

# Curriculum Reform of "Commercial Bank Operation and Management" Energized by the Integration of Production and Education in the Digital Age - An Exploration Based on the Cultivation of Applied Financial Talents

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**Abstract:** Application-oriented universities undertake the mission of cultivating application-oriented professional talents, and their curriculum systems urgently need to be systematically reconstructed in line with the trend of industrial upgrading in the digital age. Intelligent technologies have given rise to new scenarios of blended teaching, and generative AI has reshaped pathways of knowledge dissemination. Students in Generation Z generally pursue the process of autonomous learning and immersive interactive experiences. Graphic and textual presentations in traditional paper textbooks are no longer sufficient to meet their needs for deep learning and stimulate their creativity. In-depth development of production-education integration requires that course contents be dynamically adapted to cutting-edge of financial industry. In view of this, curriculum reform of "Commercial Bank Operation and Management" should construct a four-dimensional innovation framework, i.e., adjusting the orientation of teaching goals, implanting new modules to reconstruct teaching contents, innovating educational models, and establishing real-time teaching evaluation and feedback mechanisms based on the analysis of learning behavior data, which is contributed to form a new talent cultivation model of production-education collaboration and technology empowerment.

**Keywords:** Digitization; Integration of Production and Education; Commercial Bank Operation and Management; Curriculum Reform; Applied Financial Talent

## 1. Introduction

The digital transformation of commercial banks has become an industry trend with the rapid development of financial technology [1]. In recent years, most financial institutions have gradually adopted technologies such as artificial intelligence (AI), big data, and blockchain to optimize business processes [2]. Financial reforms such as digital technology have a profound impact on financial industry and also put forward new requirements for the ability cultivation of financial-related talents [3]. As an important base for cultivating practical talents, application-oriented universities urgently need to enhance digital literacy and vocational adaptability of students through curriculum reforms. Taking "Commercial Bank Operation and Management" course of Yulin University as an example in this paper, combined with the digital background and the concept of production-education integration, new pathways for curriculum reform were explored.

## 2. Course Overview and Analysis of Learning Conditions and Pain Points

This course is offered in the second semester of the junior year (54 class hours, 3 credits), and plays a crucial role in bridging theoretical teaching with professional practice. For the major of financial engineering in Yulin University, it is one of important courses in application-oriented, composite, and regional service-oriented talent cultivation systems. Based on the educational orientation of being rooted in and serving the local area of Yulin University, a three-dimensional goal system of "knowledge - ability - values" was established in this course. While consolidating the professional basic knowledge such as business operation and management of commercial banks, emphasis is placed on cultivating ability of students to solve

practical problems by using tools. Cultivating applied financial talents with a sense of patriotism and innovative spirit was aimed by integrating ideological and political elements such as serving real economy and financial ethics. Under the guidance of "New Liberal Arts" construction and "Gold Course" standards from the Ministry of Education, this course was guided by Outcome-Based Education (OBE) concept, and continuously promoted by teaching reform. Through teaching practice and research visits, following three core characteristics of learning conditions and corresponding pain points were extracted, providing empirical basis for subsequent systematic reforms.

### **2.1 Contradiction Between the Significant Differentiation of Learning Demands and the Insufficient Adaptability of Teaching Supply**

Due to differences in career planning, some students focus on preparing for the postgraduate entrance examination and pay relatively less attention to other knowledge [4]. In addition, some students urgently need practical skills to enhance their employment competitiveness, while others lack clear learning goals and expect these courses to provide guidance on industry cognition. However, traditional teaching mode adopts uniform content and method, which is difficult to meet the individualized needs of different groups, resulting in obvious differentiation in teaching effects and uneven classroom participation and learning motivation. Therefore, it is necessary to meet individualized needs of different student groups simultaneously and reconstruct the teaching content.

