

Development Opportunities and Practical Approaches for Higher Vocational Ideological and Political Education in the Context of Artificial Intelligence

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ABSTRACT

With the in-deep advancement of the Education Digitalization Strategy, artificial intelligence (AI) technology is injecting strong impetus into the innovation of higher vocational ideological and political education. Focusing on the fundamental task of "moral cultivation and talent development" in higher vocational ideological and political education, this article systematically sorts out multiple development opportunities generated by AI, such as the innovation of teaching model, the optimization of resource supply, and the improvement of educational effectiveness. Meanwhile, it delves into the practical approaches of AI empowering higher vocational ideological and political education, which specifically covers constructing an intelligent teaching system, establishing a collaborative mechanism for teachers, and improving the guarantee and governance system. It aims to provide reference for promoting the deep integration of AI and higher vocational ideological and political education and facilitating the high-quality development of ideological and political education.

KEYWORDS

Artificial intelligence; Higher vocational ideological and political education; Opportunity

1 Introduction

The "Opinions on Accelerating the Digitalization of Education" jointly issued by the Ministry of Education and other eight competent departments clearly states that "artificial intelligence (AI) technology should be integrated into all elements and the entire process of education to promote the integration of science and technology education with humanities education". This policy initiative not only clarifies the direction for the digital transformation of higher vocational education, but also injects new vitality into the innovative development of ideological and political education. At present, traditional higher vocational ideological and political education is facing practical problems such as monotonous teaching forms and inadequate pertinence, while the universality and strong penetration of AI technology have opened up new paths to solve these problems. It is of great significance to deeply explore the development opportunities of higher vocational ideological and political education amid the tide of AI and probe into feasible practical ideas, so as to improve the effectiveness of ideological and political education and cultivate high-quality technical and skilled talents with both moral integrity and professional skills.

2 Development Opportunities for Higher Vocational Ideological and Political Education in the Context of AI

2.1 Innovate Teaching Models and Restructure Scenarios for Ideological and Political Education

The rise of AI technology is gradually breaking through the temporal and spatial barriers in traditional ideological and political education of higher vocational colleges. It is driving the educational model to shift from the traditional teacher-student binary structure to a triadic interaction form involving teachers, intelligent devices, and students, thereby laying a solid technical support for the innovation of ideological and political teaching models. For instance, by utilizing intelligent technologies such as virtual reality (VR) and augmented reality (AR), the originally abstract and obscure ideological and political theories can be transformed into perceptible and immersive teaching scenarios to enable students to personally experience and explore a simulated environment, thereby fostering a deeper understanding of the profound implications of the theories^[1]. At the same time, intelligent teaching platforms can make the teaching process more dynamic. Through real-time interaction, scenario simulation, online discussions, and other various forms, they break the monotonous lecture-based model of traditional ideological and political courses where teachers lecture and students listen, and fully stimulate students' awareness of active participation. This innovation in teaching models has completely enabled ideological and political education to break away from the old framework of one-way indoctrination, and to evolve into a new form of two-way interaction between teachers and students and active exploration by students. Therefore, this innovation has greatly enhanced the attractiveness and inspiration of ideological and political courses, and also opened up broader space for expanding the scenarios of ideological and political education.

2.2 Optimize Resource Supply and Improve Content Adaptation Efficiency

AI technology has carved out an efficient path for the integration and optimization of ideological and political education resources in higher vocational colleges, and effectively enhanced the adaptability and timeliness of educational content. Leveraging big data analysis, teachers can precisely understand dynamics of current hot topics and changes in students' ideological trends, and transform the content such as innovative theories of the government, advanced social examples, and industry codes of ethics into teaching materials that conform to the cognitive habits of higher vocational students. For instance, generative AI can automatically generate diverse ideological and political materials like theoretical explanations, red stories, and professional ethics cases to enrich the presentation forms of teaching content. Meanwhile, building an ideological and political resource library and knowledge graph can not only achieve the co-construction and sharing of high-quality resources, but also precisely deliver these resources to students. As a result, regardless of differences in their majors or cognition levels, all students can obtain learning resources tailored to their individual needs. This approach solves the long-standing problem of traditional ideological and political education resources being one-size-fits-all and inadequate specificity, and also lays a solid resource foundation for the promotion of personalized ideological and political education.

