

Application of Artificial Intelligence in Martial Arts Teaching in Colleges and Universities

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Keywords: Artificial Intelligence; Martial Arts Teaching; Sports Culture; Teaching Methods

Abstract: With the increasingly rapid development of society, network science information technology and artificial intelligence technology has been widely penetrated into People's Daily life, especially mobile phones, computers, multimedia and other communication tools, they are convenient, flexible personality, has become the most important means of communication. In addition to communication, it also brings more functions such as videos, topics, we media and self-help learning. Based on the background of rapid development of artificial intelligence and multimedia, the integration of mobile network, artificial intelligence and traditional teaching has become an important means of sports information teaching communication. The main purpose of this paper is to better combine artificial intelligence with traditional teaching methods so as to make martial arts teaching more scientific. The research comprehensively used the methods of literature survey and questionnaire survey to understand the scientific research achievements of AI in martial arts teaching in colleges and universities, sort out the research ideas and framework of this paper, and then used the method of questionnaire survey to carry out a sample survey of students and teachers in martial arts colleges and departments. Through the investigation, the demand results and communication conditions of artificial intelligence integrated martial arts teaching are obtained. Results showed, that year until June of 2019, the university sports departments Internet users penetration rate over 95%, teachers group can be skilled in the use of artificial intelligence teaching equipment accounted for more than 81.25%, and surveyed the crowd is generally accepted that can get advanced teaching ideas on network platform and advanced martial arts movements, eventually make China's sports culture to the world.

1. Introduction

With the rapid development of modern society and economy, artificial intelligence technology is constantly reaching new heights, and the development of scientific and information technology plays an indispensable role in people's life [1]. Simple communication technology is far from meeting people's needs, and the development of multimedia and artificial intelligence is a big trend [2]. In order to adapt to the development of the society, all sorts of convenience brought about by the artificial intelligence to make the students attitude towards physical exercise has had the important change, greatly improving the students' interest in sports training, artificial intelligence also played to the martial arts teaching resources organizing, making teaching course is also gradually improve quality courses, improve the quality of university teaching martial arts [3].

In China, the initial embodiment of artificial intelligence in martial arts teaching is simple hardware facilities such as slides and projections. With the development of network computer information technology, computers are gradually applied in teaching methods and tend to improve the teaching system, forming a theoretical system [4]. With the rapid development of the Internet, artificial intelligence technology has begun to penetrate into People's Daily life, thus playing an increasingly important role in teaching [5]. The establishment of artificial intelligence teaching system brings efficiency to the tedious and heavy work of teachers and gives them more time to expand their knowledge [6]. The rapid development of artificial intelligence brings more development and power to martial arts teaching [7]. The development of artificial intelligence in

foreign countries is not to be underestimated. As early as in the Soviet Union, information technology has been applied in sports events and achieved achievements. With the coverage of network technology in various fields and the promotion of China's status in the world, martial arts as a national culture has spread more and more widely in the world [8]. Foreign friends are increasingly interested in Chinese martial arts, and they can obtain more courses through artificial intelligence information technology, which also reflects the necessity of the development of artificial intelligence in martial arts teaching [9].

Martial arts have the attributes of traditional sports culture in China. With the rapid development of economic information today, it is of special significance to use the teaching method of artificial intelligence to cultivate talents in colleges and universities and carry forward national culture. Therefore, the introduction of artificial intelligence in martial arts teaching in colleges and universities is an inevitable choice for today's social development [10]. Through in-depth investigation and understanding of the current situation of multimedia teaching of martial arts in colleges and universities, this study also elaborated the current situation of multimedia teaching of martial arts in colleges and universities, and analyzed the influence of sports information based on artificial intelligence on students' martial arts teaching, so as to promote the wide application of multimedia teaching methods in martial arts teaching. This paper puts forward some feasible Suggestions on how to promote the modernization of martial arts teaching, optimize martial arts lessons and improve the quality of martial arts teaching.

2. Theoretical Overview of Artificial Intelligence Combined with Martial Arts Teaching in Colleges and Universities

2.1 The Significance of Artificial Intelligence in Martial Arts Teaching in Colleges and Universities

The teaching and development of physical education plays an important role in guiding the healthy life of human beings. Artificial intelligence is based on the theory of computer combining parts of human knowledge and behavior of a scientific discipline, its information technology have been gradually mature and penetrated into all areas, at present people widely pay attention to the role of artificial intelligence in education, promote the development of education and innovation, and further investigation to study the effects of artificial intelligence of martial arts teaching in colleges and universities, and make objective evaluation and analysis, find out about the effects of martial arts teaching, and divergence of the teaching mode, to improve multimedia teaching means in martial arts teaching in a wide range of application.

