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Research on the Integration of Curriculum Ideological and Political Education with Professional Development from the Perspective of OBE—A Case Study of the FinTech Program

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Abstract

FinTech is an emerging interdisciplinary major, but several issues remain in talent cultivation, such as unclear professional characteristics, low integration of different disciplinary curricula, and a lack of understanding among instructors regarding the integration of professional development and ideological and political education. This study analyzes these issues and proposes reform suggestions. First, emphasis should be placed on faculty development by enhancing instructors' awareness of integrating ideological and political education with professional development, strengthening their professional capabilities, innovating teaching methods, and establishing an evaluation and feedback mechanism to comprehensively improve their expertise in interdisciplinary education and teaching. Second, curriculum development should be the key focus. Measures such as constructing an integrated teaching system, building a case repository for ideological and political education in FinTech, and improving the evaluation of ideological and political education effectiveness in professional courses can help achieve full integration of ideological and political education with professional development. Additionally, the OBE (Outcome-Based Education) approach should be consistently applied throughout the integration process to ensure that professional development goals are effectively supported.

Keywords: OBE, Ideological and Political Education in Curriculum, Professional Development, FinTech.

From September 9 to 10, 2024, at the National Education Conference, Xi Jinping emphasized that the strong education system we aim to build is a socialist education powerhouse with Chinese characteristics. It should possess strong ideological and political guidance, talent competitiveness, technological support, livelihood security, and social synergy. The Guidelines for the Construction of Ideological and Political Education in Higher Education Curricula issued by the Ministry of Education explicitly require integrating ideological and political education throughout the talent cultivation system. This involves comprehensively advancing

curriculum-based ideological and political education, ensuring that all teachers and all courses fulfill their educational responsibilities, and achieving synergy between specialized courses and ideological and political courses to establish a holistic educational framework.

Financial Technology is an emerging interdisciplinary field, and its academic development is still in the exploratory stage. One of the major challenges in constructing Financial Technology programs is the slow progress of the “two integrations”: integrating financial fundamentals with technological advancements and integrating professional competencies with ideological and political education.

I. Theoretical Foundation

(I) OBE Educational Philosophy

(OBE Philosophy) Outcome-Based Education (OBE) is an educational philosophy that focuses on student learning outcomes rather than the teaching process. It emphasizes that education should not only enable students to acquire knowledge but also cultivate their abilities and enhance their overall competencies. The core idea of OBE is to prioritize learning outcomes—fostering abilities—enhancing comprehensive qualities.

(II) Ideological and Political Education in Curriculum and Program Development

Ideological and political education in Chinese higher education is primarily carried out through a structured ideological and political curriculum system. In actual educational practice, students often perceive the curriculum system as a dichotomy between ideological and political courses and professional courses, leading to a separation between ideological education and professional education. The ideological and political education within professional courses integrates ideological education into specialized education, enabling students to acquire professional skills while also developing correct values and life perspectives. The ideological and political elements of curriculum-based ideological education originate from professional knowledge and, in turn, guide students in making informed choices and professional decisions during the application of their expertise. This integration creates a closely connected community between ideological education and professional education.

Program development refers to the planning, design, implementation, and evaluation of undergraduate-level education to ensure that professional education meets societal demands, aligns with educational standards, and promotes students' overall development. In professional development, talent cultivation plans formulated by universities include three levels: ideological and moral education, professional education, and practical education.

At present, mainstream research on curriculum-based ideological and political education in China

has gradually shifted from discussions on its conceptual connotations and scope to analyses and explorations of practical cases. A substantial body of research has accumulated regarding micro-level ideological and political integration within professional courses. However, at the level of professional development, there is still a lack of sufficient literature on how to integrate program development with OBE philosophy and curriculum-based ideological education.

For applied undergraduate institutions, the development of the FinTech program presents an opportunity to incorporate application-oriented education, align with the OBE philosophy, and integrate ideological and political education. This approach aims to address both ideological education and skills training for students. The integration of curriculum-based ideological education and professional development can be examined at two levels: The integration of ideological education with professional courses; The integration of ideological education with program development.

1. Integration of Curriculum-Based Ideological Education with Professional Courses

The integration of ideological and political education into professional courses refers to embedding ideological education elements within specialized courses. This initiative has been widely implemented across universities and has yielded substantial results. Research on this integration can be categorized into two main types.

