



AI Applications in Education

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Abstract. In recent years, led by the wave of artificial intelligence, “artificial intelligence + education” has become a very hot topic. More and more traditional educational institutions have begun to organize and layout the field of ARTIFICIAL intelligence education. Training artificial intelligence talents will become an important mission of education. Meanwhile, educational methods will change with the development of artificial intelligence, and the deep integration of artificial intelligence and education will become the development trend of the future education world. The future has come, when education and artificial intelligence meet, what kind of spark will be produced? This paper mainly discusses the application, research status and development trend of artificial intelligence in the field of education, as well as the deep integration of artificial intelligence and education.

Keywords: Artificial intelligence (AI) · Education · The depth of the fusion · Future educational world

1 Introduction

In July 2017, the State Council issued the Development Plan for The Next Generation of Artificial Intelligence, proposing the development of the artificial intelligence education system and the use of artificial intelligence technology to speed up education reform and new talent training programs. In May 2019, General Secretary Xi Jinping announced the official launch of the ‘Artificial Intelligence + Education’ strategy at the International Conference on artificial intelligence and Education. The integrated innovation of artificial intelligence and education has become a new form of future education, with a promising future [1].

First, what is artificial intelligence? The definition of artificial intelligence was first proposed in a Dartmouth seminar in 1956. At that time, it was defined as: artificial intelligence is a robot with the ability to simulate learning characteristics or intelligent characteristics that can be accurately described [2]. In recent years, the pace of artificial intelligence development is faster and faster, and it involves more and more industries, and gradually appears in People’s Daily life. Thus, the concept of “Artificial Intelligence + X” entered people’s lives. They take advantage of artificial advantages and put forward such forms as “Artificial Intelligence + Industry”, “Artificial Intelligence + Medical care”, “Artificial Intelligence + Agriculture”, “Artificial Intelligence + Transportation”, “Artificial Intelligence + Education” and so on. People hope that the deep learning, data mining, expert system and other functions of artificial intelligence



Fig. 1. Conceptual diagram of the application of artificial intelligence in education.

can make up, improve and optimize the current work. The artificial intelligence education or educational artificial intelligence developed from “Artificial Intelligence + Education” is one of the active explorations [3].

Second, what is education? In a broad sense, education means to increase people’s knowledge and skills, while in a narrow sense, education means that schools have a purpose, a plan and an organization to carry out systematic learning for students.

Third, what is the difference between artificial intelligence education and traditional education? If the object of traditional artificial education is to learn from each other and exchange the culture or experience left by predecessors, then the object of artificial intelligence education can learn from each other, from person to person, from machine to machine and from machine to machine. Artificial intelligence education is a new form of education formed on the basis of artificial intelligence technology, which is integrated in concept, organization, mode, resources and other aspects.

Fourth, what is the relationship between education and artificial intelligence? Secretary Xi Jinping once said, “Education is the foundation of the country”. The prosperity of a country’s development is closely related to that of the younger generation, a country’s education is closely related to its development. Only when the young generation has ideals and responsibilities can it promote the harmonious and stable development of the society and the inheritance of culture [4]. So education has always been the focus of attention of countries all over the world. So with the advent of artificial intelligence, it opens up a new form of education. With its own computing power, storage capacity and big data processing, combined with the Internet platform, the teaching quality and efficiency are improved and the education is more in line with the needs of social development. The relationship between the two is mutual promotion, not mutual substitution. For teachers, the emergence of artificial intelligence has reduced a lot of tedious and repetitive administrative work and reduced their burden. For students, the emergence of artificial intelligence promotes their independent learning ability, thinking ability and innovation ability, and expands their horizon and

thinking mode. For education, the difficulties faced by artificial intelligence entering the education industry will accelerate the pace of technological upgrading. The emergence of artificial intelligence brings infinite possibilities to the forms of education, such as virtual and real interaction, online education, intelligence assessment and so on.

