

# Research on the Precision Model of Ideological and Political Education under the Background of Big Data

Rihan Wu\*

Xing An Vocational and Technical College, Ulanhot, 137400, China

\*Corresponding author: gtygg\_0519@163.com

**Abstract:** With the rapid development of information technology, big data has become a core driving force for transformation across various industries, and education is particularly prominent. In ideological and political education, traditional models can no longer meet the increasingly diversified educational needs. Especially with the promotion of informatization, personalization, and precision education, utilizing big data technology to improve the relevance and effectiveness of ideological and political education has become an urgent issue. This paper analyzes the transformation needs of ideological and political education in the context of big data, proposes a framework for constructing a precision model of ideological and political education driven by big data, and explores its application in areas such as monitoring student ideological trends, customizing educational content, and feedback assessment. The research indicates that big data technology can effectively enhance the personalization, effectiveness, and interactivity of ideological and political education, drive innovation in teaching methods, and improve educational quality and outcomes. Finally, the paper looks ahead to the continuous development of the precision model of ideological and political education and suggests that the deep application of big data will promote more precise, efficient, and personalized service for students in ideological and political education.

**Keywords:** Big data; ideological and political education; precision; education model; personalization; feedback assessment

## Introduction

Driven by the global wave of informatization, big data, as an emerging technology, is permeating all areas of society. The education sector, particularly ideological and political education, is facing significant pressure for transformation. Although traditional ideological and political education models have achieved many successes historically, with the advancement of information technology and the acceleration of social change, the single and outdated nature of educational content, methods, and formats has become increasingly apparent. Especially in today's world where students' ideologies and views are increasingly diversified and personalized, traditional "one-size-fits-all" approaches can no longer effectively meet the educational demands of the new era. This paper aims to explore the precision model of ideological and political education in the context of big data. By analyzing the relationship between big data and ideological and political education, it proposes a precision education model and implementation strategies, with the hope of providing theoretical foundations and practical references for promoting innovation in ideological and political education.

## 1. The Relationship Between Big Data and Ideological and Political Education

### 1.1 Basic Concepts and Characteristics of Big Data

Big data refers to the process of extracting, analyzing, and utilizing valuable information from large and diverse data sources using advanced computing and analytical methods in the context of highly developed information technology. Compared with traditional data, big data has the "4V" characteristics: Volume, Variety, Velocity, and Value. These features allow big data not only to store massive amounts of information but also to support real-time data processing and precise forecasting, possessing high commercial and social value. In the education field, big data enables the precise identification of students' personalized needs through the collection and analysis of multidimensional data such as learning

behaviors, academic performance, student interests, and social networks, providing scientific support for educational decision-making and promoting the fine management of education.

In ideological and political education, big data can help educators gather a wealth of information related to students' thoughts, behaviors, and emotions. By analyzing these data, it provides strong support for customizing educational content, adjusting teaching strategies, and evaluating educational effectiveness. With big data technology, the objectives of ideological and political education are clearer, the paths more scientific, and the methods more diverse, better adapting to the educational needs of the new era.

### ***1.2 The Current Situation and Challenges of Ideological and Political Education***

Ideological and political education is an important part of China's educational system, aimed at cultivating students' correct values, worldviews, and outlooks on life, guiding them to establish core socialist values and a proper sense of social responsibility. Traditional ideological and political education primarily relies on classroom teaching, collective activities, and extracurricular tutoring, focusing on fostering students' ideological and political literacy. However, with the progress of the times and changes in society, traditional ideological and political education has gradually revealed a series of problems when facing a diversified student population.<sup>[1]</sup>

First, the content of ideological and political education tends to be theoretical, lacking connection with students' real lives and social practices. Students' interest in the content is low, and they lack motivation to engage actively. Second, traditional education methods are relatively single, mostly delivered through lectures and speeches, lacking interactivity and flexibility, making it difficult to meet students' personalized and diversified needs. Third, the effectiveness of ideological and political education is difficult to quantify, and there is a lack of an effective feedback mechanism, resulting in weak precision and relevance in the educational process.

