target and best area for AI improvement (as shown in Figure 1).

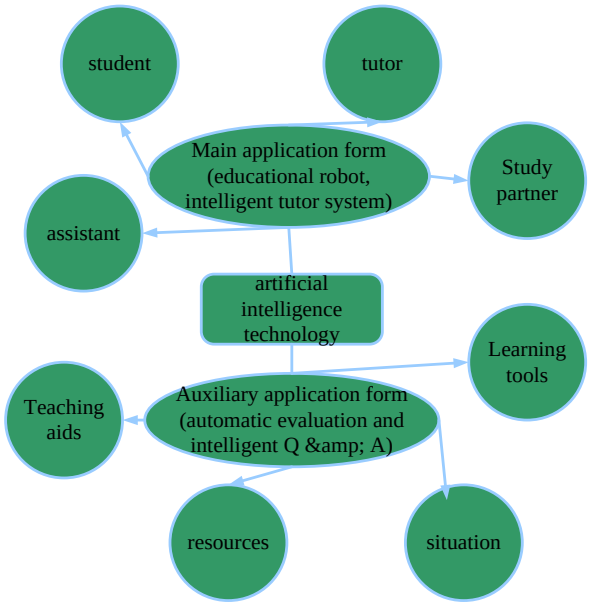


Figure 1. Application form of AI in teaching system

(2) Characteristics of AI

As a computer technology that simulates human intelligence, AI has the following characteristics: 1) AI has perception ability; 2) AI has thinking ability; 3) AI has learning ability; 4) AI has behavior ability [10].

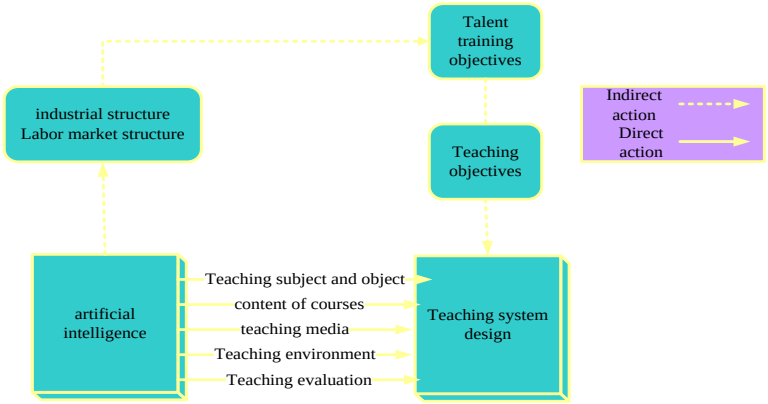


Figure 2. The impact of AI on teaching system design

This article centers around three man-made consciousness innovations: normal language, getting it, AI, and canny pursuit. The effect of man-made brain power on showing the framework configuration is displayed in Figure 2 [11].

(3) The technical principle of AI algorithm

According to the data processing flow of the algorithm, the algorithm can be classified as follows (as shown in Table 1) [12-13].

Table 1. Classification of algorithms

Algorithm classification	Algorithm name	Feature description
1	"White box" algorithm	The algorithm is completely deterministic because of the predetermined instruction set
2	"Grey box" algorithm	The algorithm is uncertain, but easy to predict and explain
3	"Black box" algorithm	The algorithm is sudden, which is difficult or impossible to predict and explain its characteristics
4	"Perceptual" algorithm	The algorithm can pass the Turing test and has reached or exceeded human IQ
5	"Singular" algorithm	The algorithm can achieve self-recursive perfection and has strange functions