2 Significance

2.1 Artificial Intelligence Will Make the Traditional Classroom More Intelligent

The application of artificial intelligence in education can free teachers from the repetitive mechanical work, so that they can have more time and energy to focus on the cultivation of students' high-level thinking and innovation ability, making "teachers" become real "masters" and "coaches". Teachers are no longer merely impeller of knowledge, but teaching service providers to meet students' personalized needs and growth consultants to design and implement customized learning programs.

2.2 Open Education Environment, Education Scene is no Longer Limited to the Classroom

Artificial intelligence can bring unusual experience to teaching. The application of artificial intelligence to education can make education no longer confined to the classroom. At the same time, the school, society and enterprises will be organically integrated, so that students can get more open and diversified educational experience.

2.3 Artificial Intelligence Improves the Quality of Teaching

Artificial intelligence can observe and analyze students' learning patterns and individual differences. And take the student as the center, put my student knowledge advantage, the evaluation analysis student learning ability and carries on the real-time instruction. Can break through the previous teaching content is identical, with the same teaching material and teaching mode to respond to different students teaching method. A lot of data suggests that under this mode, students' academic performance is improved, and they have outstanding performance compared with students under traditional education mode in terms of course completion time, course passing rate and examination results. At the same time, Artificial intelligence education also makes universal quality-oriented education possible. It not only improves the efficiency of exam-oriented education, but also infuses critical thinking training, innovation ability training and other elements to comprehensively cultivate students' abilities.

3 The Main Form of Artificial Intelligence Education Applications

The most direct result of the application of artificial intelligence in education is the birth of an intelligent teaching system. The intelligent teaching system emerged on the basis of computer-assisted teaching. It is an open human-computer interaction system formed by student-centered, computer-based, and computer-simulated thinking processes of teaching experts. At present, the intelligent teaching system has become the main form of artificial intelligence application in education. Intelligent teaching systems mainly apply artificial intelligence principles in knowledge representation, reasoning methods and natural language understanding. Because it integrates the activities of knowledge experts, teachers and students, correspondingly, the intelligent teaching system is generally divided into three basic modules: knowledge base, teaching strategy and student model, plus a natural language intelligent interface. Specifically, the functions of the intelligent teaching system are as follows: to understand the learning ability, cognitive characteristics and current knowledge level of each student; to select appropriate teaching content and teaching methods according to the different characteristics of the students, and to provide students Targeted individual guidance; allowing students to use natural language to conduct man-machine dialogue with the “computer tutor”. The design of intelligent teaching system requires not only knowledge of computer science, but also theoretical guidance of educational science.

Application of artificial intelligence in the field of education. One of the biggest challenges in education is that everyone learns differently. It is difficult for teachers to accurately grasp each student’s real learning situation, leading to the teaching design and teaching process, difficult to focus on each student’s real learning needs, resulting in a waste of energy, time and teaching resources. But the artificial intelligence system can provide each learner with a personalized learning style, so that each student can learn in the most suitable way, accurately record the learning status of each student, assist teachers to achieve hierarchical teaching and precise teaching, and effectively solve the core problems of teaching and learning. At present, the application of artificial intelligence in the field of our education mainly includes image recognition, speech recognition, human-computer interaction and so on [6]. Applications mainly focus on tutoring, online learning, classroom teaching and other aspects. Artificial intelligence application in the field of teaching is mainly manifested in the application of Intelligent Tutoring System.

Intelligent teaching system is set intelligent classroom, intelligent marking, intelligent diagnosis and intelligent treatment, intelligent preview, intelligent operation, intelligent sentiment analysis for the integration of intelligent teaching system is designed to create a good learning environment for students, so that the students can convenient call all kinds of resources, to accept a full range of learning services, to achieve the success of learning. By establishing the subject of teachers, students and teaching management, the corresponding teaching strategies can be formulated and implemented according to the characteristics of different students and personalized teaching services can be provided for students. Distributed intelligent teaching system

based on network is the latest development direction of intelligent teaching system. It can make students who are originally separated in different areas learn together in a virtual environment, make full use of network resources, give play to learners' initiative, and bring better teaching effect.