### ***1.3 The Transformation Needs of Ideological and Political Education in the Context of Big Data***

In the age of big data, ideological and political education faces a major opportunity for transformation from traditional education models to precision and personalized models. Big data not only provides new technological tools and ways of thinking for ideological and political education but also raises higher demands for innovation in educational models. The current transformation needs of ideological and political education are reflected in the following aspects:

First, the increasing demand for precision and personalization in ideological and political education. The traditional "one-size-fits-all" approach can no longer meet the diverse needs of students. Big data can comprehensively analyze students' ideological trends, behavioral habits, and interests, helping educators accurately grasp the ideological status of each student, thus formulating more targeted educational plans.

Second, the real-time nature and feedback mechanisms of the education process need to be innovated. Traditional ideological and political education often suffers from delayed evaluations and untimely feedback, which limits the adjustment and optimization of educational effectiveness. Big data technology enables real-time data collection and analysis, helping educators promptly identify shifts in students' ideologies and emotional changes, thereby quickly adjusting teaching strategies and methods to ensure educational effectiveness.

Finally, the interactivity and diversity of ideological and political education need to be strengthened. Traditional education formats are relatively simple, lacking a close connection with students' daily lives and social practices. The content and methods of education often fail to stimulate students' interest and initiative. Big data can offer more flexible and diverse educational tools, utilizing emerging channels such as social networks and online platforms to engage in more interactive and personalized educational exchanges with students, thereby enhancing the appeal and effectiveness of ideological and political education.<sup>[2]</sup>

## **2. Construction of a Precision Model for Ideological and Political Education Driven by Big Data**

### ***2.1 The Connotation and Objectives of Precision Ideological and Political Education***

Precision ideological and political education is an educational model supported by big data

technology, aimed at accurately identifying and meeting students' diverse needs in ideological and political education through comprehensive collection and analysis of individual characteristics, ideological trends, and behavioral data. This model no longer relies on the traditional "one-size-fits-all" approach; instead, it designs personalized education plans and implements differentiated educational strategies based on the ideological characteristics, values, emotional needs, and social practice experiences of different student groups.

The core objective of precision ideological and political education is to enhance the relevance and effectiveness of education. First, it requires that educational content align with students' actual ideological needs and social backgrounds, avoiding empty rhetoric detached from real-life concerns. Second, it emphasizes the personalization and differentiation of the educational process, respecting students' developmental trajectories in thought and using targeted teaching methods to increase the influence and appeal of the education. Lastly, precision education should feature a feedback mechanism that allows for timely and dynamic adjustments, ensuring that ideological and political education can quickly adapt to changes in society and students' thoughts, thereby improving the effectiveness of education. <sup>[3]</sup>

## ***2.2 Application Paths of Big Data Technology in Ideological and Political Education***

The application of big data technology in ideological and political education can be summarized in several key areas:

### ***2.2.1 Real-time Monitoring and Analysis of Student Ideological Trends***

Using big data technology, educators can monitor students' thoughts, emotions, and behaviors in real time through intelligent platforms and data collection tools. These data may include students' performance in the classroom, daily habits, participation in social activities, online interactions, and more. By collecting, storing, and analyzing these data, educators can gain a more comprehensive and multidimensional understanding of students' ideological trends, enabling them to formulate targeted educational strategies.

### ***2.2.2 Personalized Customization of Educational Content and Methods***

Based on big data analysis, educators can accurately identify students' interests, strengths and weaknesses, and ideological inclinations, thereby designing educational content that better meets their needs. For example, for students who are more conservative or lack social responsibility, diverse practical activities can be used to stimulate their awareness of social issues. For students with active thoughts and strong innovation awareness, open discussions and research-based learning can be used to foster their creative potential. Big data helps educators develop dynamic and personalized educational strategies, realizing the principle of "teaching students according to their aptitude."

### ***2.2.3 Building Precision Evaluation and Feedback Mechanisms***

Big data provides real-time evaluation tools for ideological and political education. Educators can conduct quantitative analysis based on various data points, tracking the effectiveness of education in real time. By comprehensively assessing students' thoughts, behaviors, and emotions, educators can identify weaknesses in ideological education and adjust educational strategies, ensuring the continuous effectiveness of education.

### ***2.2.4 Expanding Social Practice and Interaction Platforms***

Big data not only helps educators analyze students' learning conditions but also provides more opportunities for social practice. By analyzing students' interests and needs, educators can customize social practice projects, such as volunteer activities or social surveys, to enhance students' sense of social responsibility and practical skills. Big data also facilitates the construction of more intelligent interactive platforms, making communication between students, teachers, and peers more seamless and diverse.

