Research on the Innovative Teaching Mode of College Ideological and Political Courses Based on Mobile Learning Platforms: The Integration of Intelligent Interaction and Collaborative Learning

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Abstract: In the context of the digital transformation of higher education, as the core carrier of "fostering virtue through education," the traditional teaching model of ideological and political courses in colleges and universities faces challenges such as single teaching methods and low student participation. Mobile learning platforms, with their portability and real-time interactivity, offer a new path for the innovation of ideological and political courses. This study focuses on the integration of intelligent interaction and collaborative learning. Through literature analysis and theoretical deduction, it clarifies core concepts, combs the limitations of the traditional model, and explores the construction logic and implementation paths of an innovative teaching model for ideological and political courses based on mobile platforms. The study concludes that this model can enhance the interactivity and participation of ideological and political courses, promote the internalization of students' ideological and political literacy, and provide theoretical and practical references for the high-quality development of ideological and political education.

Keywords: mobile learning platforms; college ideological and political courses; innovative teaching mode; intelligent interaction; collaborative learning

1. Introduction

1.1 Research Background

College I&P courses are key to implementing "fostering virtue through education," guiding students to establish correct worldviews, outlooks on life, and values. However, traditional I&P teaching is mostly "teacher-centered," relying on one-way lectures, static textbooks, and offline discussions. This fails to adapt to contemporary students' digital, mobile learning habits, leading to low class participation, weak content recognition, and poor connection between theory and life.

With 5G and smartphones popularized, mobile learning platforms (e.g., WeChat Mini Programs, learning Apps) have become integral to students' daily learning. They break time-space constraints, enabling anytime access to resources and interaction. Meanwhile, AI and big data support personalized interaction and efficient collaborative learning. Integrating these into mobile-based I&P teaching has become inevitable to break traditional bottlenecks.

1.2 Research Significance

Theoretically, this study enriches research on digital technology-I&P education integration, clarifies logical relationships between mobile platforms, intelligent interaction, and collaborative learning, and supplements the digital-age I&P teaching theory system. Practically, the proposed mode is operable, providing specific paths for colleges to optimize I&P teaching, helping teachers transform roles/methods, and improving students' initiative in learning I&P courses—thus enhancing the courses' ideological guidance and practical effects[1].

2. Definition of Related Concepts

2.1 Mobile Learning Platforms

Mobile learning platforms rely on mobile devices (smartphones, tablets) and mobile Internet to provide learning resources, interactive tools, and management services. For I&P courses, their core functions include: 1) resource aggregation (I&P case databases, red culture resources, theory videos); 2) real-time interaction (teacher-student Q&A, group discussions, online voting); 3) learning management (recording progress, interaction frequency, collaboration results for teaching evaluation). Compared with PC-based learning systems, they have advantages: portability for fragmented learning, real-time feedback, and scenario-based integration of I&P content with social hot events to enhance relevance.

2.2 Intelligent Interaction

In I&P courses, intelligent interaction refers to teacher-student-platform interaction supported by AI and big data, featuring personalization and intelligence. It analyzes students' learning preferences, knowledge mastery, and habits to push targeted resources (e.g., major-related I&P cases) and provide AI Q&A, intelligent assessment, and learning path planning. It supplements rather than replaces teacher-student interaction, reducing teachers' repetitive work (e.g., answering common questions) to focus on guiding deep thinking and value shaping.

2.3 Collaborative Learning

Collaborative learning uses groups as units, promoting knowledge co-construction and literacy improvement via division of labor and mutual assistance. In I&P courses, it cultivates team spirit and social responsibility while teaching theory — e.g., group research on "red culture inheritance" or micro-videos on "youth responsibility." Integrated with mobile platforms, it solves offline collaboration issues (difficult organization, limited participation), enabling anytime material sharing, progress discussion, and real-time recording of collaboration processes/results[2].

2.4 I&P Course Teaching Mode

The I&P teaching mode is a stable framework formed in long-term practice, involving teachers, students, content, and media. Traditional modes are "teacher-led, classroom-centered, textbook-based" with single information flow. The mobile-based innovative mode is student-centered, using mobile platforms as core media, integrating intelligent interaction and collaborative learning to form a dynamic pre-class-in-class-post-class system.

