

Research on the Integration of Artificial Intelligence and Education

Kun Yao, Hongchang Yang*

Chuxiong Normal University, Chuxiong 675000, Yunnan Province, China

Abstract: Human intelligence and artificial intelligence have their own advantages and have the basis of deep integration. The integration of the two not only optimizes the effect of classroom teaching, but also challenges the essence of education. Based on the realization of the integration of artificial intelligence and education, this paper further discusses the feasible path of the integration of artificial intelligence and education from three aspects: reshaping the education concept, building a diversified education ecosystem and optimizing the education + artificial intelligence guarantee system. It provides a basic way to realize the integration of artificial intelligence and education.

Key words: Artificial intelligence; Education integration; Realistic foundation; Path exploration

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***Corresponding author:** Hongchang Yang, 2093480933@qq.com

The application of artificial intelligence in the education industry not only optimizes the effect of classroom teaching, but also challenges the essence of education. Schools need to shoulder the educational responsibility of cultivating intelligent workers to adapt to the times. In order to adapt to the new content of education tasks, colleges and universities should deeply study the practical basis of the integration of artificial intelligence and education, reshape the education concept, and build a diversified education ecosystem.

1 The realistic foundation of the integration of artificial intelligence and education

1.1 The comparison of life required literacy

From the perspective of educational psychology, the specific core qualities that individuals need generally involve values, feelings, knowledge, skills, creativity and other dimensions. The identification of the three relationships between individual and self, society and nature needs self-awareness, and the treatment of these three relationships needs values as the basis. In the recognition and processing of these three kinds of relationships, human specific emotional expression is involved, which is difficult for artificial intelligence to have. Artificial intelligence has a huge database and super memory function, and it has advantages in knowledge and skills that human intelligence can't reach^[1]. In recent years, the great achievements of artificial intelligence in intelligence chess can prove that its ability in information processing and data operation has far exceeded that of human beings. In addition, artificial intelligence is superior to human intelligence in knowledge richness, accuracy and work energy. In the field of creation, human intelligence has a unique advantage. At present, artificial intelligence can not really achieve creative work. In the future, we may expect artificial intelligence to develop some intelligence similar to human creativity, but this kind of intelligence is still based on logic and operation, not the real creative behavior based on imagination and freedom.

1.2 Comparison based on Multiple Intelligences Theory

Logic and linguistic intelligence are widely accepted as important types of intelligence. Rich knowledge reserve, practical experience and humanistic quality lay the foundation for the development of human language. Human language intelligence can realize the extended understanding and awareness of the implied meaning and discourse situation, but artificial intelligence cannot. Secondly, compared with artificial intelligence, human intelligence also has the advantages of visual processing, abstract and logical thinking ability, as well as the unique intuitive ability which is difficult to explain with modern science. In the aspect of logical reasoning, artificial intelligence is more powerful, with stability and sustainability that human intelligence can't match. In a word, artificial intelligence has more advantages in the collation, transmission and collection of knowledge, while human intelligence has more advantages in value, emotion, innovation and other soft literacy.

2 Discussion on the integration path of artificial intelligence and education

2.1 Remolding the concept of Education

Artificial intelligence not only optimizes the effect of classroom teaching, but also challenges the essence of education, prompting us to redefine human nature and re judge the value of knowledge. With the development of artificial intelligence, schools need to deeply study how to complete the education task of cultivating intelligent workers adapting to the times^[2]. In the traditional industrial society, big machine production is the foundation, which requires workers to have the ability to deal with the relationship between people and things flexibly. With the development of information technology, the industrial structure is constantly adjusted, and the tertiary industry occupies an increasing proportion. Great changes have taken place in the demand of modern jobs for the technical content of workers, which requires workers to have the ability to interact with users effectively as well as knowledge. During this period, EQ became an important part of the quality structure. In the era of artificial intelligence, the relationship that workers need to deal with is more complex, including the relationship between people and things, people and people, people and

artificial intelligence. This also puts forward higher requirements for modern education. How to integrate artificial intelligence into education and let students understand and learn to apply artificial intelligence technology has become an important aspect of education reform.

2.2 Constructing a pluralistic education ecosystem

2.2.1 Multi party participation and collaborative optimization

In terms of coordination, participation and interaction, artificial intelligence has great advantages in building a bridge between the market and schools, so as to maximize the satisfaction of educational needs and the effective allocation of educational resources. The ecosystem of education + artificial intelligence is a dynamic and open system, which can effectively promote the sharing of educational resources and promote educational equity. It needs the support of schools, governments, scientific research institutions, enterprises and industries. The key to the smooth operation of this system is the collection, analysis and utilization of data. The school undertakes the task of providing teaching resources, educational theory, teachers' teaching data, students' learning data and educational implementation places for the educational artificial intelligence ecosystem. Enterprises need to give full play to their own production advantages to provide necessary advanced intelligent product support and corresponding technical support for education + artificial intelligence personnel training. The research results are positively correlated with the direction, that is to say, the determination of the direction and the formulation of work standards are the key to the sustainable development of educational artificial intelligence and the tasks that the government must complete. Various scientific research institutions provide intellectual support for the development of educational artificial intelligence.

