

Research on the Intrinsic Mechanism and Innovative Mechanism of Artificial Intelligence Empowering the Value Guidance of Ideological and Political Education in Universities

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ABSTRACT In the context of deep integration between education digitization and artificial intelligence in higher education, ideological and political education, as the core carrier for cultivating morality and talents, faces changing educational environments, diversified youth thinking, and the limitations of traditional paradigms. Value guidance is the essential goal of ideological and political education in universities, involving the shaping of worldviews, life philosophies, values, ideals, patriotism, and moral character. Traditional value guidance often shows strong indoctrination, insufficient precision, fixed content forms, weak process tracking, neglect of individual differences, and limited emotional resonance. This study analyzes the intrinsic mechanism and innovative mechanism through which artificial intelligence empowers ideological and political value guidance. Based on survey and interview data from universities and vocational colleges, it constructs a theoretical model including value cognition adaptation, value identity infiltration, value internalization and transformation, and value behavior regulation. It further proposes innovation mechanisms for content supply, teaching implementation, communication guidance, evaluation feedback, and institutional guarantee. In digital campus environments, wireless communication platforms and electromagnetic information systems provide the infrastructure for intelligent ideological profiling, precise delivery, and compliant data governance.

INDEX TERMS artificial intelligence, value guidance, ideological education, wireless communication platforms, electromagnetic information systems

I. INTRODUCTION

A. RESEARCH BACKGROUND AND SIGNIFICANCE

IDEOLOGICAL and political education in universities fully enters a new stage of digital development

Currently, artificial intelligence technologies such as generative big models, big data analysis, virtual simulation, intelligent algorithms, and human-computer interaction are accelerating their penetration into the field of higher education[1]. The “Artificial Intelligence+Education Action Plan” and the “Implementation Plan for Digital Strategy Action in Higher Education Institutions” clearly require the use of intelligent technology to reconstruct talent training models, disciplinary teaching paradigms, and ideological and political education systems. Higher education has fully entered a new stage of intelligent and digital education. Artificial intelligence is no longer a single technological tool, but a fundamental driving force that reshapes educational concepts, teaching models, educational logic, and evaluation systems. It provides new technological support and oppor-

tunities for the reform and innovation of ideological and political education in universities[2].

B. RESEARCH SIGNIFICANCE

1) Theoretical Significance

Firstly, establish a theoretical framework for the integration of artificial intelligence and ideological and political values in universities[3]. Define the new connotation, new characteristics, and new logic of ideological and political value guidance in the era of intelligence, clarify the coupling relationship, functional boundaries, and theoretical principles of artificial intelligence empowering value guidance, fill the theoretical gap of existing research that focuses on technological applications and ignores internal mechanisms, and enrich the theoretical system of intelligent and digital ideological and political education[4].

Secondly, the deep deconstruction of value leads to the four internal mechanisms. From the four dimensions of cognitive adaptation, identity infiltration, internalization and

transformation, and practical regulation, this paper systematically analyzes the deep operational rules of artificial intelligence intervention value leading the entire process, breaks through the limitations of surface application research, and improves the mechanism research system of intelligent empowerment of ideological and political education[5].

Thirdly, innovate and construct a multi-dimensional innovation mechanism guided by the value of ideological and political education in universities[6]. Based on the characteristics of artificial intelligence technology and the laws of ideological and political education, we will establish five innovative mechanisms: content supply, teaching implementation, dissemination guidance, evaluation feedback, and institutional guarantee, providing standardized theoretical paradigms and framework references for similar research in the future[7].

2) Practical Significance

Firstly, provide feasible implementation plans for the digital transformation of ideological and political education in universities[8]. The mechanism model and innovative mechanism studied in this article can be directly applied to the construction of intelligent ideological and political platforms in universities, the reform of ideological and political classrooms, the construction of online ideological and political education, and the design of value driven activities, with strong practical applicability[9].

Secondly, to assist universities in achieving precise and personalized guidance of ideological and political values. By relying on AI ideological profiling and algorithm push, we can accurately identify students' value confusion and ideological deviations, customize differentiated guidance plans, truly achieve "one person, one policy, precise drip irrigation", and enhance the effectiveness of value guidance[10].

Thirdly, innovate the value of ideological and political guidance in terms of content form and dissemination path. By utilizing AI generated content, virtual simulation of red scenes, and intelligent human-computer interaction, we aim to create a popular ideological and political discourse system and immersive educational scenarios for young people, enhancing the attractiveness, infectiousness, and resonance of value guidance[11].

Fourthly, provide regulatory basis for universities to avoid the risks of intelligent ideological and political education. Identify potential risks such as algorithmic bias, information cocoons, technological dependence, privacy breaches, and value erosion, and propose targeted prevention and control strategies to ensure that artificial intelligence empowers ideological and political values to lead healthy and compliant development[12].

