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Research on Innovative Paths of Ideological and Political Education Model in Colleges and Universities under the Background of Intelligentization

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Abstract: Under the macro background of the rapid development of intelligent technologies such as artificial intelligence and big data, which are profoundly reshaping social structures and cognitive patterns, ideological and political education in colleges and universities is undergoing unprecedented environmental changes and paradigm challenges. While technology empowerment expands the possibilities of education, it also brings profound dilemmas such as the fragmentation of value transmission, the adaptability crisis of traditional education models, and the rational alienation of technological tools. This research aims to systematically respond to this era's proposition, deeply analyze the practical challenges of ideological and political education in the intelligent era, and then construct a systematic innovation paradigm with "digital-intelligent integration" as the core, covering concept reshaping, content intelligent adaptation, method immersive interaction, and evaluation process navigation. The study further proposes that the effective implementation of this paradigm requires the coordinated promotion of subject capacity building, ethical risk regulation, and institutional resource guarantees, thereby providing theoretical depth and practical feasibility for the connotative development and quality improvement of ideological and political education in the new era.

1. Introduction

In the intelligent wave interwoven with artificial intelligence, big data, and mobile internet technologies, human society is undergoing profound changes ranging from production and lifestyle to cognitive paradigms. This macro-technological backdrop not only reshapes the logic of knowledge dissemination and acceptance but also poses unprecedented challenges to ideological and political education in universities, which carries the mission of value guidance and ideological shaping [1]. With its powerful data processing capabilities, precise communication effectiveness, and immersive interactive experience, intelligent technology opens up broad possibilities for ideological and political education to break through the limitations of traditional time and space, improve teaching accuracy and appeal. However, due to its inherent algorithmic logic, data

dependence, and virtualization tendencies, it also brings structural challenges to the existing education model, teacher-student relationship, and even ideological security. Currently, in the process of exploring the integration of technology and education, some universities either fall into the superficial application of "technological instrumentalism," failing to touch the essence of cultivating people, or face a deep tension between the traditional education paradigm and the intelligent learning needs, resulting in a bottleneck in educational effectiveness. Against this backdrop, how to scientifically examine the opportunities and challenges brought by intelligent technology, how to transcend the sporadic level of technological application, systematically construct a new type of ideological and political education paradigm that is adapted to the intelligent era and characterized by deep integration of digital intelligence, and provide a solid path guarantee for its effective implementation has become a major issue with both theoretical urgency and practical strategy [2,3]. This study aims to take "problem-model-path" as the logical main line, deeply analyze the deep dilemmas faced by ideological and political education in the intelligent era, systematically demonstrate the core dimensions and implementation framework of education paradigm reconstruction driven by digital intelligence integration, and finally propose a coordinated promotion strategy system and institutional guarantees, in order to provide theoretical references with both academic depth and practical orientation for the upright innovation and high-quality development of ideological and political education in universities in the new era.

2. Challenges of Ideological and Political Education in the Intelligent Era

With the deep integration of new-generation information technologies such as artificial intelligence, big data, and cloud computing with various fields of society, human society is rapidly entering a new historical stage characterized by data-driven and intelligence-led features. This wave of intelligence is not only reshaping the social production structure and economic operation mode but also penetrating the ideological and cultural fields with unprecedented breadth and depth, profoundly changing the internal logic of knowledge dissemination, value shaping, and meaning construction [4]. Against this backdrop, university ideological and political theory courses, as key courses for implementing the fundamental task of fostering virtue through education, face systematic and structural profound changes in their educational environment, educational objects, educational content, and educational methods. While intelligent technology provides unprecedented technological possibilities for the innovation of ideological and political education, it also poses multiple deconstructions and complex challenges to the traditional ideological and political education model due to its inherent internal logic and operational mechanism. Facing up to and deeply analyzing these real difficulties and deep-seated challenges is the logical starting point and practical prerequisite for exploring the adherence to fundamental principles and innovation, as well as the steady and long-term development of ideological and political education in the intelligent era.