## ***2.3 Key Elements of the Precision Ideological and Political Education Model***

The construction of the precision ideological and political education model involves several key elements that are interrelated and work together to achieve the educational goals. These key elements include:

### ***2.3.1 Data Collection and Analysis***

The foundation of precision ideological and political education lies in the extensive application of big data technology. First, educators need to collect data on students' ideological trends through various channels and platforms, including classroom learning, social media, surveys, and daily behaviors. Next, advanced data analysis technologies, such as machine learning and sentiment analysis, are used to deeply mine these data, analyzing students' ideological development trends, emotional changes, and potential educational needs. This process requires educators to have data processing capabilities and technical support.

### ***2.3.2 Personalized Educational Content Design***

In the precision education model, educational content is no longer a single "one-size-fits-all" solution, but is customized according to students' ideological characteristics, interests, and social practice needs. Educators must utilize big data technology to analyze students' personal needs and adjust the depth, breadth, and form of teaching content. For example, students with different interests can have distinct learning paths and teaching activities designed for them, while students with different ideological inclinations can receive targeted ideological guidance.

### ***2.3.3 Dynamic Evaluation and Real-time Feedback***

Precision ideological and political education requires educators to continuously track students' ideological changes and establish real-time feedback mechanisms. Through big data analysis, educators can gain timely insights into students' feedback on educational content and their participation in educational activities, enabling them to adjust teaching methods and strategies. This process emphasizes dynamic flexibility and requires educators to go beyond traditional exam scores to evaluate educational effectiveness, using long-term ideological and behavioral data to conduct comprehensive assessments. <sup>[4]</sup>

### ***2.3.4 Teacher Competence and Data Literacy***

The successful implementation of the precision ideological and political education model relies on the competence of educators. Teachers not only need a solid foundation in ideological and political theory but also must possess data analysis and processing skills to accurately interpret students' ideological trends and assess educational effectiveness using big data technology. Furthermore, teachers need to continuously update their educational concepts and cultivate interdisciplinary skills, incorporating big data technology into traditional ideological and political education to enhance the scientific and modern approaches to teaching.

### ***2.3.5 Integration of Social Practice and Emotional Education***

The precision education model emphasizes that ideological and political education should not only be theoretical instruction in the classroom but also involve social practice and emotional education to help students form comprehensive views and a sense of social responsibility. Big data provides precise guidance for the design and implementation of social practice activities, and through analyzing students' interest data, educators can offer practice opportunities related to students' ideological needs, strengthening their ideological alignment and social responsibility.

## **3. Implementation Path of the Precision Model for Ideological and Political Education in the Context of Big Data**

### ***3.1 Data-Driven Monitoring and Analysis of Student Ideological Trends***

In the context of big data, the monitoring and analysis of students' ideological trends becomes a key component of implementing the precision model for ideological and political education. First, educators need to establish a comprehensive data collection system that gathers students' ideological, emotional, and behavioral data in real time through various channels such as online learning platforms, social media, classroom interactions, and surveys. This data includes not only students' academic performance and assignment completion but also online activity records, social network behaviors, emotional sentiment analysis, and participation in extracurricular activities. By utilizing intelligent analytical tools such as natural language processing and sentiment analysis, educators can identify students' ideological development trends, emotional fluctuations, and potential psychological issues, enabling them to dynamically and in real time track changes in students' thoughts and needs.

In the process of ideological and political education, with the help of data-driven ideological trend

monitoring, teachers can precisely grasp students' ideological development stages and psychological states, and promptly detect any weaknesses or risks in the ideological education process. Through deep analysis of this data, educators can be provided with clear decision-making guidance, allowing the ideological and political education to be more targeted and effective. For example, for students with extremist ideas or emotional confusion, educators can use data characteristics to provide personalized guidance and apply different educational methods and measures, thus achieving individualized ideological interventions. [5]

### ***3.2 Optimization and Customization of Ideological and Political Education Content***

Big data provides strong support for the optimization and customization of ideological and political education content. Through the analysis of large volumes of student data, educators can accurately identify students' needs and preferences in ideological and political education, and thus make precise adjustments and customizations to the educational content. Traditional ideological and political education often involves standardized and unified teaching materials, lacking attention to students' individual needs. However, driven by big data, educators can design personalized educational content based on students' personality traits, learning backgrounds, interests, and social practice experiences, making the educational plans better aligned with students' ideological development needs.