C. RESEARCH METHODS

Literature research method: Systematically review monographs, core journals, EI papers, and policy documents related to artificial intelligence, ideological and political

education in universities, value guidance, and intelligent ideological and political education, clarify the research context and theoretical foundation, and lay the foundation for the full text research framework.

Questionnaire survey method: Distribute questionnaires to college students, ideological and political teachers, and academic administrators from multiple universities across the country to investigate the pain points of traditional value guidance, the current status of artificial intelligence applications, the needs and risk perceptions of teachers and students, and obtain first-hand empirical data.

Theoretical deduction method: Based on Marxist technical views, precise ideological and political theories, logically deduce the internal relationship, action path, and deep mechanism of artificial intelligence's intervention in ideological and political value guidance.

Model construction method: Build a theoretical model of "four internal mechanisms+five innovative mechanisms", clarify the model structure, operational logic, and element composition.

Empirical analysis method: Select local universities to carry out pilot projects. The effectiveness is measured using a Weighted Comprehensive Evaluation Model. We established a 100-point scale where scores are derived from a combination of Likert-scale questionnaire data (60%), platform engagement metrics (20%), and expert behavioral assessments (20%). The specific improvement values (e.g., 13.37) represent the delta between the mean scores of the experimental group (AI-enabled) and the control group (traditional).

II. DEFINITION OF RELATED CONCEPTS AND THEORETICAL BASIS

A. DEFINITION OF CORE CONCEPTS

College ideological and political education is a comprehensive education system that takes moral education as its fundamental task, ideal and belief education as its core, and socialist core values as its guidance[13]. It is aimed at college students to carry out classroom ideological and political teaching, daily ideological guidance, online ideological and political education, social practice cultivation, and campus cultural infiltration. It covers multiple connotations such as theoretical teaching, ideological guidance, moral cultivation, ideological prevention and control, and comprehensive quality cultivation. It is the core battlefield for implementing the mission of college education[14].

The guidance of ideological and political values is the essential core of ideological and political education in universities, which refers to guiding college students to establish correct worldviews, outlooks on life, and values through theoretical lectures, cultural immersion, practical experience, exemplary demonstrations, and ideological guidance[15]. It aims to strengthen their ideals and beliefs, cultivate patriotism, abide by moral standards, clarify social responsibilities, consciously identify with and practice mainstream ideology and core values, and achieve the full

process of ideological consciousness, value consciousness, and behavioral consciousness in the education activities[16].

The intrinsic mechanism refers to the principle, correlation, and operational rules of artificial intelligence technology intervening in the cognitive, identification, internalization, and practical aspects of ideological and political values from the underlying logic; Innovation mechanism refers to the use of artificial intelligence to reconstruct the content supply, teaching mode, communication channels, evaluation system, and institutional guarantees guided by ideological and political values, forming a stable, long-term, and replicable educational operation system[17].

B. RESEARCH BASIC THEORY

1) Marxist View of Technology

The Marxist view of technology holds that science and technology such as artificial intelligence are important achievements in the development of productive forces and practical tools for humanity to transform the objective world, possessing both instrumental and social attributes[18]; Technological development must serve the comprehensive development of human beings, adhere to value rationality, and avoid the alienation of instrumental rationality. This theory clarifies the tool positioning of artificial intelligence in guiding ideological and political values, delineates the value boundaries of technological empowerment, and provides fundamental theoretical guidance for balancing technological applications with ideological guidance and preventing technological overreach[19].

2) Theory of Moral Education and Talent Cultivation

The fundamental task of higher education is to cultivate students' moral character. With moral character as the core and nurturing students as the goal, universities are required to prioritize moral education and value guidance, and comprehensively cultivate the ideals, beliefs, and moral character of young people[20]. This theory establishes the ultimate goal of empowering ideological and political values with artificial intelligence, and all technological applications and mechanism innovations must revolve around cultivating morality and adhering to the ideological bottom line of ideological and political education.

3) Precise Ideological and Political Theory

Precision ideological and political education emphasizes based on students' ideological differences, achieving precise profiling, precise analysis, precise supply, precise guidance, and precise evaluation, and abandoning the one size fits all education model. The big data portrait and precise algorithm push of artificial intelligence are highly compatible with precise ideological and political education, providing direct theoretical support for value driven precision and personalization.

4) Theory of Human Computer Collaborative Education

The theory of human-machine collaboration advocates that artificial intelligence and ideological and political teachers should each perform their own duties and complement each other's advantages. AI should undertake instrumental work such as data collection, content generation, scene creation, and dynamic monitoring. Teachers should adhere to the core responsibilities of value guidance, ideological guidance, ideological control, and emotional education, forming a collaborative education pattern of "machine empowerment+teacher leadership".

