

# Research on ideological and political education of college students enabled by artificial intelligence

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## ABSTRACT

In the digital age, artificial intelligence (AI) has widely penetrated into various fields, including ideological and political education in colleges and universities. This study discusses the application value of AI in ideological and political education in universities, analyzes the application form of artificial intelligence technology, discusses the challenges such as data security, technology integration and the ability of educators, and proposes targeted strategies. Rational application of AI can improve the efficiency and quality of educational management, but many challenges need to be addressed. This study provides the direction for the innovation of ideological and political education in colleges and universities, promotes the development of intelligent education, and helps to cultivate high-quality talents.

## KEYWORDS

Artificial Intelligence; University Students; Ideological and Political Education; Data Security

In the context of rapid technological development, new development concepts are driving changes in the field of education. The wave of artificial intelligence has swept across colleges and universities, bringing unprecedented opportunities for the ideological and political education of college students. It can break through the limitations of traditional education and realize personalized and efficient education. However, like any emerging technology, its application process is not without obstacles. How to solve the problems of data security and technology integration while enjoying the convenience brought by technology? It is of great significance to study the path of ideological and political education for the innovation of the education mode and improve the quality of talent training.

## 1 The innovative practice of ideological and political education

### (I) Intelligent application of college education management

Through big data, the data value in education management is deeply mined, and students' needs and interest preferences are analyzed to provide accurate basis for the planning of educational activities, realize "personalized customization", and improve the enthusiasm of students to participate. Use intelligent technology to expand the educational space, and broadcast educational courses online through intelligent devices, to break the restrictions of time and space, so that students can participate in learning anytime and anywhere.

### (II) The exploration of intelligent ideological and political education of college students

Use the intelligent teaching platform to build the immersive learning scenarios. With the help of virtual reality technology, students can "stay" in the scene of historical events, such as the battle scenes in the Long March, feel the history more intuitively, and enhance the attraction of ideological and political education<sup>[1]</sup>. At the same time, through the intelligent algorithm analysis of students in the ideological and political learning behavior data, such as knowledge stay time, homework completion, accurate identification of students' learning difficulties and weak links, tailored personalized learning plan for each student, and recommend the appropriate case analysis and expand reading materials, improve the pertinence and effectiveness of ideological and political education, help students to better understand and practice the ideological and political education concept.

## 2 The challenge of ai empowerment

### (I) The dilemma of data security and privacy protection

In the process of accelerating the digital transformation, colleges and universities use artificial intelligence to promote the intelligent development of ideological and political education, but they also fall into the dilemma of data security and privacy protection. With the wide application of intelligent technology, the amount of data accumulated in colleges and universities has increased sharply, including students' learning habits, academic performance, as well as personal information and important data involved in educational activities. Technical vulnerabilities are like ticking time bombs. In the process of data storage, because the system architecture is not perfect, hackers may easily break through the line of

defense and steal a large number of sensitive data<sup>[2]</sup>. During transmission, data can also be stolen or tampered with if encryption measures are inadequate. In terms of management, the division of data use authority is not clear, and multiple departments cross-manage data, which leads to insufficient supervision of data acquisition and use, which greatly increases the risk of improper acquisition and abuse of data. If the data is leaked, the lives and work of students and teachers will be disrupted, and the long-term reputation of universities will be damaged.

(II) The difficulty of integrating educational content and technology

The rapid iteration of technology makes it difficult to keep up with the updating of educational content. For example, emerging AI applications such as intelligent tutoring systems need to adapt to the content of ideological and political education, but the current content development is relatively lagging behind. At the same time, different technologies have different adaptability to educational scenarios. For example, although virtual reality technology has advantages in reproducing historical scenes, it faces problems such as high equipment cost and complex operation in daily ideological and political classroom interaction. In addition, the change of educational concepts is also a major challenge. Traditional education focuses on knowledge transmission, while intelligent education emphasizes interactivity and individuation. The change of this concept requires college teachers, ideological and political educators and students to adapt to it together. The difference in thinking of all parties makes the integration of educational content and technology difficult, and hinders the development process of intelligent education.

(III) The lack of technical application ability of educators

With the wide application of artificial intelligence in the field of education, higher requirements are put forward for the technical ability of educators. At present, some educators lack systematic training, and only have a superficial understanding of artificial intelligence technology, so it is difficult to effectively combine artificial intelligence technology with work content in practical teaching and ideological and political education. When using the intelligent teaching platform for ideological and political education, they cannot make full use of the data analysis function of the platform and adjust the teaching strategies according to the data. In addition, in the face of constantly updated technology, educators lack learning motivation and channels, leading to the slow improvement of technology application ability, which is difficult to meet the needs of intelligent education, and affects the promotion of intelligent ideological and political education in colleges and universities.

