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Exploring the Development of a First-Class Undergraduate Course in "International Finance" Based on Key Issues

Li Jiake

Hunan Institute of Science and Engineering, Yongzhou, China

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Abstract: The development of a first-class online "International Finance" course at a second-tier applied university faces practical challenges such as students' weak theoretical foundations, insufficient independent learning abilities, and low engagement in online learning.Guided by the OBE (Outcomes-Based Education) philosophy and drawing on the "key question design" teaching strategy, this paper begins with an assessment of student learning needs. It selects representative real-world cases for each chapter of the course and distills key questions from them. Based on these key questions, the study sets tiered learning objectives, reorganizes course content, designs instructional activities, and integrates ideological and political education into the curriculum, thereby constructing an online teaching system characterized by "key-question-driven learning—coherent knowledge logic—diverse assessment and feedback."Course operation data indicate that the key-question-based instructional design effectively enhanced students' learning engagement and achievement of learning objectives. This study provides a replicable practical pathway for the development of first-class online courses in business and economics majors at applied undergraduate institutions.

1. Introduction

Courses are a core element of talent development, and course quality directly determines the quality of talent cultivation.In 2019, the Ministry of Education issued the "Implementation Opinions on the Development of First-Class Undergraduate Courses" (Jiaogao [2019] No. 8), officially launching the "Double Ten Thousand Plan" for first-class undergraduate courses. The Opinions explicitly require that the development of first-class courses must adhere to the basic principle of "adhering to categorized development." Based on the institutional positioning and talent development objectives of higher education institutions, first-class undergraduate courses should be developed to meet the needs of cultivating innovative, interdisciplinary, and applied talents, thereby achieving full coverage of first-class undergraduate course development across different types of higher education institutions.The development of provincial-level first-class courses should emphasize relevance and effectiveness, addressing long-standing educational and teaching issues at local universities by adapting to local conditions, institutional characteristics, and specific course requirements [1] .

The core criteria for building first-class courses are the "Two Characteristics and One Level"—advanced nature, innovation, and challenge level. Advanced nature requires that course objectives organically integrate knowledge, skills, and qualities to cultivate students' comprehensive abilities to solve complex problems and foster higher-order thinking; innovation requires that teaching content reflect cutting-edge and contemporary perspectives, while teaching methods embody advanced and interactive approaches; challenge level requires that course design incorporate research-oriented, innovative, and comprehensive content, allowing students to experience learning challenges that are "just out of reach" [2] .

As a teaching organization strategy, "Key Question Design" centers on distilling representative, driving, and exploratory key questions from real-world practices within the discipline. It uses these questions as anchors to organize teaching content and learning activities, embedding the process of learning theoretical knowledge within the process of problem-solving. The theoretical foundation of this strategy can be traced back to Dewey's philosophy of problem-solving learning—in *How We Think*, Dewey proposed that thinking arises from "problematic situations," and that true learning should begin with real-world problems [3]. Subsequently, Problem-Based Learning (PBL) further developed this idea into a systematic instructional model, emphasizing the problem as the starting point and organizational center of learning, with students autonomously constructing their knowledge systems as they attempt to solve problems.

The "Key Question Design" strategy aligns closely with the principles of Outcome-Based Education (OBE). OBE emphasizes backward design of instruction based on the learning outcomes students are expected to achieve, while "Key Question Design" concretizes this concept by organizing course resources and instructional activities around the question of "what key problems students should be able to solve." The intrinsic consistency between the two is reflected on three levels: First, "students' ability to solve key problems" is itself a higher-order learning outcome that better embodies competency-based educational goals than "students' ability to restate theoretical knowledge points" [4] ; second, the process of solving key problems is student-centered, with instructors transitioning from knowledge transmitters to problem facilitators and learning facilitators, aligning with OBE's core principle of "student-centeredness"; third, the knowledge gaps and competency discrepancies revealed in students' problem-solving processes provide instructors with precise instructional feedback, forming a continuous optimization loop of "design—implementation—evaluation—improvement." For the "International Finance" course at applied-oriented second-tier universities, advancing the development of first-class online courses by focusing on the design of key problems not only meets the "two characteristics and one degree" development standards but also provides a viable practical path to resolve the long-standing teaching challenges associated with this course.