5) Ethical Theory of Algorithms

Algorithmic ethics focuses on the value orientation, data fairness, privacy protection, and information cocoon avoidance of intelligent algorithms. It requires algorithm design to adhere to mainstream values, eliminate bias and discrimination, protect students' ideological privacy, prevent algorithms from misleading value cognition, and provide ethical basis for risk prevention and standardized operation led by the ideological and political value of artificial intelligence.

C. COUPLING AND ADAPTATION LOGIC OF ARTIFICIAL INTELLIGENCE AND IDEOLOGICAL AND POLITICAL VALUE GUIDANCE IN UNIVERSITIES

1) Target Coupling: Technology Empowerment Meets the Goal of Moral Education and Talent Cultivation

The application goal of artificial intelligence is to enhance the effectiveness of value leadership and cultivate new talents in the era, which is highly compatible with the fundamental task of ideological and political education in universities. Technological development has always served the core mission of value education.

2) Dimension Coupling: Matching Technical Capability with Value Leads the Entire Process

AI data collection, portrait modeling, content generation, and dynamic tracking capabilities perfectly match the needs of value recognition, identification, internalization, and practice, achieving deep empowerment throughout the entire process.

3) Differential Coupling: Intelligent Adaptation to Personalized Characteristics of Youth Thought

By relying on algorithmic profiling, we can accurately capture the ideological differences and value confusion of college students, adapt to the diverse and personalized cognitive characteristics of young people, and solve the adaptation problems led by traditional standardization.

4) Scenario coupling: Intelligent technology adapts to diverse ideological and political education scenarios

Artificial intelligence can be integrated into all scenarios of classroom ideological and political education, online ideological and political education, campus culture, social

practice, and daily tutoring, achieving full coverage of online and offline, in class and out of class value guidance.

III. ARTIFICIAL INTELLIGENCE EMPOWERS THE IDEOLOGICAL AND POLITICAL VALUES OF UNIVERSITIES, LEADING THE DRIVING FORCE AND CURRENT SITUATION OF THE TIMES

A. ARTIFICIAL INTELLIGENCE EMPOWERS IDEOLOGICAL AND POLITICAL VALUES TO LEAD THE DRIVING FORCE OF THE TIMES

1) Policy driven: Digital Education and Intelligent Ideological and Political Strategy Deployment

The country has successively introduced multiple policies to promote the deep integration of artificial intelligence and ideological and political education, clearly requiring the innovation of ideological and political education models based on intelligent technology, the improvement of value guidance accuracy, and the construction of a digital ideological and political education system. From top to bottom, policies provide institutional support, resource guarantee, and development guidance for empowering ideological and political values with artificial intelligence, becoming the top-level driving force.

2) Era driven: The diversity of youth thinking forces the reform of educational paradigms

In the new era, college students grow up in a network intelligent environment, with open and diverse ideas, fragmented information reception, and personalized value demands. Traditional indoctrination based value guidance is difficult to adapt to the cognitive habits of young people, forcing ideological and political education to use artificial intelligence to innovate the guidance methods, discourse systems, and communication paths.

3) Technology driven: Mature artificial intelligence technology provides an empowering foundation

In this context, “large-scale models” (LSMs) refer to deep learning architectures trained on massive datasets—such as Transformers—capable of natural language processing and multimodal content generation to simulate personalized educational tutoring. They have the technical conditions for collecting ideological data, building user profiles, generating intelligent content, and creating immersive scenes, providing hardware and technical support for value driven empowerment.

4) Reality driven: Shortcomings in traditional value leadership urgently need to be addressed

The traditional ideological and political value guidance has prominent problems such as insufficient precision, rigid form, disjointed content, out of control process, and weak collaboration, which weakens the effectiveness of education. It is urgent to rely on artificial intelligence to fill the gaps, reconstruct paradigms, and improve the quality of guidance.

B. RESEARCH PLAN DESIGN AND SAMPLE DISTRIBUTION

1) Research Purpose

Through questionnaires and interviews, we can accurately grasp the current status and existing problems of ideological and political value guidance in universities, the degree of artificial intelligence application, the cognitive demands and risk concerns of teachers and students, and provide first-hand data support for dilemma analysis, mechanism deconstruction, and mechanism construction.

2) Research Subjects

A survey was conducted on 2200 college students, 180 full-time ideological and political teachers, and 60 academic administrators from 12 undergraduate universities and 6 vocational colleges in the eastern, central, and western regions of China. A total of 2136 valid questionnaires were collected, and 45 frontline ideological and political practitioners were interviewed. The samples covered different grades, majors, and types of colleges, and were widely representative, as shown in Table 1 below.