2.1 Structural Impact and Value Tension of Intelligent Technology on the Education Ecosystem

The widespread application of intelligent technology is triggering a profound transformation of the education ecosystem, which is primarily manifested in the fundamental restructuring of the educational information environment and cognitive patterns. The traditional, relatively closed, linear, and controllable educational information environment has been completely disrupted, replaced by a highly open, non-linear, and algorithm-driven information dissemination network. Massive, multi-source, and heterogeneous information is flooding students at unprecedented speed and density, creating a normalized pressure of "information overload". This "overload" state directly leads to the diffusion of students' attention and the decline of concentration at the cognitive

level, with in-depth reading and systematic thinking increasingly being replaced by fragmented browsing and jump-style consumption. Personalized recommendations based on user preferences by intelligent algorithms, while superficially providing information convenience, actually weave invisible "information cocoons" and "filter bubbles". Long-term solidified information contact patterns confine students to homogeneous viewpoints and narrow perspectives, forming cognitive self-reinforcement and invisible ideological barriers [5]. This not only erodes the ability of young students to form independent and dialectical thinking through diverse information collisions, but also invisibly intensifies polarization and estrangement between groups, posing a potential threat to the cohesion of mainstream value consensus and the cultivation of shared social ideals. An even more profound challenge lies in the fact that intelligent algorithms themselves are not value-neutral. Their design logic, training data, and optimization goals are all embedded with specific value presuppositions and commercial considerations. When algorithm recommendations increasingly become the main channel for students to understand the external world, the internal logic of the algorithm may subtly guide and even shape students' value judgment standards and criteria for judging right and wrong.

Furthermore, the initial emergence of human-machine collaboration and artificial intelligence subjectivity raises philosophical questions about the fundamental issue of "what is the subject of education." With the popularity of applications such as intelligent teaching assistants, adaptive learning systems, and virtual simulation tutors, machines are playing an increasingly important role in knowledge transfer, question answering, and process management. While this technological intervention improves teaching efficiency, it also harbors the risk of blurring or even alienating the subjectivity of education. When students become accustomed to seeking instant answers from intelligent programs rather than undergoing arduous thinking and exploration, and when teachers over-rely on data analysis for teaching decisions while neglecting comprehensive judgments based on educational intuition and professional experience, the essence of education—that is, the complex interaction process between people involving the awakening of souls, the enlightenment of wisdom, and the guidance of values—may be simplified into a technological and programmed information processing flow [6]. Students' subjectivity may be subtly weakened by convenient technological dependence, and the development of critical thinking, creative imagination, and complex problem-solving abilities may be inhibited. Teachers' dominance may also face challenges in the "reversal of roles" of technological tools. How their unique humanistic role as value leaders, emotional resonators, and personality models can be strengthened rather than weakened in collaboration with intelligent technology has become a core proposition that needs to be clarified.

2.2 Structural Dilemmas and Adaptive Crisis of Traditional Ideological and Political Education Model

Faced with the impact of the intelligent wave, the traditional ideological and political education model, rooted in the industrial era education model and effective for a long time, is increasingly revealing its inherent structural tension and adaptive limitations, mainly manifested as a profound contradiction between the educational supply method and the intelligent survival mode of the new generation of students [7].

First, in terms of teaching mode, there is a significant tension between one-way indoctrination and the demand for diversified interaction. The traditional ideological and political classroom mainly takes the form of teacher lecturing and student listening, emphasizing the systematic transmission of the theoretical system and the authoritative interpretation of ideological viewpoints. However, college students who grew up in the era of digital natives have highly networked and socialized channels for obtaining information and are accustomed to participatory models of equal

dialogue, instant feedback, and multi-directional interaction. They often show a low acceptance and willingness to participate in one-way, linear teaching methods that lack immediate interaction, leading to problems such as a low "head-up rate" in classroom teaching and shallow ideological interaction. Although multimedia technology has been widely used, most of it still stays at the level of "moving the blackboard" or "content presentation," failing to fundamentally change the interactive structure and power relations of teaching. The intelligent environment has spawned students' strong expectations as co-constructors of knowledge and active consumers of content. The status of teachers as the sole knowledge authority in the traditional teaching model continues to be challenged, and the partial transfer of classroom discourse power has become an indisputable fact.

