General Education Application Based on Artificial Intelligence Technology

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Abstract

As Alpha Go defeated the World Go Championship in 2016, it exploded worldwide discussion of artificial intelligence. Human society has entered the fourth industrial revolution - the era of artificial intelligence. As for a country, it has successively introduced a series of policies to embrace this change. In the seventh meeting of the Central Committee for Comprehensive Deepening Reform, President Xi emphasized that grasping the feature of artificial intelligence development of a new generation and promote deep integration so as to construct the real economy, which once again highlights the importance of deep research for artificial intelligence in current era. The integration of artificial intelligence and various sectors, especially the education sector, has become the focus of attention from all aspects of life. At present, many studies have stressed emphasis of artificial intelligence on the impact of education and educational form so as to pay attention to and explore its dilemma and corresponding resolution. Then the primary and secondary schools have their influence on us both in terms of analysis and practice in the basic education stage . What changes should be made to its educational goals, educational content and educational methods in order to cultivate laborers based on the future society? . Based on the consideration of such problems, this study includes a large amount of literature review, policies and related literature to find out the characteristics of existing educational goals, content and methods, and then summarizes the new necessary features in the age of intelligent . Through comparative analysis, we can find out the dimension of reshaping new traits. It is expected to play a guiding role in the future development of schools and teachers, and it can better cultivate innovative talents that can adapt to the future.

Keywords: Artificial intelligence, General education, School education, Education goal

1 Introduction

In the field of computer science, artificial intelligence plays an important role. It can effectively help humans to learn, research, language understanding, recognition and other aspects, bringing great convenience to people's life and learning. The use of artificial intelligence technology in the field of education, the two complement each other, artificial intelligence technology can promote the innovation of primary and secondary education, on the contrary, teaching reform can also promote the development of intelligent

technology. In other words, artificial intelligence technology plays an important role in the field of social economic education. At present, with the continuous development of scientific information technology, people are gradually entering the era of big data and intelligence, and artificial intelligence has become a new competition target between countries. After several years of development, China's artificial intelligence industry has made rapid progress, and compared with foreign developed countries, it has made great progress. Although there are many related technical talents in China, it is still the main constraint for the development of intelligent technology for artificial intelligence talents. Artificial intelligence involves high-quality talents in various disciplines such as computer, mathematics, management, and foreign languages. Strengthening the use of artificial technology in education can reserve more talents for the development of intelligent technology artificial intelligence. current stage. In the process of primary and secondary education, the integration of more artificial intelligence technology can help students broaden their thinking patterns, give play to students' imagination and creativity, promote the continuous development of quality education, and open up the situation of talent shortage.

2 "Artificial Intelligence and Education" is a new field of educational research

The major relationships that play an important role in the development of education are mainly the relationship between people and pedagogy, the relationship between educational practice and pedagogy, the relationship between other disciplines and pedagogy, the relationship between (ethnic) culture and pedagogy, and the pedagogy of China. There is also a relationship between Chinese and foreign education. Nowadays, a new relationship between education and artificial intelligence has been added. This is mainly because the rapid rise of artificial intelligence technology has triggered a dramatic shift in the ecological science of humanities and social sciences, and it has almost changed. First, artificial intelligence is fundamentally different from other technologies in the era of traditional technology. Other technologies are mainly the replacement or extension of human body organ function, while artificial intelligence directly challenges the human brain, consciousness and the existence of human subject itself, making humanity face an unprecedented crisis. Second, the rise of artificial intelligence coincides with the critical period of international competition, domestic social transformation and national rejuvenation. It is aleverage that incites national reform and international relations, and triggers economic, cultural, educational, interpersonal and daily life. In-depth changes in the field. Thirdly, focusing on artificial intelligence involves almost all aspects related to the development of a discipline, such as subject objects, subject nature, research methods and methodologies, research processes, research frameworks, and also poses a huge challenge to the traditional interpretation framework of disciplinary theory, forcing disciplines. Subject reconstruction must be oriented and based on artificial intelligence, otherwise its legitimacy and rationality will be questioned. Education is no exception.

