

Research on the Construction and Application Effectiveness of an AI-Empowered Smart Teaching Model for Ideological and Political Theory Courses in Universities

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Abstract: The deep integration of artificial intelligence technology with ideological and political theory courses in universities has created new technological conditions for addressing such problems in traditional classrooms as imprecise identification of students' learning conditions, insufficient matching of teaching resources, limited depth of student participation, and delayed evaluation and feedback. Based on the fundamental task of fostering virtue through education in university ideological and political theory courses, this study focuses on five key elements: teaching objectives, intelligent resources, classroom activities, learning data, and evaluation feedback. It constructs a smart teaching model consisting of six interconnected stages: "precise diagnosis—intelligent learning guidance—contextual inquiry—collaborative analysis—data-based evaluation—feedback and improvement." The responsibilities and functional boundaries of teachers, students, and intelligent platforms are further clarified across the pre-class, in-class, and post-class stages. Practical application shows that artificial intelligence can improve the precision of resource allocation, the quality of classroom interaction, and the continuity of learning evaluation in ideological and political theory courses. However, its effective application still requires adherence to the principles of teacher leadership, value guidance, data security, and appropriate use of technology, so as to establish a smart teaching mechanism that coordinates technological empowerment with the principles of education.

1. Introduction

At present, some university classrooms still face problems such as insufficient alignment between standardized teaching content and students' differentiated learning needs, weak connections between theoretical instruction and real-world issues, and inadequate evidence for process-based evaluation. Although students may complete required knowledge learning, they may not necessarily develop stable theoretical understanding, value judgment, and the ability to transfer knowledge into practice.

Artificial intelligence provides functions such as semantic analysis, resource generation, learning behavior identification, knowledge association, and data feedback, offering practical conditions for

transforming university ideological and political theory courses from experience-based teaching toward precise teaching supported by data. The introduction of artificial intelligence into ideological and political theory classrooms does not mean replacing teachers with machines. Instead, it requires a reconfiguration of the relationships among teaching participants, learning resources, and evaluation information.

Universities should base the use of artificial intelligence on the integrated requirements of political orientation, ideological education, theoretical rigor, and practical relevance inherent in ideological and political theory courses. Artificial intelligence should be applied mainly to appropriate areas such as learning-condition analysis, resource support, question generation, learning assistance, and evaluation feedback. Teachers should continue to assume responsibility for theoretical interpretation, value judgment, emotional guidance, and classroom decision-making, thereby forming a teaching structure characterized by “teacher leadership—student agency—intelligent teaching-assistant support.”

2. The Internal Logic of AI-Empowered Smart Teaching in University Ideological and Political Theory Courses

2.1 From Uniform Teaching Provision to Precise Adaptation to Learning Needs

Traditional university ideological and political theory courses are generally implemented according to standardized textbooks and unified teaching schedules, which helps ensure the standardization of teaching content. However, students from different academic majors vary considerably in their knowledge foundations, areas of interest, and social experiences. Uniform teaching cases and identical learning tasks are therefore often unable to respond effectively to individualized learning needs.

Artificial intelligence can generate dynamic learning profiles based on pre-class assessments, learning records from digital platforms, and classroom question-and-answer data. Such profiles can identify what students have already mastered, where their cognitive weaknesses lie, and which social issues attract their attention. Teachers can then adjust instructional priorities accordingly.

For example, before teaching the topic of “high-quality development,” teachers may organize a basic knowledge test together with open-ended questions. Based on the resulting data, they can introduce more targeted cases concerning technological innovation, employment development, and youth responsibility. In this way, teaching decisions can gradually move from experience-based judgment toward precise adaptation to students’ actual learning conditions.

2.2 From Static Presentation to Dynamic Organization of Teaching Resources

University ideological and political theory courses involve theoretical texts, policy materials, historical cases, and contemporary social issues. Although such resources are abundant, they are often loosely classified or insufficiently updated.

Artificial intelligence can label and organize resources according to course themes, knowledge nodes, and learning tasks, thereby establishing a resource chain of “theoretical concepts—typical cases—real-world issues—inquiry tasks.”