2.2.2 Improving efficiency by simulation teaching

With the development and application of artificial intelligence, new industries and jobs are emerging, which has a huge impact on the existing industries and jobs. The maturity of artificial intelligence education technology and the abundance of network resources provide support for the innovation of teaching mode, and teachers can realize the transformation of identity. Under the traditional

education mode, classroom teaching takes the teacher as the center and ignores the main role of students. Under the intelligent education mode, the main role of students can be brought into play, and teachers play the role of guides^[3]. With the help of artificial intelligence technology, we can more effectively collect all kinds of data generated in the process of students' learning, and analyze them through certain model data, which can help teachers more accurately understand students' thinking habits and behavior, so as to draw up more targeted teaching plans, and promote students to participate in the teaching process and play the role of learning subject. Virtual simulation technology in artificial intelligence technology can also be used as a new teaching method in classroom teaching activities^[4]. The simulation teaching system can present things in the real world relatively realistically. With the help of the virtual simulation system, teachers can help students accumulate perceptual experience, stimulate students' desire for independent exploration, and realize the effective improvement of classroom teaching effect by creating more teaching situations.

2.2.3 Improving the intelligent teaching ability and implementing the education strategy

As the implementers of education, teachers should take the initiative to adapt to the reform of artificial intelligence information teaching technology, and improve their teaching level with the help of the latest achievements and theories of modern science and technology. In order to meet the educational needs of modern society, teachers should constantly study and practice, improve their intelligent teaching ability, and promote the deep integration of artificial intelligence and education with their own actions. As the main place to complete teaching activities, the school should start the training project of teachers' information technology teaching ability, provide more opportunities for teachers to exchange and study, improve their intelligent teaching ability, enrich their innovative teaching mode research theory, so as to improve the overall level of new technology application of teachers. The improvement of ability is inseparable from the support of practice and the introduction of artificial intelligence teaching laboratory, which provides practice place and resource support for teachers to actively adapt to the change of information technology.

2.2.4 Reforming teaching evaluation with big data intelligent evaluation

The sources of educational data are diverse and the amount of data is large, so it is difficult to collect and process them completely, and it is difficult to carry out teaching evaluation activities effectively by using traditional methods. With the help of artificial intelligence big data technology, the process of large-scale autonomous evaluation of students' learning behavior and learning process and timely, personalized and accurate feedback is called artificial intelligence evaluation. With the help of the intelligent evaluation model of big data, a more complete collection and analysis of education data can make the evaluation results more clearly reflect the teaching process^[5]. Compared with the traditional evaluation model which only focuses on the evaluation results, the data obtained by this evaluation method has more practical significance for teaching reform.

2.3 Optimizing the support system of education and artificial intelligence

First, the state can provide policy guarantee for the deep integration of AI and education. The cultivation of innovative talents and scientific and technological innovation are inseparable from the support of education. Our government attaches great importance to the integration of artificial intelligence and education, and has promulgated a series of relevant policies since 2016, which has created a good policy environment for the rapid development of artificial intelligence education and effectively promoted the promotion and application of artificial intelligence in the field of education. Secondly, financial support is essential. The government should appropriately increase the investment in intelligent education, promote the implementation of the practice and research projects of the integration of artificial intelligence and education, and attract more enterprises, talents and scientific research institutions to join.

3 Conclusion

In short, artificial intelligence subverts human life and work, and injects new vitality into the development of contemporary education. From the perspective of production, "educational power" is the standard to evaluate a kind of education. The development of artificial intelligence promotes the combination

of man-machine intelligence and human-machine intelligence, and produces stronger "education power", which is in line with the development demands of the times. The integration of artificial intelligence and education is of great significance to the development of education in China.

References

- [1] Guo WM, Feng XY, Cai MJ. Influencing factors of learners' learning effect in intelligent learning environment[J]. Modern Educational Technology, 2020, 30(12): 69-75.
- [2] Liu JW, Wang YF, Luo XL. Research progress of deep memory network [J/OL]. Acta computa Sinica, 2020:1-52.
- [3] Liu JS. Discussion on students' subjectivity in the age of artificial intelligence [J]. Modern Educational Technology, 2021,31 (01): 5-11.
- [4] Yang XH, Shen SS. Research on artificial intelligence learning culture from the perspective of Social Narrative [J]. Modern Educational Technology, 2021,31 (1): 12-18.
- [5] Xu DG, Wang L, Li F. Survey of typical target detection algorithms based on deep learning [J/OL]. Computer Engineering and Application: 1-21.