The application of artificial intelligence in the field of education is still in its infancy, and people effectively combine the high efficiency of machines with human intelligence to influence the development of society. In recent years, artificial intelligence technology has always maintained a rapid development speed, and its application in the field of education plays a huge role in education and teaching, and promotes the development of humanized and individualized teaching, and integrates teaching activities. Closely connected with the development of science and technology, this is a major innovation activity in the field of education. For the application of artificial intelligence in education, there are mainly four specific forms as follows.

3.1 Smart Assessment

Under the traditional education model, teachers' work content focuses on two aspects, one is classroom teaching, and the other is correcting homework. Among them, teachers need to spend more time and energy to correct students' homework. However, driven by big data technology, text recognition technology, and semantic analysis technology, automatic correction of homework has been realized in reality. Intelligent evaluation can simplify the correction process to a large extent. This is also a major change to the traditional evaluation method. It is faster, more efficient, and very accurate. It frees teachers from heavy homework corrections. Make it more energy in classroom teaching, effectively promote the improvement of teaching efficiency.

3.2 Smart Tutor System

The intelligent tutor system is one of the adaptive learning systems. It is precisely because of the emergence of this system that the one-way instillation mode of teachers to students under the traditional teaching mode has been changed to a large extent, and better teaching results can be obtained. The system can make targeted learning plans according to different students' mastery of learning content, and at the same time highlight students' personalized learning methods, and help students master knowledge points more quickly through richer learning resources to realize specific learning goals. Through the intelligent tutor system, it is even possible to analyze the expressions of the students and understand the learning status of the students from it. Through the feedback mechanism, the teacher can be more aware of the students' mastery of the classroom teaching content, and use an emotional perception to predict and adjust it. In fact, the development of the intelligent tutor system is still immature at this stage. Basically, it has more applications in self-study and Q&A, but it has relatively few applications in classroom teaching. If you want to apply it better, you still have to pay attention to the improvement and optimization on the technical level.

3.3 Educational Simulation Game

In modern education concepts, quality education is emphasized. Therefore, the classroom atmosphere should not be lifeless, but should be presented in a more entertaining way. Under the background of the rapid development of artificial intelligence, educational simulation games are not entertainment activities in the traditional sense. They are more targeted. They promote the openness of education and teaching through games, and create some digital games based on the simulation environment. Students can have a higher enthusiasm for learning. Through intelligent simulation games, students can form a new understanding of things, and at the same time, their observation and thinking abilities can also be well exercised, which promotes students to discover and solve problems proactively. Based on the simulation game environment, students can be more involved in learning through playing different roles, and participate in learning activities with great interest to gain new knowledge. The introduction of simulation games in teaching can show some abstract knowledge in concrete forms, so that students can form a more intuitive understanding and feelings, can effectively enhance students' attention, and make students' professional knowledge learning more solid and in-depth.

3.4 Educational Robot

Educational robots involve many disciplines. The application of multi-disciplinary knowledge and technology, the role of educational robots developed in assisting teaching is obvious. It can effectively add interest in the classroom, stimulate students' innovative ability, and rely on information technology to enhance students' knowledge and the ability to obtain information. In specific teaching applications, educational robots are an intelligent teaching tool that can form a powerful supplement for teachers to carry out teaching activities. Students can also actively seek answers to questions through this human-computer interaction and promote self-learning capabilities. Educational robots can perceive changes in students' emotions. Educational robots can perceive changes in students' emotions. If there are more exchanges with students, they can more accurately grasp the learning effects of students, which is conducive to teaching students in accordance with their aptitude, so that students can feel knowledge from the communication with intelligent robots charm.

4 A Case Study on the Application of Artificial Intelligence in the Field of Education——Take the Answering Software “Homework” as an Example

As a technology based on mathematics and computers, artificial intelligence has been applied to the study and life of middle school students and has played an important role. At present, in terms of learning, artificial intelligence mainly realizes its application in learning through various learning software. In the following, the author will take the “homework assistant” as an example to analyze the application of artificial

intelligence in the field of education from three aspects: learning enthusiasm, precise burden reduction, and learning style reform.