2. Problem Statement and Student Learning Assessment

In teaching practice, it has been observed that the "International Finance" course faces three major challenges. First is the challenge of student learning conditions. A significant proportion of students at applied-oriented second-tier universities have not firmly mastered prerequisite courses such as macroeconomics and finance. When topics requiring a strong theoretical foundation and mathematical reasoning skills—such as exchange rate determination theory and balance of payments adjustments—are introduced in class, students struggle to keep up due to insufficient prior knowledge, leading to a sense of dauntment that directly undermines their motivation to learn. Second is the challenge of student engagement. Students at local second-tier universities generally have weak self-directed learning and self-management skills and have not yet completed the transition from "passive listening" to "independent inquiry" as a learning approach. In online teaching environments, without the immediate supervision of face-to-face interaction, students are more prone to behaviors such as

"skimming through videos" to half-heartedly fulfill course requirements or "lurking" in discussion forums. In traditional international finance courses, insufficient student participation and passive learning have become the norm. Third is the challenge of course content. The content of traditional international finance courses is overly theoretical, creating a disconnect with the "application-oriented" talent development mission of second-tier universities. Textbook content is not closely aligned with China's current development realities, teaching methods are monotonous, and students lack a strong sense of immersion and engagement. At the same time, course content updates lag behind cutting-edge practices such as the internationalization of the renminbi, cross-border capital flows, and the digital renminbi, making it difficult for students to establish effective connections between abstract theories and real-world financial issues.

Prior to the curriculum reform, a post-course survey-based analysis of student learning was conducted among a total of 318 students—comprising four classes each from the Financial Engineering and International Economics and Trade majors, as well as four classes from the Financial Engineering major—who had taken the International Finance course before 2021, along with four faculty members teaching International Finance at the college. The survey covered three dimensions: knowledge mastery, the learning process, and critical thinking and application.

(1) Regarding knowledge mastery. 68.7% of students believed that the theoretical knowledge of international finance was abstract, complex, and replete with numerous concepts, making it difficult to learn. Meanwhile, 75% of instructors felt that students struggled to establish logical connections between different theories (such as exchange rate determination theory and balance of payments adjustment theory), indicating a significant problem of fragmented knowledge in the course.

(2) Regarding the learning process: 65.1% of students deliberately avoided content involving theoretical derivations and model comprehension during self-directed online learning, tending instead to watch conceptual and common-sense video clips. Meanwhile, 75% of instructors were unable to accurately monitor and assess the quality of students' online learning. Students were accustomed to "skimming through lectures at accelerated speeds" and "listening while playing games," failing to treat online learning as an effective means of internalizing knowledge; consequently, the course's online learning outcomes were unsatisfactory.

(3) In terms of critical thinking and application. 72.3% of students have never proactively applied their knowledge of international finance theory to analyze real-world financial issues such as fluctuations in the RMB exchange rate or changes in the balance of payments. Additionally, 50% of instructors rarely design key questions based on real-world case studies during their teaching. This indicates that students lack the ability to transfer and apply course knowledge, and that instructors do not place sufficient emphasis on "problem-based" teaching.

The above data indicate that prior to the teaching reform, this course was plagued by prominent issues such as fragmented knowledge, online learning that was merely a formality, and a disconnect between theory and practice. There is an urgent need to use "key question design" as a breakthrough point to restructure the course content and teaching process, thereby improving the quality of instruction and student learning outcomes.

