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Empowering curriculum-based ideological and political education in Chinese-foreign cooperative education programs in arts through digital and intelligent technologies

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Abstract: Introducing digital-intelligent technologies into curriculum-based ideological and political education in Chinese-foreign cooperative education programs in Arts enhances the effectiveness of ideological and political education while advancing national strategies for educational digitization and internationalization. However, challenges persist, including the lack of a systematic instructional implementation mechanism for Chinese educators to embed political elements coherently. Digital-intelligent technologies enable precise delivery of curriculum-based ideological and political education content, deepening students' comprehension and engagement. Drawing on Bloom's Taxonomy, this study proposes a stratified pathway—"memory, comprehension, application, analysis, evaluation, and creation"—powered by digital-intelligent tools. This framework facilitates the natural integration and progressive development of ideological and political elements in art education, fostering high-caliber talents equipped with cultural confidence, global competence, and social responsibility awareness.

Keywords: digital intelligence; arts; Chinese-foreign cooperative education; curriculum-based ideological and political education; Bloom's "Taxonomy of Educational Objectives"

1 Introduction

In June 2024, General Secretary Xi responded to a letter from the President of Kean University in the United States, affirming the achievements of Sino-foreign cooperative education. As such programs become increasingly systematized, China is placing greater emphasis on integrating ideological and political education into their curricula. Sino-foreign cooperative education in Arts serves as bridges for cultural exchange and mutual learning between China and the world. Strengthening their curriculum-based ideological and political education (CIPE) helps fulfill the fundamental mission of fostering virtue through education, cultivating talents with both cultural confidence and global competence.

The widespread application of digital and intelligent technologies holds promise for helping educators achieve deep integration of CIPE with major-specific course instruction. With the release of documents such as the *Outline of the Plan for Building China into an Education Powerhouse (2024–2035)* and the *Opinions of the Ministry of Education and Eight Other Departments on Accelerating the Digital Transformation of Education*, an educational evaluation framework has put forward clear requirements for the digital transformation of curricula, textbooks, and teaching methods, as well as for

enhancing the digital literacy of both teachers and students [1][2]. This paper aims to explore strategies for digital and intelligent technologies to empower the integration of ideological and political education into the curricula of Sino-foreign cooperative programs in Arts, thereby enhancing the educational effectiveness of such collaborations.

2 Current status of Sino-foreign cooperative education programs in arts and the development of ideological and political education in curriculum

According to the Ministry of Education Platform for Supervising Sino-foreign Cooperative Education Programs, as of September 2025, China had approximately 182 Sino-foreign cooperative education programs at the undergraduate level in Arts, accounting for 15% of the total. These programs span disciplines including visual communication, environmental design, digital media arts, animation, music performance, and fashion design [3]. Students enrolled in these programs exhibit strong individuality and outstanding creativity, coupled with an international perspective and high expectations for personalized course content.

Regarding faculty composition, Sino-foreign cooperative education programs in Arts adhere to the four "one-third" standards outlined by the Ministry of Education. This regulation ensures the proportion of courses taught by foreign faculty in Sino-foreign cooperative programs [4]. In practice, to enhance students' comprehension of course content, a Chinese instructor with strong English proficiency is assigned to co-teach alongside the foreign faculty member.

The integration of ideological and political education into Sino-foreign cooperative programs in Arts faces two major challenges. First, foreign instructors tend to rely on art and design case studies from their home countries. Constrained by language and cultural barriers, Chinese and foreign instructors struggle to reach a consensus on incorporating Chinese ideological and political elements into the curriculum. Second, some Chinese instructors overly focus on imparting art theory and practical skills, lacking sufficient exploration of integrating ideological and political content into specialized course instruction. The *Guidelines for Ideological and Political Education in Higher Education Curriculum* emphasize that art programs should guide students to develop correct perspectives on art and creation, inherit and promote China's outstanding traditional culture, and enhance cultural confidence [5]. This requirement points the way toward resolving the aforementioned challenges. Specifically, it is imperative to explore distinctive approaches to ideological and political education in Sino-foreign cooperative programs tailored to the characteristics of art disciplines, leveraging digital and intelligent tools to achieve the integration of professional skill development and ideological education.