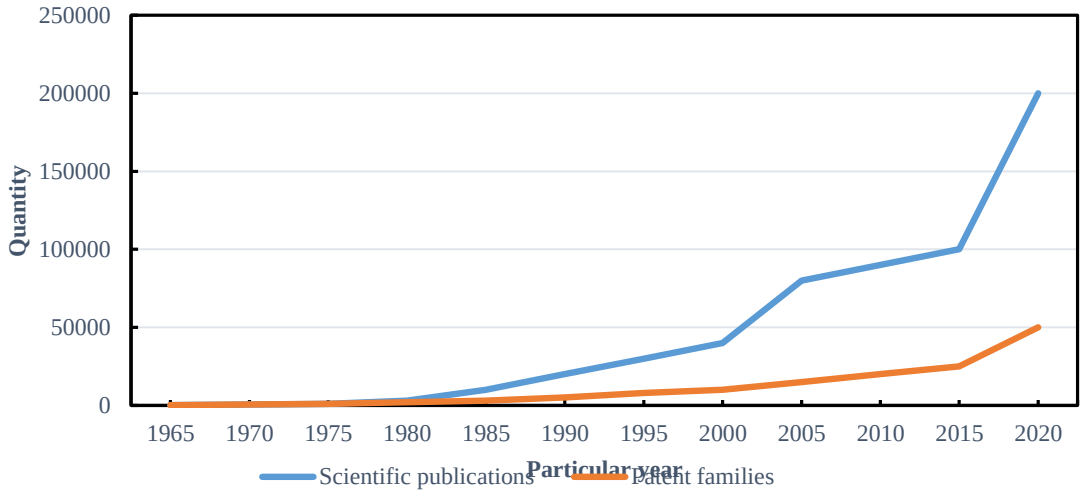


Figure 3. Annual trends of global AI patent applications

As of late, with the presentation of man-made reasoning calculations, particularly AI and profound learning, the improvement of figuring force of PC gear, and the large measure of information amassed by the episode of the Internet business, man-made brainpower innovation has grown quickly. Furthermore, because of the constraints of copyright and proprietary advantages in safeguarding mechanical development, patent applications in the field of man-made brainpower have shown hazardous development. Figure 3 shows the annual trend of global AI patent applications.

3.2. Machine Learning

Different classification methods exist for machine learning, as shown in Table 2 [14]. There are four types of machine learning algorithms: supervised, semi-supervised, unsupervised, and reinforcement.

Table 2. Classification of machine learning

Classification method	Name	Definition	Typical application
Learning model	Supervised learning	Using the marked limited training data set, the model is established through some learning strategies / methods to mark / map the new data	Natural language processing, information retrieval, handwriting recognition
	Unsupervised learning	Using unmarked finite data to describe the structure / law hidden in unmarked data	Data mining, image processing, etc
	Reinforcement learning	The learning of intelligent system from environment to behavior mapping depends on its own experience	Driverless, go, etc
Learning method	Traditional machine learning	Based on several training examples, this paper attempts to theoretically analyze the laws that cannot be found, to predict future data performance and development trends.	Natural language processing, speech recognition, etc
	Deep learning	Learning method of establishing deep structure model	Computer vision, image recognition
Other common algorithms	Transfer learning	It refers to learning by using the relationship obtained from the data of another domain when enough data cannot be obtained in some fields for model training	Location based on sensor network
	Active learning	The most useful unlabeled samples are queried through a certain algorithm and handed over to experts for marking, and then the queried samples are used to train the classification model to improve the accuracy of the model	

The basic structure of its learning system is shown in Figure 4 [15].

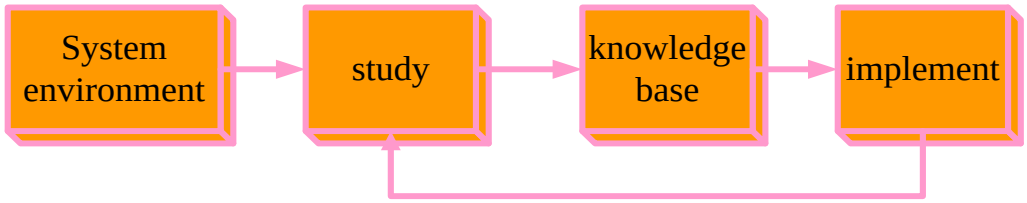


Figure 4. Basic structure diagram of the learning system

(1) The suitability of machine learning and teaching

Artificial intelligence is about getting machines computationally to derive rules from large amounts of information, naturally distinguish between examples, and use them to make predictions. In a showcase atmosphere, AI can judiciously mine and examine countless helpful information to discover new patterns and predict student performance and grades to facilitate and improve learning. It can be said that in the process of data learning, the more data it processes, the more accurate the prediction will be [16].

In teaching applications, the commonly used prediction methods are classification and regression, which are generally used to predict student learning performance and detect learning behavior. In teaching, students are often grouped based on teaching data.

(2) Potential and progress of machine learning teaching application

As a significant part of man-made brain power, AI can address the issues of showing information investigation and forecast, and its application in educating has extraordinary potential. As far as the instructor instructing, it will really help shrewd training and advance showing development from the part of the understudy demonstrating, forecast of learning, conduct, early admonition of dropout chances, arrangement of learning administration and asset proposal.

By analyzing student performance and learning behavior through AI, we can predict learning performance, observe new learning rules, and evaluate students' learning performance, and group them according to their different characteristics to help students recommend learning tasks, adaptive courses or activities, and improve the learning efficiency of learners [17].

