

# Empowerment of Precise Ideological and Political Education in Higher Education with Educational Digitalization

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**Abstract:** The study explores how educational digitalization enables the precise development of ideological and political education in colleges and universities. Digital transformation enables colleges and universities to accurately define educational objectives, content strategies, effect evaluation, and process management, and realize the precision and intelligence of ideological and political education. The application of big data technology enhances the data-oriented thinking of teachers and students, promotes the accurate application of data, and improves the efficiency of ideological and political education. The research also prospected a new vision of the digital construction of ideological and political courses and clarified the theoretical and practical path of the implementation and evaluation mode of ideological and political courses under digital empowerment. Education digitalization enables precise ideological and political education, which is a key way to promote the innovative development of ideological and political education in colleges and universities and will strongly support the improvement of the overall quality of higher education and the training of excellent talents.

**Keywords:** Education digital empowerment; Precise ideological and political education; Improvement of efficiency

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## 1. Introduction

With the rapid development of information technology, especially the emergence of novel technologies such as artificial intelligence, big data, cloud computing, and virtual reality, education is facing profound changes in digital transformation<sup>[1]</sup>. Educational digitalization not only brings new modes and means to the organization and implementation of teaching activities but also injects new vitality into educational concepts, content, and methods, bringing unprecedented opportunities and challenges to ideological and political education in universities<sup>[2]</sup>.

Traditional models of ideological and political education are often constrained by factors such as limitations of time and space, single content carriers, and outdated methods<sup>[3]</sup>, making it difficult to achieve full coverage of educational targets<sup>[4]</sup>. There is a disconnection between theoretical teaching and practical

education, and the learning content does not align with student needs <sup>[5]</sup>. Static and singular teaching modes struggle to engage student interest, and education lacks targeting and affinity, making it difficult to achieve personalized and precise education.

Educational digitalization injects new impetus into the reform of ideological and political education in universities. Based on emerging technologies such as big data, artificial intelligence, and virtual reality, universities can accurately discern student needs and achieve precise design of educational content, methods, and channels <sup>[1]</sup>. Through digital transformation, it is possible to achieve the intelligence and precision of ideological and political education, overcome the shortcomings of traditional education models, and build a new platform for communication and interaction between teachers and students <sup>[6]</sup>, thereby comprehensively enhancing the level of education in universities. This paper aims to explore how to fully utilize educational digitalization to empower ideological and political work, construct a new model of precise ideological and political education, promote innovative development in ideological and political education in universities, and contribute to the cultivation of comprehensive talents in the era of comprehensive development of morality, intelligence, physique, aesthetics, and labor <sup>[7]</sup>.

## **2. Educational digitalization empowering precise ideological and political education in higher education**

### **2.1. Accurate understanding of educational targets**

In the era of educational digitalization, universities leverage advanced technologies such as big data and artificial intelligence to collect diverse data about students, forming personalized big data resource pools. Through in-depth analysis and machine learning, universities accurately depict students' portraits, comprehensively understanding their growth trajectories, ideological trends, and educational needs. This provides a crucial foundation for tailored educational strategies. Educators utilize big data technology to better understand students, enabling refined teaching and personalized educational plans <sup>[4]</sup>.

### **2.2. Precise provision of educational content**

Through precise student portraits from big data analysis, universities understand each student's needs and provide tailored ideological education. This personalized approach improves the precision and effectiveness of education. Additionally, digitalization introduces innovative tools like multimedia and virtual simulations, enhancing teaching engagement and impact. Leveraging information technology significantly boosts teaching effectiveness, fostering interactive learning, and improving overall education quality <sup>[7]</sup>.

### **2.3. Precise evaluation of educational effectiveness**

Traditional educational evaluations suffer from lag and subjectivity, making it difficult to comprehensively and timely understand students' learning situations and optimize teaching. Educational digitalization provides new perspectives and means for evaluation. Universities can use digital technology to collect and analyze students' online learning data, test scores, interactive performances, and other diverse information in real time <sup>[6]</sup>, dynamically tracking students' learning progress and ideological changes, and quantitatively evaluating the actual effectiveness of ideological and political education work.