The first type focuses on exploring teaching reforms in professional courses. For instance, He Ding (2024) elaborated on the ideological and political education objectives, teaching system, instructional design, and methods in the Forensic Accounting course. Such studies on the reform of professional course teaching span multiple academic disciplines.

The second type examines the current state of ideological education in professional courses and proposes solutions. Ye Li et al. (2024) used knowledge mapping software to visualize the research trends on ideological and political education in curricula, analyzing aspects such as annual publication volume, key publication platforms, and core authors. Their analysis of studies indexed in China National Knowledge Infrastructure (CNKI) from 2014 to 2022 revealed that research on ideological education in curricula has progressed through two phases, transitioning from macro-level theoretical research to micro-level practical research. Similarly, Cao Yinghan et al. (2024) analyzed the challenges facing ideological and political education in university curricula and emphasized that universities should further update educational concepts, improve institutional mechanisms, and significantly enhance teachers' awareness and teaching capabilities in ideological education.

The existing research indicates that the concept of ideological education in professional courses has been well established, and current studies are primarily focused on micro-level course-specific ideological integration. However, research from the meso-level perspective of program

development remains relatively scarce.

2. Integration of Curriculum-Based Ideological Education with Program Development

The integration of ideological and political education into program development involves elevating the focus from the micro-level of individual professional courses to the meso-level of overall program construction. Professional course instruction serves as the fundamental unit of program development. By aligning the reform of ideological education in professional courses with broader program development efforts, ideological education can be systematically structured.

This integration offers two key advantages: It helps strengthen ideological education in courses where ideological resources are relatively weak ; It enhances the coherence and organic connection of professional courses within a program, ultimately improving the overall quality of program development and achieving a synergistic effect where the whole is greater than the sum of its parts.

II. Characteristics of the FinTech Program and Analysis of Its Current Development

China officially established the FinTech program in 2019. As an interdisciplinary field, FinTech integrates multiple disciplines, including economics, finance, statistics, and computer technology.

The primary objectives of program development are to address the following key questions: Who are the talents being trained for? What kind of talents should be cultivated? What competencies should graduates possess after completing the program?

The interdisciplinary nature of the FinTech program presents both opportunities and challenges. Its multidisciplinary foundation increases the complexity of talent cultivation, posing challenges in the following areas:

(I) Lack of Clear Program Distinctiveness

Due to the interdisciplinary nature of the FinTech program, it is crucial to first clarify its positioning in talent cultivation. As a regional application-oriented undergraduate institution, the university's primary goal in talent cultivation is to serve local economic development. Therefore, the talent training objectives are formulated based on the economic development needs of the region.

Currently, the FinTech program is characterized mainly by its interdisciplinary integration, combining finance and information technology. Students in this program are expected to build a

solid foundation in finance, gain an in-depth understanding of the financial industry and its operations, and, on this basis, master statistical and computer science techniques to support the high-quality development of the financial sector.

Table 1 Setting of training goals for fintech majors

training objective	elaborate
Goal 1: Social responsibility and professional ethics	With humanities and social science literacy, social responsibility and professional ethics, can understand and strictly abide by professional ethics and professional norms in practical work, and fulfill responsibilities.
Goal 2: Professional competence	To form the basic theory and basic knowledge framework of economics and finance; Comprehensively apply the basic knowledge and tools of modern information technology, especially the application of cutting-edge technologies such as big data, blockchain and artificial intelligence in finance, have the basic skills and professional literacy to engage in economic and financial work, be able to analyze and make decisions on economic and financial problems, and be able to provide creative solutions.
Goal 3: Comprehensive application capability	With research ability and interdisciplinary knowledge integration ability, I can apply my learned knowledge and skills to cross-field integration, propose and implement innovative solutions and prevention, and solve comprehensive and complex problems.
Goal 4: Communication and cooperation	With global awareness and international vision, independent thinking ability and critical thinking, good work ethic, innovative spirit and team spirit.
Goal 5: Continuous learning and career development	Have the ability of continuous learning and self-renewal momentum, have a certain sense and ability of innovation and entrepreneurship, can constantly explore and innovate in work practice, adapt to social changes and career development.

Data source: Compiled according to the Fintech professional training program.

(II) Low Integration of Different Disciplinary Course Systems

Currently, the FinTech program is structured with fundamental and core courses from different disciplines. Building on this foundation, upper-year students take theoretical and practical courses that aim to integrate multiple disciplines.