4.1 The Application of Artificial Intelligence from the Perspective of Learning Enthusiasm

The enthusiasm of learning is one of the factors that affect the effect of teaching. In the learning process, if students are active and autonomous, they can receive and master knowledge well; on the contrary, if they are passively procrastinated, it will affect the final effect of learning. So, how does artificial intelligence improve students' learning enthusiasm? In fact, many students cannot clearly understand their own learning status, which leads to more confusion when making learning plans. However, artificial intelligence solves this problem well. Artificial intelligence helps students to summarize test sites and make learning plans, so that students can have their own learning and review plans, which not only saves time and brings convenience to students, but also improves students' enthusiasm for independent learning. For example, in the learning software "Homework Help", the "Homework Help" uses artificial intelligence to analyze the students' problems, and then develop a review plan suitable for the students. Therefore, students do not have to spend too much time on how to make a study plan. In addition, artificial intelligence learning methods such as photo search and voice input also save students a lot of trouble and play an important role in improving students' learning enthusiasm.

4.2 The Application of Artificial Intelligence from the Perspective of Precise Burden Reduction

In recent years, the Ministry of Education has been advocating to reduce the burden on students in the compulsory education stage, that is, simplifying the content of classroom knowledge and reducing homework. However, the consequence of this learning model is that the basic knowledge of students is not solid and the review after class is more difficult which may eventually result in students not being able to firmly grasp the knowledge. So, how to accurately reduce the burden and strengthen the weak points to consolidate knowledge for middle school students when the burden is generally high? The answer is to use artificial intelligence. Through the application of artificial intelligence to learning management, students can effectively understand their own strengths and weaknesses, and the training for strengths is appropriately reduced, and the training for weaknesses is appropriately increased. For example, the learning software "Homework Help", students review mathematics on the "Homework Help", and the "Homework Help" analyzes the math problems that students have done through artificial intelligence, and analyzes the students' current mathematics knowledge. The current learning situation of students in mathematics. At this point, the "homework assistant" can use artificial intelligence to formulate a corresponding review plan for the students, and reasonably allocate the review time for the mastery and weak knowledge points. In this way, students do not need to blindly review and reduce the burden of study, and at the same time, they can grasp the weak points to strengthen and

consolidate. From this point of view, artificial intelligence plays an important role in reducing and consolidating the burden of study preparation.

4.3 The Application of Artificial Intelligence from the Perspective of Learning Methods

Take after-school review as an example. In traditional after-school review, students usually follow the teacher to review in class, and the other is to review independently after class. However, in these two review methods, students in the former cannot get the teacher's effective help based on their actual situation; the problem with the latter is that without the teacher's professional guidance, students may not be able to confirm whether their review is reasonable. "Help" solves this problem well. The learning software "Homework Helper" has the function of taking photos to search for questions. Therefore, when students review independently after class, they can take photos of doubtful questions and upload them to the "Homework Helper", which can then be based on the image recognition technology in artificial intelligence. To identify the question on the picture, and then export the answer and answering process of the question from the "Homework Help" database. In addition, the "Homework Gang" also has a voice input function. Students can also input questions by voice. The "Homework Gang" relies on artificial intelligence's speech recognition history to recognize students' voice information, and then analyzes the voice and derives the corresponding Answer and analysis. It can be seen that the efficiency of the artificial intelligence learning method of photographing and voice searching is far more convenient and efficient than the learning method of manually inputting the questions or consulting the teacher one by one.

5 The Problems Facing Artificial Intelligence Education

Although current AI education is not perfect, but it has also had a strong impact on all aspects of education. From the field of practice, People are trying to bring education into line with the requirements of the age of artificial intelligence, Our thinking has been changed, the mode has been updated, the behavior F has been changed, the resource development and other aspects have achieved positive thinking and exploration. However, as the current education is still in the early stage, the role of artificial intelligence and the development of artificial intelligence education is mainly reflected in the "technology", lack of education, and some problems existing in the discipline and artificial intelligence education practice.

