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Research on Multimodal Teaching Pathways for High School Ideological and Political Courses Driven by Artificial Intelligence Technology

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Abstract: In the context of educational digital transformation, the monolithic teaching models employed in traditional high school ideological and political education courses struggle to meet the requirements for cultivating core competencies. Addressing the practical challenges faced in such teaching practices, this paper examines the core value of leveraging artificial intelligence technology to enable multimodal teaching. From four dimensions—teaching resources, classroom scenarios, teacher-student interaction, and evaluation systems—it explores scientifically viable implementation pathways for multimodal teaching. The study aims to overcome issues such as the dull and abstract nature of ideological and political education courses, as well as their limited practical effectiveness; to facilitate the digital, multidimensional, and precision-oriented transformation of these courses; and to help students firmly establish core competencies, including political identity and legal awareness.

Keywords: Artificial intelligence technology; High school ideological and political courses; Multimodal teaching; Teaching path; Core competencies

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1. Introduction

The deepening of the digital education strategy provides new technological support for the reform of basic education and teaching. As a core course for implementing the fundamental task of cultivating morality and talents, high school ideological and political courses have theoretical, contemporary, and practical significance. The current traditional ideological and political education model has shortcomings such as rigid forms, single resources, and weak interaction, which are difficult to fit the characteristics of digital learning for high school students in the new era. Artificial intelligence technology, with its advantages in data processing, scene simulation, and intelligent adaptation, can integrate multimodal teaching elements such as text, images, audio and video, and virtual scenes to reconstruct the ideological and political classroom

ecology. Based on this, exploring the multimodal teaching path of ideological and political courses driven by AI is an important topic for empowering the improvement of ideological and political teaching quality and efficiency, and implementing educational goals [1].

2. The current situation of ideological and political education in high school

2.1. The teaching delivery methods are monotonous and rigid, and the theoretical content lacks sufficient concreteness

At present, most high school ideological and political education classrooms still predominantly rely on a singular teaching modality—teacher lectures, textbook analysis, and blackboard demonstrations—resulting in highly rigid instructional formats where classroom resources are limited to static textual content and simple image materials. The high school ideological and political curriculum encompasses a vast array of abstract theoretical knowledge, including political systems, economic principles, and the concept of the rule of law. However, traditional static teaching models are unable to transform such obscure theoretical content into intuitive and perceptible learning materials, nor can they effectively decompose the internal logic of complex knowledge points. Consequently, students are often relegated to passively memorizing theoretical provisions, failing to gain a deep understanding of the knowledge's essence. This approach readily leads to mechanical and superficial learning, thereby diminishing the educational impact and permeative power of ideological and political knowledge [2].

2.2. Integration of teaching resources is lagging, and their adaptability to contemporary demands is weak

High school ideological and political education courses exhibit strong contemporary relevance, necessitating the timely updating of teaching content in alignment with national policies, current social issues, and evolving trends of the era. However, current teaching resources for these courses predominantly rely on fixed textbooks and outdated supplementary materials, characterized by slow resource renewal rates, limited integration dimensions, and a lack of systematic integration of diverse resources—such as current political news, social case studies, dynamic data, and documentary footage. This traditional resource supply model fails to meet the evolving pedagogical demands of ideological and political education courses, resulting in a disconnect between classroom instruction and real-world societal contexts. Consequently, students are unable to bridge textbook theories with authentic social scenarios, struggle to develop a cognitive framework that links theory with practice, and ultimately experience diminished practical educational value in these courses [3].

2.3. Rigid classroom interaction patterns result in a lack of student agency

In traditional ideological and political education classrooms in secondary schools, interactive formats remain relatively limited, predominantly consisting of a one-way interaction pattern wherein teachers pose questions and students respond passively, while lacking opportunities for bidirectional, in-depth interaction and inquiry-based engagement. The classroom teaching process is often rigidly structured, with teachers dominating the instructional flow and students consistently occupying a passive role in knowledge acquisition; consequently, there is a severe shortage of space for autonomous critical thinking, collaborative inquiry, and contextualized experiential learning [4]. Such entrenched interactive models fail to align with the personalized and diversified learning needs of high school students in the new era, making it difficult to stimulate their enthusiasm for

classroom participation. This, in turn, leads to diminished student initiative in learning, limited cognitive agility, and an inability to fully unleash the educational potential of ideological and political education classrooms [5].

2.4. The dimensions of teaching evaluation are narrow, and the educational orientation is ambiguous

Current evaluation practices in high school ideological and political education courses remain centered on summative paper-based tests, with primary focus on students' knowledge acquisition and test scores, while neglecting process-oriented aspects such as classroom participation, cognitive development, value formation, and cultivation of core competencies [6]. The evaluation methods are monolithic, the assessment dimensions are narrow, and there is a lack of dynamic tracking and comprehensive analysis of students' learning processes, cognitive development patterns, and value system formation; consequently, these approaches fail to accurately reflect the genuine developmental level of students' core competencies in ideological and political education. Such a limited evaluation framework cannot effectively fulfill its diagnostic, motivational, and guiding functions, thereby hindering the targeted optimization of teaching strategies and the realization of the core educational objective of fostering virtue through education [7].