### 3 Strategy building to promote the effective empowerment of AI

(I) Build a strong data security and privacy defense line

Improve the system and build a comprehensive data management standard. Clarify the boundary of data collection, and only collect the content closely related to education, teaching and ideological and political education, to avoid excessive collection. Refine the rules of data storage, use and sharing, and strictly limit the access rights to ensure the security and controllability of data at all stages. Strengthen the technical support, using the advanced data encryption algorithm to encrypt the data stored and transmitted, to prevent the data from being stolen or tampered with in the transmission process. Implement a multi-factor authentication mechanism, combined with fingerprint identification, facial recognition and other biometric technology and traditional password authentication, enhance access security. Carry out regular data security audit, find and repair potential vulnerabilities in time, continuously monitor the use of data, issue early warning to abnormal operations, build a comprehensive data security and privacy defense line, and ensure the stable application of artificial intelligence in the field of university education.

(II) Accurate selection and application of artificial intelligence technology

Accurate assessment of technical adaptability is crucial. It is necessary to comprehensively consider the functional characteristics of various artificial intelligence tools and platforms, and closely combine the forms and teaching objectives of ideological and political education activities for screening. For the teaching of ideological and political theory courses, the intelligent teaching system with the function of intelligent quiz and knowledge graph construction should be selected<sup>[3]</sup>. These systems can quickly answer various questions encountered by students in the learning process through intelligent algorithms, help students to sort out the knowledge context, and build a systematic knowledge system. When learning complex concepts in ideological and political theory, the intelligent question and answer function can provide detailed explanation and case analysis, and the knowledge graph can intuitively show the logical relationship between the knowledge points, helping students to better understand and master the knowledge. In conducting immersive education activities, virtual reality (VR) or augmented reality (AR) technology is introduced to create realistic learning scenes for participants. Through VR technology, students feel as if in the scene of historical events, personally experience the heroic struggle of revolutionary ancestors; AR technology can superposition historical information and virtual elements in the real scene, enhance the fun and interactive learning. In addition, attention must be paid to the continuous optimization of technology applications. A dynamic monitoring and feedback mechanism should be established to extensively collect the use experience of teachers, students and ideological and political educators, and the

impact of the application of technology on the teaching effect should be deeply analyzed. According to the feedback results, adjust the technology application strategy in time. For intelligent teaching system, the optimization algorithm is used to more accurately match students' learning needs and improve learning efficiency; for VR / AR equipment, improve interaction design, enhance the convenience and immersion of use, ensure the maximum effectiveness of AI technology in ideological and political education in colleges and universities, and comprehensively improve the quality of education.

(III) Comprehensively improve the technical literacy of educators

In the aspect of training system construction, stratified and classified training courses are designed. For educators with weak technical foundation, provide basic courses covering basic concepts of artificial intelligence and common tools; for those with certain foundation, offer advanced courses such as application of deep learning in educational data analysis and deep development of intelligent teaching platform. The training forms combine online and offline, provide rich video tutorials and case banks for independent learning, and practical operations and expert lectures are organized offline to promote communication and experience sharing. At the same time, build a technology exchange community to encourage educators to share technology application experience, discuss technical problems, and create a good technology learning atmosphere. In addition, an incentive mechanism for technology application should be established to commend and reward educators who innovatively apply artificial intelligence technology in ideological and political education and achieve good results, so as to stimulate the enthusiasm of educators to actively improve their technical literacy and promote the intelligent development of ideological and political education in colleges and universities.

## 4 Conclusion

The deep integration of artificial intelligence and ideological and political education in colleges and universities has brought about many changes. It has significant advantages in optimizing educational activities and personalized ideological and political education, and promotes the development of education to the intelligent direction. However, data security, technology integration, and the technical capabilities of educators remain barriers to development. These challenges can be effectively addressed by strengthening data protection, precise selection and application of technology, and improving the technical literacy of educators. In the future, continuously exploring the coordinated development of artificial intelligence and education will give full play to its enabling role, improve the quality of ideological and political education, cultivate high-quality talents with firm faith and innovative thinking, and inject lasting vitality into the cause of higher education.

## About the Author

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