Second, in terms of teaching content, there is a matching contradiction between standardized supply and personalized cognitive needs. Traditional ideological and political education has long followed a unified teaching syllabus, a standardized textbook system, and standardized assessment requirements, which has played a fundamental role in ensuring the state's will and ideological security in education. However, in the context of intelligence, students' cognitive foundation, interest orientation, value confusion, and acceptance habits show unprecedented heterogeneity and dynamics due to their information environment, algorithm recommendations, and community influence. It is difficult to achieve precise alignment between unified teaching content and vastly different individual cognitive maps, which easily leads to some students feeling that the content is "not satisfying," while others feel that it is "indigestible." Intelligent algorithms can depict a unique "digital portrait" for each user, while ideological and political education still mainly provides content based on "group portraits." This contradiction puts the pertinence and effectiveness of education to the test.

Third, in terms of the education field, there is a real conflict between fixed space-time constraints and the fluidity of learning behavior. Traditional ideological and political education mainly relies on physical classrooms for centralized teaching at fixed times and places. However, the popularity of intelligent terminals and the mobile Internet has made students' learning behaviors break through the walls of the campus and the boundaries of the classroom, showing the characteristics of being all-weather, ubiquitous, and fragmented. The process of shaping ideas and concepts is no longer limited to a few tens of minutes in the classroom but takes place in complex life scenarios from online to offline and from reality to virtuality. The carefully organized positive guidance in the classroom may have its effect discounted by the impact of an online rumor or a radical statement outside the classroom; the painstaking teachings of ideological and political teachers may not be as effective as the words and phrases of "opinion leaders" on social media. This "failure" phenomenon in the extension of educational efficacy from the real field to the vast cyberspace exposes the weakness of the traditional model in coping with the challenges of all-time and all-space education.

2.3 Practical Deviations and Risks of Value Alienation in the Early Stage of Technology Application

In the process of actively embracing intelligent technology and exploring educational innovation, some practices have exhibited alarming deviations and potential risks of value alienation due to insufficient understanding of the essence of technology and the laws of education. If these deviations are not corrected in time, the application of technology may deviate from the original intention of nurturing people.

The primary risk lies in the transgression of "instrumental rationality" over "value rationality," leading to the marginalization of the essence of education. Some practices simply equate intelligentization with the digital upgrade of teaching methods, focusing on developing dazzling technical interfaces, introducing complex algorithm models, and purchasing expensive hardware

equipment, while neglecting the deep integration of technology with teaching objectives, teaching content, and teaching methods. The application of technology is reduced to a formal "technology show" or a managerial "technology monitoring," pursuing superficial efficiency and scale rather than the depth and warmth of education. This tendency of "emphasizing technology over education" and "seeing things but not people" alienates the technical means that should serve the fundamental task of fostering virtue and cultivating people into an end in itself, endangering the ideological and political education by causing it to lose its thoughtfulness, theoretical grounding, accessibility, and relevance. When technological logic overrides educational logic, the rich connotation and complex process of education are simplified into quantifiable, computable, and controllable data streams, and its educational effectiveness will inevitably be greatly reduced.