3. The value of multi-modal teaching in high school ideological and political education courses driven by artificial intelligence technology

3.1. Diversify instructional delivery formats to overcome the challenges posed by abstract theoretical instruction

Artificial intelligence (AI) technology can integrate multimodal teaching resources—including VR virtual environments, 3D animations, dynamic data visualizations, contemporary political footage, and voice-over presentations—to transcend the limitations of traditional ideological and political education courses, which often rely on static and monolithic instructional formats. By doing so, AI can transform abstract political theories, economic principles, and legal frameworks into dynamic teaching content that is visualized, perceptible, and experientially engaging. Leveraging AI-powered 3D modeling and scene simulation technologies, authentic scenarios—such as the National People's Congress sessions, the process of reform and opening-up, and grassroots governance—can be realistically reconstructed. This enables students to gain an immersive understanding of the historical context and practical rationale behind these theories, thereby effectively lowering the learning threshold for ideological and political knowledge. Consequently, students can progress from superficial memorization to deep comprehension, thereby addressing the persistent challenge of making complex ideological and political theories accessible in teaching practice [8].

3.2. Dynamically update teaching resources to enhance the contemporary educational value of the course

The AI-powered big data retrieval and intelligent integration capabilities enable real-time acquisition of high-quality teaching resources—including current political hotspots, policy documents, representative social cases, and livelihood-related data. These resources are then classified, filtered, and precisely matched according to the modules, key challenges, and focal points of high school ideological and political education courses, thereby constructing a dynamically updated, multi-dimensional, and multimodal teaching resource

repository. Compared to traditional static teaching resources, this AI-empowered resource system ensures that instructional content evolves in tandem with contemporary developments. It effectively addresses the issue of outdated textbook content, aligns ideological and political education classrooms with real-world societal contexts, guides students to comprehend ideological and political knowledge from a contemporary perspective, and thereby significantly enhances the timeliness, relevance, and practical educational value of such courses [9].

3.3. Reconstruct the classroom interaction ecosystem to underscore students' central role in learning

Features such as AI-powered intelligent interaction, personalized Q&A, and scenario-based simulations can transcend the traditional one-way lecture-based classroom model, fostering a diverse and multimodal interactive ecosystem that encompasses human-machine, teacher-student, and peer-to-peer interactions. AI-powered teaching assistants can respond in real time to students' classroom inquiries and assign personalized exploratory tasks, while virtual simulation scenarios enable students to engage immersively in scenario-based simulations and thematic investigations—thereby fundamentally transforming students' passive learning experience in the classroom. These varied interactive formats can effectively stimulate students' enthusiasm for autonomous learning, in-depth critical thinking, and proactive exploration, thereby revitalizing classroom educational dynamics and concretely implementing the student-centered teaching philosophy of the new curriculum standards [10].

3.4. Establish a diversified evaluation system to achieve the core objective of cultivating competencies

The data collection and intelligent analysis capabilities of artificial intelligence enable comprehensive tracking of students' learning data throughout their educational journey—including classroom participation, performance on assessments, exploratory thinking, knowledge acquisition, and value cognition—thereby overcoming the limitations of traditional summative assessments. This approach facilitates the construction of a multimodal teaching evaluation system that integrates process-based and summative assessments, while combining quantitative and qualitative measures. Through data analysis, AI can accurately identify students' knowledge gaps, cognitive deficiencies, and current levels of competency development, generating personalized evaluation reports. These reports provide data-driven support for teachers to optimize instructional strategies and implement differentiated instruction, ensuring that teaching evaluations align precisely with the objectives of cultivating core competencies and fully leveraging the educational guiding role of assessment [11].

4. Pathways for driving multimodal teaching in high school ideological and political education courses using artificial intelligence technology

4.1. Build an intelligent resource platform to establish a dynamic multimodal resource architecture

Leveraging artificial intelligence, big data, and intelligent clustering technologies, we have established a dedicated digital resource platform for high school ideological and political education courses. This platform integrates multimodal teaching resources—including textual materials, high-definition images, current

affairs short videos, 3D simulation scenarios, data charts, and documentary clips—and organizes them into categorized archives based on course modules such as "Economy and Society," "Politics and the Rule of Law," and "Philosophy and Culture," thereby enabling structured and systematic resource management. Utilizing AI-powered real-time updates, the platform dynamically incorporates the latest current affairs hotspots, policy interpretations, and representative social case studies. Furthermore, it intelligently filters and selects appropriate resources tailored to the key and challenging aspects of each course, providing comprehensive resource support for teachers' lesson planning, classroom instruction, and post-class extension activities. This approach addresses the limitations of traditional teaching resources—such as limited diversity, outdated content, and poor adaptability—thereby consolidating the foundation for multimodal teaching resources [12].