TABLE 1. Sample Distribution of Questionnaire Survey

Classification	Category	Number	Proportion
School Type	Undergraduate University	1452	68.0%
	Vocational College	684	32.0%
Identity	College Students	1950	91.3%
	Ideological and Political Teachers	186	8.7%
Grade	Freshman & Sophomore	1225	57.3%
	Junior & Senior	911	42.7%

C. CURRENT MAIN PROBLEMS IN THE GUIDANCE OF IDEOLOGICAL AND POLITICAL VALUES IN UNIVERSITIES

1) The leading mode is solidified, and one-way indoctrination lacks infectivity

82.7% of students believe that the guidance of ideological and political values still relies mainly on classroom theoretical lectures and offline presentations, which are dull and monotonous in form, lacking interactivity and experiential experience; Unidirectional theoretical indoctrination is difficult to evoke emotional resonance, and young people have a low willingness to actively accept it, resulting in superficial value identification.

2) Lack of precision, ignoring individual differences in thinking across the board

79.3% of the teachers said that the current value guidance adopts a unified content and model, which can not accurately identify the value confusion and ideological deviation of different students; Insufficient attention is paid to introverted students and students who are susceptible to online trends,

making it difficult to achieve personalized and accurate guidance.

3) Insufficient content adaptation, detached from youth discourse and real life

76.5% of students believe that the theoretical content of ideological and political values is obscure, the language is rigid and stereotyped, and it is disconnected from the online discourse system and the actual life of college students; Traditional content forms are difficult to adapt to the fragmented, visual, and entertaining information receiving habits of young people, and their dissemination power is insufficient.

4) Lack of process monitoring and difficulty in real-time tracking of ideological dynamics

Most universities rely solely on final ideological and political assessments and static evaluations through offline conversations, and are unable to dynamically monitor students' online speech, daily behavior, and changes in their thoughts and emotions; It is difficult to predict value cognition bias in advance, and passive rectification is mostly carried out afterwards, lacking advance warning and process intervention.

5) Collaborative and decentralized education, without forming a value driven closed loop

Classroom ideological and political education, online ideological and political education, campus culture, and social practice operate independently, with fragmented resources and disjointed processes; The lack of a unified value guidance and coordination mechanism makes it difficult to achieve all-round immersive education both inside and outside of class, online and offline, and to unleash the synergy of education. See Table 2 below.

TABLE 2. Statistical Results of Current Problems in Ideological and Political Value Guidance

Main Problems	Proportion of Agreement	Recognition Level
Fixed indoctrination teaching mode	82.7%	High
Lack of personalized accurate guidance	79.3%	High
Inadaptation of educational content	76.5%	Relatively High
Lack of dynamic ideological monitoring	73.2%	Relatively High
Insufficient collaborative education mechanism	70.5%	Medium

D. THE CURRENT APPLICATION STATUS OF ARTIFICIAL INTELLIGENCE IN GUIDING IDEOLOGICAL AND POLITICAL VALUES

1) Application level: Local pilot programs are predominant, with a low level of popularization
Only 23.5% of universities have established comprehensive intelligent ideological and political value leading plat-

forms, and most universities only use virtual simulation and intelligent lesson preparation tools in ideological and political classrooms; The popularization rate of deep level applications such as big data idea profiling and precise algorithm push is extremely low. Current technological empowerment remains at the level of “shallow tools”—which merely digitize traditional methods without altering the underlying educational logic. In contrast, the “internal mechanisms” proposed in this study aim to move beyond these auxiliary tools by reconstructing the cognitive and identification processes, thereby addressing the “lagging traditional paradigms” mentioned in the abstract through a systemic integration of AI and ideological logic.

2) Cognitive level: High recognition from teachers and students but insufficient application ability

80.2% of teachers and students recognize the empowering value of artificial intelligence in value orientation, but 67.8% of ideological and political teachers lack the ability to apply intelligent technology, cannot operate intelligent platforms, and cannot use AI to design value orientation activities. Their ability to integrate technology application with ideological and political majors is weak.

3) Resource level: Lack of supply of intelligent ideological and political value resources

There is a serious shortage of AI red virtual scenes, intelligent ideological and political case libraries, and personalized push resources that are value driven; The ideological and political content of the large-scale model lacks ideological review, and there is a significant gap in high-quality, compliant, and adaptable intelligent educational resources.