2.1 The main challenges facing artificial intelligence education applications

Data modeling and analysis is the core productivity and value of artificial intelligence technology education applications. Data modeling should be based on the possibility of data, based on the brain, learning science and education, form a model of data analysis, and then select algorithms for data analysis. In this process, the data analysis model determines which data to choose, how to make value judgment based on the data, and plays a directional and decisive role in the analysis results. Since the data paradigm is a new thing, it requires a highly integrated and innovative ability. As mentioned in the previous analysis, the application of artificial intelligence education mainly comes from enterprises. There are many high-level experts in the field of computer and artificial intelligence, but there is a lack of professionals with educational information background, and there is a great lack of comprehensive ability to model educational data. Professionals. As a result, the level of data modeling in many applications is still relatively low. Some applications, although the results are very beautiful, the scientific nature of the model remains to be tested. The key ability of artificial intelligence to promote education development is data modeling ability. Data modeling ability determines the level of artificial intelligence education application. It is a deep-level problem that restricts the application of artificial intelligence education. It is worthy of attention and needs to be strengthened.

2.2 The Status Quo of Artificial Intelligence Technology

In the process of primary and secondary education, the use of artificial technology can effectively help teachers to understand the real situation of students in a timely manner. Teachers or parents can effectively understand the learning situation of students through the mobile phone network, and teachers can also learn the specifics of students. The situation is timely and feedback. Convenient communication with parents, to achieve a comprehensive education between students in society, family, and school, to develop a scientific teaching plan with sales, enrich teaching content, and effectively improve students' quality. In addition, in the process of primary and secondary education, artificial intelligence technology can be used to personally guide students, students can find in the process of massive information data. In the direction of your own interest, formulating a unique learning plan and realizing the pertinence of each student can fundamentally stimulate students' learning potential and enhance their interest in learning. In addition to providing big students with learning content based on big data technology, it can effectively improve students' learning efficiency. Students can realize a series of services such as automatic modification and automatic answering through the functions of picture recognition and text translation in artificial intelligence, avoiding the shelving of resources during the learning process and effectively improving the learning efficiency. In addition to the above advantages, in primary school, primary and secondary education, the use of artificial intelligence tools can effectively reduce the workload of teachers, teachers can easily abstract the content through the visual teaching tools in the preparation process, from the traditional Separate from the teaching model and make

full use of multimedia teaching tools to return more time in the classroom to students.

Although artificial intelligence technology brings many advantages in the process of primary and secondary education, there are certain problems. In the current development of intelligent education, the excessive use of artificial intelligence tools neglects the relationship between students and teachers and students. Communication, lacking the unique creativity of human emotions. It does not give full play to the best learning effect of emotional communication, which invisibly puts pressure on students' learning and is not conducive to the cultivation of personality. In addition, in the process of using artificial intelligence technology, the technology is not perfect at this stage. In terms of image recognition and voice answering, it is still not accurate enough. There are still many problems in integration with modern education. In the process of primary and secondary education, the use of artificial intelligence technology is not realized in a short period of time. In addition, artificial intelligence does not completely replace the teacher's functions in the cultivation of students' values and the ability to innovate. For the majority of teachers, education is a special occupation that breeds souls. It requires the trust between people, extensive participation, excessive dependence on artificial techniques, neglecting the shaping of students' character, and is not conducive to student development.

3 Measures to Strengthen the Application of Artificial Intelligence Technology in Primary and Secondary Education

In the process of primary and secondary education, the implementation of artificial intelligence education can effectively help more students to understand the knowledge through the creation of science popularization, the form of competition can effectively stimulate students' interest in learning, and lay a good foundation for the country to cultivate talents in artificial intelligence. In the teacher teaching process, intelligent computer-assisted teaching procedures can also be used, which can effectively improve the teaching level of teachers. Help teachers to fully use the modern education model to promote the development of education in the direction of modernization and science and technology. However, in the online stage, the application of artificial intelligence technology in the application of primary and secondary education, the majority of schools must create good labor for more students. The educational atmosphere of intelligent technology application can help more teachers to fully use computer, optical fiber and multimedia technology into educational activities in the teaching process to form a unique personalized teaching mode. At this stage, with the continuous development of multimedia information technology, the forms of MOOC and micro-classes have sprung up. This kind of virtual distance learning has changed the teaching activities under the traditional way to provide students with more learning environment. Learning is no longer limited by time and space. Learning can be done whenever and wherever, and it can effectively improve students' understanding of artificial intelligence technology.