5.1 Artificial Intelligence Education Technology Upgrade

Artificial intelligence is not equal to artificial intelligence education. The core technology of artificial intelligence is to simulate the thinking activities and behavior patterns of human beings in some aspects according to the amount of data collected, algorithm characteristics and computing speed. But artificial intelligence education is by no means a simple way to collect and analyze big data, And the subjective analysis

of students' learning ability, type, style, specialty and a variety of related relations, and then put forward teaching Suggestions or take intervention measures. There are essential differences between man and machine. The simulated intelligence of machines is different from the natural intelligence of human beings. The intelligence of a machine is that the problem is formalized by man and that the computer can do the calculation. Then, Human intelligence is acquired through learning and practice, and has initiative. But the intelligence of the machine does not have the intelligence of the human mode of thinking.

5.2 Limitations of Artificial Intelligence Education Interaction

Although artificial intelligence has been developed for more than 60 years, it has great limitations in applied education at present. Education to some extent, education, to some extent, is a means of learning by which people communicate and inspire each other according to their own knowledge, but intelligent teaching system is far from reaching this level. Secondly, machines cannot communicate with students as humans can. Machines only judge students' input information and master students' learning situation, which leads to people's wrong information receiving due to the data generated by "machine intelligence", ignoring the real situation.

5.3 Learning Mode Solidification

Artificial intelligence education system is made into a teaching module based on the data of knowledge level, cognitive ability and learning style provided by different students. Through the test results of this module, students are judged and their learning process is evaluated. The level of each student is different, if according to the formal teaching module teaching, rather than according to the specific situation of each student flexible teaching, in the long run, it is not conducive to the personalized development of students.

5.4 The Scope of Artificial Intelligence is Limited

Although the introduction of ARTIFICIAL intelligence into education conforms to the development of The Times, it does not mean that all subjects are suitable for artificial intelligence or the current artificial intelligence education is not able to cover the learning of all subjects. There are obvious differences among various disciplines, which are mainly reflected in the differences in research objects, theoretical framework, discipline thoughts, research methods and expression methods, etc. These differences lead to the natural differences in teaching and learning of different disciplines [5].

5.5 Analysis of the Limitations of Artificial Intelligence in Education

In terms of the current level of development of artificial intelligence and the characteristics of artificial intelligence itself, its application in education also has its limitations.

Can Not Communicate Smoothly With Students. Education is essentially an “interactive” activity, and intelligent teaching systems cannot achieve the most full and true interaction. At present, the research results of natural language understanding are very limited, far from meeting the requirements of everyone’s communication. In addition, with regard to educational issues such as attitudes, morals, and emotions, machines can only judge the degree of mastery and internalization through the information input by students into the computer, but cannot judge the true situation of students through the communication and observation of natural states like human teachers. Therefore, “machine intelligence” can easily be blinded by “eyes” and cannot achieve the natural and smooth communication between people.

Imperfect Decision-Making and Reasoning Mechanisms. The key intelligence of the intelligent teaching system lies in its decision-making and reasoning mechanism, that is, the “teaching strategy” module makes flexible decisions through reasoning according to the specific situations of different students. This decision is based on the knowledge level and cognitive characteristics of the students provided by the student module and learning styles, and these cannot be fully formalized. At the same time, with the continuous updating of educational concepts and the continuous improvement of teaching models and teaching methods, the ability of the teaching strategy modules used by the system to evaluate and judge the learning process of students is limited.

6 The Research Status

6.1 National Policy Support

At present, China has fully realized the importance of the integrated development of artificial intelligence and education, and carried out the relevant planning layout. In 2017, the Chinese government issued *the Development Plan for the New Generation of ARTIFICIAL intelligence*, proposing to speed up the training of high-end ARTIFICIAL intelligence talents, build artificial intelligence disciplines and develop intelligent education, said Zhong Denghua, vice minister of Education. In 2018, the Ministry of Education released the AI Innovation Action Plan for Institutions of Higher Learning to promote the implementation of AI in the field of higher education. In February 2019, China Education Modernization 2035 was released, proposing to accelerate the educational reform in the information age, build intelligent campuses, coordinate the construction of integrated intelligent teaching, management and service platform, and use modern technology to accelerate the reform of talent training mode. Under the guidance of these policies, some regions and schools have begun to explore the integration of artificial intelligence and education and teaching.