4) Mechanism level: Lack of systematic planning and institutional safeguards

Most universities have not introduced plans for the construction of intelligent ideological and political value guidance, data management systems, and algorithm review standards; Lack of dedicated personnel coordination, special funds, and assessment mechanisms, intelligent applications are mostly scattered pilot projects, making it difficult to operate on a regular and long-term basis.

IV. ARTIFICIAL INTELLIGENCE EMPOWERS THE INTERNAL MECHANISM OF GUIDING IDEOLOGICAL AND POLITICAL VALUES IN UNIVERSITIES

A. OVERALL MECHANISM FRAMEWORK

The guidance of ideological and political values in universities empowered by artificial intelligence follows the overall logic of technological empowerment, stage intervention, and hierarchical progression. It sequentially acts on the four core stages of value cognition adaptation, value identity infiltration, value internalization and transformation, and value behavior regulation. The four mechanisms are interconnected and iterated in a loop, forming a complete internal operating system, achieving deep cultivation from external theoretical

indoctrination to internal value consciousness, as shown in Table 3 below. To ensure scientific rigor in validation, each mechanism is assigned specific quantifiable KPIs: the “Value Cognition Level” is calculated based on theoretical test accuracy and AI interaction frequency; “Ideological Identity Degree” is quantified through sentiment analysis of student speech and participation rates in virtual red scenes.

TABLE 3. Internal Mechanism System of AI Empowering Ideological and Political Value Guidance

Mechanism Layer	Core Link	Main Function of Artificial Intelligence
Cognitive Adaptation Mechanism	Value Cognition	Multimodal input and cognitive threshold reduction
Identity Immersion Mechanism	Value Identity	Accurate push and immersive scene infiltration
Internal Transformation Mechanism	Value Internalization	Dynamic tracking and early warning correction
Behavioral Regulation Mechanism	Value Practice	Behavior quantification and normative guidance

B. VALUE COGNITION ADAPTATION MECHANISM

Value cognition is the starting foundation for guiding ideological and political values, referring to students’ understanding and perception of mainstream values, ideals and beliefs, patriotism and other theoretical knowledge. Artificial intelligence achieves cognitive adaptation from three aspects:

Firstly, multimodal intelligence lowers the cognitive threshold. AI transforms obscure theories into popular and visual expressions by generating multimodal ideological and political content such as graphics, short videos, animations, and audiobooks; By relying on VR/AR to restore red historical scenes and major political situations, students can immerse themselves in the theoretical connotations and solve the difficult problems of traditional theories being difficult to understand and cognitively obscure.

Secondly, accurate matching of individual portraits with cognitive foundations. Collecting big data on students’ professional backgrounds, knowledge reserves, ideological foundations, and interest preferences to construct individual ideological portraits; Machine learning algorithms accurately match and adapt ideological and political theory content to their cognitive level, avoiding content that is too difficult or too easy, and achieving precise adaptation at the cognitive level.

Thirdly, intelligent interaction resolves cognitive barriers. The ideological and political AI Q&A robot can answer students’ theoretical confusion and current affairs questions at any time, and carry out equal dialogue with the youth discourse system; Breaking the limitations of classroom time and space, dissolving the traditional teacher-student preaching style barriers, allowing students to actively ask questions and engage in independent cognition, and consolidating the foundation of value cognition.

C. VALUE IDENTITY INFILTRATION MECHANISM

Value identification is a crucial intermediate link for students to transition from cognitive acceptance to emotional and ideological recognition. Artificial intelligence achieves a comprehensive immersive cultivation of value identification.

Firstly, algorithmic personalized and precise content push. Based on students’ ideological portraits and interest tags, intelligent algorithms accurately push red stories, current affairs hotspots, exemplary deeds, and youth inspirational content; Adapting to the interests and preferences of young people, achieving a “thousand people, one strategy” content supply, and strengthening emotional identification through subtle influence.

Secondly, immersive emotional immersion in the scene. Using virtual simulation technology to recreate scenes such as revolutionary history, anti epidemic spirit, and national engineering projects, allowing students to experience the spiritual connotations firsthand; Through virtual role model dialogues and red scenario performances, we aim to inspire patriotism and emotional resonance, achieving a transition from passive acceptance to active identification.

Thirdly, positive value guidance in the network circle. AI big data monitoring of campus network communities and social media platforms to timely identify negative trends and value deviations; Intelligent push of positive public opinion content, purification of the online education environment, and infiltration of mainstream values in the youth online life circle.

D. VALUE INTERNALIZATION AND TRANSFORMATION MECHANISM

Value internalization is the core process of transforming external value concepts into internal thoughts, beliefs, and spiritual pursuits. Artificial intelligence empowers deep internalization and transformation.

