

Research on the Precise Drip Irrigation Model of Ideological and Political Education in the “Financial Management” Course under the Concept of “MOOC+SPOC+AI”

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Abstract: The arrival of the era of digital intelligence has given new technical approaches and teaching forms to the ideological and political reform of vocational undergraduate courses. This article takes the connotation requirements of vocational undergraduate education as the starting point, puts forward the core concept of “precision drip irrigation,” and creates a teaching model in which MOOC, SPOC, and AI platforms operate collaboratively. MOOC is used for pre-dissemination of basic ideological and political knowledge, SPOC is used for in-depth interaction and value internalization, and AI technology is used for dynamic perception of learning conditions and intelligent matching of ideological and political resources, forming a closed loop of precise ideological and political education throughout the process before, during, and after class.

Keywords: Curriculum ideological and political education; Precise drip irrigation; Financial management

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1. Introduction

The construction of ideological and political courses in colleges and universities is an important measure to implement the fundamental task of cultivating moral character and cultivating people. The Guidance Outline for the Construction of Ideological and Political Curriculum in Colleges and Universities proposes that curriculum ideological and political education should be integrated into the entire process of professional teaching to achieve the organic unity of value shaping, knowledge transfer and ability cultivation. With the continuous advancement of education digitalization strategies, technologies such as MOOC, SPOC, and artificial intelligence are changing the teaching methods of higher education and bringing new ways to solve the problems of ideological and political teaching in traditional courses ^[1].

2. The historical background and realistic demands of ideological and political teaching reform in the digital intelligence era

2.1. The strategic intersection of digital transformation of higher education and ideological and political curriculum reform

The digitalization of education has become the main driving force for change in global higher education. The country has successively issued a series of policy documents, taking promoting the digitalization of education and implementing the fundamental task of cultivating moral character and cultivating people as the two main strategic goals of higher education reform. This policy orientation believes that the ideological and political construction of courses should actively adapt to the trend of the digital era and transform from the original classroom teaching method to a smart teaching method that integrates online and offline and is data-driven. For financial management majors, digital transformation is not only an update of teaching methods, but also a fundamental change in the concept of ideological and political education. The digital environment gives ideological and political courses the technical possibility of full recording, immediate response, and dynamic improvement, turning ideological and political education from “post-facto summary” to “process accompanying,” and from “group universal” to “individual adaptation.”

2.2. The positioning of vocational undergraduate talent training puts forward new requirements for ideological and political courses

Vocational undergraduate education is an advanced form of type education and shoulders the main task of cultivating high-quality technical and skilled talents. Vocational undergraduate courses focus on high-level and practical applications. Students must have a solid theoretical foundation and strong application ability to solve complex real-world problems. Vocational undergraduate students are in a critical period of forming professional identity and professional ethics. Graduates of financial management majors will be directly exposed to the main work of enterprises such as investment and financing, capital operations, and risk management and control. Professional ethics and ethical judgment have a direct effect on the level of corporate governance and the order of market operations. On the other hand, vocational undergraduate courses focus on the integration of industry and education and school-enterprise cooperation. It requires that ideological and political courses should not just be pure theoretical lectures in the classroom, but should go deep into professional situations, integrate into practical links, and achieve value leadership in real or simulated professional scenarios ^[2].

3. The current structural dilemmas and AI empowerment opportunities in the ideological and political teaching of the “Financial Management” course

3.1. Superficial dilemma in the integration of ideological and political and professional

At present, the biggest problem in ideological and political teaching in finance courses is that the integration of ideological and political elements and professional knowledge only remains on the surface and does not form a deep organic unity. As far as the organization of teaching content is concerned, ideological and political cases generally only appear at a certain point in the classroom as an additional part of professional knowledge, without forming an internal logical connection throughout the entire teaching process. In terms of teaching design logic, most still adhere to the idea of “professional knowledge as the mainstay, ideological and political embellishments as a supplement,” and have not formed a design model with two

main lines of “knowledge transfer” and “value guidance” in parallel. Superficial integration causes students to have cognitive fragmentation, making it difficult to understand the inherent consistency between financial management theory and professional ethics, and it is difficult to form a stable and professional value orientation.