Secondly, excessive worship of quantitative data may lead to evaluation biases of "having data but no insight" and erode the foundation of humanistic care. Intelligentization brings the possibility of full-process data collection, and behavioral data such as learning time, number of clicks, test scores, and interaction frequency are easy to obtain and analyze. However, the core achievements of ideological and political education—such as the firmness of ideals and beliefs, the recognition of values, the cultivation of moral sentiments, and the cultivation of national sentiments—mostly belong to the qualitative category of the spiritual world and meaning level, which are difficult to quantify simply. If the evaluation system relies excessively on those superficial behavioral data that are easy to measure, and lacks effective observation and interpretation methods for deeper dimensions such as emotional attitude, value internalization, and behavior development, it will fall into the trap of "dataism." This evaluation orientation may prompt teachers and students to cater to quantitative indicators rather than focus on ideological growth itself, ultimately leading to the utilitarianization and hollowing out of the educational process. Furthermore, deep dependence on intelligent technology may weaken teachers' professional autonomy and shake their subject status. When adaptive learning systems plan personalized paths for students, when intelligent teaching assistants automatically grade assignments and generate analysis reports, and when big data platforms provide teachers with precise teaching diagnoses and improvement suggestions, teachers' professional autonomous decision-making space in curriculum design, learning situation judgment, process guidance, and effect evaluation may be compressed by the algorithms and processes preset by the technical system. Teachers face the risk of being reduced from creative educational practitioners to executors of technical processes. If teachers become overly dependent on technical tools, their unique advantages, such as educational wisdom accumulated through long-term practice, the art of improvisation in teaching, and intuitive judgments based on in-depth understanding of students, may gradually degenerate. How to ensure that teachers always occupy the leading position in teaching design, the key position in value guidance, and the core position in emotional communication in human-machine collaboration, and prevent technology from being alienated from a tool "used for my benefit" to a framework "trapping me," is a fundamental issue concerning the subjectivity of education.

3. Reconstructing the Paradigm of Ideological and Political Education Driven by Digital Intelligence Convergence

Faced with the severe challenges and deep-seated predicaments posed by the era of intelligence, innovation in ideological and political education in colleges and universities cannot remain at the level of scattered technology applications or superficial teaching improvements. Instead, it must undergo a profound and systematic paradigm reconstruction. The core of this reconstruction lies in transcending the narrow perspective of "technology instrumentalism" and moving towards a new realm of education characterized by "digital intelligence convergence"—that is, promoting the

comprehensive and deep integration of data intelligence and ideological and political education in terms of value goals, core elements, operational logic, and ecosystem. This is not a simple superposition of technology and education, but rather an effort to build a new type of educational paradigm that is more adaptable, leading, and symbiotic, based on the fundamental task of fostering virtue through education, following the laws of education, and supported by intelligent technology.

3.1 Reshaping the Concept of Cultivating People

The primary prerequisite for paradigm reconstruction is a fundamental reform of the concept of cultivating people. It is necessary to elevate intelligence from a "supporting tool" in the teaching process to a "foundational supporting force" for reshaping the educational ecology, and to achieve three major conceptual transformations. The first is to move from "technology empowerment" to "digital and intelligent integration". This means no longer regarding big data, artificial intelligence, and other technologies as additional means external to the educational process, but rather internalizing them as organic components of the education system. Data becomes a new factor of production for understanding educational objects, optimizing educational processes, and evaluating educational effects; intelligent algorithms become new cognitive tools for assisting educational decision-making, personalizing learning path planning, and facilitating human-machine collaborative teaching. The second is to establish a dual balance principle of "data-driven" and "humanistic care". While fully exploring the value of data and respecting quantitative evidence, it is imperative to remain vigilant against the pitfalls of "dataism" and adhere to the humanistic essence of education. Data insights should serve deeper teacher-student dialogues, more precise emotional resonance, and more effective value guidance, rather than replacing them. The third is to creatively reconstruct the "teacher role" in an intelligent environment. In the paradigm of digital intelligence convergence, teachers transform from unidirectional transmitters of knowledge to designers of learning ecosystems, guides for value dialogues, drivers of human-machine collaboration, and caring partners in students' growth. The authority of teachers will be based more on the ability to diagnose learning situations based on data insights, the ability to analyze values based on theoretical foundations, the ability to create and guide situations based on educational wisdom, and the comprehensive educational abilities demonstrated in collaboration with intelligent tools. The core mission of teachers is to use technological tools to extend their educational wisdom, rather than being defined or replaced by them, thereby realizing the return of educators' subjectivity and the strengthening of their value-leading function at a higher level.