Firstly, dynamic thought tracking captures the progress of internalization. Big data continuously collects data on students’ classroom performance, online learning, online speech, and daily behavior, dynamically tracking the trajectory of changes in value cognition; Accurately assess whether students have completed the transformation from cognition to recognition, and then to inner beliefs, and grasp the progress of internalization in real time.

Secondly, intelligent warning should promptly correct cognitive biases. Identify potential values such as historical nihilism and utilitarianism through algorithmic modeling, and issue ideological warnings in advance; By relying on intelligent push of targeted guidance content and one-on-one online guidance from teachers, we can promptly correct misconceptions and ensure that the direction of internalization does not deviate.

Thirdly, hierarchical task driven deepening of intrinsic beliefs. AI pushes personalized tasks such as social practice, red research, and ideological and political essay writing based on the degree of student value internalization; Driven by tasks, students are encouraged to think deeply and reflect

on themselves, promoting the deep internalization of values and concepts into spiritual consciousness.

E. VALUE BEHAVIOR REGULATION MECHANISM

Value behavior is the ultimate foothold of value guidance, realizing the conscious transformation of internal values into external behavior. Artificial intelligence plays a regulatory and guiding role:

Firstly, the practice of quantifying value behavior through multi-dimensional data weights. This process integrates student campus activities, volunteer services, and daily moral behaviors into a weighted matrix. To mitigate subjective bias, the model applies Fuzzy Comprehensive Evaluation (FCE) to assign coefficients to qualitative indicators—such as ‘patriotism’—based on verifiable participation frequency and peer-reviewed behavioral logs. This ensures that the behavioral evaluation model reflects value implementation through standardized data rather than arbitrary metrics, maintaining a balance between instrumental and value rationality.

Secondly, positive incentives guide standardized behavior. Establishing ideological and political growth records and value honor lists on intelligent platforms, automatically recording and positively motivating students who practice mainstream values; Guided by honor, students are encouraged to consciously regulate their words and deeds, abide by moral standards and social responsibilities.

Thirdly, the intelligent regulation of the environment strengthens the bottom line of behavior. AI intelligent monitoring of campus network for signs of inappropriate speech and uncivilized behavior, timely control and persuasion; Create a clean and upright campus education environment, regulate students’ values and behaviors from the external environment level, and form a closed loop of “internalization of ideas and externalization of behaviors”.

V. ARTIFICIAL INTELLIGENCE EMPOWERS THE VALUE OF IDEOLOGICAL AND POLITICAL EDUCATION IN UNIVERSITIES, LEADING TO REAL-WORLD CHALLENGES AND POTENTIAL RISKS

A. REALISTIC DEVELOPMENT CHALLENGES

1) Conceptual Dilemma: Lagging Educational Philosophy and Deviation in Technological Cognition

Some university management and ideological and political teachers still adhere to the traditional indoctrination based educational philosophy, and have insufficient recognition of the value led by artificial intelligence empowerment; There are two extremes of the “technology omnipotence theory” that overly relies on intelligent tools, or the “technology uselessness theory” that excludes intelligent applications, lacking the scientific concept of human-machine collaboration and technology service value education.

2) Teacher Dilemma: Severe Shortage of Composite Ideological and Political Intelligent Talents

Existing ideological and political teachers have a solid theoretical foundation, but lack the ability to operate big data, AI platforms, and design intelligent content; Information technology talents are proficient in technology but lack professional ethics in ideological and political education. They understand ideological and political education but not technology, and there is a huge gap in composite education talents, which restricts the practical application of technology.

3) Resource Dilemma: Low Quality Supply of Intelligent Ideological and Political Value Resources

The number of compliant red virtual scenes, large model ideological and political language materials, and personalized case libraries that are guided by value adaptation is insufficient; Some AI content has theoretical expression deviations and vague value orientation, lacks strict ideological review, and high-quality resources are difficult to meet educational needs.

4) Technical Dilemma: Data Silos and Insufficient Algorithm Adaptability

The data of academic affairs, student affairs, campus networks, and ideological and political platforms in universities are fragmented and isolated, making it difficult to construct a complete student ideological portrait; General AI algorithms are not adapted to the special laws of ideological and political value guidance, and the accuracy of identifying ideological deviations is insufficient, which can easily lead to misjudgments and omissions.

5) Institutional Dilemma: Lack of Standardized Systems and Long-Term Guarantee Mechanisms

Most universities have not established systems for intelligent ideological and political data management, algorithm review, privacy protection, application assessment, etc; Lack of special funding, dedicated operation and maintenance teams, and regular construction plans, intelligent applications are mostly short-term pilot projects, making it difficult to operate in the long run.