At present, the integration of artificial intelligence technology in the process of primary and secondary education can establish a good communication mechanism between enterprises, schools and families, and promote the continuous development of education reform. In the process of the development of artificial intelligence technology, the comprehensive quality of teachers should be improved. Teachers are not the carriers of knowledge. He is the organizer and guide of teaching activities. In the process of student learning, the guiding role of teachers should be fully utilized. Teachers should also master certain artificial intelligence technologies. They can be used extensively in the teaching process to guide students to have artificial intelligence thinking and realize the comprehensive development of each student.

In the process of primary and secondary education, the use of artificial intelligence technology can effectively realize the integration of teaching resources between remote mountainous areas and high-quality schools, establish a platform for sharing artificial intelligence education resources, and promote the interaction between teachers and students, teachers and teachers, and classmates. The exchange of knowledge and information between the two is achieved by strong and weak, thus achieving the all-round development of schools, teachers and students. In today's widely used artificial intelligence technology, organic integration with education can bring more complex technical knowledge talents to the society.

3.1 Analysis of Learning Activities Based on Computational Behavioral Science

Teaching behavior recognition is the basis of classroom teaching analysis, and the recognition of behavior requires the scientific research method - the support of behavioral science. Behavioral scientific research between human interactions and activities, through systematic comparison and investigation of human or animal behavior by comparing control groups with natural observations or designing rigorous scientific experiments. The fusion of behavioral science and computer technology forms the science of computational behavior. Computational Behavioral Science uses advanced sensor technology, computer-aware technology, and machine learning to solve developmental psychology and clinical medicine problems. The combination of computational behavioral science and education has broad prospects in the field of learning and analysis, such as behavioral data collection methods for studying learning processes, characteristics and preferences of learners based on big data research, group behavior based on offline learning and cyberspace, and research on individual self-study. Instructor-led behaviors in group learning and class teaching. Learning activities refer to the special interaction behaviors of learners and the environment with the support of specific roles in order to achieve the predetermined learning objectives (see Figure 2). The analysis of learning activities requires behavioral calculations across interdisciplinary areas to model learning activities. With the development of information technology, especially the deep learning theory in recent years, computer vision, speech recognition, natural language processing and other technologies have begun to meet or exceed the human average in many fields. The multi-modal learning analysis method is used for classroom behavior analysis. Come to new opportunities. Multimodal learning analysis can capture and integrate and analyze

complementary learning trajectory data sources to gain a high degree of stability and non-determinism in the learning process. The data sources include not only traditional log file data captured by online systems, but also Including natural signals of the learning process, such as gestures, gaze, speech or writing.

3.2 Evaluation based on multimodal data has become a new direction for the reform of educational evaluation methods

With the increasing demand for high-level thinking ability of the society, the traditional paper-and-pencil test can no longer meet the needs of evaluation. People are increasingly resisting the evaluation of a single data source, and hope to use multi-modal data. Evaluation, artificial intelligence technology records the whole process, the characteristics of multi-dimensional data can meet this point. Cui Ying from the University of Alberta in Canada introduced the University of Alberta's new learning evaluation system, which can establish courses, upload lecture notes and study materials, students can download materials, establish online discussions, conduct online tests and assignments, and record each. Items and so on. While the students are doing these operations online, the system automatically records the interaction data between the learner and the system, such as the login time, the time and number of submissions, the time and frequency of resource acquisition, and the discussion with the classmates. Traditional summative evaluation generally pays attention to the number of learners' knowledge acquisition. There are few information about learning strategies, student participation and interaction degree, and the time data, click data and interaction data recorded by the system can be used to analyze student learning. Skills, learning strategies, building student profiles, and identifying student characteristics. Jiao Hong from the University of Maryland pointed out that in the online exam, the system will record the process data of the student's answer, such as eye movement data, the time used for each question, whether the option is directly selected or transformed, whether or not to skip a question. Etc., these data can help the evaluator diagnose the student's perception. Zhang Zhiyong from the University of Notre Dame in the United States studied the processing of qualitative information, especially the emotional analysis of text data, extracting emotional words from the text, and scoring the text according to the semantic analysis of emotional words. It can be seen that artificial intelligence technology can collect multi-modal data, such as time data, eye movement data, qualitative information, etc., which can help the evaluator to diagnose and evaluate students more comprehensively.