For example, when teaching the concept of “whole-process people’s democracy,” teachers can connect textbook knowledge with cases of grassroots consultation, materials concerning the performance of duties by deputies to people’s congresses, and discussions of campus affairs. Resources can then be delivered at different levels according to students’ learning progress, enabling them to conduct document analysis, evidence selection, and viewpoint comparison around specific issues and thereby improving the relevance and effectiveness of resource use.

2.3 From Outcome-Based Judgment to Process-Oriented Diagnosis in Teaching Evaluation

Traditional evaluation in university ideological and political theory courses mainly relies on examinations, papers, and classroom performance. Such methods often have difficulty continuously presenting the developmental process of students' theoretical understanding and value judgment.

Artificial intelligence can record data concerning task completion, participation in discussions, revision of viewpoints, and use of reference materials. Teachers can then conduct comprehensive evaluations from multiple dimensions, including theoretical understanding, problem analysis, use of evidence, value judgment, collaborative expression, and practical transfer.

For example, the dimension of “evidence use” should focus on the authenticity of materials, the degree of alignment between evidence and arguments, and students' ability to apply relevant theories, rather than simply counting the number of times a student speaks in class. On this basis, a process-oriented evaluation mechanism of “data recording—teacher judgment—feedback and improvement” can be established.

3. Overall Construction of the Smart Teaching Model for University Ideological and Political Theory Courses

3.1 Building a Collaborative Structure of “Teachers—Students—Intelligent Platforms”

Smart teaching in university ideological and political theory courses should clearly define the functional boundaries of teachers, students, and intelligent platforms, thereby establishing a collaborative relationship in which teachers lead value orientation, students actively construct knowledge, and intelligent platforms provide technological support.

Teachers are responsible for selecting discussion topics, designing learning tasks, interpreting theories, and guiding values. Students are expected to complete document reading, issue analysis, collaborative discussion, and learning reflection. Intelligent platforms are mainly responsible for identifying students' learning conditions, matching resources, recording learning processes, and analyzing data.

For policy expressions, historical materials, and theoretical explanations generated by artificial intelligence, a standardized process of “AI generation—teacher review—classroom use” should be implemented. Information involving controversial or questionable content can also be transformed into analytical learning tasks, guiding students to examine information sources, supporting evidence, and internal logic so as to strengthen their ability to judge and evaluate information.

3.2 Establishing a Six-Stage Interconnected Smart Teaching Process

Based on the process of students' cognitive development, a six-stage interconnected smart teaching process can be constructed, consisting of “precise diagnosis—intelligent learning guidance—contextual inquiry—collaborative analysis—data-based evaluation—feedback and improvement.”

Before class, teachers identify students' knowledge foundations according to assessment results and learning records and then provide differentiated learning resources. During class, theoretical knowledge is embedded in real-world situations, and students are organized to collect evidence, compare viewpoints, and engage in discussion around core questions.

After class, data concerning incorrect answers, changes in viewpoints, and task quality are summarized to generate diagnostic feedback. These results are then used to adjust the difficulty of questions, the selection of cases, and the design of learning tasks in the next lesson, thereby forming a continuously iterative teaching cycle.

3.3 Establishing an Intelligent Resource System Oriented Toward Educational Goals

The construction of intelligent teaching resources should be based on educational objectives and teaching tasks. Resources should be structurally organized into theoretical resources, case resources, problem resources, and practical resources so as to avoid excessive accumulation of materials that may weaken students' learning focus.

Taking the topic of “cultural confidence” as an example, resource units can be established around fine traditional Chinese culture, revolutionary culture, and advanced socialist culture. These units may include theoretical texts, representative cases, audiovisual materials, and discussion questions. Practical tasks such as campus cultural program design and thematic presentations can then be arranged.

In this way, students can move from material reading to value analysis and practical application, establishing an organic connection among knowledge understanding, value identification, and practical transfer.

4. Implementation Pathways for AI-Empowered Smart Teaching in University Ideological and Political Theory Courses

4.1 Using Intelligent Diagnosis before Class to Determine the Starting Point of Teaching

The pre-class stage should emphasize the identification of students' learning conditions and avoid reducing artificial intelligence to a tool merely used to distribute large amounts of preview materials.

