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The Practical Path and Ethical Boundaries of Empowering Ideological and Political Leadership with Digital Technology

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Abstract: The iterative development of digital intelligence technology provides a technological engine for enhancing ideological and political leadership, but also brings ethical challenges of value guidance. This article is based on the full cycle perspective of the education process, systematically analyzing the empowerment mechanism of digital intelligence technology in the stages of education preparation, implementation, transformation, and evaluation, revealing its strengthening effect on ideological and political leadership through data-driven, scenario reconstruction, intelligent evaluation, and other paths. At the same time, in-depth analysis of ethical dilemmas such as "authority dissolution", "subject loss", and "pan entertainment" in technological applications is conducted, and an adjustment path for ethical boundaries is proposed from three dimensions: technological regulation, institutional construction, and humanistic guidance, providing theoretical reference for building a benign development pattern of ideological and political leadership in the digital age.

Keywords: Intelligent technology, Ideological and political leadership, Practical path, Ethical boundaries, Education Empowerment.

1. Introduction

At the intersection of accelerated iteration of digital technology and deep transformation of education, digital intelligence technology is reshaping the ecological pattern of ideological and political education with unprecedented strength. From precision education driven by big data to immersive scenarios built in the metaverse, from dynamic guidance supported by intelligent algorithms to multi-dimensional quantitative effectiveness evaluation, technological empowerment provides new possibilities for solving the difficulties of "insufficient precision," "limited coverage," and "lack of emotional resonance" in traditional ideological and political guidance. However, as algorithm recommendations and value guidance become deeply intertwined, and the boundaries between virtual scenes and real education become increasingly blurred, the ethical risks of technology applications also become prominent - the dissolution of critical thinking by the "information cocoon", the threat of data collection to privacy rights, and the squeezing of humanistic values by instrumental rationality, all of which test the value adherence of ideological and political guidance in the digital age.

From the strategic perspective of building a strong education country and national rejuvenation, how to construct a virtuous development path of ideological and political leadership in the dynamic balance of technological empowerment and ethical regulation has become an era proposition that combines theoretical urgency and practical necessity. This article focuses on the full cycle perspective of the education process, systematically analyzing the empowering mechanism of digital intelligence technology in the preparation, implementation, transformation, and evaluation stages of ideological and political education, and revealing the innovative logic of the three-dimensional collaboration of "data algorithm computing power"; At the same time, we will delve into the ethical dilemmas of subjectivity dissolution, data ethics misconduct, and human-machine relationship misalignment in the application of deconstruction technology. We will propose boundary adjustment solutions from three dimensions: technical regulation, institutional construction, and humanistic guidance, in order to provide theoretical references that combine theoretical depth and practical value for promoting the deep integration of digital technology and ideological and political education.

2. Theoretical Logic and Practical Value of Empowering Ideological and Political Leadership with Digital Technology

(1) Theoretical basis for technological empowerment

The empowerment of ideological and political leadership by digital technology is essentially the integration of technological tools and educational value. The Marxist view of technology holds that technology is the objectification of human essential power, and as a concentrated manifestation of modern productivity, digital technology can enhance the effectiveness of ideological and political guidance by optimizing the allocation of educational elements. From the perspective of educational communication, digital technology has reconstructed the channels and methods of information dissemination, shifting ideological and political guidance from one-way indoctrination to two-way interaction, and from linear dissemination to online dissemination, significantly enhancing the coverage and penetration of guidance.

(2) The inevitable requirement of practical development

In the context of building a strong education country,

empowering with digital intelligence technology is an inevitable choice to address the challenges of "information fragmentation" and "value diversification". The rapid development of digital technology is profoundly changing people's way of life, thinking, and behavior. The traditional ideological and political leadership model faces practical difficulties such as "insufficient precision" and "limited coverage". However, technological empowerment can effectively enhance the pertinence and effectiveness of leadership, providing technical support for solving the fundamental problems of "what kind of people to cultivate, how to cultivate people, and for whom to cultivate people".