2.3 Accurately Analyze Students' Learning Status and Strengthen the Pertinence of Education

The data analysis capability of AI is an important driving force for precise education in higher vocational ideological and political education, which can drive ideological and political education to gradually shift from the traditional model that relies on experience-based judgment to a scientific-driven model supported by data. Teachers can use intelligent systems to collect and analyze multi-dimensional information such as students' in-class interaction performance, online learning trajectories, and homework completion quality to build a comprehensive and three-dimensional digital profile of students, and clearly identify their cognitive blind spots and weak points in areas such as the establishment of ideals and beliefs, the cognition of values, and the cultivation of professional ethics. Based on such an analysis of students' learning situations, teachers can formulate personalized teaching plans, and carry out targeted ideological and political guidance and one-on-one tutoring, thus truly implementing the educational philosophy of teaching students in accordance with their aptitude. In addition, the integration of affective computing technology can capture real-time changes in students' emotional attitudes, and help teachers promptly identify students' cognitive dissonance and provide guidance, further strengthening the emotional resonance between ideological and political education and students. This education approach that aligns with the practical needs of students can truly make ideological and political education resonate with students and effectively enhance the effectiveness of education.

3 Practical Principles and Approaches of Higher Vocational Ideological and Political Education in the Context of AI

3.1 Practical Principles of Higher Vocational Ideological and Political Education in the Context of AI

The integration of AI technology into the ideological and political education practice of higher vocational colleges should firmly adhere to three key principles: priority of value guidance, technology adaptation and empowerment, and integration of knowledge and practice^[2]. The fundamental purpose of education is always to moral cultivation and talent development, which requires that AI technology must serve the cultivation of students' ideals and beliefs as well as their professional ethics throughout the whole process, and instrumental rationality must never overshadow the glory of value rationality. At the same time, based on the characteristic of higher vocational education that emphasizes practice and skills training, by leveraging technological advantages such as intelligent simulation training scenarios and precise learning situation analysis, it can promote the in-deep integration of ideological and political content with professional training, and truly achieve the resonance between value guidance and skills development. In addition, it is necessary to uphold the bottom line of data security and algorithmic fairness, establish a sound ethical review mechanism for technology application, and proactively prevent potential risks such as information cocoons and ideological deviations.

3.2 Practical Approaches of Higher Vocational Ideological and Political Education in the Context of AI

3.2.1 Construct an Intelligent Teaching System and Create Collaborative Education Scenarios

To truly integrate AI into higher vocational ideological and political education, building an intelligent teaching system is a crucial step, which can be achieved specifically from such aspects as the construction of teaching scenarios, the optimization of curriculum systems, and the reconfiguration of teaching processes.

In terms of teaching scenario construction, teachers can utilize intelligent teaching platforms and integrate

technologies like virtual reality (VR) and augmented reality (AR) to create immersive ideological and political classrooms. They can focus on themes, such as the inheritance of red culture, the cultivation of professional ethics, and the practice of social responsibility, to design contextualized teaching modules, so as to enable students to deepen their value recognition through immersive experiences. Furthermore, it is necessary to build a cross-disciplinary and cross-institutional intelligent teaching collaboration platform to enable the interconnection and sharing of high-quality ideological and political teaching resources, thus breaking down resource barriers.

When optimizing the curriculum system, it needs to combine the characteristics of different majors in higher vocational colleges with the actual needs of industrial development to build an “AI + ideological and political education” curriculum framework, and to integrate general AI knowledge with core ideological and political courses and major-specific courses, thus developing “AI + X” interdisciplinary courses. Moreover, practical content such as industry frontiers, professional ethics, and technical ethics requirements should be integrated into ideological and political courses to make the courses both relevant to professional learning and in line with industry trends, thereby enhancing their pertinence and cutting-edge nature.

To reconstruct the teaching process, it requires the establishment of a full-process intelligent teaching model covering pre-class diagnosis, in-class interaction, and post-class expansion. Before class, intelligent systems can be used to analyze students’ learning situations, and accurately identify the key points and difficulties of teaching. During class, intelligent interactive tools can be utilized to carry out diversified teaching activities, and adjust the teaching pace in real time according to students’ feedback. After class, intelligent platforms can be leveraged to push personalized learning tasks, and conduct extended learning and online tutoring, thus forming a full-process education workflow^[3]. Through the construction of such an intelligent teaching system, ideological and political education and technology application can truly be integrated, and a new scenario of human-machine collaborative education can be created ultimately.

3.2.2 Establish a Teacher Collaboration Mechanism and Enhance the Technology Application Capability

The teaching staff is the key to enabling AI to truly serve higher vocational ideological and political education. Therefore, colleges should establish a collaborative system covering technical training, teaching research innovation, and practical empowerment to effectively enhance teachers’ abilities to apply AI.

Technical training should follow a systematic approach, and tailor AI literacy improvement plans for teachers. It should focus on such aspects as the operation of intelligent teaching tools, teaching data analysis, and the intelligent design of ideological and political teaching scenarios, and carry out full-staff rotation training and specialized training, to effectively help teachers master the basic principles and practical skills of AI technology. Meanwhile, it is necessary to establish an online learning platform to integrate high-quality training resources, and facilitate teachers’ self-paced learning and continuous professional development at any time.