Specifically, teachers can use big data analysis to understand students' acceptance and interest in various ideological and political education themes, thus adjusting the course design accordingly. For instance, for students inclined toward rational thinking, more theoretical analysis and content on dialectical thinking can be incorporated, while for students with richer emotional experiences who value social practice, more interactive and experiential education content can be used to stimulate their sense of social responsibility and emotional recognition. Through the precise design of content, ideological and political education can not only improve its effectiveness but also enhance students' sense of participation and identification, sparking their ideological resonance.

### ***3.3 Evaluation and Feedback Mechanisms for Ideological and Political Education Supported by Big Data***

The introduction of big data makes the evaluation and feedback mechanisms for ideological and political education more precise, comprehensive, and dynamic. Traditional evaluations of ideological and political education often rely on single assessment methods such as final exams or classroom performance, which are insufficient to reflect the full scope of students' ideological changes and learning outcomes. By utilizing big data technology, educators can establish a more scientific and flexible evaluation mechanism through multidimensional data collection and analysis.

First, the ideological and political education evaluation system based on big data can comprehensively assess students' ideological development, covering aspects such as classroom performance, extracurricular activity participation, emotional attitude changes, and social interaction behaviors. Through quantitative analysis of these data, educators can not only understand students' learning outcomes but also identify potential ideological problems, such as deviations in values or insufficient ideological alignment. Second, the data-driven evaluation mechanism provides real-time, dynamic feedback, enabling educators to adjust educational strategies promptly according to students' ideological changes. For example, when students' thoughts fluctuate, teachers can quickly access relevant data and provide appropriate ideological intervention, preventing the further intensification of ideological deviations. [6]

Additionally, the introduction of big data makes feedback in ideological and political education more detailed and personalized. Educators can offer individualized feedback and guidance to students based on specific data, rather than relying on generic evaluations. This personalized feedback not only increases students' sense of recognition but also enhances the targeted nature and effectiveness of the education.

## **Conclusion**

This study, while exploring the precision model for ideological and political education in the context of big data, finds that big data technology not only provides new ideas and methods for ideological and political education but also offers strong support for the personalization of educational content, the intelligentization of the teaching process, and the real-time nature of educational assessments. The application of big data helps educators track students' ideological trends in real time, provide personalized

guidance and intervention, thus effectively improving the precision and effectiveness of ideological and political education. In the future, with the continuous development and application of big data technology, the precision model for ideological and political education will be further deepened and perfected. In terms of optimizing educational content, educators should rely more on data analysis results to develop teaching plans that better meet students' needs. Regarding the evaluation and feedback mechanism, data-driven evaluation standards and feedback will make educational outcomes more transparent and scientific. In terms of educational implementation paths, precision education will become a key direction for educational reform, integrating students' individual differences into the educational process.

## References

- [1] Zhang Jianhang, Kang Tingya. *Research on the Precision of Ideological and Political Work in Universities Driven by Big Data* [J]. *Journal of Beihua University of Aerospace*, 2024, 34(04): 57-59.
- [2] Ma Jinwei. *Exploration of the Precision Reform of Ideological and Political Education in the Era of Big Data* [J]. *Secondary School Political Teaching Reference*, 2024, (18): 82-83.
- [3] Nie Yan. *Analysis of the Path for Improving the Quality and Effectiveness of Precision Ideological and Political Education in Higher Vocational Colleges* [J]. *University*, 2024, (18): 35-38.
- [4] Xu Xiuxiu. *The Connotation, Value, and Path of Precision Teaching of Ideological and Political Courses in Colleges* [J]. *Secondary School Political Teaching Reference*, 2024, (11): 45-47.
- [5] Guo Baihong. *Research on the Precision Teaching Reform of Political Economy in Traditional Chinese Medicine Colleges from the Perspective of "Big Ideological and Political Course" Construction* [J]. *Chinese Medicine Education*, 2023, 42(05): 67-71.
- [6] Yang Mao, Lv Mingyang, Renati Reheimujiang. *Research on the "Precision" Online Ideological and Political Education Practice in Western Universities in the New Era* [J]. *Journal of Ethnology*, 2023, 14(04): 107-114+146.