However, based on current teaching practices, professional courses from different disciplines have not been organically integrated. Instead, each course is taught according to its original disciplinary framework, resulting in independent, self-contained course structures. Consequently, students often struggle to connect knowledge across courses, leading to a lack of systematic and cohesive learning outcomes.

Table 2 Fintech core curriculum system

Professional curriculum level design	course title	The subject background of the course
professional basic course	plutonomy	economics
	western economics	economics
	statistics	statistics
	accountancy	economics
major compulsory course	finance	finance
	Commercial banking and operation	finance
	corporate finance	finance
	security analysis and investment	finance
	econometrics	economics
	Python programming	计算机科学
	Financial artificial intelligence	计算机科学
	Financial big data technology	计算机科学
	Financial blockchain applications	计算机科学
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Data source: The author collated according to public materials.

However, based on the current learning outcomes of students, their foundational knowledge in finance is not solid enough, as reflected in their insufficient understanding of financial industry operations and dynamics. Furthermore, their learning progress in technical courses is also limited, with some students struggling to grasp the underlying logic of technologies and theories, making it even more challenging to integrate them with relevant applications in the financial sector. On

this basis, it becomes difficult to cultivate a strong professional competency.

(III) Lack of Understanding of Professional Development and Ideological-Political Education Among Instructors

A hidden issue behind the inability to achieve a systematic teaching effect is the instructors' understanding and practice of professional development. Instructors serve as the chief architects of a course, determining its role and level of support in professional education.

For interdisciplinary fields, especially in their early stages of development, there is often a lack of faculty members with interdisciplinary backgrounds. Therefore, faculty development typically relies on two approaches. The first is to encourage the existing teaching team to engage in multidisciplinary learning to integrate and support professional development. The second is to recruit new faculty members with interdisciplinary backgrounds; however, this often involves substantial costs. Additionally, in practice, the training of faculty for emerging disciplines is insufficient in the current academic market.

(IV) Current Status of Ideological-Political Education in Professional Development

The integration of ideological-political education into professional courses has been widely promoted in higher education institutions. Course development activities related to ideological-political education are shown in Table 3. Currently, teaching activities associated with ideological-political education initiatives include both teaching reform projects and teaching competitions, spanning from the professional level to the provincial level. These activities follow a model of "promoting reform through competition" and use course development as a key approach, resulting in a diverse range of ideological-political education activities. Undoubtedly, this represents a significant achievement in the advancement of ideological-political education in China.

Table 3: Teaching activities on curriculum ideology and politics

name of activity	brief introduction	rank
Curriculum ideological and political teaching competition	Explore the ideological and political elements of professional courses, and carry out a 20-minute course design.	Annual, school level, provincial level
Curriculum ideological and political teaching reform topic	Ideological and political construction and achievements of the course.	School level, provincial level
Curriculum ideological and political team	Build on the basis of professional curriculum ideological and political education to cultivate	school-level

building project	curriculum ideological and political teaching team.	
Curriculum Ideological and political open course	Conduct public class display in the course of ideological and political as an important assessment point.	Fakulti
course outline	Ideological and political goals need to be set in the outline, reflecting the overall ideological and political design of this course, the exploration of ideological and political points and specific chapters reflect the ideological and political points.	major

Data source: The authors are based on publicly available data.

Table 4 Cases of ideological and political design in the syllabus

course title	Curriculum ideological and political design
plutonomy	The course is designed from two perspectives in ideological and political aspects. One is to guide students to know and understand how Marx used historical materialism and dialectical materialism to study the internal practice and dialectical relationship between social productive forces and production relations. To understand that the internal driving force of historical evolution is the contradictory movement of productive forces and production relations, people must correctly understand and follow the objective economic law, and carry out various economic activities according to the objective economic law. The second is professional education, guiding students to deeply understand the national line, guidelines and policies, and establish a profound sense of identity.
Python Data Mining Lab	The ideological and political education elements integrated into the curriculum guide students to understand and abide by the relevant professional ethics and norms, and fulfill the responsibilities of financial information service personnel.
Big Data Financial Applications	This course can establish ideological-political education objectives based on three dimensions: political identity and national consciousness, moral cultivation and professional ethics, and academic aspirations and scientific spirit. In the course's major project, ideological-political elements related to political identity and national consciousness, as well as moral cultivation and professional ethics, are explored and integrated. Students are guided to understand the current state of China's economic development, analyze its causes, and predict future trends. This encourages them to align their personal aspirations with national development, strengthen their ideals and beliefs, and study diligently