2.2 The Value of Artificial Intelligence in Martial Arts Teaching in Colleges and Universities

The development of artificial intelligence has great potential for the development of martial arts teaching in colleges and universities. The use of artificial intelligence technology can first transform the traditional classroom learning into the learning environment of other Spaces, and then break away from the fixed teacher teaching, so that students can choose their favorite teachers and courses. Absorbing health information through artificial intelligence technology is beneficial to the development of martial arts teaching and improving the teaching quality.

2.3 The Influence of Artificial Intelligence on Martial Arts Teaching in Colleges and Universities

There is nothing wrong with the positive influence brought by artificial intelligence in teaching. Improve the teaching concept, improve the teaching management method, promote the optimization of teaching and improve the teaching environment, not limited to teaching in space and time. At the same time, artificial intelligence also brings some negative effects. For example, students are not self-disciplined enough to exercise self-restraint under the supervision of teachers. Teaching videos are not intuitive enough to arouse students' enthusiasm. As for the negative impact brought by artificial intelligence, we still need to continue to study and deal with it, and find corresponding

solutions.

3. Experimental Investigation

3.1 Experimental Object

The learning method of college martial arts students downloading APP through communication information terminal.

3.2 Experimental Methods

(1) Take literature as a reference, through reading relevant books and literature, sort out relevant knowledge, understand the scientific research achievements of artificial intelligence in martial arts teaching in colleges and universities, consult scholars in relevant fields, sort out the research ideas and framework, sort out the research methods, and make full theoretical basis for the research of this paper.

(2) According to the research content of this paper, questionnaires were assigned and distributed to teachers and students of martial arts colleges of different universities by questionnaire method. A total of 65 questionnaires were distributed to martial arts teachers from central China Normal University, Wuhan University, and HUST. The questionnaires of 500 students in martial arts faculty, among them, the martial arts teacher of 42 questionnaires, take 40 copies of valid questionnaire, martial arts faculty students take back 480 valid questionnaires, 200 questionnaires of extensive sports professional students, recycling effective questionnaire 190, questionnaire recovery efficiency is higher, with participation of teachers and students.

4. Discussion and Analysis

4.1 Demand Analysis of Artificial Intelligence

Artificial intelligence APP has become an inevitable trend in martial arts teaching in colleges and universities. With the support of hardware smart phone, artificial intelligence software is widely popularized, which provides fast and convenient information for college martial arts students. Due to the advantage of high timeliness, the teaching method of artificial intelligence can receive the course arrangement and course update anytime and anywhere through the smart phone, receive all the information related to the martial arts teaching, and even finish the homework that has not been handed in on the phone, which brings convenience to everyone.

Table 1. Analysis of access to martial arts information in colleges and universities

Artificial intelligence APP	Teacher deliver	Students communicate	School mail tunnels	Other ways
120	100	50	2	1
44%	37%	18%	0.07%	0.03%

As can be seen from the sample results in Table 1, 44% of the students received information from the artificial intelligence APP, 37% from the teacher, and 18% from the students passively. Artificial intelligence has the highest proportion of access to information, and it transmits information more quickly and quickly.

4.2 Analysis of the Communication Conditions of Artificial Intelligence Teaching

China's education laws and regulations have long reflected the extensive use of information technology in teaching, focusing on the coordinated development of the education industry and electronic information technology. Intelligent mobile devices are an important way to spread information. The number of student netizens in Chinese martial arts colleges and universities is shown in Figure 1 .