6.2 Research and Development Boom at Home and Abroad

From a global perspective, many developed countries and international organizations are deploying information-based, digitized and intelligent strategies to maintain their status as major countries and maintain their strategic initiative and autonomy. China’s prosperity and development in the field of artificial intelligence technology, including

the field of intelligent education, has made significant and even more than expected achievements worldwide. In the current overseas best seller “The Fourth Education Revolution – How Artificial Intelligence changes Education”. The grandiose interpretation of China’s ai boom is typical.” The US lead in AI will slowly wane – and China is eager to fill the gap as it strives to establish itself as the world’s leading AI innovation center by 2030,” the book says. It is noteworthy that although the book involves a lot of topics have some new ideas, but it is not new to the field of education in China, and there are even more current practices than its theoretical width. It can be seen that with the prosperity and development of technology base, China’s “artificial intelligence + education” has been eagerly explored in the first place.

6.3 The Market Share of Artificial Intelligence Education Continues to Increase

In recent years, the artificial intelligence education market has been favored by domestic and foreign investors and attracted much attention from capital, but the application penetration rate of artificial intelligence education is not high. In 2018, well-known investment institutions represented by Zhenfund and Hongshan Capital, education industry represented by Good Future, New Oriental and Internet industry represented by Tencent all joined the “AI + education” boom, and the financing amount reached 1 billion yuan. However, from the perspective of current types of ARTIFICIAL intelligence education, most of them stay in language training and photo search, and there are still no new breakthroughs in the technical shortcomings of AI education. The degree of intelligence is low, and the market share of education is not yet saturated, showing an increasing trend.

6.4 The Promotion of Artificial Intelligence Education Enterprises

The emergence of artificial intelligence education enterprises promotes the integration of artificial intelligence and education. For example, in foreign countries, the artificial intelligence education enterprises represented by Knewto of the United States have surpassed other enterprises of the same type in user scale, ranking the first. They use the education form of “AI + education” to develop self-adaptive education, collect students’ learning data, analyze students’ shortcomings, and propose targeted teaching programs to improve teaching quality. In China, Netdragon is the earliest enterprise to enter the “artificial intelligence + education” industry, and has established a big data and artificial intelligence laboratory as well as a research and development team. They also reached strategic cooperation with universities at home and abroad to deepen the multi-dimensional exploration of ARTIFICIAL intelligence plus education and promote the deep integration of artificial intelligence education.

7 Future Development Trend and Development Direction

Artificial intelligence has been developed by leaps and bounds for more than 60 years, and it is widely used in all walks of life, especially in the education industry. Companies are using AI technology and big data to help students learn and explore personalized education. For example, Polaris USES AI to build the artificial intelligence assisted teaching system “Polaris AI”, Ape Guidance launches the AI correction product “Little Ape manual calculation”, and the homework box releases the full AI course product “small box classroom”, etc. In 2018, Teachers in Teachers’ Classroom released the “Squirrel AI” intelligent adaptive system, which focuses on online general practice tutoring in primary and secondary schools. With the help of the intelligent adaptive system, teachers scan knowledge gaps based on students’ online learning data, so as to help students find and fill up gaps and improve learning efficiency. This year, the technology President of Good Future Group said that the construction of smart education open innovation platform has achieved preliminary results. Under the framework of smart education national new-generation artificial intelligence open innovation platform, good Future Education open Platform will continue to deepen the openness to unite industrial partners and create a better future for the education industry. On August 12, 2020, the Artificial intelligence Education Alliance was established in Qingdao, and Hisense will contribute to the deep integration of “AI + education”. Today, AI adaptive education is no longer a new thing. Up to now, the world has more than 100 companies, more than 100 million users. Enough to see the speed of its development. Under the condition of new technology in determining the quality of innovation education, innovation education teaching system must be thoroughly the traditional education concept, applied in the field of education technology is not only cold, auxiliary, without the connotation of machinery and equipment, and should be with temperature, the connotation, character, emotion and thinking, dynamic and creative interaction partners [7]. With the rapid development of big data, cloud computing and 5G support, it can be predicted that artificial intelligence technology will play an immeasurable role in the future education world, and will completely change the status quo of teaching, making individualized and precise teaching become a reality.