3.2. The dilemma of extensive provision of ideological and political teaching

The dilemma of extensive expansion is the structural misalignment between the supply of ideological and political teaching and the learning needs of students. The same ideological and political case was distributed to the whole class indiscriminately, without taking into account the staged and typed characteristics of each student’s understanding of financial ethics. Such a “one-size-fits-all” supply method causes two kinds of teaching losses. First, for students who already have a high level of ethical cognition, standardized ideological and political content cannot produce cognitive challenges and value improvements; second, for students with weak ethical awareness or value confusion, generalized ideological and political content cannot touch deep cognitive blind spots and value conflicts. Ideological and political education can only stay at the level of knowing but cannot reach the level of recognition and internalization.

3.3. The dilemma of blurring the evaluation of educational effects

The blurring of the evaluation of the effectiveness of ideological and political education in courses has become a deep-seated bottleneck that hinders teaching improvement ^[3]. Unlike professional knowledge assessment, which has clear knowledge points and quantitative standards, ideological and political literacy includes implicit and developmental dimensions such as values, professional attitudes, and ethical judgments, and cannot be measured by standardized tests. In existing evaluation practices, most of them rely on subjective means such as classroom observation, homework impressions, and student self-evaluation to make judgments. More importantly, the development of ideological and political literacy is long-term and gradual. Students’ value expression at a certain moment will be affected by social desirability effects and does not necessarily represent their true level of ethical understanding. Fuzzy evaluation has three consequences: teachers cannot accurately judge whether teaching strategies are effective, students cannot get clear growth feedback, and teaching improvements lack an evidence-based basis supported by data.

4. Construction of a precise drip irrigation model of ideological and political courses with “three platforms linkage and two databases synergy”

4.1. Design of precise drip irrigation teaching framework based on collaboration between three platforms

The precise drip irrigation teaching framework takes “accurately finding the starting point of learning, accurately matching ideological and political resources, carefully guiding the internalization of values, and leanly evaluating the educational effect” as the logical main line, and creates a division of labor and collaboration mechanism for the three platforms of MOOC, SPOC, and AI in the three stages of before class, during class, and after class. MOOC plays the role of broad coverage and pre-dissemination of basic ideological and political knowledge. SPOC plays the role of in-depth discussion and value internalization. AI participates in the whole process and plays the role of learning sentiment perception, resource matching, and effect analysis. The three constitute a chain of broad-spectrum dissemination, in-depth refinement, and

precise intervention. In the pre-class stage, the MOOC platform is used to disseminate basic ideological and political knowledge. As far as the design concept is concerned, the innovation it embodies is that it breaks away from the shallow integration method of “technology overlay” and instead adopts the method of “complementary platform functions” to rebuild. MOOC is responsible for the resource supply of what to teach, SPOC is responsible for scene design of how to teach, and AI is responsible for accurate identification of whom to teach. The three correspond to the teaching content layer, teaching method layer, and teaching object layer, building a teaching system with clear levels and integrated functions. The framework design is based on the OBE results-oriented concept as the basis for reverse deduction, that is, first determine the ultimate goal of “cultivating financial talents with a spirit of integrity, risk awareness, legal concepts and social responsibility,” and then work backwards to the staged goals to be achieved at each stage and the corresponding platform function configuration, so that every teaching link serves the realization of the education goal.

4.2. Development of intelligent resource system with dual database collaboration

The operation of the precise drip irrigation model relies on the underlying support of the intelligent resource system. The establishment of the ideological and political case gene bank is carried out from three aspects. First, the dimension of case collection includes extensive collection of various typical materials such as corporate social responsibility practices, business ethics dilemmas, financial regulatory compliance, and financial fraud management, covering the main knowledge modules of financial management. Second, case labeling dimensions use a method that combines natural language processing and manual review to perform multi-dimensional label processing on each case to obtain a structured case knowledge graph. Third, the case update dimension creates a dynamic iteration mechanism to add new cases in a timely manner based on teaching feedback and social development to ensure the relevance and applicability of the resource library. The dynamic learning portrait library continuously collects various behavioral data generated by learners on the three platforms to form digital portraits of students that include cognitive levels, value orientations, hobbies, participation levels, and many other aspects, and is constantly updated during the teaching process. The dual-bank cooperative operation mechanism is the core technology of precision drip irrigation. Specifically, the AI algorithm intelligently matches the “demand-side” characteristics in the student portrait with the “supply-side” attributes in the case gene library, pushes corresponding basic cases based on the personal cognitive blind spots reflected in the portrait, pushes conflicting cases that trigger in-depth thinking based on value confusion points, and pushes extended expansion cases based on interests and hobbies. Therefore, under the same ideological and political teaching theme, different students will be exposed to different levels of difficulty,