3. Problems in Traditional I&P Teaching Modes

3.1 Limited Teaching Interaction

Traditional I&P courses rely on "teacher lectures, students listen," with one-way information flow. Interaction is single (mostly in-class teacher questions), time-space limited (no post-class discussion), and non-personalized (failing to address cognitive differences)—reducing interaction effectiveness.

3.2 Inefficient Collaborative Learning

Though some courses use group discussions/assignments, efficiency is low: offline collaboration is hard to organize, participation is uneven (few lead, others "free-ride"), and evaluation focuses only on final results, ignoring individual contributions[3].

3.3 Delayed Teaching Feedback

Feedback relies on homework and exams (focusing only on theory), with long correction time and single subject (only teachers). This fails to timely address students' misunderstandings or reflect ideological dynamics, leading to one-sided feedback.

4. Construction of the Innovative Mode

4.1 Guiding Principles

The innovative teaching mode adheres to three fundamental principles. First, the Ideological and Political Guidance Principle ensures all mobile teaching resources, including cases and videos, comply with national ideological and political requirements, with activities centered on moral cultivation. Second, the Student-Centered Principle respects students' dominant roles by providing personalized services like major-specific materials and encouraging their participation in activity design. Third, the Technology-Education Integration Principle emphasizes that tools such as AI Q&A and collaboration features should serve teaching, integrating seamlessly with ideological and political content.

4.2 Core Framework

The mode is structured around a "pre-class, in-class, post-class" cycle to create a closed-loop system. Pre-class, the platform uses big data to push customized preview materials, such as theoretical videos for underperforming students, and conducts pre-tests to help teachers adjust teaching focus. During class, teachers leverage real-time polling and AI assistance, assign group tasks, and guide discussions. Post-class, students complete collaborative projects, and the platform generates individual reports analyzing their participation, interaction, and contribution, enabling targeted improvement.

4.3 Integration of Key Elements

The mode features a two-way integration of intelligent interaction and collaborative learning. Intelligent functions like

group formation, resource recommendation, and process monitoring support collaborative learning, while data from group discussions and tasks refine the AI system, enhancing the accuracy of future recommendations. This synergy significantly improves teaching efficiency and learning outcomes[4].

5. Implementation Paths

5.1 Platform Function Optimization

1) Build a professional I&P resource database (classified by course modules); 2) Upgrade intelligent tools (accurate AI Q&A, personalized essay comments); 3) Optimize collaboration functions (task management, excellent work display).

5.2 Teacher Role Transformation

Teachers shift from "knowledge transmitters" to "designers" (design resources/activities), "guides" (guide preview/ interaction/collaboration), and "evaluators" (combine platform data with exams for comprehensive evaluation). Colleges should train teachers' digital literacy.

5.3 Student Collaboration Mechanism

1) Scientific grouping ("teacher guidance + student autonomy"); 2) Clear norms (define roles, punish "free-riding"); 3) Incentives (awards, 30%-40% of grades for collaboration performance).

5.4 Evaluation System Improvement

1) Expand content (assess ideological dynamics, practical ability, participation); 2) Optimize methods (combine process-oriented and summative evaluation, add student mutual evaluation/self-evaluation); 3) Clarify standards (detailed indicators with weights).

6. Conclusion and Outlook

This study builds an innovative mobile-based I&P teaching mode integrating intelligent interaction and collaborative learning. It breaks traditional time-space-interaction limitations, with three advantages: enhanced interactivity via intelligence, improved participation via collaboration, and closed-loop teaching via mobile platforms. It promotes digital transformation of I&P education, solves traditional problems, and adapts to students' needs—strengthening the courses' appeal and influence. Future improvements include: 1) Integrating VR/metaverse (e.g., immersive red culture scenes); 2) Strengthening inter-school resource sharing; 3) Optimizing AI/big data accuracy via more practice data. With digital development and education reform, this mode will better serve high-quality I&P education.

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