3. The Practical Path of Empowering Ideological and Political Leadership with Digital Technology

(1) Technological empowerment mechanism for the entire education cycle

1) Education preparation stage: data-driven precision design

In the education preparation stage, digital intelligence technology achieves precise identification of educational needs through multi-source data collection and analysis. Big data analysis technology can integrate students' online behavior data, academic performance data, social interaction data, etc., to construct a "dynamic portrait of students' thoughts" and provide data support for teaching design. For example, by analyzing students' comments on social media through natural language processing technology, predicting their value orientation and cognitive shortcomings, and customizing differentiated educational programs, we can promote efficient and targeted educational preparation.

2) Education implementation stage: Immersive guidance of scene reconstruction

Digital intelligence technology constructs immersive educational scenarios through technologies such as virtual reality (VR), augmented reality (AR), and metaverse, transforming abstract theories into tangible experiences. Using VR technology to recreate historical event scenes, allowing learners to experience the revolutionary spirit in virtual scenes; By building a 'Red Culture Experience Hall' through the metaverse platform, interactive learning across time and space can be achieved, significantly enhancing the affinity and experiential experience of education. In addition, intelligent recommendation algorithms can dynamically push suitable ideological and political content based on students' cognitive level and interest preferences, forming a personalized learning path of "thousands of people, thousands of faces".

3) Behavior transformation stage: dynamic guidance of intelligent interaction

In the process of behavior transformation, digital intelligence technology captures the emotional feedback and ideological changes of learners in real time through intelligent interactive technologies such as emotional computing and semantic analysis. For example, intelligent dialogue systems can analyze students' speech intonation and text emotions to determine their acceptance of educational content, and adjust guidance strategies accordingly; Brain wave monitoring technology can assist in evaluating students' attention concentration, provide scientific basis for optimizing educational methods, and enhance learners' sense of identity and achievement.

4) Effectiveness evaluation stage: Scientific evaluation of algorithm modeling

Numerical intelligence technology achieves precise measurement and visualization of educational outcomes by constructing multidimensional evaluation models. Machine learning algorithms can comprehensively analyze behavioral data, cognitive data, and emotional data in the education process to generate an "evaluation report on the effectiveness of ideological and political leadership". This report not only quantifies the level of knowledge mastery, but also models and analyzes implicit indicators such as value recognition and behavior transformation. This scientific evaluation method provides precise basis for feedback and optimization of educational effectiveness.

(2) Innovation and Empowerment Model of Technological Logic

The core of empowering ideological and political leadership with digital technology lies in the three-dimensional collaboration of "data algorithm computing power". Represented by DeepSeek, domestic large-scale models achieve a systematic leap in ideological and political education through a collaborative mechanism of "data activation, algorithm dimensionality enhancement, and computing power adaptation": data activation breaks down information silos and builds a dynamic ideological and political education database; Algorithm dimension enhancement optimizes content recommendation and emotion recognition accuracy through deep learning; Computing power adaptation relies on cloud computing platforms to provide elastic computing resources, ensuring the efficiency of large-scale data processing. This technological logic has given rise to innovative models such as intelligent content generation, virtual scene teaching, and personalized learning recommendations, shifting ideological and political guidance from experience driven to data-driven, and from standardized implementation to personalized services [1].

4. The Ethical Boundaries and Risk Challenges of Empowering Ideological and Political Leadership with Digital Technology

(1) Subjectivity dissolution: the dilemma of technology dependence and authority reconstruction

The deep application of digital technology may trigger a crisis of "subject loss" in ideological and political education. On the one hand, the "information cocoon" formed by algorithm recommendations may solidify the cognitive frameworks of educators and learners, weakening critical thinking abilities; On the other hand, the excessive use of intelligent educational tools may weaken the dominant position of educators and make value orientation a vassal of technology. The "authority dissolution" effect of digital technology may deconstruct the value guided authority in traditional education, causing learners to fall into value confusion in the vast amount of information and difficult to form stable value judgments.

(2) Data Ethics: Risks of Privacy Leakage and Value Deviation

In the process of data collection and application, digital intelligence technology faces severe ethical challenges. The data collected during the process of ideological and political education, such as students' ideological dynamics and

emotional preferences, is sensitive information. Without strict security protection mechanisms, it may pose a risk of privacy leakage. In addition, the value bias of algorithm training data may lead to distorted guidance of leading content - if there is ideological bias or value position deviation in the training data, the generated educational content may mislead learners. At the same time, in order to pursue the "user stickiness" of technological applications, some educational scenarios have a tendency towards "pan entertainment", replacing deep value guidance with fragmented and superficial content, which weakens the seriousness of ideological and political education [2].