In recent years, with the development of computer technology, network technology, artificial intelligence technology, and modern education and teaching theories, the development of artificial intelligence in education has shown the following trends.

7.1 Start to Break Through the Single Individualized Teaching Mode

For a long time, computer-assisted teaching systems and intelligent teaching systems have emphasized individualized teaching models. This model does have many advantages in giving full play to students’ learning enthusiasm, initiative, and individualized guidance. However, with the development of cognitive learning theory, people have found that it is not enough to emphasize individualization in computer-assisted teaching systems and intelligent teaching systems. In some situations (such as problem solving), it is often more effective to adopt a collaborative approach. Therefore, in the intelligent teaching system in recent years, the collaborative teaching mode has received more and more attention and research.

7.2 Intelligent Teaching System is Increasingly Combined with Hypermedia Technology

The hypermedia system has a good development environment, a flexible and convenient user interface, and features such as pictures, texts and sounds, and its information organization is consistent with the associative memory habits of human cognition, and has become the most ideal information carrier at present. And the most effective information organization and information management technology has broad application prospects in many fields, especially education. The introduction of hypermedia technology into the intelligent teaching system and the development of an intelligent hypermedia-assisted teaching system can greatly improve the teaching environment of the computer-assisted teaching system, stimulate students' enthusiasm for learning, and significantly improve the teaching effect.

7.3 The Relationship Between Intelligent Teaching System and the Network is Getting Closer

The application and popularization of the Internet provide a good space for distance education and lifelong education. At present, the combination of intelligent teaching and multimedia network has become an unstoppable development trend of artificial intelligence in education.

7.4 Combination of Traditional Artificial Intelligence and Neural Network Fuzzy Decision Mechanism

Traditional artificial intelligence carries out cognitive simulation from a macro perspective, which can partially simulate the logical thinking process of humans, while the fuzzy decision-making mechanism of neural network performs cognitive simulation from a micro perspective, and strives to mimic the fuzzy processing function of the human right brain and the parallel of the entire brain chemical processing function. In the future, a new intelligent processing model will be explored: combining the fuzzy decision-making mechanism of the neural network with the reasoning ability of the symbolic expert system, using multiple knowledge sources and multiple models for compound collaborative processing.

If the above technologies can be used maturely, it will play a decisive role in the development of artificial intelligence and its application in education.

8 Expectation and Conclusion

With the development of artificial intelligence education in various industries, there are a variety of problems, which makes us have a new prospect for the future form of education. If the application of a technology into a certain industry only satisfies a certain aspect of its needs. For example, "AI + education" alleviates the administrative work of teachers to a greater extent, while the actual help applied in teaching is very vague. For teaching effectiveness, we should pay more attention to the transformation

of results instead of just looking at the figures. AI education is not the sum total of single technology, the real artificial intelligence education should be combined with advanced science and technology to consolidate and develop the educational and teaching achievements. Therefore, we expect to introduce MR mixed reality technology in “artificial intelligence + education” to improve the gaps in education. If it can be combined with artificial intelligence system in the future, it will be of great help to students’ theoretical knowledge learning and practical ability. The emergence of artificial intelligence has great temptation for all industries. The potential of education market is huge, and the development potential of artificial intelligence is also unpredictable. But what is important is that people will rationally use technology to create value and avoid technical risks.

In fact, artificial intelligence education, in essence, is to simulate an excellent special-level teacher and give students one-on-one personalized tutoring. In the future, artificial intelligence will surely help all of us with lifelong learning. Future education is the collaboration between human and artificial intelligence. The new technology with artificial intelligence as the core will be integrated with teaching and become the next core driving force. Emerging technologies not only change people’s study, work and life, but also bring new opportunities to the innovative development of future education. In a word, with the continuous progress of ARTIFICIAL intelligence, artificial intelligence will definitely have a broad development prospect and wider application in the future education world, so as to continuously promote the development of education in China.

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