Based on massive data analysis, teachers can perceive the process of students' knowledge and skill formation, identify weak links, intervene and guide promptly, and dynamically optimize teaching designs and strategies. Through data management and statistical analysis, universities can understand the actual ideological situations of different student groups, evaluate the effectiveness of ideological and political work, scientifically formulate work

priorities and directions, and continuously improve the targeting and effectiveness of education <sup>[3]</sup>.

## **2.4. Precise control of the educational process**

With educational digitalization, universities gain precise control over ideological and political education. Using artificial intelligence and big data analysis, they monitor teaching processes, identify weaknesses for optimization, and adjust teaching strategies. Digital tools capture real-time student behaviors and interactions, aiding in tailored teaching methods. Machine learning predicts learning outcomes, optimizing activities for quality education. This data-driven approach enhances teaching quality, ensuring educational goals are met effectively <sup>[6]</sup>.

## **3. Big data empowering precise ideological and political education in higher education**

### **3.1. Strengthening teacher data literacy**

Universities should enhance teachers' awareness of the importance of data through specialized training sessions, promoting a culture of "data-driven decision-making." They must also develop teachers' data analysis skills by offering relevant courses and providing access to user-friendly data analysis tools. Additionally, creating a supportive environment for teachers to access and utilize data resources, such as a unified campus data service platform, is essential for promoting data utilization in education <sup>[2]</sup>.

### **3.2. Accurate understanding of student data portraits**

To accurately create student data portraits, it is necessary to establish a sound mechanism for collecting student data <sup>[7]</sup>. Methods such as utilizing emerging digital technologies, integrating various types of student learning behavior data both online and offline, continuously collecting their online activity traces, and establishing unified data collection standards and specifications can ensure the integrity of data resources. Secondly, it is crucial to build student individual portrait models based on multidimensional data <sup>[3]</sup>. This can be done by integrating various types of data using machine learning algorithms, constructing refined student portrait models, and dynamically updating and maintaining student portraits.

Lastly, there needs to be a widespread promotion of the application of student portraits in ideological and political work <sup>[5]</sup>. Based on portrait analysis, personalized education plans can be provided for different types of students, and ideological and political work is guided to accurately meet students' actual needs. Additionally, it is imperative to utilize student portraits to optimize the educational content design and teaching organization, promote ideological and political education to align with students' psychology, and enhance targeting and affinity.

### **3.3. Promoting precise data application**

Universities must prioritize improving data integration and management by establishing catalogs, metadata management systems, and unified storage platforms while ensuring data security and privacy protection. Additionally, they should develop a comprehensive data analysis model system, leveraging professional talents and artificial intelligence technologies for automated and intelligent analysis. Establishing a mechanism for applying analysis results effectively in ideological and political practices is crucial. Lastly, universities need to enhance the awareness of the value of data among teachers and students, fostering a culture of "data-driven ideological and political education" to achieve precision and intelligence in ideological and political work <sup>[2]</sup>.

## **4. Digital transformation in curriculum ideological and political construction in higher education**

### **4.1. Transformation of curriculum ideological and political concepts**

In the era of educational digitalization, universities must integrate ideological and political education goals into daily teaching across all disciplines. This entails infusing ideals, beliefs, and moral education into professional courses to nurture students' minds alongside imparting disciplinary knowledge. Teachers play a crucial role in guiding students to focus on their profession while instilling a sense of responsibility and mission. This holistic approach reflects the moral duty of intellectuals in shaping a well-rounded educational environment.

### **4.2. Repositioning of curriculum ideological and political goals**

Universities aim to cultivate well-rounded individuals with moral, intellectual, physical, aesthetic, and labor development as the core focus of curriculum ideological and political education. By integrating socialist core values into professional courses, students are guided to align their professional development with virtuous value pursuits. This involves defining specific goals for ideological and political education within each major, emphasizing both professional knowledge and moral beliefs. The curriculum construction emphasizes the integration of socialist core values with professional content, nurturing students to become idealistic, responsible, and capable individuals of the new era <sup>[5]</sup>.