(3) Human machine relationship: the conflict between instrumental rationality and value rationality

The integration of digital technology and ideological and political education faces ethical dilemmas in terms of human-machine role positioning. The humanistic traits of emotional resonance and value demonstration of educators are irreplaceable, and technological tools are difficult to fully simulate human emotional experiences and value judgments. If we overly rely on intelligent systems for value guidance, it may lead to problems such as "lack of emotional companionship" and "shallow value guidance", making ideological and political guidance a mechanical operation of technological programs. How to maintain the dominant position of educators in technological empowerment and achieve the dialectical unity of "technological instrumentality" and "humanistic value" has become an urgent ethical issue that needs to be addressed.

5. Ethical Adjustment and Path Optimization of Empowering Ideological and Political Leadership with Digital Technology

(1) Technical Regulation: Building a Governance Framework for Algorithmic Ethics

Establish an ethical review mechanism for the application of digital technology in ideological and political education, and embed value oriented requirements in the technology development stage. Develop the "Code of Ethics for the Application of Artificial Intelligence in the Field of Ideological and Political Education", clarify the boundaries of data collection, the value principles of algorithm design, and the review process for system applications; Develop an "algorithm audit" tool to conduct ethical evaluations of the training data and decision-making logic of the ideological and political education intelligent system, ensuring the fairness and value correctness of the algorithm; Establish a 'negative list' of technology applications, prohibiting the use of emotion recognition, behavior prediction, and other technologies for excessive monitoring or thought manipulation [3].

(2) Institutional construction: Improve the institutional system of collaborative governance

Build a diversified and collaborative ethical governance pattern of "government school technology enterprise society". At the government level, accelerate the formulation of laws and regulations on the application of digital technology in the field of education, clarify the rights, obligations, and responsibilities of all parties involved; At the school level, establish a "Technology Application Ethics Committee" to conduct ethical evaluations of technology application plans in ideological and political education at the school; At the level of technology enterprises, strengthen social responsibility awareness and integrate the concept of "value led priority" into product design; At the societal level, cultivate public awareness of digital ethics and establish a social supervision mechanism for technological applications. In addition, we need to improve the closed-loop mechanism of "technology application effect evaluation ethical adjustment" and respond promptly to the ethical challenges brought by new technologies.

(3) Humanistic guidance: strengthening the value consciousness of educational subjects

The core of empowering digital intelligence technology lies in the organic integration of "technological empowerment" and "humanistic guidance". On the one hand, strengthen the digital literacy training of educators, enhance their ability to use digital intelligence technology to carry out ideological and political guidance, so that they can proficiently master intelligent tools while maintaining the subjectivity of value guidance; On the other hand, emphasizing the concept of "technology serving people" always highlights the value subject status of people in the education process, avoiding alienation by technological tools. Establishing digital thinking, symbiotic thinking, and humanistic thinking requires educators to not only make good use of technological tools in the era of digital intelligence, but also adhere to the humanistic essence of education. Through irreplaceable humanistic guidance methods such as emotional communication and value demonstration, educators should achieve the unity of technological empowerment and humanistic care.

Digital technology provides unprecedented technological possibilities for enhancing ideological and political leadership, but its application must adhere to ethical boundaries. Future research needs to further explore the integration path of digital intelligence technology and ideological and political leadership in the dynamic balance between technological innovation and ethical regulation: on the one hand, deepen the application research of cutting-edge technologies such as generative artificial intelligence and brain computer interfaces in ideological and political education, and develop more targeted intelligent leadership systems; On the other hand, we should strengthen interdisciplinary research on digital ethics and construct an ethical normative system that balances technological characteristics and educational laws. Only in this way can the empowering potential of digital technology be fully unleashed, providing solid ideological guidance and technological support for cultivating new generations who shoulder the great responsibility of national rejuvenation.

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