Exploration of Empowering Ideological and Political Education in Vocational Courses Through Digital Technologies

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Abstract: *The introduction of ideological and political education within the curriculum offers a solution to the overly simplistic approach to ideological and political education in higher education institutions. This paper explores the logical mechanisms and implementation pathways for digitizing the construction of Curriculum Ideology and Politics, considering the characteristics of the digital era. Digitalization enhances teaching quality, efficiency, and reduces burdens, effectively enabling the integration of ideological and political education into course construction models, teaching resources, and evaluation methods, while also providing sustained motivation for lifelong learning. By seamlessly integrating ideological and political elements with vocational education competencies, practical teaching, and campus life, and leveraging digital information platforms, a subtle yet pervasive approach is achieved, ensuring holistic education across all courses and platforms.*

Keywords: Curriculum ideology and politics, Digital empowerment, Implementation approach, Cultivate talent.

1. Introduction

The ideological and political work in higher education revolves around three fundamental questions: What kind of individuals should be cultivated? How should they be cultivated? And for whom are they being cultivated? For years, the country has placed significant emphasis on students' ideological and political theory education, with particular attention to strengthening the construction of vocational colleges in this regard. Recently, the focus has shifted from "ideological and political courses" as standalone subjects to integrating ideological and political education across the entire curriculum, known as "curriculum-based ideological and political education." The key distinction here is that traditional ideological and political courses are explicit, purpose-built classes designed by schools to meet the objectives of ideological and political education, primarily promoting socialist ideology guided by Marxism. In contrast, curriculum-based ideological and political education is not about adding specific courses or activities. Instead, it involves the subtle integration of ideological and political education throughout all aspects of curriculum teaching and reform. This approach aims to blend knowledge transmission with moral cultivation, ensuring that ideological and political elements are both explicit and implicit, ultimately using the entire curriculum as a means of fostering holistic development in students.

In the context of the rapidly evolving digital economy, data has emerged as a new driving force for educational development and reform. Digital technology offers both opportunities and challenges, particularly in enriching educational content, innovating teaching methods, and integrating ideological and political resources into the curriculum. By leveraging digital tools and platforms, educators can design and deliver courses that engage students in both online and offline settings. Additionally, digital technology enhances the curriculum evaluation system, streamlining feedback and communication between teachers and students, and providing a strong impetus for teaching reform. Given these developments, one of the pressing issues in ideological and political education within vocational colleges is how to harness the power of digital technology to drive curriculum reform. On one hand, digital information allows teachers to innovate theoretically, offering students a broader and more current perspective. On the other hand, it facilitates practical planning and coordination, leading to the high-quality development of curriculum-based ideological and political education. Ultimately, digital empowerment is not just a trend in contemporary economic and social development, but an essential pathway for advancing high-quality foundational education.

2. Basic Mechanism

2.1 Improving the Quality and Efficiency of Teaching

With the rapid growth of the digital economy, many online platforms have vastly expanded access to shared resources, resulting in a dramatic increase in the availability of information. Unlike traditional methods of obtaining teaching materials—such as textbooks, newspapers—digital resources offer a more efficient and cost-effective way to access a wide range of information. By building a robust digital teaching resource library, educators can more effectively filter and capture ideological and political elements, breaking down disciplinary barriers and fostering a deep integration of curriculum and ideological education. This approach helps achieve a subtle yet impactful teaching effect.

Traditionally, teachers relied on limited tools like blackboards and chalk, which restricted classroom flexibility and made it difficult to engage students. These conventional methods often failed to effectively integrate abstract concepts with ideological and political content, resulting in a lack of depth and an inability to create an immersive learning experience. Digital tools have significantly alleviated these challenges. Interactive teaching models based on artificial intelligence,

such as China University MOOCs, lifelong education platforms, and Coursera, enrich classroom methods, extend learning beyond the classroom, and fill gaps in traditional teaching.

Table 1: Percentage of new non-university courses

	2020	2021
Coursera	*31%*	*39%*
edX	16%	26%
FutureLearn	38%	52%

Table 1 highlights the increasing percentage of newly added non-university courses across three online learning platforms, all of which show a consistent upward trend. By 2021, MOOCs had reached 220 million learners globally, excluding China. The impact of digitization on course learning is evident and expected to grow. These tools also allow for a more intuitive and comprehensive presentation of ideological and political concepts, making complex content accessible and abstract knowledge tangible. For digital-native students, the use of AI in education is familiar [1], yet its effective application requires teachers to have strong digital literacy. Students now participate in various activities—such as classroom discussions, group assignments, peer evaluations, pre-class check-ins and post-class feedback—through digital teaching platforms. These platforms allow for personalized learning plans based on historical data analysis, enhancing students' engagement, recording their learning progress, and sparking their interest in the subject matter. Additionally, these tools help cultivate a mindset of sharing information resources. The integration of digital teaching equipment enriches the communication between educators and learners, creating new opportunities for ideological and political education within the curriculum.