3.3 Establish and improve laws and regulations related to the application of artificial intelligence education

The deepening of artificial intelligence education applications will further blur the boundaries of human society, schools and cyberspace, and thus generate a series of ethical, legal and security issues. For example: the contradiction between the opening of data and the protection of privacy. At present, the focus is on promoting data openness and sharing. There are no clear and specific data security protection measures, and

there are huge hidden dangers. At the same time, the data collection and data analysis results in some cases are not fully considered for the privacy protection of teachers and students. To this end, it is strongly urged to initiate relevant research as soon as possible and to develop a regulatory and regulatory framework for data protection. This work should be based on the protection of personal privacy and ethics as the basic principle to protect the personal privacy of teachers and students, while ensuring the ethical, auditable use and sharing of learner data. It is necessary to strengthen supervision to ensure that everyone in the development and use process complies with relevant laws and regulations and avoid irresponsible consequences. At the same time, we must pay attention to the guidance of social values, strengthen forward-looking prevention and restraint, ensure data security and algorithm fairness, and ensure the safe, reliable and controllable development of artificial intelligence.

4 Conclusion

"Intelligent Education" is a fusion of new theories and technologies such as mobile Internet, big data, supercomputing, Internet of Things, and brain science and education in the framework of China's new generation of artificial intelligence development strategy, and the use of a new generation of artificial intelligence in comprehensive deep reasoning. The advantages and potentials of cross-media perception, situational understanding, and independent collaborative interaction, change the supply mode of education, promote the modernization of education governance system and governance capability, and innovate the way of teaching and learning, providing learners with data-driven, personalized, Contextualized learning support services to promote the organic combination of large-scale education and individualized training to form a new educational ecology that adapts to the development of the intelligent age.

"Teaching is classless, teaching students in accordance with their aptitude", the fairness and individuality of education is the dream of mankind for thousands of years, and has always been a topic that the whole society values and pays attention to. When the scale of education at all levels develops to a certain extent, the issue of individualized training is receiving more and more attention. With the development of educational information science, the integration of artificial intelligence and education, the precise teaching of contextual awareness and adaptive personalized learning have begun to enter the normal state. Intelligent education characterized by data-driven, personalized, contextualized and new educational ecology provides a large-scale personalized learning method, which brings the possibility of balancing large-scale education and individualized training. In this historical period of the era of intelligence, school education should face challenges, explore new teaching modes such as differentiated teaching, flipping classrooms, and mastering learning supported by information technology, and promote the organic combination of large-scale education and individualized training. Researchers in various fields should promote the cross-integration of disciplines such as education, information science, psychology, and cognitive science, and study the basic computational problems in the field of education, namely cognitive computing, learning behavior calculation, and learning

environment computing. This is also the element that computational education needs to pay attention to.

The study of computational problems in education will enable future government agencies and enterprises to reduce detours in the planning, implementation and product development of relevant policies, and reduce social costs; credible intelligent education services and computing can significantly reduce the future generation of artificial intelligence education. The negative impact of the real realization of public security; the field of intelligent learning environment supported by environmental computing will provide strong support for lifelong education, lifelong learning and learning society; ultra-large-scale intelligent teaching system will support learning through support New teaching modes such as differentiated teaching and personalized learning improve the learning efficiency and learning effect of learners and strengthen the effectiveness of the entire social education system. This will rationally promote the coexistence and coexistence of artificial intelligence and education, and promote the transformation of education in a healthy and orderly manner and promote the sustainable development of human society.