(3) The concept of artificial neural network

The purpose of building an ANN model is to combine the neural network with the raw data features to evaluate and measure the energy consumption per minute. An ANN model is an information processing model inspired by the densely interconnected way in which it is similar to how mammalian brains process information. The model is continuously refined through a series of weights in the learning process, similar to synapses, which connect some processing elements, which are similar to neurons. Generally, ANNs appear in pairs of inputs and outputs, and the weights are constantly adjusted until the optimal target appears. The optimal target in this study is to obtain the predicted value of energy consumption per minute [18]. ANN can be a candidate model in the mode of processing a large number of input units into a small number of output units, or when there is no ideal solution. When building an ANN model, we need to first specify the input data (acceleration or subject-subject features), specify the number of weights, the model architecture, the number and type of output parameters (energy consumption, single continuous signal). A single neuron needs to accept multiple input units, which may be the characteristic value of the acceleration signal or the characteristic parameter of the subject's body. The importance of each input parameter is represented by a weight. A single neuron does not have the ability to solve difficult problems because it cannot handle all required nonlinear factors or interaction terms, so many neurons are arranged into several computational layers, which are connected by transfer functions [19].

Using the moving object detection method to identify and track the moving object, it is necessary

to use the video image processing method to improve the quality of the video image. This chapter will introduce the basic knowledge of video image processing related to moving object detection algorithm and moving shadow detection algorithm, mainly including image filtering method, color space model, grayscale of color image, grayscale image binarization and morphological operations.

Image filtering method during the process of video images from being captured by the camera to being transmitted to the background, noise interference will be introduced due to the influence of the environment and equipment. Image filtering, that is, suppressing the noise of the target image under the condition of preserving the details of the image as much as possible, is an indispensable operation in image preprocessing. The quality of its processing effect will directly affect the effectiveness and reliability of subsequent image processing and analysis. Video image noise mainly includes Gaussian noise generated by resistive components in the device and salt and pepper noise generated in the image cutting process. The existence of image noise often causes errors in the process of moving object detection and moving shadow detection. Therefore, the video image is usually filtered and preprocessed before processing to filter out image noise to improve the detection accuracy.

(4) Derivation of the basic BP algorithm formula

1) The forward propagation process of the input signal

The input net_u of the uth node in the hidden layer of the network is:

$$net_u = \sum_{v=1}^{M} S_{uv} A_v + \delta_v \tag{1}$$

The output B_u of the uth node in the hidden layer of the network is:

$$B_u = \gamma\left(\sum_{v=1}^{M} S_{uv} A_v + \delta_u \right) \tag{2}$$

The input net_k of the kth node of the network output layer is:

$$net_k = \sum_{u=1}^{q} S_{ku} \gamma\left(\sum_{v=1}^{M} S_{uv} A_v + \delta_u \right) + c_k \tag{3}$$

The output W_k of the kth node of the network output layer is:

$$W_k = \varepsilon(net_k) = \varepsilon\left(\sum_{u=1}^{q} S_{ku} \gamma\left(\sum_{v=1}^{M} S_{uv} A_v + \delta_u \right) + c_k \right) \tag{4}$$

2) The back-propagation process of the output error

The criterion function for the quadratic error for each sample p is G_p:

$$G = \frac{1}{2} \sum_{k=1}^{Z} (D_k - S_k) \tag{5}$$

The criterion function of the total error of the system for P training samples is:

$$G = \frac{1}{2} \sum_{p=1}^{p} \sum_{k=1}^{Z} \left(D_k^p - S_k^p \right)^2 \tag{6}$$

$$\Delta H_{ku} = -\eta \frac{\partial E}{\partial H_{ku}}; \Delta c_k = -\eta \frac{\partial E}{\partial a_k}; \Delta H_{uv} = -\eta \frac{\partial E}{\partial H_{uv}}; \Delta \delta_u = -\eta \frac{\partial E}{\partial \delta_u} \tag{7}$$

The adjustment formula for the weights of the network output layer is:

$$\Delta H_{ku} = -\eta \frac{\partial E}{\partial S_k} \frac{\partial S_k}{\partial net_k} \frac{\partial net_k}{\partial H_{ku}} \tag{8}$$

The adjustment formula for the threshold value of the network output layer is:

$$\Delta c_k = -\eta \frac{\partial E}{\partial S_k} \frac{\partial S_k}{\partial net_k} \frac{\partial net_k}{\partial c_{ku}} \tag{9}$$

The adjustment formula for the weights of the hidden layer of the network is:

$$\Delta H_{uv} = -\eta \frac{\partial E}{\partial B_u} \frac{\partial B_u}{\partial net_u} \frac{\partial net_u}{\partial H_{uv}} \tag{10}$$

The adjustment formula for the threshold of the hidden layer of the network is:

$$\Delta \delta_u = -\eta \frac{\partial E}{\partial B_u} \frac{\partial B_u}{\partial net_u} \frac{\partial net_u}{\partial \delta_u} \tag{11}$$