3 The current status and potential of applying digital intelligence technologies in ideological and political education within higher education curricula

Digital economy is profoundly transforming production, daily life, and governance, with digital transformation becoming an inevitable trend [6]. Digital and intelligent transformation represents the integration of digitalization and intelligentization. Leveraging cutting-edge information technologies enables the intelligent processing, analysis, and management of information and data, thereby propelling society toward higher levels of digital and intelligent transformation [7]. Empowering higher education through digital-intelligent transformation involves introducing digital-intelligent tools to innovate teaching models and expand the coverage of high-quality educational resources, ultimately enhancing the quality and efficiency of higher education.

Digital-intelligence technologies are reshaping higher education in four key dimensions. First, in data utilization, big data analytics identifies students' individual traits, learning styles, and interests to deliver personalized educational resources. Second, in teaching environments, cutting-edge technologies such as virtual reality (VR) and augmented reality (AR) enable immersive learning scenarios, aiding students in grasping abstract concepts. Third, in assessment, dynamic collection and real-time analysis of evaluation data facilitate a shift toward multidimensional evaluation of teaching

effectiveness. Finally, in governance, digital and intelligent technologies hold promise in breaking down geographical barriers to educational resources, enabling more students to access quality education and gradually achieving balanced distribution of educational resources.

Digital and intelligent technologies also offer advantages in empowering the development of ideological and political education within curricula. Current applications in CIPE primarily focus on the digitalization of resources, teaching, and evaluation [8]. Given individual differences in students' ideological and political cognition, the effectiveness of homogeneous ideological and political education models is diminishing. In the future, digital and intelligent technologies will enable the construction of personalized ideological and political course teaching models.

4 Strategies for applying digital intelligence technologies to empower ideological and political education in art-related Sino-foreign cooperative education programs

The "Taxonomy of Educational Objectives" provides a stepwise growth framework for CIPE. American educational psychologist Benjamin Bloom first categorized educational objectives into six levels: knowledge (cognitive), comprehension, application, analysis, synthesis, and evaluation [9]. Scholars including Lorin Anderson revised the objectives as: recall, comprehension, application, analysis, evaluation, and creation. The taxonomy of educational objectives provides a methodological basis for designing progressive objectives in curriculum-based ideological and political education.

In the revised edition, Anderson subdivides knowledge into four subtypes: factual, conceptual, procedural, and meta-cognitive knowledge. Factual knowledge encompasses terminology and knowledge containing details and elements. Conceptual knowledge includes knowledge of classifications and categories, principles and concepts, as well as theoretical models and structures. Procedural knowledge refers to discipline-specific skills and algorithms, specific techniques and methods, and the knowledge of criteria for determining which procedures to use. Meta-cognitive knowledge encompasses strategic knowledge, knowledge about cognitive tasks, and self-awareness [10].

Digital and intelligent technologies provide innovative tools for implementing Bloom's Taxonomy, demonstrating unique advantages in CIPE. For instance, AI tools can generate professional terminology cards, knowledge maps, and dynamic timelines illustrating the developmental trajectory of Chinese art history. These resources help students memorize factual knowledge—such as the painted pottery of the Yangshao culture—while showcasing the enduring legacy of Chinese civilization and fostering national pride.

Aligned with Bloom's "Taxonomy" (both original and revised editions), the potential of digital and intelligent technologies in advancing ideological and political education within Sino-foreign cooperative art programs can be explored across six dimensions of cognition: memory, comprehension, application, analysis, evaluation, and creation. The following sections will examine specific strategies for leveraging digital and intelligent technologies to empower ideological and political education in such programs.