3. Principles and Plan for the Key-Question-Based Design of the "International Finance" Course

3.1. Design Principles

Given that students at second-tier universities tend to have weaker foundational knowledge, lower classroom participation, and that traditional course content is heavily theory-based, the course design adopts the following three principles. First is the problem-driven principle. Key questions guide the teaching activities in each chapter, "embedding" abstract theoretical knowledge within specific

problem contexts. The selection of key questions should ensure they are realistic, open to inquiry, and intrinsically linked to the relevant learning objectives. Teaching activities in each chapter follow the logical sequence of "posing a problem—analyzing the problem—solving the problem," enabling students to construct knowledge through the problem-solving process. Second is the outcomes-based principle. In accordance with the OBE philosophy, instructional content and assessment methods are designed in a backward manner, starting from the expected learning outcomes students are to achieve. Specifically, each chapter first clarifies "what key problems students should be able to solve after completing this chapter," then determines knowledge objectives, competency objectives, and quality objectives based on this, and subsequently organizes teaching resources and activities. This "backward design" logic ensures that every teaching component serves the achievement of learning outcomes. Third is the Principle of Adaptation to Student Circumstances. This principle takes into account the learning characteristics of students at applied-oriented second-tier universities, who typically have a weak theoretical foundation, limited self-study abilities, and a pronounced fear of difficulty. In setting objectives, a tiered and progressive approach is adopted to avoid "one-size-fits-all" high-difficulty requirements; in content presentation, emphasis is placed on lowering the cognitive threshold by introducing theoretical analysis through intuitive case studies; and in activity design, the focus is on "small steps and frequent feedback," using high-frequency instant quizzes and targeted feedback to maintain learning motivation [5] .

3.2. Design of the Key Question Framework Proposal

Based on the knowledge framework of the "International Finance" course, representative real-world cases were selected for each major chapter. Key questions to be addressed were distilled from these cases, and a role-playing approach was employed to stimulate students' motivation to learn. The table below presents the design of key questions for each course chapter. For each key question, the corresponding tiered instructional objectives and points for integrating ideological and political education are indicated, ensuring that goal-setting and value guidance are embedded within the question design rather than presented separately.

Table 1: Design of the Key Question Framework for the "International Finance" Course

Chapter	Typical Real-World Case Study	Key Questions and Role-Playing	Core Knowledge Points	Tiered Learning Objectives	Integration Points for Ideological and Political Education
Chapter 1: Foreign Exchange and Exchange Rates	In 2025, the RMB-to-USD exchange rate will "weaken initially, then strengthen, with volatility narrowing"	Key Questions: Why does the RMB exchange rate fluctuate so sharply? How can enterprises manage exchange rate risks? Role-Play: If you were the CFO of an export company, how would you develop an exchange rate risk management strategy?	Exchange Rate Quotation Methods, Foundations of Exchange Rate Determination, Classification of Exchange Rate Systems, Foreign Exchange Risk Management	Foundational: Master exchange rate quotation methods and classifications, and accurately describe exchange rate fluctuations; Intermediate: Apply exchange rate determination theories to analyze the causes of exchange rate trends; Advanced: Integrate exchange rate theories and risk management tools to develop corporate	When teaching "exchange rate systems," introduce the design logic behind China's "managed floating exchange rate system" to help students understand the relationship between exchange rate policy autonomy and financial security