And:

$$\frac{\partial G}{\partial W_k} = -\sum_{p=1}^{p} \sum_{k=1}^{z} \left(D_k^p - S_k^p \right) \tag{12}$$

$$\frac{\partial net_k}{\partial H_{ku}} = B_u, \frac{\partial net_k}{\partial c_k} = 1, \frac{\partial net_u}{\partial H_{uv}} = A_v, \frac{\partial net_u}{\partial \delta_u} = 1 \tag{13}$$

$$\frac{\partial G}{\partial B_u} = -\sum_{p=1}^{p} \sum_{k=1}^{z} \left(D_k^p - S_k^p \right) \bullet \varepsilon' \left(net_k \right) \bullet H_{ku} \tag{14}$$

$$\frac{\partial B_u}{\partial net_u} = \gamma' \left(net_u \right) \tag{15}$$

Finally, the following formula can be obtained:

$$\Delta H_{ku} = \eta \sum_{p=1}^{p} \sum_{k=1}^{z} \left(D_k^p - S_k^p \right) \bullet \varepsilon' \left(net_k \right) \bullet B_u \tag{16}$$

$$\Delta c_k = \eta \sum_{p=1}^{p} \sum_{k=1}^{z} \left(D_k^p - S_k^p \right) \bullet \varepsilon' \left(net_k \right) \tag{17}$$

$$\Delta H_{uv} = \eta \sum_{p=1}^{p} \sum_{k=1}^{z} \left(D_k^p - S_k^p \right) \bullet \varepsilon' \left(net_k \right) \bullet H_{ku} \bullet \chi' \left(net_i \right) \bullet A_v \tag{18}$$

$$\Delta\delta_u = \eta \sum_{p=1}^{p} \sum_{k=1}^{z} \left(D_k^p - S_k^p\right) \bullet \varepsilon'\left(net_k\right) \bullet H_{ku} \bullet \chi'\left(net_i\right) \tag{19}$$

The flow chart of the BP algorithm is shown in Figure 5.

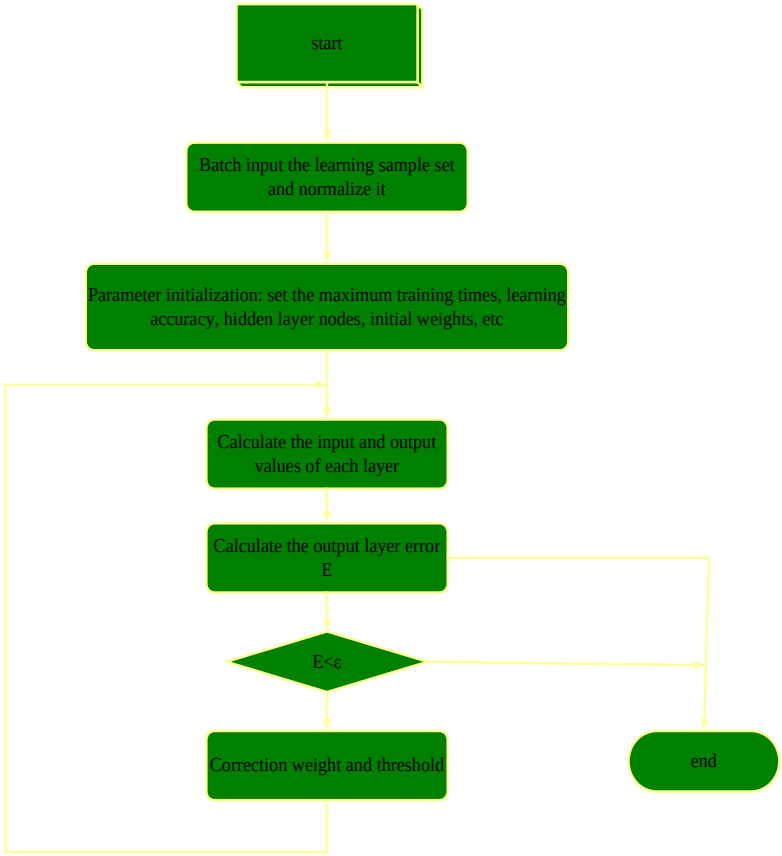


Figure 5. BP algorithm flow chart

3.3. Natural Language Understanding

Normal language understanding is the investigation of how to empower PCs to comprehend and produce human language with the end goal of regular human-PC connection. The course of regular language understanding is displayed in Figure 6 [20].