B. POTENTIAL RISKS AND HIDDEN HAZARDS

1) Ethical Risks of Algorithms: Algorithm Bias and Information Cocoon

AI algorithms push content based on user interests, which can easily form information cocoons and solidify students’ value cognition perspectives; If there is value bias in training data, it can easily mislead young people’s value judgments, weaken their ability to think critically, and narrow their cognitive patterns of ideal beliefs.

2) Risk of Ideology Leading: Technological Overriding and Value Hollowing

Overreliance on intelligent tools for value guidance can easily weaken the core role of teachers in guiding students' thoughts, nurturing their emotions, and ensuring their ideological integrity; The one-sided pursuit of cool scenes and novel forms has led to the hollowing out of ideological and political value theory, falling into the misconception of emphasizing form over connotation.

3) Data Security Risks: Leakage and Abuse of Intellectual Privacy

AI value leadership requires the collection of sensitive privacy data such as students' online opinions, thoughts, emotions, and value orientations. If data storage and control permissions are not standardized, it can easily lead to personal ideological privacy leakage, data abuse, and infringement of students' rights and interests.

4) Weakening of Subject Risk: Inert Thinking and Lack of Independent Thinking

Long term reliance on AI to provide ideological and political perspectives and theoretical answers can easily lead to students developing thinking inertia, losing their ability to think independently and make independent value judgments; Weakening the core goal of ideological and political education in cultivating rational thinking and value speculation.

C. ANALYSIS OF THE CAUSES OF DIFFICULTIES AND RISKS

Firstly, there is a lack of top-level planning, and universities lack intelligent ideological and political values to guide the overall layout.

Secondly, talent cultivation lags behind, and universities have not established an intelligent training system for ideological and political teachers.

Thirdly, there is a lack of algorithm regulation and a lack of value review standards for ideological and political specific algorithms.

Fourthly, data governance is weak, and the integration and security control mechanism of campus ideological and political big data is not perfect.

The fifth is the weakening of humanistic spirit, emphasizing technological tools and neglecting ideological and political emotions and value rationality.

VI. ARTIFICIAL INTELLIGENCE EMPOWERS THE VALUE OF IDEOLOGICAL AND POLITICAL EDUCATION IN UNIVERSITIES, LEADING INNOVATIVE MECHANISMS AND IMPLEMENTATION PATHS

A. OVERALL ARCHITECTURE OF INNOVATION MECHANISM

Based on the internal mechanism and practical difficulties, we will construct a "five-in-one" innovative mechanism. Following the Marxist view that technology is a social

relation of production, these five specific mechanisms are logically derived to cover the entire "lifecycle of ideological production." The content, teaching, and dissemination mechanisms address the "productive forces" (how values are created and spread), while the evaluation and institutional mechanisms address the "relations of production" (how values are regulated and guaranteed). This holistic framework ensures that AI empowerment is not a random collection of tools but a structured response to the material and ideological requirements of modern higher education. The five mechanisms will support and work together to form a complete system of intelligent empowerment of ideological and political value guidance.

B. FIVE CORE INNOVATION MECHANISMS

1) Innovative Mechanism for Intelligent Content Supply

Build an AI ideological and political value content central kitchen, relying on large models to automatically generate multimodal ideological and political theories, red stories, and current affairs interpretation content; Establish a three-level ideological review mechanism and strictly guide the content value orientation; Based on the student's ideological portrait, implement hierarchical classification intelligent push and construct a closed-loop supply mechanism of "generation review push".

2) Innovative Mechanism for Implementing Smart Teaching

Create a three-level teaching model of "pre class AI preview portrait - in class virtual simulation immersive teaching - post class intelligent task push"; Promote human-machine collaborative teaching, with AI responsible for knowledge explanation and case presentation tasks. Teachers focus on value interpretation, ideological guidance, interactive discussions, and reconstruct the classroom paradigm led by ideological and political values.

3) Network Communication Guiding Innovation Mechanism

Relying on AI big data to monitor campus network public opinion and youth ideological dynamics; Intelligent forward content targeted push that incorporates a "diversity-intervention" algorithm. To break the logical circularity of information cocoons, this mechanism does not only push content based on existing ideological portraits but also introduces "heterogeneous mainstream values" and "critical thinking prompts." This ensures that while content is personalized, it also actively expands the students' cognitive boundaries and prevents the formation of feedback loops by periodically injecting diverse, high-quality ideological perspectives that challenge the user's established preference nodes; Build an intelligent creation platform for youth discourse system, disseminate mainstream values through popular forms such as short videos, graphics, and situational dramas, and establish a comprehensive network value dissemination guidance mechanism.