3.2 Intelligent Reconstruction of Teaching Content

Under the paradigm of digital-intelligent convergence, the production, organization, and supply of teaching content will undergo revolutionary changes. The core of this transformation is to shift from the "standard component" supply of the industrial era to the "personalized" and precise adaptation of the intelligent era. First, it involves the construction and dynamic updating of students' ideological and cognitive "digital portraits" based on multi-dimensional data fusion. By integrating students' behavioral data on learning platforms, consumption and activity data from campus life, and attention and expression data from cyberspace (under strict adherence to ethical and legal principles), combined with traditional methods such as questionnaires and in-depth interviews, we can construct a three-dimensional and dynamic cognitive map that reflects students' knowledge structure, interest preferences, ideological tendencies, emotional states, and real-world confusions. This is not simply "labeling" students, but rather achieving a deep understanding and scientific judgment of their learning situation, providing an objective basis for precise instruction. Secondly, it is about realizing the dynamic adjustment and intelligent recommendation of teaching content

based on "digital portraits." While the teaching syllabus and core theoretical framework remain relatively stable, specific teaching cases, interpretation angles, discussion topics, and extended resources can be dynamically selected and intelligently assembled based on the cognitive maps of different classes, different groups, or even different students. Furthermore, it involves promoting the creative transformation and innovative expression of mainstream discourse in the context of intelligent media. Utilizing technologies such as natural language processing, knowledge graphs, and generative artificial intelligence, we can assist in developing a series of new content products that align with the laws of online communication and conform to the acceptance psychology of young students.

3.3 Innovative Practices in Teaching Methods

The restructuring of teaching paradigms inevitably demands a systematic reform of teaching methods. Digital-intelligent integration offers rich possibilities for transcending traditional lecture-based models and constructing in-depth teaching models that are student-centered, experience-driven, and aimed at enhancing thinking and internalizing values. One of its core paths is to construct "immersive experiential teaching scenarios that integrate the virtual and the real." By using virtual reality (VR), augmented reality (AR), mixed reality (MR), and high-fidelity simulation technologies, abstract theories, grand histories, complex national conditions, and dilemmas in ethical situations can be transformed into virtual scenarios that students can enter, interact with, and experience. For example, students can "immerse themselves" in the Long March to feel the power of ideals and beliefs, "step into" the forefront of reform and opening up to experience the magnificent changes of development and transformation, "participate in" a virtual international debate to understand the profound connotation of a community with a shared future for mankind, or "face" a highly realistic moral dilemma to make value choices. This immersive experience can greatly stimulate students' emotional involvement, promote the deep transformation from cognitive understanding to emotional identity, and effectively make up for the shortcomings of traditional classrooms in terms of perceptual experience and emotional touch. Secondly, we explore "high-level thinking training methods supported by generative artificial intelligence." Generative AI's capabilities in text generation, logical reasoning, and multi-angle interpretation enable it to serve as a powerful "thinking training partner." Teachers can design inquiry tasks based on complex real-world issues, guiding students to engage in multi-round dialogues, debates, or collaborative writing with AI. In interacting with AI, students need to constantly clarify their own viewpoints, examine loopholes in arguments, and respond to opposing arguments, thereby deepening their understanding of theories and enhancing their abilities in value analysis, logical argumentation, and critical thinking through repeated dialectical exchanges. In this process, AI does not provide standard answers, but plays the role of a tireless and multi-perspective "debater" or "collaborator," stimulating students' subjective thinking. Thirdly, we create "hybrid in-depth interactive classrooms based on intelligent environments." Utilizing sensors, multi-screen interaction, and real-time feedback systems in smart classrooms, combined with asynchronous discussion and collaboration tools on online platforms, we construct a seamless online-offline learning environment. In the classroom, teachers can focus on common difficulties and core issues based on pre-class learning data analysis, organizing group collaborative inquiry, debates, role-playing and other in-depth interactive activities, systematically capture participation, viewpoint distribution and present it visually in real time, promoting the collision and generation of viewpoints. Outside the classroom, the online platform continuously supports extended learning, group project collaboration, and asynchronous communication between teachers and students, and among students, forming a new normal of hybrid learning of "centralized guidance-distributed inquiry-collaborative construction,"