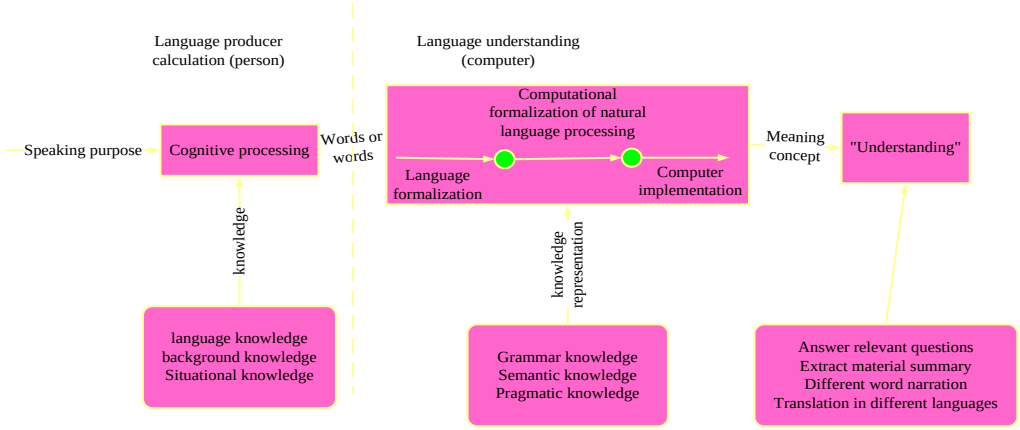


Figure 6. Basic model diagram for natural language understanding

Normal language understanding will carry better approaches for figuring out how to students in regions, for example, machine interpretation, machine understanding, and question addressing frameworks.

3.4. Pattern Recognition

Design acknowledgment is to cause a PC to perceive something given and property to the equivalent or comparable example, with the goal that the PC mimics the capacity of a human example acknowledgment, like vision, hearing, contact and other keen discernment abilities. The pattern recognition system is shown in Figure 7.

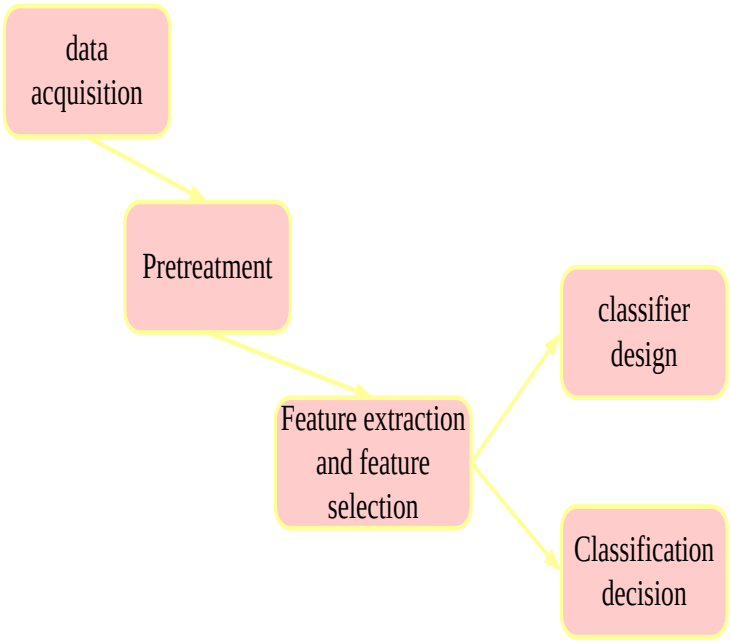


Figure 7. Pattern recognition process diagram

The use of an example acknowledgment in educating basically incorporates: In the down -to-earth instructional course, the perceived understudy activity example can measure up to the standard activity example to direct the understudies to work; it can astutely distinguish the learning status of students, and give learning help and motivators promptly; students use voice to look for learning assets, and so forth.

3.5. Football Teaching and Computer-Aided Teaching

(1) Campus football concept

Campus football is an integral part of physical education in various schools, and it is also a content of physical education. The basic connotation of campus football includes culture, sports, education, quality education, games, and competitions, and its ten functions include brand function, talent training, fitness function, education function, cardiac function, economic function, campus competition, popularization of football, quality education, and campus culture.

(2) Reform of teaching subjects and objects

The development of teaching subject has experienced only subject of teachers, the only subject of students, dual subject theory, dominant subject theory, three-body theory, subject-object transformation theory, compound subject-object theory, etc., as shown in Table 3. Figure 8 shows the functional requirements of the football tactical rehearsal system.