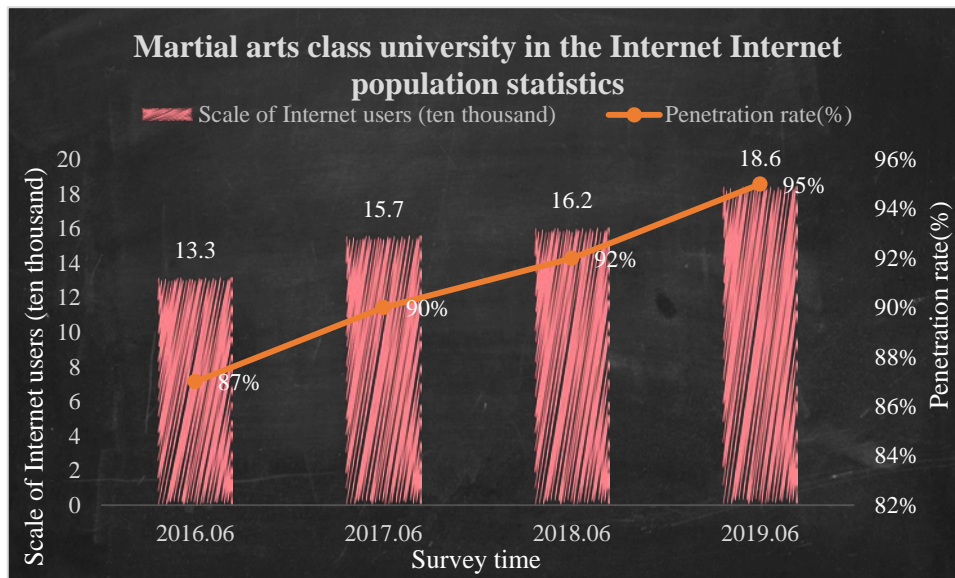


Figure 1. Statistics of the number of Internet users in martial arts colleges and universities

As can be seen from the figure, the use of intelligent devices in Chinese university martial arts majors reached 87% in 2016, and mobile terminals have become an indispensable part of students' life. 4G network has become an important driving force for the development of artificial intelligence. By June 2019, college Internet users reached 95%.

4.3 Investigation and Analysis of Current Situation of Artificial Intelligence in Martial Arts Teaching

Artificial intelligence information technology has penetrated into our daily life. The frequency of using artificial intelligence by some special martial arts teachers in universities is shown in Table 2. According to the survey, the average age of teachers in martial arts colleges is relatively young, and the number of male teachers is large. In daily learning and application of artificial intelligence in PhD study accounted for 100%, of a master's degree in the use of artificial intelligence teaching equipment accounted for 86.36%, bachelor degree in the deft use of artificial intelligence teaching equipment 81.25%, according to the survey by the higher education level, using artificial intelligence teaching proportion will be higher. According to the results of the professional title survey of teachers, the proportion of professors is 100%, that of associate professors is 80.00%, and that of lecturers is 88.89% and 85.71% respectively. It is concluded that teachers in colleges and universities generally use artificial intelligence in teaching.

Table 2. Frequency of use of artificial intelligence by some special martial arts teachers in colleges and universities

	Frequent use		Occasional use		Rarely used		Inapplicable	
	Sample size	Proportion	Sample size	Proportion	Sample size	Proportion	Sample size	Proportion
Undergraduate	13	81.25%	2	12.50%	1	6.25%	0	0.00%
Master	19	86.36%	3	13.64%	0	0.00%	0	0.00%
Doctor	2	100.00%	0	0.00%	0	0.00%	0	0.00%
Teaching assistant	12	85.71%	1	7.14%	1	7.14%	0	0.00%
Lecturers	16	88.89%	1	5.56%	1	5.56%	0	0.00%
Associate professor	4	80.00%	1	20.00%	0	0.00%	0	0.00%
Professor	3	100.00%	0	0.00%	0	0.00%	0	0.00%

The level of martial arts teachers' application of artificial intelligence also affects the teaching quality. Teachers with higher proficiency will produce better courses and students' learning efficiency will be higher. Therefore, the degree of application of artificial intelligence in martial arts teaching also has a great relationship with the level of teachers' operation. The results of the survey on the proficiency of teachers in operating artificial intelligence software are shown in Figure 2. 15% of martial arts teachers are proficient in computer operation, 70% of teachers are skilled in operation, and 15% of teachers are not familiar with operation. According to the survey, most teachers use PPT making method and have less contact with more complex multimedia, so it can be seen that teachers need to strengthen the training on information technology.

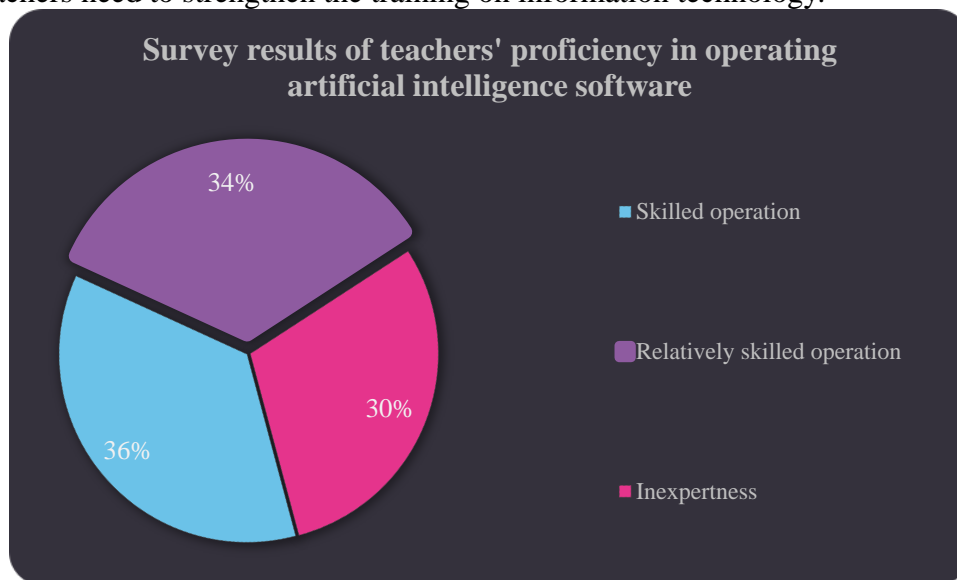


Figure 2. Survey results of teachers' proficiency in operating artificial intelligence software