				exchange rate risk response plans	
Chapter 2: Balance of Payments	In 2025, China's current account surplus was $735 billion, and its goods trade surplus was $1,060.6 billion	Key Question: Is China's sustained massive trade surplus a positive development or a potential risk? Role-Play: If you were a researcher in foreign exchange operations at the People's Bank of China, how would you assess the impact of the current balance of payments structure on monetary policy?	Structure of the Balance of Payments, Current Account and Capital Account, and Adjustment of Balance of Payments Imbalances	Foundational: Be able to read a balance of payments statement and identify the meaning of each account; Intermediate: Be able to analyze the economic implications of a country's balance of payments structure; Advanced: Be able to propose analytical recommendations for optimizing the balance of payments structure by integrating theories of internal and external equilibrium	When discussing the pros and cons of a trade surplus, guide students to consider the transition from being a "major trading nation" to a "strong trading nation," and help them understand the dialectical relationship between high-quality development and the optimization of the foreign trade structure
Chapter 3: Theories of Exchange Rate Determination	In 2025, the U.S. Dollar Index fell by approximately 9.5% over the course of the year, while the renminbi appreciated against the trend	Key Questions: Why did emerging market currencies diverge after the end of the U.S. interest rate hike cycle? What exactly determines exchange rates? Role-Play: If you were the governor of a central bank in an emerging market, how would you assess the trend of your domestic currency's exchange rate in the face of a reversal in the U.S. dollar's trend?	Purchasing Power Parity Theory, Interest Rate Parity Theory, Monetary Models, and Portfolio Equilibrium Models	Foundational: Be able to restate the core assumptions and logic of exchange rate determination theories from various schools of thought; Intermediate: Be able to use at least one theory to explain real-world exchange rate fluctuations; Advanced: Be able to compare the explanatory power of different theories and make evidence-based judgments on the trend of a specific currency	After covering each theory, facilitate a thematic discussion: "Can Western exchange rate theories fully explain the RMB's exchange rate formation mechanism?" Guide students to recognize the issue of theoretical applicability to China's national conditions, fostering theoretical confidence and critical thinking
Chapter 4: International Reserves	China's foreign exchange reserves have long remained	Key Questions: Is $3 trillion in foreign exchange	Composition of International Reserves, Reserve Demand	Foundational: Be able to define the composition and functions of	When analyzing reserve levels, guide students to understand the "ballast" role of foreign exchange reserves

	above $3 trillion	reserves a lot or a little? Is there an "optimal level" for reserve size? Role-Play: If you were a reserve management official at the State Administration of Foreign Exchange, how would you determine an appropriate level of foreign exchange reserves?	Theory, Reserve Currency Diversification, and Reserve Asset Management	international reserves; Intermediate: Be able to apply reserve demand theory to analyze the rationality of a country's reserve size; Advanced: Be able to comprehensively consider the returns, costs, and security of reserves and propose an analytical framework for optimizing reserve size	in maintaining national financial security, and recognize that financial security is a crucial line of defense for national security
Chapter 5: The International Monetary System and the Internationalization of the Renminbi	In the first half of 2026, the RMB accounted for 52.9% of cross-border receipts and payments processed by Chinese banks on behalf of clients	Key Questions: How far is the RMB from becoming an "international currency"? Is internationalization a "natural progression" or an "active initiative"? Role-Play: If you were the Director-General of the International Department of the People's Bank of China, how would you formulate a roadmap for the next phase of the RMB's internationalization?	Evolution of the International Monetary System, the Jamaican System, the Process and Challenges of RMB Internationalization, Special Drawing Rights	Foundational: Be able to outline the major stages in the evolution of the international monetary system; Intermediate: Be able to analyze the current status and obstacles to the internationalization of the RMB; Advanced: Be able to design phased strategies for advancing the internationalization of the RMB	When reviewing the history of the renminbi's internationalization, guide students to understand the relationship between a currency's international status and a nation's comprehensive national strength, thereby strengthening their "Four Confidences" and sense of mission toward national rejuvenation
Chapter 6: International Capital Flows	The 1997 Southeast Asian Financial Crisis and the Current Gradual Liberalization of China's Capital Account	Key Questions: Does capital account liberalization inevitably lead to financial crises? How does China balance openness with risk? Role-Play: If you were an official in a financial regulatory agency, how would you	Types of International Capital Flows, Currency Crisis Theories (First, Second, and Third Generations), and the Conditions and Sequence for Capital Account Liberalization	Foundational: Be able to distinguish between different types of international capital flows; Intermediate: Be able to apply currency crisis theories to analyze the mechanisms behind the outbreak of crises; Advanced: Be able to draw on the experiences	When comparing the lessons learned from the successes and failures of capital account liberalization in different countries, guide students to understand the prudence and scientific basis of China's "gradual and risk-controlled" liberalization strategy, and reinforce awareness of financial risk prevention