4.1 Memory level: screening and delivery of personalized teaching resources

Leveraging digital and intelligent technologies, instructors can deliver personalized teaching resources. First, web crawling technology can help collect data from multiple platforms to form students' digital behavioral profile. Second, natural language processing (NLP) techniques analyze students' online posts and comments through text analysis and sentiment recognition, constructing personalized interest knowledge graphs. Finally, based on this data, factual ideological and political education content aligned with students' cognitive level, interests, and values can be delivered to those with similar profiles, which enhances students' comprehension and acceptance of ideological and political knowledge points.

4.2 Comprehension level: building immersive course-integrated ideological and political learning scenarios

The comprehension level primarily corresponds to the mastery of conceptual knowledge. Abstract ideological and political concepts have historically deterred many arts students from engaging with course-integrated ideological and political education. By leveraging digital and intelligent technologies, educators can transform abstract ideological and political concepts into vivid teaching scenarios that come alive before students' eyes. This immersive teaching model, where creation follows experience, helps students internalize the values embedded in ideological elements. Consequently, it effectively transforms classroom learning into emotional resonance and value recognition.

4.3 Application level: tailored social practice design

The application level integrates factual, conceptual, and procedural knowledge into implementation. Diverse practical activities enable students to apply these three types of knowledge to real-world contexts, compensating for the limitations of classroom instruction and enhancing the effectiveness of course-based ideological and political education. Leveraging digital and intelligent tools, educators can analyze students' interests, shared content, and discussion topics across on-campus and online platforms to design tailored practical activities. This data-driven approach helps students internalize the values conveyed through course-based ideological and political education and translate them into action.

4.4 Analytical level: dissecting and deepening understanding of ideological content

The analytical level synthesizes all four knowledge types, requiring students to analyze acquired knowledge. First, core AI technologies such as knowledge graphs and NLP deconstruct ideological and political elements within art curricula. Second, these elements undergo multifaceted analysis to deepen student comprehension. For instance, in Chinese and Western art history classes, instructors can employ NLP technology to analyze the philosophies of domestic and international artists. They can select artworks conveying themes of harmony between humans and nature, enabling students to compare these themes. Such analysis not only integrates education on enhancing public ecological awareness into course instruction but also demonstrates shared values across cultural contexts, deepening students' comprehension of specific ideological and political content.

4.5 Evaluation level: real-time feedback and scientific assessment of ideological and political outcomes

At the evaluation level, instructors leverage big data and other digital intelligence technologies to monitor and assess CIPE comprehensively. This involves establishing multiple evaluation points to continuously track changes in students' comprehension and acceptance of ideological content, as well as their feedback on instructors' teaching approaches. Each assessment collects data on student academic performance, classroom engagement, and value attitudes, supplemented by multidimensional evaluations from teaching supervisors, peer instructors, and administrative staff. By comparing feedback across different time points and evaluators, instructors gain timely insights into the actual effects of integrating ideological and political education into specialized curricula. Ultimately, this integrates formative, process-based, and summative evaluations to establish a data-driven ideological and political education assessment mechanism. This system evaluates students' ideological growth while facilitating reflection on teaching strengths and weaknesses.

4.6 Creative level: constructing ideological and political teaching scenarios and content

The creative level encompasses all knowledge types, focusing on meta-cognitive knowledge. Teachers integrate multidisciplinary knowledge and digital and intelligent technologies to construct innovative ideological and political teaching scenarios, driving the transformation of ideological content into classroom practices. For instance, in a course on digital media and cultural heritage preservation, instructors can guide students to analyze the color structures of Dunhuang murals using digital tools and develop cultural and creative products incorporating Dunhuang elements. Additionally, Chinese and international educators can co-guide students in planning immersive digital exhibitions centered on the Belt

and Road Initiative, deepening their understanding of the community with a shared future for mankind. Such projects enable students to transform abstract ideological concepts into tangible, interactive outcomes.

5 Conclusion

In today's complex geopolitical environment, Sino-foreign cooperative education must strategically bridge China and global education, enabling bidirectional resource exchange and elevating talent development. It should integrate ideological education through digital technologies to uphold core values and expand China's international educational influence.

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Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

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