4.2. Create integrated virtual and physical scenarios to build immersive, multimodal classrooms

By integrating abstract knowledge points and core teaching themes from high school ideological and political education courses, this approach leverages VR, AR, and AI simulation technologies to create blended virtual-physical immersive teaching scenarios, thereby establishing multimodal experiential classrooms. For abstract teaching content—such as the People's Congress system, grassroots mass self-governance, and the trajectory of reform and opening-up—AI-powered 3D modeling is employed to reconstruct authentic social scenarios and practical processes, enabling students to participate as immersive participants in scenario observation, process simulation, and thematic analysis, for theoretical knowledge areas, including philosophical principles and economic laws, AI-driven dynamic animations and data-driven simulations are utilized to deconstruct knowledge logic, transforming static theories into dynamic demonstrations. This approach allows students to deepen their understanding through intuitive experiences, thereby enhancing the appeal and effectiveness of classroom instruction [13].

4.3. Innovate the tiered teaching model and implement personalized, multimodal instruction

By utilizing artificial intelligence learning analysis technology, pre-class AI preview testing and questionnaire surveys are conducted to collect data on students' knowledge foundation, learning ability, cognitive shortcomings, and other learning situations, accurately assessing individual differences and stratified learning situations. Based on learning situation data and relying on intelligent teaching systems, differentiated multimodal learning tasks are pushed to students at different levels. Students with weak foundations focus on basic guidance resources such as graphics, text, and videos to consolidate their knowledge framework; Students with strong abilities focus on exploring current affairs, scenario deduction, and topic debates to expand their tasks and exercise higher-order thinking. In classroom teaching, by presenting multimodal materials in a layered manner, asking questions in a layered manner, and providing guidance in a layered manner, personalized teaching can be achieved, completely solving the teaching drawbacks of traditional "one-size-fits-all" teaching and adapting to the personalized development needs of students.

4.4. Enrich diverse forms of interaction and build a deep multimodal interaction mechanism

Relying on artificial intelligence interactive tools, breaking the traditional single question-and-answer

interaction mode, and building a comprehensive and deep-level multimodal classroom interaction mechanism. In the classroom, with the help of AI intelligent Q&A system, real-time response to students' fragmented questions is achieved, realizing real-time human-computer interaction; Through interactive forms such as AI topic debates, virtual role-playing, and social scenario simulations, guide students to engage in collaborative exploration, exchange, and discussion around core ideological and political issues, and achieve deep interaction between teachers and students, as well as between students themselves; After class, relying on the intelligent learning platform, we push multimodal extended learning resources and exploration tasks, support students' online Q&A, group collaboration, and achievement display, realize classroom interaction extending to after class, and fully activate students' learning initiative and creative thinking.

4.5. Improve the intelligent evaluation mechanism and achieve multimodal education evaluation throughout the entire process

Build a comprehensive and multi-dimensional evaluation system for ideological and political education courses empowered by artificial intelligence, relying on AI data collection functions to record the entire learning process data of students, including pre-class preview, classroom participation, situational experience, topic exploration, and post-class consolidation, forming a quantitative evaluation basis. At the same time, it combines teacher qualitative evaluation, student self-evaluation and peer evaluation, and situational literacy performance evaluation, integrating multidimensional evaluation content such as knowledge mastery, thinking development, value recognition, and practical ability, breaking the single evaluation mode based solely on scores. By using AI-based intelligent analysis to generate learning evaluation reports and teaching optimization plans, precise feedback on teaching shortcomings and student literacy development issues can be provided, driving teaching optimization through evaluation and comprehensively assisting in the cultivation of students' ideological and political core literacy [14].

4.6. Strengthen teachers' digital literacy and build a solid foundation for implementing multimodal teaching

Schools need to establish a standardized teacher digital literacy training system, focusing on core content such as the application of artificial intelligence teaching tools, integration of multimodal resources, intelligent classroom design, and analysis of learning data. Targeted special training should be carried out to help ideological and political teachers proficiently master the practical methods of AI to empower ideological, political, and educational learning. At the same time, establish a platform for teacher research and exchange, encourage teachers to conduct research on AI multimodal teaching topics, refine lesson examples, and share experiences, guide teachers to transform traditional teaching concepts, establish digital and quality-oriented teaching thinking, flexibly design multimodal teaching plans based on the characteristics of ideological and political disciplines, avoid problems such as technology abuse and formal teaching, and achieve deep and efficient integration of artificial intelligence technology and ideological and political classrooms[15].

5. Conclusion

The deep integration of artificial intelligence technology and multimodal teaching of high school ideological and political courses is an inevitable trend in the reform of ideological and political education in the new era, and also an important path to implement the fundamental task of cultivating morality and talents. This

article analyzes the current problems in ideological and political education, clarifies the educational value of AI-enabled multimodal teaching, and constructs a complete teaching path from six dimensions: resource construction, scene creation, layered teaching, interactive optimization, evaluation improvement, and teacher construction. In future teaching practice, it is necessary to continuously deepen the integration and innovation of technology and disciplines, avoid the problem of formal application of technology, focus on the essence of ideological and political education, rely on the advantages of multimodal teaching, continuously improve the quality of ideological and political classroom education, and help students develop their ideological and political core literacy comprehensively.

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