4.3. Data-driven precision teaching implementation strategies and classroom interaction paradigms

The essence of the precision teaching implementation strategy is to turn portrait data into executable teaching decisions. Based on the academic diagnosis given by the dynamic learning portrait, teachers can make precise adjustments to teaching strategies from three aspects. Based on the overall value distribution and cognitive level evaluation of the class, appropriate ideological and political cases and discussion topics are selected. For classes with overall low ethical awareness, the proportion of basic ethical cognitive cases will be increased. For classes that already have certain ethical discernment capabilities, the focus will be on high-level

cases of conflicts and dilemmas. In terms of grouping strategies, students are grouped into heterogeneous or homogeneous groups based on portrait data. Heterogeneous grouping is conducive to the collision of viewpoints and diverse dialogues, while homogeneous grouping facilitates the hierarchical push of differentiated tasks. Regarding the timing of intervention, the real-time warning function of the AI system is used to identify students with value confusion and cognitive deviations, and targeted guidance and questions are given during class. Supplementary reflection tasks are pushed after class, and the teaching intervention is moved from “after-class remediation” to “in-class accompaniment.” The creation of the classroom interaction paradigm focuses on high-quality ideological and political dialogue in SPOC offline scenarios, proposes a situational teaching model of financial decision-making dilemmas, and turns real ethical conflicts in financial management into simulated teaching situations. For example, corporate financing decisions are used to set up a selection situation between high-interest compliance channels and low-interest gray channels, allowing students to play the role of financial director, make choices in the situation, and explain the reasons, etc. ^[4].

4.4. Comprehensive evaluation model of ideological and political literacy based on multi-dimensional evidence integration

Regarding the dilemma of blurred ideological and political evaluation of courses, a multi-dimensional evaluation system including online behavioral evidence, offline performance evidence, and terminal comprehensive evidence has been created. The dimension of online behavioral evidence refers to the process data displayed by learners on MOOC and SPOC platforms during the learning process. The offline performance evidence dimension looks at behaviors that can be observed in classroom interactions. The terminal comprehensive evidence dimension is the comprehensive results, such as the embodiment of social responsibility, the expression of risk awareness, and the elaboration of the concept of integrity in the final course report. The three dimensions of evidence point to the cognitive level, behavioral level, and comprehensive level respectively, forming a panoramic display of the development of students’ ideological and political literacy. The evaluation model is operationally presented in two forms: “quantitative indicators + qualitative description.” Set up a scientific weighting system and rating standards for quantifiable indicators to obtain comparable development trajectory data; use structured descriptions to express value judgments that cannot be quantified, so as to maintain the depth and richness that the ideological and political literacy evaluation should have. The weight setting uses a multi-subject weighting method to prevent deviations in the perspective of one evaluation subject. The evaluation results are presented in the form of digital files, which include both quantitative literacy development curves and descriptive qualitative comments. It also provides analysis of changes compared with the previous stage, so that students can clearly see their growth trajectory in the dimension of ideological and political literacy.

5. Conclusion

The precise transformation of ideological and political courses is an inevitable trend in the reform of higher education in the digital intelligence era. The core value is to transform ideological and political education from an extensive paradigm driven by experience to a precise paradigm driven by data, from the passive acceptance of “teaching as the center” to the active construction of “learning as the center,” and from the standardized supply that is common to the group to the differentiated services adapted to individuals. Practically speaking, it will be continued and improved upon in the teaching of financial management majors.

The promotional value of the model is not only for financial accounting courses, but can also be transferred to the ideological and political teaching reform of core courses of economics and management majors.

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