completely changing the temporal and spatial structure and interactive form of the classroom.

3.4 Systematic Transformation of the Evaluation System

The integrity of a paradigm ultimately requires a matching evaluation system to ensure and strengthen it. Evaluation under the paradigm of digital-intelligent convergence must shift from the traditional "endpoint judgment" that focuses on knowledge memorization and conclusive assessment to "whole-process growth navigation" that focuses on the learning process, thinking development, value internalization, and behavior cultivation. This firstly requires the construction of a "comprehensive evaluation model based on multi-source data fusion." This model not only includes traditional tests and assignment grades, but also organically integrates behavioral data from immersive learning experiences (such as exploration paths and decision-making logic), semantic analysis data from online discussions (such as viewpoint innovation, argumentation rigor, and value orientation), collaborative behavior data from group projects, and student classroom engagement and emotional investment data analyzed through emotional computing technology. Through cross-validation and comprehensive analysis of multi-dimensional data, we strive to more comprehensively and stereoscopically portray students' overall development in terms of knowledge, abilities, emotions, attitudes, and values, and achieve a "panoramic" assessment of the effectiveness of education. Secondly, it involves creating "dynamic and continuous 'digital twin'-style learner growth profiles." A dynamic digital map of each student's learning process should be established to continuously record and visualize the cognitive development trajectory, ability improvement curve and value change trend of students in various ideological and political courses and related practical activities. This profile is no longer a static transcript, but a dynamic and personalized "history of ideological growth," helping students with self-reflection and self-cognition, and also helping teachers and parents to more deeply understand students' growth patterns and individual characteristics. Finally, it is to establish a "personalized feedback and precise intervention mechanism based on intelligent evaluation." The ultimate purpose of evaluation is not to classify and grade, but to promote development. The system can automatically diagnose students' knowledge gaps, thinking misconceptions, or value confusions in the learning process based on the comprehensive evaluation model and growth profiles, and accurately push personalized learning resources, corrective exercises, extended reading, or tutoring suggestions. At the same time, early warning models for possible ideological fluctuations, learning difficulties and behavioral deviations should be established to promptly remind teachers and counselors to carry out manual intervention and caring guidance, forming a closed loop of "evaluation - diagnosis - feedback - intervention - re-evaluation", so that evaluation can truly become the "navigator" and "booster" for promoting the all-round development of students.

4. Collaborative Implementation Strategies and Support System

The paradigm reconstruction of ideological and political education driven by digital-intelligent integration is a systematic project. Its successful implementation and sustainable development depend not only on the pioneering nature of the concept and the scientific rigor of the design but also on a complete, collaborative, and powerful implementation strategy and support system. This system must transcend the scope of simple technology introduction or teaching reform and carry out top-level design and systematic deployment from multiple dimensions, such as capacity building, ethical norms, institutional innovation, and resource collaboration. It aims to remove obstacles, consolidate the foundation, and inject continuous impetus for paradigm reconstruction, ensuring that it takes root, sprouts, and develops steadily in the complex organizational ecology of universities.