### **2.2 Contradiction between the Weak Cultivation of High-Level Abilities and the Lagging Innovation of Practical Carriers**

Contents of this course still centers on traditional commercial banking business, with insufficient coverage of cutting-edge fields in digital transformation such as intelligent risk control, blockchain finance, and digital finance [5]. Practical links mostly rely on static case analysis and lack contents such as dynamic simulation and immersive experience design, resulting in obvious shortcomings for students in the cultivation of high-level abilities such as data analysis, complex problem solving and professional ethics cognition. Some students overly rely on guidance of teachers when facing comprehensive problems and have difficulty

independently applying interdisciplinary knowledge to solve practical problems. Their professional qualities and innovation abilities urgently need to be improved. Therefore, high-level thinking ability cultivation of students urgently requires teachers to reform teaching content, mode, and methods of these courses.

### **2.3 Polarization of Value Perception of Courses for Students**

Some students regard the study of this course as one of pathways to cultivate their thinking mode and problem-solving ability. They can learn independently and subconsciously cultivate their ability to solve complex problems, while others are limited to exam-oriented memorization and reproduction of knowledge points, neglecting practical application and internalization of values. Traditional teaching evaluation model overly relies on the final written test (usually accounting for 70%), neglecting process-based evaluations such as pre-class preview, classroom interaction, and project practice. In addition, ideological and political education in courses mostly remains at theoretical preaching stage, lacking concrete carriers. The internalization effect of values is poor, making it difficult to truly internalize and support the cultivation requirements of composite financial talents in the digital age [6]. Therefore, it is necessary to reform the course evaluation methods while organically integrate ideological and political education into courses.

## **3. Curriculum Teaching Reform and Application**

It is oriented towards teaching outcomes throughout the teaching process, emphasizing the reverse design of curriculum systems and continuous improvement mechanisms, which is highly consistent with the demand for cultivating applied talents in the digital age [7]. This course should aim at achieving abilities of students and then be divided into two parts, i.e., course teaching design and classroom teaching implementation. The design of teaching content is also determined based on the expected learning outcomes of students, making teaching more in line with the actual needs and ability development of students. Furthermore, OBE concept has also brought about significant changes in aspects such as learning models & outcomes and evaluation methods [8]. Based on OBE concept and integrating blended teaching

model, curriculum reform was carried out from four dimensions in this paper: goal positioning, content reconstruction, method innovation, and evaluation optimization. A new teaching system characterized by "ability-oriented, dual-line integration, as well as ideological and political communication" was constructed to explore innovative pathways for cultivating applied financial talents.

### **3.1 Reform of Teaching Objectives**

Starting from actual needs of this course, reverse teaching design of "demand orientation - ability mapping - dynamic optimization" was carried out through industry research and interviews with graduates, combined with graduation/employment demands and course learning requirements. This course centers on "three characteristics" balanced core of commercial banks, i.e., the balance among safety, liquidity, and profitability, and the theoretical foundations such as asset-liability management and capital management were consolidated at the knowledge level. Enhancing core skills of grassroots positions in commercial banks was focused on at ability cultivation level. Concepts and awareness such as bottom-line thinking, compliance awareness, customer-centered service philosophy, concept of building a financial power, and leadership of the Party were integrated at the level of quality shaping (course-based ideological and political education). Quantifiable ability indicators such as the construction of enterprise credit scoring model were set, and three-dimensional dynamic goal adjustment mechanisms of "industry mentor evaluation - enterprise case feedback - graduate growth tracking" were established to ensure that teaching goals continuously respond to internal-external demands of schools, thereby achieving the deep integration of talent cultivation and financial industry development.

### **3.2 Reform of Teaching Contents**

Teaching content reform of this course was oriented towards industry demands and a dynamically updated modular knowledge system was constructed. Firstly, the course team systematically deconstructed and reorganized traditional teaching contents, upgrading the original knowledge modules such as deposits, loans, and intermediary business divided by business lines to a three-layer structure of "basic theory - digital technology - comprehensive

application". Core concepts such as "three characteristics" principle of commercial banks and risk management were retained in the layer of basic theory. New cutting-edge contents such as big data credit investigation, blockchain payment, and intelligent investment advice were added in the layer of digital technology. Cross-module integration was achieved through topics such as "Digital Transformation of Commercial Banks" and "Innovation in Green Finance" in the layer of comprehensive application.