### **4.3. Optimization of curriculum ideological and political content**

To advance curriculum ideological and political construction, universities should integrate socialist core values with disciplinary knowledge systems and major characteristics. Innovative content carriers for ideological and political elements should be emphasized, aiming for a virtuous interaction between theoretical education and practical cultivation. By integrating rich ideological and political elements into disciplinary knowledge impartation, students can seamlessly connect ideological and political education with professional learning. This involves exploring ideological values within professional knowledge, using vivid materials and real-life experiences to facilitate positive interaction between theory and practice, thus enabling students to comprehend social values and moral qualities through hands-on practice <sup>[1]</sup>.

### **4.4. Innovation of curriculum ideological and political methods**

In promoting curriculum ideological and political construction, universities should leverage modern information technology to optimize teaching design and explore blended teaching models. The introduction of multimedia and virtual reality enhances the vividness and interactivity of teaching, while two-way interactive classrooms boost student engagement. Innovative teaching methods, like case-based and seminar-based approaches, encourage practical exercises and critical thinking. Implementing project-based teaching further enhances student participation and hands-on learning, improving the practical effectiveness of education <sup>[6]</sup>.

## **5. Constructing an empowering evaluation model**

### **5.1. Establishing a digital empowerment system for evaluating ideological and political education in higher education**

To construct a comprehensive digital evaluation system for ideological and political work in universities, it is crucial to assess the empowerment and effectiveness of digital education. The evaluation should cover dimensions such as educational subjects, behaviors, quality, and outcomes, with indicators spanning the entire process of ideological and political work. This includes evaluating teachers' data literacy, students' data

awareness, teaching strategies, educational quality, and student outcomes <sup>[3]</sup>.

## **5.2. Scientific design of evaluation indicators and methods**

When constructing the evaluation indicator system, principles like combining regular and ad hoc evaluations, and qualitative and quantitative assessments should be applied. Quantitative indicators may include scoring on teachers' data application abilities and students' online participation rates, while qualitative aspects focus on student growth quality and value shaping. Advanced technologies like artificial intelligence and big data analysis should be explored to enhance evaluation objectivity and precision, utilizing model-based algorithms for intelligent educational assessments <sup>[5]</sup>.

## **5.3. Adoption of diverse evaluation methods**

With emerging digital technologies, innovative evaluation methods like online platform assessments and virtual scenario simulations should be adopted to overcome traditional evaluation shortcomings. Implementation should focus on the continuous development status of evaluation subjects, utilizing intelligent online systems to track student learning behaviors in real time. Combining methods like virtual scenario simulations ensures comprehensive coverage of the evaluation scope and verifies knowledge transfer capabilities effectively <sup>[8]</sup>.

## **5.4. Improvement of evaluation result application mechanisms**

It is necessary to improve the feedback and application mechanisms of evaluation results continuously, optimizing and perfecting the evaluation system. Evaluation results should be promptly fed back to relevant educational subjects, using evaluation data to guide and optimize educational decisions. Attention should be paid to changes in student attitudes and thoughts, dynamically adjusting educational content and methods based on evaluation results to effectively improve the quality of education <sup>[7]</sup>.

Establishing a closed-loop mechanism for feedback, analysis, application, and optimization of evaluation results, forming a virtuous cycle of evaluation and optimization, and promoting continuous improvement and development of ideological and political work are necessary actions. Evaluation should truly become an important means to support precise ideological and political education, fully leveraging evaluation to lead and promote educational reform.

## **6. Conclusion**

Research on digital empowerment in the ideological and political education of higher education is crucial for achieving precise and intelligent educational practices. Technologies like big data, artificial intelligence, and virtual reality enable universities to overcome traditional limitations and deliver personalized education. As digitalization continues to evolve, it will profoundly impact ideological and political work, shaping a new model of comprehensive education. Embracing digitalization and innovating education concepts, content, and methods are essential for improving the quality of ideological and political work and nurturing talents for national rejuvenation.

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## Disclosure statement

The authors declare no conflict of interest.

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