4.1 Core Subject Capacity Building

The success of paradigm reconstruction ultimately depends on the "human" factor in the education system. In the new environment of digital-intelligent integration, the core competency structure required by both educators and learners needs to be strategically reshaped and systematically improved to harness technology and return to the essence of education. For ideological and political course teachers, the core of competency reshaping is to build a new professional competency complex of "digital-intelligent education literacy." This is by no means a simple technical operation training, but a deep transformation covering multiple dimensions of cognition, skills, and ethics. Universities should formulate and implement special teacher development plans in stages and levels. The content must go beyond software use guides and delve into the cultivation of data literacy—enabling teachers to interpret the educational implications behind learning analysis reports and make accurate teaching decisions based on data insights; the application ability of intelligent tools—proficiently using intelligent lesson preparation systems, learning analysis platforms, human-computer dialogue design tools, etc., and transforming them into means to extend their own educational wisdom; the teaching design ability of human-computer collaboration—scientifically positioning the division of labor between teachers and technology in new teaching modes such as blended teaching, immersive experience courses, and AI-assisted thinking training, and ensuring that teachers always dominate the core links of value guidance and emotional communication; and the ability to identify and adhere to intelligent education ethics.

For students as the object of education, the focus of competency training is to develop them into "healthy digital citizens" in the intelligent era. Ideological and political education should not only satisfy the need to pass on values to students, but also empower students to survive and develop in an intelligent society with a rational, autonomous, and responsible attitude. This requires the organic integration of the "digital citizenship literacy" education module into the ideological and political curriculum system. The content should systematically cover: a basic understanding of the operating logic of algorithms and the driving force of commercial interests, enabling students to understand the technical causes of phenomena such as information cocoons and filter bubbles, so as to maintain a critical awareness of the information environment; basic knowledge and legal norms of data privacy protection and information security, clarifying the boundaries of personal data rights; network behavior ethics and digital social responsibility, guiding students to practice the core socialist values in the virtual space; and the key ability to maintain independent thinking, conduct value analysis and selection in the face of information overload and diverse opinions. Through case teaching, scenario simulation, project-based learning and other methods, students can internalize external norms into the ethical awareness and action wisdom of digital survival in the process of solving real digital social dilemmas, so as to build a solid ideological defense line against technological alienation and maintain their subjectivity.

4.2 Ethical Regulations and Risk Prevention

While intelligent technologies empower education, they also bring complex ethical challenges and potential risks. The application of technology without strict regulations may not only deviate from educational goals but also cause irreparable harm. Therefore, ethical considerations and risk prevention must be placed at a strategic priority, defining clear rational boundaries for technology applications and building a "responsible innovation" guarantee mechanism. The primary task is to formulate and promulgate authoritative and operational "Ethical Guidelines for Smart Ideological and Political Education in Universities." These guidelines should serve as the "constitution" that all related project design and implementation must follow, and its core principles should include at least: the principles of "minimal necessity" and "informed consent" for data collection, clearly

defining the scope, purpose, storage period, and destruction mechanism of data collection to protect students' personal information rights; the principles of "fairness, transparency, and explainability" for algorithm applications, requiring bias review and regular audits of algorithms used for student evaluation and resource recommendation to ensure that they do not produce discriminatory results due to factors such as gender, region, or economic status, and providing understandable explanations for key decisions; and the principle of "education-led and humanistic care," which clearly stipulates that in any intelligent education scenario, the final value judgments, emotional communication, and key decisions must retain human channels led by qualified teachers to prevent technological systems from completely replacing the educational responsibilities of human teachers.

Based on this, a "dynamic review and circuit breaker mechanism" covering the entire life cycle of technology application needs to be established. For intelligent systems and algorithm models intended to be introduced into the core links of ideological and political education (such as ideological evaluation, precise content push, and virtual experience design), an ethical review committee composed of experts in education, ethics, law, and technology, as well as teacher and student representatives, should be established to conduct ex-ante ethical impact assessments. During operation, continuous data security monitoring and algorithm performance audits should be implemented, using technical means to monitor risks such as abnormal data access and algorithm output deviations. More importantly, clear and convenient "manual circuit breaker" interfaces must be set up for all automated systems. When the system experiences ethical disputes, data anomalies, or potential misleading information to students, teachers or administrators have the right to immediately suspend the automated operation of the system and switch to manual processing mode, ensuring that the education process is always under human control and supervision, and preventing "algorithm black boxes" or technical failures from causing uncontrollable impacts on education.