In response to the differentiated characteristics of student group, "dual-track system" teaching content was innovatively designed. An extended module titled "Frontiers of Commercial Bank Theory Research" was added for postgraduate entrance examination students, providing guidance on academic literature reading and thesis writing. A "Banking Business Practical Workshop" was developed for employed students, embedding practical training such as the operation of intelligent teller system and credit risk assessment. The "three-dimensional penetration" model was adopted for the construction of ideological and political education in courses. In the dimension of knowledge, the education on "financial security concept" was strengthened by comparing banking regulatory systems of China and foreign countries. In the dimension of capability, taking practical problems such as "difficult financing for small and micro enterprises" as the entry point, the mission awareness of "financial services for the real economy" was cultivated. Professional ethics of compliant operation were shaped through case studies of risk events such as "Yuanyoubao" and "P2P". This way of integrating ideological and political education enables the cultivation of values and professional teaching to be organically unified.

### **3.3 Reform of Teaching Modes**

Based on the integration concept of three spaces with "online - offline - enterprise", teaching modes were reconstructed. For the pre-class stage, micro-lessons on the annual report interpretation of commercial bank were pushed through platforms such as Rain Classroom and Chaoxing Classroom, and situational previews related to each knowledge point were carried out on virtual simulation platforms. For the in-class stage, based on traditional guidance, objectives, and pre-tests, new measures such as "real-time Q&A with AI teaching assistants" and "cloud

intervention by industry experts" were added to enhance the learning of course contents. For the after-class stage, a dual improvement mechanism of theory and practice was formed and expanded. Theoretical improvement was carried out through the literature review training organized by the "CNKI Research and Learning" platform, while practical improvement was conducted by relying on the "Yulin Financial Service Center of Small, Medium, and Micro Enterprises" jointly built by schools and enterprises, and pre-loan investigation, statistics, and evaluation training were carried out.

### **3.4 Reform of Teaching Methods**

Teaching method reforms in four aspects were implemented in this course. Individual characteristics were identified through the learning behavior analysis system, and assessment results including knowledge weaknesses, ability shortcomings, and learning styles were generated for each student. Then, personalized learning plans can be pushed. A progressive learning task of "virtual simulation + physical operation" was designed. For example, in the payment and settlement module, students first handled simulated transactions through SimBank system, and then conducted practical training in online banking services at cooperative bank branches. Tools such as ChatGPT were used to carry out human-computer interactive learning. For example, in the interest rate risk management module, teacher sets a topic to guide students to debate with AI, which cultivated the critical thinking of students.

### **3.5 Reform of Teaching Evaluation**

A new teaching evaluation system centered around five aspects, including the mastery of professional knowledge, the application degree of digital tools, the completion degree of business practice, the performance of ideological and political literacy, and the score of innovation ability was established in this course. Corresponding evaluation criteria were set for each aspect. In addition, ability cultivation files of students were generated by periodically recording data such as preview duration, classroom interaction, and practical performance. The composition of final assessment was adjusted as follows: process evaluation 50% (including 15% online learning, 20% classroom performance, and 15% practical achievements),

course paper 20%, and course examination 30%. This teaching evaluation reform method not only contributes to the comprehensive cultivation of financial professional abilities, but also helps to obtain dynamics of students and make teaching adjustments.

### **4. Conclusion**

An innovative four-dimensional collaborative system of "goal - content - model - evaluation" for "Commercial Bank Operation and Management" course in the digital age was constructed and remarkable results were achieved based on OBE concept and through systematic curriculum reform practices. Remarkable achievements were obtained in aspects such as curriculum reconstruction, exploration of teaching mode pathways, application of evaluation systems, and integration of production and education. Advantages of composite teaching mode were verified. Teaching practice shows that systematic curriculum reconstruction based on OBE concept is an effective way to cultivate applied financial talents who can adapt to digital transformation. The experience summarized in the exploration and practice from the curriculum reform of "Commercial Bank Operation and Management" energized by the integration of production and education in the digital age provides useful references for the teaching reform of other courses in financial engineering major.

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