Table 3. Teaching topic categories

Type	Content
The only subject of teachers	Teachers are the subject, while students and teaching contents are the object.
The only subject of students	Understudies are the fundamental body in the educating system.
Two body theory	The two instructors and understudies are the fundamental body in the educating system.
Dominant subject theory	Educators are the main and understudies are the fundamental body.
Three body theory	It is emphasized that teachers and students should not only be considered in the teaching process, but also other factors should be paid attention to. The three-body theory focuses on the interaction of teachers, students, and environment.
Subject object transformation theory	There is a relationship between subject and object in teaching. This relationship is not invariable, but can be transformed with each other.
Compound subject object theory	The subject and object in teaching are intertwined and complex.

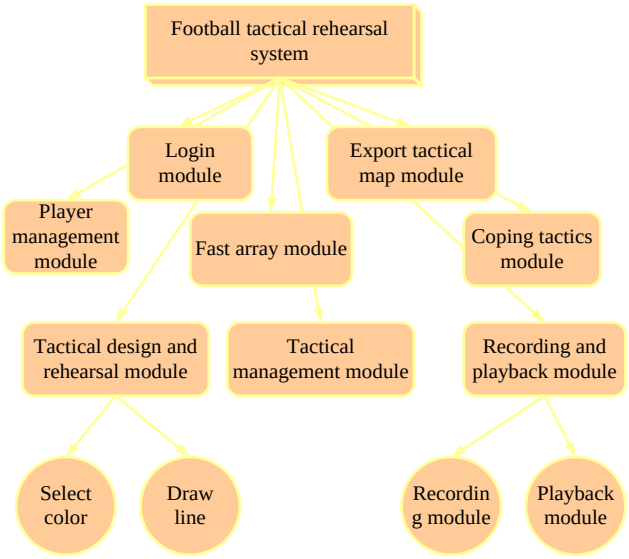


Figure 8. Functional requirements of football tactical rehearsal system

(3) CAI concept

CAI (Computer Aided Instruction) is a variety of demonstration exercises done with the help of a computer. It discusses presentation content, organizes presentation systems, and communicates with substitute students to complete instruction and preparation skills and progress. CAI provides students with a good personalized learning environment.

The use of computers aids in the teaching of instructors, the learning of substitute students, and in solving problems for presentation executives and instructed exams. Another instructive innovation is called computer-assisted education. Since learning and research are indistinguishable, CAI is another strategy to demonstrate computer-assisted instruction from a broad perspective. It makes use of the characteristics of computer - fast, advanced processing power, vivid media expression ability, superior human-computer communication ability, and certain AI.

4. Experiment of Computer-Aided Teaching System for Football Teaching and Training Based on Artificial Intelligence

4.1. Survey Objects

Taking the recognition degree and application effect of CAI in university public physical education as the research object, 55 teachers and 102 students who participated in public physical education in a university were investigated (as shown in Table 4).

Table 4. Questionnaire distribution and recovery form

Survey object	Distribution (copy)	Recycling (copies)	Valid questionnaires (copies)	Effective recovery rate (copies)
Teacher	55	55	50	90.91%
Student	102	102	98	96.1%
Total	157	157	148	94.27%

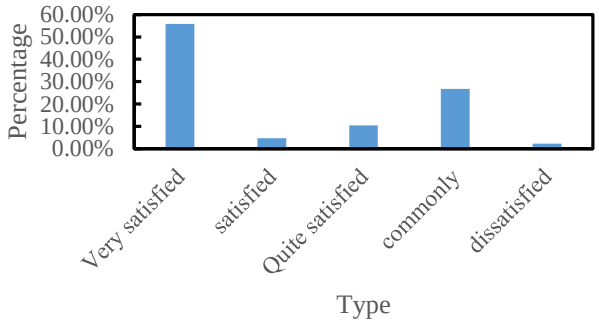
4.2. Recognition and Application Effect of CAI in a Public Physical Education Course in a University

Figure 9(a) shows that 70.9% of the students in the questionnaire hold a positive attitude towards the CAI form, of which 55.8% are very satisfied, 4.7% are satisfied, and 10.5% are somewhat satisfied; 26.7% hold a general attitude, and 2.3% held a dissatisfied attitude. Understudies who are disappointed with the type of CAI believe that the educating courseware is single, the substance of the courseware is the same as the book, and the educator plays the courseware quicker in study hall instructing, which is not helpful for memory.

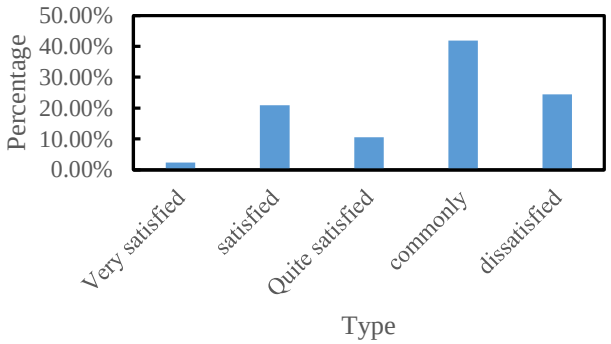
Most of the students recognized that teachers can break through the traditional teaching mode and boldly use CAI. They want to be exposed to more CAI content. Therefore, the teaching mode of public physical education should move out of the traditional teaching mode and try to use CAI in physical education to meet the needs of the majority of students.