Artificial intelligence development is rapid, now the student in the study of artificial intelligence is higher, corresponding requirement for teachers' artificial intelligence technology operation also need to improve, and most of the teachers are not trained professional technology learning, course of production is also according to their own bits of knowledge on the Internet, in making courseware, courseware content tend to be more simple. According to the actual survey results show that the martial arts teachers information technology training accounted for only 35%, did not take part in the occupy 65%, the reason is no enough attention to this aspect of training school, the school to give training nature is not much, the other teachers to their own academic grinds only, to participate in other training time is less, the resulting teachers overall level of the application of artificial intelligence is low. Only by raising the actual operation level of teachers can artificial intelligence play a bigger role in the teaching of martial arts in colleges and universities.

Hardware facilities in the artificial intelligence in martial arts teaching, in the survey, basic is put in the PPT teaching and playback of video teaching methods, investigation and analysis, a lot of training in colleges and universities are no multimedia equipment, makes the student teachers and training venues running back and forth, obviously at the courseware and the effect of the practice better. Using projectors to play PPT in class accounts for 70%, using video playing software accounts for 20%, and using other artificial intelligence for class accounts for 10%. The above survey results show that the application of artificial intelligence in martial arts teaching in colleges and universities is far from meeting the needs of teachers and students. Most teachers and students think that the installation of artificial intelligence equipment in the training site to assist teaching can be more convenient for college learning.

4.4 Analysis of the Advantages of Artificial Intelligence Teaching Communication

In martial arts teaching, the use of artificial intelligence is applied in teaching, compared with the traditional oral teaching, obviously intelligent video playback, the transmission of voice, color can attract students' attention, stimulate interest in learning, to make the students actively, spontaneously

to learn, learning is more efficient than passive, application of artificial intelligence in martial arts teaching, students can in advance according to the video transmission observational learning martial arts movements, from theoretical study to fully understand the essence of movement training, develop their own understanding of martial arts movements, and you can download the video replay again and again to study, find their own non-standard action, on time to correct their mistakes, Can improve their ability of self-study, martial arts movement training need daily practice to reach standard, time and space are not within the scope of the teacher after class, this requires that students have strong ability of self-learning, in the absence of under the guidance of teachers, students according to the artificial intelligent device can correct learning martial arts knowledge, strengthen self-discipline. Using artificial intelligent device, the students can learn at any time in the online exchanges martial arts comprehension, encounter difficult to martial arts movements, online discussion with students, through the way of this kind of interaction, can increase the students' ability of knowledge development, resource sharing, mutual learning progress, create a good learning environment, and this interaction is not confined to the colleges and universities, on the communication platform for some of the martial arts students in colleges and universities and has strong interest in martial arts enthusiasts is also very good learning platform, also played an important role in the spread of martial arts. You can get the advanced teaching ideas, the advanced martial arts movements and the collision of ideas from all over the world on the network platform; so that the knowledge of martial arts can be spread all over the world and the Chinese sports culture can be widely spread. Therefore, the application of artificial intelligence in the teaching of martial arts in colleges and universities is conducive to stimulating students' interest in learning, improving their learning efficiency, cultivating students' self-discipline, improving their ability to communicate with each other, and promoting the dissemination of martial arts resources.

5. Conclusion

The development of artificial intelligence has improved the communication level of martial arts teaching. Students are enjoying the fun of learning brought by artificial intelligence all the time and receiving the irrigation of the most advanced knowledge. Teachers and students of martial arts major in colleges and universities are eager to get more development and application of martial arts software teaching. The dissemination of artificial intelligence information is an important way for teachers and students to obtain learning information, which can effectively help the learning of martial arts knowledge. At the same time, if students' self-control ability is not good, it will also bring negative effects. Therefore, teachers should pay attention to the effect of students' free control of learning while using intelligence. The combination of martial arts teaching and artificial intelligence makes the learning of martial arts more scientific, which is also the inevitable requirement for people to form a healthy life through the knowledge dissemination of intelligent martial arts teaching.

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