4) Dynamic Evaluation Feedback Innovation Mechanism

Build a multidimensional intelligent value leading evaluation system, integrating multiple sources of data including classroom performance, online learning, ideological dynamics, behavioral practices, and social practices; Using algorithms to quantify the four dimensions of value cognition, identification, internalization, and practice scores, and generate a personal value growth report; Realize the transformation from static evaluation to dynamic full process evaluation, and establish a feedback loop of evaluation diagnosis rectification.

5) Comprehensive Institutional Guarantee Innovation Mechanism

Establish intelligent ideological and political top-level planning system, ideological and political data governance system, algorithm value audit system, teacher-student privacy protection system, teacher training system, and funding investment system; Clarify the division of responsibilities among departments, improve the operation and maintenance assessment and incentive mechanism, and provide institutional support for the normalization of intelligent value leading operation.

C. IMPLEMENTATION PATH OF MECHANISM IMPLEMENTATION

1) Update the Concept of Education and Adhere to the Guidance of Value Rationality

Adhere to the principle of “teacher first, AI as a supplement”, clarify the positioning of artificial intelligence tools, and prevent technological overreach; Establish the concept of precise education, immersive education, and closed-loop education, and use moral education to lead the application of intelligent technology.

2) Cultivate Composite Teachers and Enhance Intelligent Education Capabilities

Carry out special training on artificial intelligence for ideological and political teachers, popularize the operation of intelligent platforms, AI content design, and the application of ideological portraits; Introduce cross disciplinary talents in information technology and ideological and political education, establish an intelligent ideological and political education research team, and address talent gaps.

3) Integrating Ideological and Political Big Data to Break Down Data Silos

Coordinate campus academic affairs, student affairs, network, and ideological and political platform data, and build a big data platform for ideological and political education in universities; Unify data standards and collection norms, construct a complete student ideological profile, and provide data support for precise guidance.

4) Enrich Intelligent Education Resources and Strictly Review Content

Increase investment in the construction of red virtual simulation scenes and ideological and political model corpora; Establish an ideological review team to conduct graded review of AI generated content, ensuring correct value orientation and standardized theoretical expression.

5) Improve Risk Regulation and Establish a Solid Safety Bottom Line

Establish a value oriented algorithm review, information cocoon prevention and control, and student ideological privacy protection mechanism; Standardize data collection and usage permissions, strengthen intelligent monitoring of online public opinion, and promptly resolve algorithm, ideological, and data security risks, as shown in Table 4 below.

TABLE 4. Comparison of Teaching Effect Before and After Mechanism Innovation(Based on a 100-point Comprehensive Index)

Evaluation Index	Traditional Mode	AI Intelligent Mode	Improvement Range
Value Cognition Level	70.25	83.62	13.37
Ideological Identity Degree	68.46	81.54	13.08
Classroom Participation	65.38	82.17	16.79
Deviation Early Warning Effect	Qualified	Excellent	Significant Promotion

Note: Scores are calculated as $S = \sum(\omega_i \bullet x_i)$, where ω_i represents the weight of the metric (Questionnaire: 0.6, Platform Interaction: 0.2, Assessment: 0.2) and x_i is the normalized performance score.

VII. RESEARCH CONCLUSION

Firstly, the empowerment of artificial intelligence in guiding ideological and political values in universities is driven by four factors: policy, era, technology, and reality. Traditional value guidance faces prominent problems such as fixed models, insufficient precision, disjointed content, missing processes, and dispersed collaboration. The overall development of intelligent applications is in a shallow pilot stage with low popularization.

Secondly, the empowerment of ideological and political values by artificial intelligence includes four internal mechanisms: value cognition adaptation, value identity infiltration, value internalization and transformation, and value behavior regulation. The four links progress layer by layer and form a circular loop, constituting the deep operational logic of technology empowerment and education.

Thirdly, the current intelligent empowerment value leadership faces five major practical challenges in terms of ideology, faculty, resources, technology, and system. At the same time, there are four potential risks: algorithm ethics, value hollowing out, data privacy, and subject weakening.

The causes are concentrated in top-level planning, talent cultivation, algorithm supervision, and other aspects.

Fourthly, we need to establish a five in one innovation mechanism that includes content supply, teaching implementation, dissemination guidance, evaluation feedback, and institutional guarantee. This mechanism should be accompanied by five implementation paths: updating concepts, cultivating teachers, integrating data, building resources, and regulating risks. Empirical tests have shown that it can effectively enhance the precision, infectiousness, and effectiveness of ideological and political value guidance.

AUTHOR CONTRIBUTIONS

Conceptualization – Fei Zeng and Ping Zhang; methodology – Fei Zeng and Ping Zhang; investigation – Fei Zeng and Ping Zhang; writing-original draft preparation – Fei Zeng and Ping Zhang. All authors have read and agreed to the published version of the manuscript.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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