Teachers may design a five-to-ten-minute micro-assessment around core concepts and include open-ended questions related to real-world issues. The intelligent platform can then calculate correct-answer rates, identify frequently misunderstood knowledge points, extract keywords, and analyze the distribution of viewpoints, thereby producing a learning profile of the class.

For example, when teaching the topic of “changes in the principal contradiction in Chinese society,” teachers may investigate students' levels of concern about public service issues such as employment, housing, healthcare, and education. Based on the results, teachers can determine appropriate classroom cases, question difficulty, and teaching priorities, ensuring that the starting point of instruction is closely aligned with students' actual cognitive conditions.

4.2 Organizing In-Depth Inquiry through Intelligent Contexts during Class

Classroom learning can be organized according to the sequence of “case introduction—problem decomposition—evidence examination—theoretical explanation—value analysis,” allowing artificial intelligence to support students' thinking rather than replace it.

For example, the question “Will artificial intelligence widen the digital divide?” may be introduced as a discussion topic. Students can be divided into groups focusing on technological development, public governance, ethical risks, and youth responsibility. The intelligent platform can assist in organizing policy materials, data, and discussion keywords, while students complete evidence selection, argument development, and inter-group questioning.

Teachers should focus on identifying and correcting one-sided understandings such as technological determinism and efficiency-oriented thinking. Students should be guided to form rational judgments from the perspectives of a people-centered position, social fairness, and the public interest.

4.3 Establishing Differentiated Learning Support through Intelligent Feedback after Class

After class, differentiated consolidation activities should be implemented according to classroom data and students' task performance so as to establish a continuous feedback mechanism.

Students with relatively weak theoretical foundations may be assigned concept-discrimination tasks and targeted micro-lessons. Students who have a sound understanding of theories but lack application ability may be asked to complete analyses of real-world cases. Students with stronger comprehensive abilities may engage in social investigations, thematic micro-lessons, or issue-based research.

Teachers should regularly review changes in incorrect answers, task quality, discussion participation, and viewpoint revision. Common problems that repeatedly appear should become the focus of supplementary teaching. For students who spend a relatively long time learning but demonstrate low learning quality, teachers should further identify the specific obstacles affecting their learning.

In this way, a post-class learning cycle of “data diagnosis—differentiated tasks—teacher guidance—re-evaluation” can be established.

5. Evaluation System and Safeguard Mechanisms for AI-Empowered Smart Teaching

5.1 Establishing Multidimensional Indicators for Evaluating Learning Outcomes

The evaluation of smart teaching in university ideological and political theory courses should shift from a single outcome-oriented assessment toward a comprehensive approach that gives equal attention to knowledge, ability, values, and practice. A composite evaluation framework may be established as follows: “knowledge understanding 30% + problem analysis 25% + value judgment 20% + classroom participation 15% + practical tasks 10%.” Each indicator should be supported by observable criteria. For example, classroom participation should focus on effective questioning, responses to peers, citation of evidence, and revision of viewpoints, while practical tasks should mainly assess whether students can transfer theoretical knowledge to social investigations, case analyses, and real-world judgments. After the platform generates periodic evaluation reports, students can identify their weaknesses accordingly, while teachers can adjust subsequent teaching content based on common problems across the class, thereby enabling evaluation to genuinely perform diagnostic and improvement functions^[1].

5.2 Establishing AI Content Review and Data Security Mechanisms

Before AI-generated content is introduced into ideological and political theory classrooms, teacher review must be strictly implemented. In particular, policy statements, historical facts, and theoretical viewpoints should be cross-checked against textbooks, official documents, and authoritative materials. Universities may establish a whitelist for teaching resources and a tiered review system, allowing intelligent platforms to prioritize verified theoretical texts, policy materials, and representative cases. Student data should be collected according to the principle of minimum necessity, with access controls applied to identity information, learning records, and evaluation results. Teachers and platforms should also avoid assigning fixed labels to students based on a single classroom statement or one assessment result, ensuring that data are used to support teaching rather than for simplistic classification.

5.3 Strengthening Teachers' Competence in AI-Supported Teaching

The quality of smart teaching ultimately depends on whether teachers can appropriately determine the boundaries of technology use. Universities should provide specialized training in learning-condition analysis, prompt design, resource review, data interpretation, classroom activity redesign, and ethical risk identification. Teaching and research groups may regularly select authentic classroom cases for reflective reviews of AI-supported teaching, analyzing the stages in which AI produces practical value and those in which teachers should continue to play the leading role. On this basis, shared prompt templates, task and case repositories, and evaluation rubrics can gradually be developed for course teams, transforming individual experience in using AI tools into stable and sustainable teaching competence at the curriculum level.