4.3 Institutional Innovation and Resource Synergy: Building a Supportive Ecosystem for Sustainable Development

Any profound educational reform, without solid institutional guarantees and continuous resource investment, will ultimately be unsustainable. To promote the restructuring of ideological and political education paradigms, corresponding institutional innovations must be carried out, and diversified and collaborative resource supply models must be explored to build a self-sustaining and continuously optimizing ecosystem for sustainable development. The core of institutional innovation lies in building an effective "teaching innovation incentive mechanism and a tolerance environment for trial and error." Universities should clearly establish and substantially increase the weight of "intelligent teaching innovation" in evaluation and incentive policies such as teaching achievement recognition, professional title evaluation, performance appraisal, and project funding. At the same time, a prudent and inclusive "trial and error tolerance" mechanism should be established. Innovative attempts that do not meet expected goals during the exploration process but have standardized processes and valuable experiences should be given a certain degree of tolerance and protection. Reflection and knowledge sharing should be encouraged to create an institutional culture that encourages bold exploration and courageous innovation, removing teachers' concerns about reform.

In terms of resource supply models, a new path of "government-led, school-based, enterprise-collaborative, and open-sharing" should be actively explored. Relying solely on schools' own technological research and development capabilities is often difficult to keep up with the pace of technological iteration, while complete outsourcing may lead to the loss of educational sovereignty and data security. A more ideal model is for education authorities to conduct top-level design and standard specifications, with universities acting as demand proposers and deep

participants, and establishing strategic partnerships with excellent technology companies with a sense of social responsibility and technical strength. Schools and enterprises jointly form research and development teams, with universities providing educational theories and business logic, and enterprises providing engineering technology implementation. Intellectual property rights are shared, and the results are given priority to serve ideological and political education in universities.

Finally, a "normalized closed loop of quality evaluation and iterative optimization" must be established. Paradigm restructuring is not a one-time project, but a dynamic process that requires continuous monitoring, feedback, and improvement. A comprehensive quality monitoring system integrating quantitative data and qualitative assessment should be established to regularly evaluate the implementation effect of intelligent ideological and political education from multiple dimensions, including student learning outcomes, satisfaction, the degree of internalization of values, as well as changes in teachers' workload and professional development. Based on the evaluation results, cross-field experts should be regularly organized to conduct debriefing discussions, and targeted optimizations and iterative upgrades should be made to technical tools, teaching content, teaching methods, and organizational processes. Institutionalizing and normalizing the evaluation-feedback-optimization mechanism ensures that the intelligent innovation of ideological and political education can keep up with the pace of technological development, meet the growth needs of students, respond to the challenges of the times, and always maintain strong vitality and advanced leadership.

5. Conclusion

The wave of intelligentization has brought about a fundamental shift in the context of ideological and political education in universities. This study demonstrates that the key to addressing this challenge lies in achieving a paradigm shift from simple application of technology to the construction of a "digital-intelligent integration" ecosystem. By deeply integrating intelligent technologies into the entire educational process and building a precise, immersive, and collaborative new educational system, we can effectively solve the dilemmas of the traditional model and enhance the timeliness and effectiveness of education. The success of this transformation fundamentally depends on the capability evolution of educational subjects, the ethical awareness of technology application, and the coordinated guarantee of the institutional system. In the future, ideological and political education should, while adhering to the essence of nurturing people, proactively deepen its understanding and application of intelligent laws, promote the formation of a new educational ecosystem of positive interaction between technology empowerment and value leadership, and thus effectively shoulder the strategic mission of cultivating new people of the times.

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