In terms of teaching research innovation, an innovative studio for AI-based ideological and political teaching can be established, and a teaching and research team consisting of teachers from different disciplines can be organized to specifically study the difficult issues encountered in the integration of AI and ideological and political education, and explore intelligent teaching models and methods suitable for ideological and political courses in higher vocational colleges. Teaching seminars, experience-sharing sessions, and teaching skills competitions can also be regularly organized to popularize outstanding teaching cases and practical experience, and thus fully stimulate teachers’ enthusiasm for teaching research and innovation.

Practical empowerment cannot be achieved without college-enterprise cooperation. Higher vocational colleges should establish a college-enterprise collaborative education mechanism, and encourage ideological and political teachers to conduct more exchanges and cooperation with enterprise technicians, so as to gain an in-depth understanding of the practical application scenarios of AI in industries, and introduce the ideological and political elements and technical application experience from the industrial frontline into the classroom. Additionally, they can encourage teachers to participate in practical projects such as the development of intelligent teaching resources and the construction of teaching platforms to enhance teachers’ technology application and teaching innovation capabilities in actual practice, and thus cultivate dual-competence ideological and political teachers who are proficient in both ideological and political education and the application of intelligent technology.

3.2.3 Improve the Governance System and Fortify the Security Line for Education

For the in-depth integration of AI and higher vocational ideological and political education to take root and bear fruit, a sound guarantee and governance system is required as the underpinning support, and a security line for technology application must be established to provide stable support for ideological and political education.

The institutional guarantee must take precedence, and a closed-loop management system should be established. Higher vocational colleges should formulate specific “Implementation Rules for the Integrated Development of AI and

Ideological and Political Education” based on the characteristics of higher vocational education that emphasize practice and strong skills, as well as the application laws of AI technology, which should clearly define teaching integration standards, technology application norms, and the scope of teachers’ rights and responsibilities, so as to prevent blind following and disorder in the process of advancing the integration^[4]. At the same time, colleges should establish a cross-departmental collaborative governance mechanism. They can proactively integrate the strengths of the academic affairs office, the School of Marxism, and the information technology center, and recruit industry and enterprise experts to form a special working group that will be fully responsible for resource allocation, problem coordination, and quality supervision during the integration process, thus forming a governance pattern featuring unified planning, division of labor, and full-process control. On this basis, colleges should improve the resource guarantee system and earmark special funds that are specifically allocated to the links such as the renewal of intelligent teaching equipment, the development of teaching resources, and the technical training of teachers, in order to ensure sustained financial support for integrated development.

The technical security prevention and control must focus on the two key priorities of data and platforms, and build a comprehensive risk prevention and control network covering the entire process. For sensitive information such as students’ learning data and behavior data generated in the process of ideological and political teaching, it is essential to establish a hierarchical and classified data management mechanism must to clarify the whole-process specifications covering data collection, storage, utilization and destruction. At the same time, technical measures such as data encryption, desensitization processing, and access permission control should be adopted to prevent data leakage, abuse, or tampering. In addition, it is imperative to strengthen the security operation and maintenance of intelligent teaching platforms, conduct regular security inspections and vulnerability repairs, and build an intelligent risk early warning system to carry out real-time monitoring and timely early warning of abnormal behaviors and illegal operations during the platform operation, and ensure the smooth development of teaching activities. Besides, for specific application scenarios such as virtual simulation teaching and intelligent interaction, technical security assessments should be conducted in advance to avoid potential risks such as technical failures and content deviations, thereby ensuring that the technology always serves the goal of ideological and political education.

4 Conclusion

The application of AI technology has provided new opportunities and challenges for the high-quality development of higher vocational ideological and political education. To promote the deep integration of AI and ideological and higher vocational political education, it is necessary to adhere to the bottom line of moral cultivation and talent development, clarify the intrinsic relationship between technological empowerment and the essence of education, and fully exert the technical advantages of AI through specific paths such as building an intelligent teaching system, establishing a collaborative mechanism for teachers, and improving the guarantee and governance system, thus solving the practical problems existing in traditional ideological and political education. In the future, higher vocational colleges need to continuously explore new models of ideological and political education featuring human-machine collaboration, maintain the original aspiration of education amid technological innovation, and strengthen value guidance in practical exploration, so as to make AI truly become a powerful support for improving the quality of ideological and political education in higher vocational colleges, and lay a solid foundation for cultivating morally cultivated and technically proficient talents in the new era.

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