Investigating students' consolidating knowledge and learning situations are essential steps in the teaching process. For basic theoretical courses, traditional assignments often include written tasks, practical exercises, and oral presentations. However, these methods can struggle to capture students' emotions, attitudes, and values, highlighting the limitations of traditional homework-based learning assessments. Digital education has expanded the scope of assignments, enabling educators to fully understand students' learning stages through digital platforms. Data-driven analysis allows for tailored teaching methods, individualized instruction, and evaluation-based improvements [2]. Before class, educators can set both course-specific and ideological teaching objectives, using digital platforms to enhance interaction and engagement during the lesson. After class, educators can conduct statistical and behavioral analyses of online and offline data to assess whether the predefined goals were met. Classroom reporting, hands-on practice, and other methods can complement ideological evaluations. By analyzing the evaluation results, educators can diagnose the effectiveness of ideological and political education, identify areas for improvement, and adjust future teaching goals accordingly. Figure 1 shows the general framework of ideological and political design in digital empowerment courses.
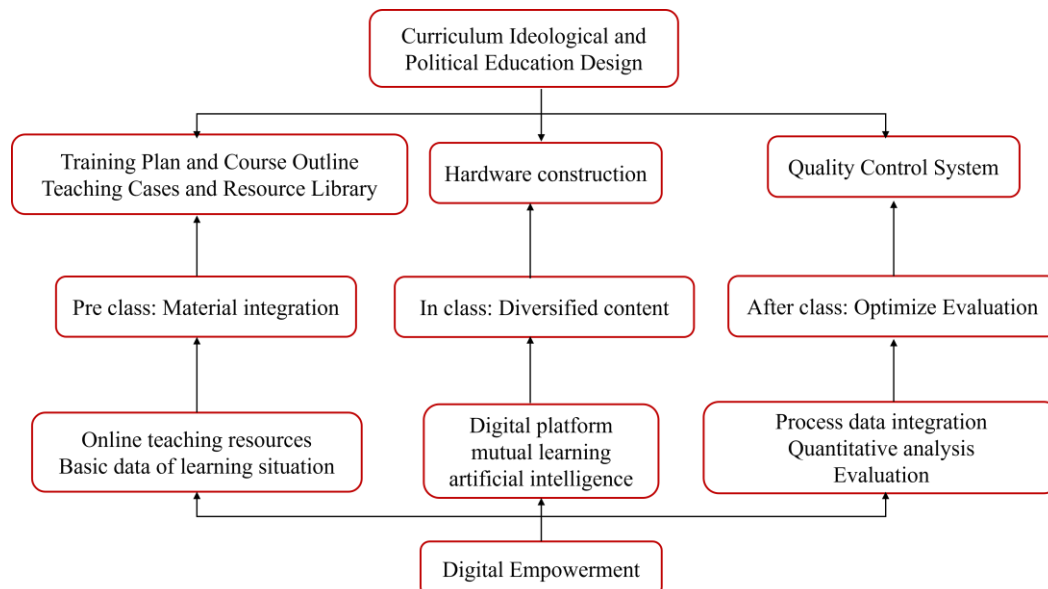

Figure 1: Framework for Digitally Empowered Course Ideology and Politics

2.2 Digital Transformation and Development

In the era of "Internet Plus," especially following the impact of COVID-19, traditional offline education has faced significant disruptions, leading to a shift in learning models. With the rise of online platforms and an increasing number of cloud learners, more people are using information technology as a bridge to acquire and share knowledge. This surge in digital data has made personalized learning a reality.

Digitalization drives integration of ideological and political education into curriculum reform, integrating professional content with ideological and political education: In combining professional knowledge with ideological and political education, it is essential to avoid superficial or generalized content [3]. The challenge of integrating ideological and political education varies across disciplines, necessitating personalized training plans tailored to each field. By collecting and analyzing extensive data, educators can both personalize instruction and leverage artificial intelligence to explore the convergence of professional knowledge with ideological and political education. AI can efficiently process large volumes of data, overcoming previous limitations in integrating these elements and making the creation of

personalized teaching plans more effective.

Merging Enterprise Practice with Ideological and Political Education: Practical application is key to assessing learning outcomes. As students prepare for internships and careers, it is crucial to align their education with the needs of industry. In today's digital age, students have access to a variety of online learning platforms, offering more choices beyond traditional classroom settings. The influence of enterprise networks on students' perceptions underscores the need for education that not only imparts theoretical knowledge but also aligns with real-world industry practices. By utilizing vast digital resources, schools can integrate ideological and political education into practical training, fostering high-quality talent through a seamless blend of academic and industry-based learning.

Digitalization enhances diversity of ideological and political resources in curriculum: The digital education revolution has diversified teaching resources, methods, and content. Without the support of data, integrating ideological and political elements into professional courses often results in rigid, low-impact efforts that consume significant resources with little return. If these elements are mechanically imposed on professional courses, it can undermine both the academic integrity of the courses and the subtlety needed for effective ideological education. This misalignment can hinder curriculum reform and reduce student engagement.