6. Application Effects and Optimization Directions of the Smart Teaching Model for University Ideological and Political Theory Courses

6.1 Learning Participation Shifts from Passive Listening to Active Analysis and Judgment

Under the smart teaching model, students complete basic diagnostic activities and material preparation before entering the classroom. As a result, more classroom time can be devoted to issue analysis, viewpoint exchange, and theoretical application.

Teachers can adjust the pace of instruction according to students' real-time responses. For knowledge that most students have already mastered, repetitive explanation can be reduced, allowing more classroom time to be devoted to controversial issues and difficult theoretical points. In this way, effective learning time in the classroom can be used more fully^[2].

From the perspective of learning behavior, viewpoint maps and keyword statistics generated with the assistance of artificial intelligence allow students to directly observe differences in understanding within the class. This can encourage them to actively explain the basis of their own judgments.

Particularly in discussions of current social issues, students need to draw on textbook theories, policy materials, and factual evidence to support their arguments. Classroom interaction therefore gradually shifts from simply "answering the teacher's questions" to "explaining why a particular judgment has been made."

6.2 Theoretical Learning Shifts from Knowledge Memorization to Real-World Explanation

The important effect of smart teaching does not lie in enabling students to acquire more fragmented information. Rather, it lies in whether students can use Marxist standpoints, viewpoints, and methods to analyze real-world problems^[3].

Artificial intelligence can rapidly provide multiple types of cases. Based on these resources, teachers can design learning tasks that require students to apply the same theory in different social contexts, helping them gradually develop stable frameworks for theoretical analysis through comparison, discrimination, and transfer.

For example, after learning about "common prosperity," students can be assigned three cases concerning urban-rural public services, regional development, and employment. They can then determine which developmental contradictions and governance logics are involved in each case.

Students need to move from merely "observing a social phenomenon" toward "using theory to explain the phenomenon." In this process, theoretical knowledge changes from an object of memorization into a tool for analysis, and the educational value of ideological and political theory courses moves from the level of knowledge acquisition toward the level of thinking development.

6.3 Teaching Decision-Making Shifts from Experience-Based Judgment to Data-Assisted Decision-Making

In traditional classrooms, teachers mainly judge teaching effectiveness on the basis of classroom observation, assignments, and examinations. Smart teaching platforms, by contrast, can continuously record students' learning trajectories and provide teachers with more detailed evidence for instructional decision-making.

Teachers can identify problems from data such as the overall correct-answer rate of the class, changes in students' mastery of specific knowledge points, levels of discussion participation, and the quality of task completion. They can then combine these data with classroom observations to determine the actual causes of the identified problems^[4].

It should be emphasized that data can only support rather than replace teachers' professional judgment. Students' ideological understanding is complex. An incorrect answer may result from an unclear understanding of a concept, but it may also arise from a misunderstanding of the question itself.

Teachers must therefore make comprehensive judgments based on students' verbal expressions, assignments, and communication records, rather than mechanically transforming learning data into evaluations of students' values.

7. Conclusion

Artificial intelligence provides a new technological foundation for the reform of university ideological and political theory courses, but its educational value can be fully realized only when it is integrated into authentic classroom processes and serves the fundamental goal of fostering virtue through education.

The construction of a smart teaching model featuring “precise diagnosis—intelligent learning guidance—contextual inquiry—collaborative analysis—data-based evaluation—feedback and improvement” can enhance the alignment between teaching content and students' learning needs, while enabling theoretical learning, real-world analysis, value judgment, and practical transfer to form a continuous learning chain.

In the future, it remains necessary to further improve mechanisms for teacher leadership, resource review, data governance, and teaching evaluation standards, ensuring that artificial intelligence consistently remains in an appropriate supporting role in the educational process. In this way, university ideological and political theory courses can gradually move from knowledge-transmission-oriented classrooms toward smarter learning environments that are more precise, intellectually deeper, and more educationally responsive.

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