	<p>for the great rejuvenation of the Chinese nation.</p> <p>In the various knowledge points and project sections of the course, ideological-political elements related to academic aspirations and scientific spirit are explored and incorporated. The integration of ideological-political education in the course encourages students to develop a passion for their discipline, uphold academic integrity, be honest and trustworthy, and value practical application. It also fosters an understanding of and adherence to professional ethics and norms, while emphasizing the importance of fulfilling social responsibilities.</p>
statistics	<p>This course can establish ideological-political education objectives centered around the principle of seeking truth from facts. Chairman Mao once said, "No right to speak without investigation." Authentic statistical data is a valuable asset. Statistics is a science based on survey data, and in the process of data collection, it is crucial to ensure the authenticity and legality of the data while adhering to the correct scientific spirit and professional integrity.</p>

Data source: The author collated according to the course materials.

Although there are currently many initiatives and projects related to ideological-political education in courses, several issues still exist. The effectiveness of ideological-political education largely depends on the emphasis placed on it by instructors. There is no unified repository of ideological-political elements and case studies for similar courses, resulting in a lack of rich resources for ideological-political development, making it more challenging for instructors to effectively implement ideological-political education. Moreover, ideological-political education has not been fully integrated into professional development. The construction of ideological-political education in different disciplines remains disconnected, leading to insufficient support for students' ideological and moral development at the professional level.

As shown in Table 4, while all courses currently include ideological-political elements in their design, the depth and breadth of these designs vary significantly.

III. Recommendations for Integrating Ideological-Political Education with Professional Development

(I) Teachers as the Core and Starting Point of Integration

Enhancing Teachers' Ideological-Political Literacy: Regularly organize ideological-political training sessions for teachers to strengthen their understanding and recognition of national policies and core socialist values, ensuring that ideological-political elements can be naturally integrated into professional teaching.

Strengthening Teachers' Professional Competence: Encourage teachers to engage in industry practice, stay updated on the latest developments in financial technology, and enhance their professional skills to ensure that teaching content aligns closely with industry realities.

Innovating Teaching Methods: Motivate teachers to adopt diverse teaching approaches, such as case-based teaching and discussion-based learning, to stimulate students' interest in learning and cultivate their critical thinking and innovative capabilities.

Building an Ideological-Political Education System: Teachers should design course content and activities that incorporate ideological-political elements based on the course characteristics. For instance, analyzing financial technology cases can be used to discuss topics such as social responsibility and legal regulations.

Engaging in Course Development and Reform: Encourage teachers to actively participate in the entire process of course development and restructuring, integrating ideological-political education with professional knowledge to create a distinctive course system.

Establishing an Evaluation and Feedback Mechanism: Develop a mechanism for assessing teaching effectiveness, incorporating the integration of ideological-political education as a key evaluation criterion for teachers. Timely feedback should be provided to facilitate continuous improvement.

(II) Curriculum Development as the Key Approach to Integrating Ideological and Political Education with Professional Education

Integrated Curriculum System Construction: An integrated curriculum system should be established to seamlessly connect ideological education with professional education, cultivating interdisciplinary talents with patriotism, correct values, and professional ethics. This requires curriculum design to focus not only on knowledge transmission but also on shaping students' values.

Development of an Ideological and Political Education Resource Database: A professional ideological and political education resource database should be established to deeply explore ideological and political elements within professional courses. This serves as a foundation for integrating ideological education into professional curricula, enabling teachers to incorporate ideological elements more effectively and enhance the relevance and effectiveness of teaching.

Evaluation of Professional Ideological and Political Education Effectiveness: An evaluation system should be implemented to assess the effectiveness of ideological and political education in professional courses. Methods such as graduate surveys, interviews, and employer feedback should be utilized to comprehensively evaluate the achievement of ideological and political

education objectives upon graduation. This evaluation provides a basis for continuous improvement in future curriculum development.

(III) The OBE Concept Runs Through the Entire Process of Integrating Ideological and Political Education with Professional Education

The Outcome-Based Education (OBE) concept emphasizes a goal-driven approach that begins with the end in mind. It aligns curriculum development with talent cultivation objectives in professional education, embedding these objectives into course design and refining them at both the course and instructor levels. This ensures an organic integration of macro-level educational goals with micro-level course implementation.

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