It can be seen from Figure 9(b) that only 2.3% of the students in the questionnaire were very satisfied with the CAI content, 20.9% were satisfied, 10.5% were somewhat satisfied, 41.9% held a general attitude, and 24.4 held a dissatisfied attitude. The reason students are satisfied with the content of CAI is that they think that the information capacity of CAI courseware is large and the knowledge density is high. The whole process animation demonstration with a clear view replaces the relatively rough blackboard writing and hand action diagram, so that teachers have more time to communicate with students, and the content that has been said can be demonstrated repeatedly, furthermore, making it more straightforward for understudies to acknowledge the learning content. What is more, understudies who are disappointed with the CAI content and have an overall disposition believe that the courseware is the least complex show, and the courseware is improved on educating material: the substance of CAI is single, principally utilizing word, PPt, playing showing rivalry recordings, and so on; and PPt has less pictures, more text, less animation, more blank space, less video, and more lectures. In the current stage of CAI teaching, teachers' courseware mainly comes from textbook content and network data downloads, but there is no selective editing and integration of the downloaded courseware, and there is no prominent point. Some teachers use the same courseware for a long time, and students cannot get timely updated teaching resources. Many students reported that "the courseware is old-fashioned", "not new", "teachers need to pay attention to network information in time", etc. The reason for this is the lack

of teaching materials for public physical education. It can be seen that students' recognition of CAI is mainly for the acceptance of the form, but not for the content.



(a) The student's satisfaction with the teacher's use of the CAI form

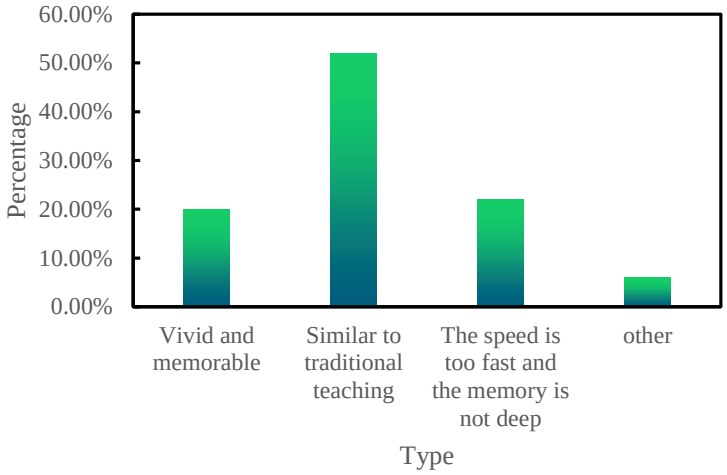


(b) Students' satisfaction with teachers' use of CAI content

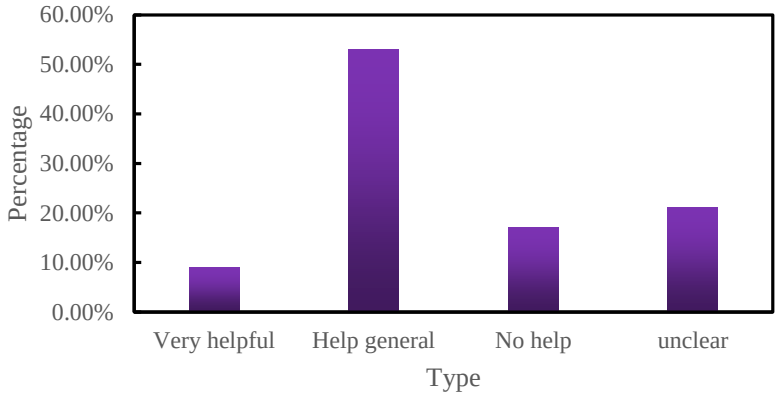
Figure 9. Student satisfaction with teachers' use of CAI form/content

The content of courseware should focus on using various information resources to support "teaching" and "learning", especially students' "learning". The courseware is designed to be easy for teachers to teach and control during the get out of class, and easy for students to view and download online at any time after class. With the development of network technology, putting the courseware on the Internet and realizing the teaching of network courseware should pay attention to its interactivity. In addition to the human-computer interaction, the interaction between teachers and students should also be realized. It can design online questions and answers, topic discussions, teacher answering questions, and so on. Interactive teaching methods can stimulate students' initiative and enthusiasm, and is conducive to cultivating students' ability and creativity to acquire knowledge actively.