Digital empowerment offers diverse teaching platforms for ideological and political education, enabling the design and development of online courses alongside traditional teaching. In this new environment, teachers act more as facilitators of learning rather than mere transmitters of knowledge, encouraging students to take a more active role in their education. Furthermore, the mobility of digital information helps bridge educational gaps, allowing high-quality resources to reach rural areas, underprivileged schools, and disadvantaged groups. This approach not only enhances the overall development of education but also fosters shared values among students.

Digitalization transforms evaluation methods for ideological and political education in curriculum: The evaluation of teaching, supported by comprehensive data analysis, becomes more scientific, thorough, and development-oriented. Data-driven evaluations of student performance are more objective, reducing the impact of subjective biases. Learning platforms offer timely feedback and suggestions for improvement based on students' progress. For teacher evaluations, digital tools facilitate more nuanced assessments, overcoming the limitations of traditional methods that often struggled to account for differences across disciplines and courses. By recording the entire teaching process and designing tailored evaluation indicators, digital platforms enable a more precise analysis of the effectiveness of ideological and political education within the curriculum.

Digitalization provides sustained momentum for the development of ideological and political education in curriculum: The digital transformation of ideological and political education is a comprehensive and ongoing process. The historical and independent nature of education across different disciplines, stages, regions, and groups means that this transformation requires time and commitment. It is crucial to identify the right points, paths, and scenarios for integrating ideological and political education with professional courses. Even more important is fostering a sustainable driving force for digital empowerment in curriculum-based ideological and political education, ensuring that it continues to evolve and adapt over time.

2.3 Implementation Path

The success of ideological and political education in the curriculum hinges on its acceptance by students. The challenge lies in fostering this acceptance without resorting to superficial or fragmented methods. The goal is to guide values effectively, link core concepts, and help students internalize these values as part of their behavior and habits [4]. The integration of ideological and political elements into the teaching process is crucial, and digital education reform offers a promising solution to this challenge.

Analyzing professional characteristics and integrating them with vocational education: Professional courses play a central role in the educational experience, profoundly influencing students. Each discipline serves a societal need, naturally connecting the profession with society and providing a pathway for ideological and political education. Therefore, accurately understanding the characteristics of professional courses is essential for integrating ideological and political education into vocational education. By analyzing historical data, educators can gain insights into curriculum standards, training programs, and lesson structures specific to each discipline. Adjustments can then be made based on students' learning progress and teaching evaluations. For example, statistical data may reveal that engineering students engage in more practical, real-world applications, making it appropriate to introduce the spirit of craftsmanship as a guiding principle. Utilizing artificial intelligence to analyze professional characteristics in real time allows educators to generate relevant ideological and political elements, thereby stimulating students' interest and motivation in learning.

Extracting ideological and political elements and integrating them with practical teaching: The information age offers vast data resources that can be leveraged to extract diverse ideological and political elements. Horizontally, educators can draw from contemporary issues to find relevant materials, while vertically, they can tap into historical processes and traditional culture to promote cultural confidence and traditional virtues. Search engines and digital platforms make it easier and more efficient to prepare these materials before class. Practical learning in universities typically occurs in two settings: on-campus training and off-campus internships. During on-campus training, teachers should lead by example, subtly conveying professional values through their behavior and interactions with students. Simultaneously, they can integrate moral education into the tasks students are completing. During off-campus internships, the positive corporate culture presented by online platforms can influence students positively, allowing them to absorb these values in a practical setting. The behavior and attitudes of outstanding employees further reinforce the organic integration of ideological and political education with enterprise practice.

Digital campus integration with campus life: A digital campus creates a virtual educational environment using computer and network technology to manage and optimize campus resources. By digitizing the campus environment, teaching resources, and administrative applications, institutions can build a cloud-based digital space. As the primary setting for student life, the campus serves as a "second classroom" where learning continues outside formal lessons. Many universities now use official accounts or specialized software for communication and service, ensuring that campus information is conveyed promptly. Through these digital platforms, ideological and political elements can be seamlessly integrated into everyday campus life and shared with both teachers and students. For example, when students participate in public welfare activities or volunteer services, digital platforms can highlight these achievements, encouraging students to practice virtues. By incorporating ideological and political education into the everyday happenings on campus, digital campuses enhance the role of the campus as an extension of the classroom, reinforcing the values taught in formal education.

3. Conclusion

The digital integration of ideological and political education in courses presents both challenges and opportunities for educational reform. Compared to traditional methods, this approach is marked by greater efficiency, accessibility, and acceptance. However, the widespread use of information technology is a double-edged sword. While it offers abundant resources for data analysis, it also introduces significant security risks—underscoring the importance of safeguarding the education system's cybersecurity. Developing professionals in this field is essential to prevent data breaches that could hinder the progress of various sectors. Additionally, as we advance in digital education, it is crucial to stay true to the core mission, avoid overstating the role of technology, and ensure that reforms align with educational policies, practical needs, and public expectations.

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