Figure 10(a) shows that 52% of students think that the content of computer-assisted physical education is similar to traditional teaching, 22% of students think that the speed is too fast, and the memory is not deep, and 20% of the students think that the image is vivid, the memory is deep, and 6% of students think other. The main reason is the lack of teachers' teaching courseware and the low quality.



(a) Students' attitudes towards CAI teaching content



(b) Learning through computer networks, perception of what has been learned

Figure 10. Students' attitudes towards CAI teaching content and their perception of what they have learned through computer network learning

From Figure 10(b), it can be seen that 9% of the students feel that it is very helpful, 53% of the students feel that the help is average, 17% of the students feel that it is not helpful, and 21% of the students feel that it is not clear.

4.3. Impact of CAI on Students

Through the survey (Figure 11), only 15.1% of the students believed that CAI had cultivated their interest in learning sports, 75.6% did not know, and 9.3% held the opposite attitude. From the results of the questionnaire, compared with the traditional physical education class, 24.4% of the students think that the interaction between students and teachers in the computer-aided physical education class has increased, 5.8% of the people think that it has decreased, and 69.8% of the people think they do not know. It can be found that the use of CAI to cultivate students' interest in learning is not as good as imagined. Many students wrote in their suggestions that "the courseware made by the teacher is a simple scan of the book", "the PPt is full of words, no animation and flash links", "Can increase the video playback of teaching competitions".

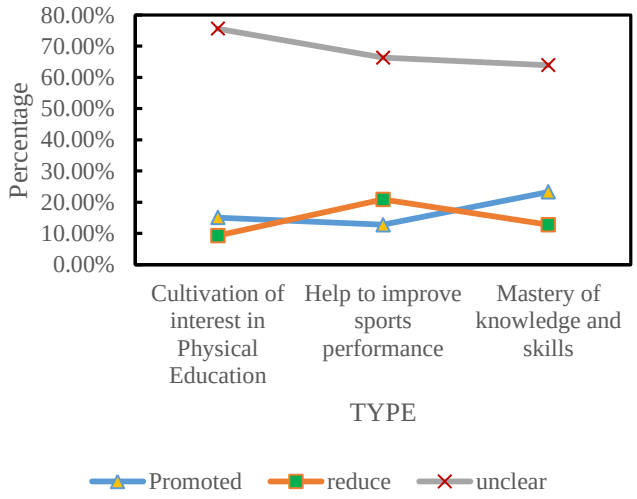


Figure 11. The impact of CAI on students

5. Discussion

On the basis of traditional teaching, whether it is a basic football theory course or a technical and tactical teaching and training course, due to the limitation of teaching conditions, the teaching methods and means are relatively simple. The use of traditional teaching methods in teaching is not conducive to students' organic connection with abstract concepts, specific technical movements, and tactical awareness.

With the advancement of computer technology and network technology, the method of information dissemination will continue to be electronic. The entire field of teaching is undergoing large and radical changes. This change is reflected in the teaching concept, teaching content, teaching technology, teaching means, teaching mode, and teaching interaction. The traditional educational model will be gradually broken, and the educational experience will present a pattern of strengthening socialization and subjectivity.

With the rapid development of economy and science and technology, computers have already entered the field of education and have developed rapidly, gradually becoming an effective teaching medium and a powerful tool for education management. At the same time, with the change of teachers' age structure, the scientific and proper use of this modern media will surely become the basic requirement for teachers.

6. Conclusion

(1) The application is not neat

The application of CAI by teachers of public physical education courses in this university is not unified, showing a partial and scattered state. The teaching department has not given specific guidance on CAI in public physical education. It is difficult to determine the advantages and disadvantages of CAI in the application of public physical education in colleges and universities in the short term. Specifically, it is not possible to judge the teaching of public physical education in colleges and universities from the perspective of CAI application quality.

(2) Insufficient ability

The problem of the information feedback of the public physical education teachers in this

university is not optimistic, and the teachers' ability to CAI is worth considering. Whether teaching in a new way can achieve teaching goals, how to cooperate in multidisciplinary and cross-category, how to win the recognition of leaders, whether the efforts can be reasonably rewarded, how to accumulate teaching experience and how to obtain teachers' personal values reflect, it is difficult to find a reasonable answer in the process of CAI in public physical education, and the school has no specific and clear indicators for the improvement of CAI ability in public physical education. Therefore, there are still some defects in the practical application of CAI. Due to the limitations of time and technology, this paper does not discuss its improvement method too much. We will further study this in the follow-up.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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