		design a "roadmap" and "timeline" for capital account liberalization?		and lessons learned from various countries to propose a risk-controlled plan for China's capital account liberalization	
Chapter 7: Exchange Rate Systems and Macroeconomic Policies	During the Asian Financial Crisis, China pledged not to devalue the renminbi	Key Question: How do major economies' exchange rate policies balance external shocks with domestic stability? Role-Play: If you were a member of the State Council's Financial Stability and Development Committee, how would you balance exchange rate stability with monetary policy independence in the face of external shocks?	Theories of Exchange Rate Regime Choice, the Trilemma, Coordination of Exchange Rate Policy and Monetary Policy, Foreign Exchange Market Intervention	Foundational: Be able to analyze the characteristics and advantages/disadvantages of different exchange rate systems; Intermediate: Be able to apply the "Tripartite Paradox" to analyze the coordination of a country's exchange rate policy and monetary policy; Advanced: Be able to propose comprehensive exchange rate policy responses to specific external shock scenarios	Using the example of China's commitment to maintain the renminbi's value during the 1997 Asian Financial Crisis, guide students to understand the responsibilities and institutional resilience of major powers in international economic affairs

The design of the aforementioned system of key questions possesses three core characteristics: First, realism. All case studies are drawn from real international financial events in recent years, allowing students to perceive the direct connection between what they learn and the real world; second, exploratory nature. There is no "standard answer" for any key question; students must make judgments by comprehensively applying diverse theories and evidence; third, intrinsic connection to key concepts. Each key question corresponds to the core theory of the chapter, and students will inevitably engage with the chapter's main concepts while attempting to answer the questions. At the same time, tiered learning objectives are embedded within the key questions. Take the concept of factors influencing exchange rate fluctuations as an example. A single key question requires not only a grasp of foundational knowledge—such as "being able to accurately describe exchange rate fluctuations"—but also the application of advanced theories—such as "being able to analyze exchange rate trends using theory"—and even higher-order comprehensive judgment—such as "being able to develop a corporate exchange rate risk management plan." These three levels naturally unfold around the same question, avoiding fragmentation of learning objectives. Ideological and political elements also emerge naturally from the discussion of key questions; each ideological and political touchpoint represents an unavoidable value dimension in the process of addressing these questions.

3.3. Key-Question-Driven Chapter Teaching Process

The core value of key-question design in teaching practice lies in its "overarching guidance"—

that is, reorganizing the sequence of knowledge points and learning activities around the logic of solving key questions, thereby giving meaning to fragmented theoretical knowledge within the context of problem-solving. To illustrate this "overarching guidance" mechanism, Chapter 1, "Foreign Exchange and Exchange Rates," is used as an example to fully demonstrate a chapter's teaching process from pre-class to post-class activities. This process essentially illustrates how the tiered objectives set out in Table 1 are progressively achieved through learning activities and how ideological and political elements are naturally integrated at key teaching junctures.

3.3.1. Pre-Class Preparation: Anchoring the Learning Direction with Key Questions

Before the course begins, the instructor posts the following preparatory materials via an online platform: (1) a 3-minute video presenting a chart of the RMB-to-USD exchange rate trend in 2025 along with news footage of key milestones; (2) the key questions: "Why does the RMB exchange rate fluctuate so dramatically? How do enterprises manage exchange rate risks?";(3) Role-playing instructions: "Suppose you are the CFO of an export-oriented company. Your boss has asked you to report on 'the impact of exchange rate fluctuations on the company and recommendations for addressing them.' Please begin studying this chapter with this question in mind."

These preparatory requirements differ from the traditional approach of "reading through the textbook": Students are not expected to master theoretical concepts in advance. Instead, they simply watch the video, read the questions, jot down their initial thoughts, and post in the discussion forum: "What do I already know about this issue? What else do I want to know?" This design aims to lower the barrier to entry for preparatory work to accommodate students with weaker foundational knowledge, while simultaneously using "role-playing" to stimulate intrinsic motivation for learning, thereby addressing the challenge of low engagement.

3.3.2. In-Class Inquiry-Based Learning: Reorganizing Knowledge Delivery Around Problem-Solving Logic

Traditional teaching presents knowledge points in a linear fashion according to the disciplinary framework. For example, it first covers exchange rate quotation methods, then explains exchange rate classifications, and finally analyzes the fundamentals of exchange rate determination. The logic behind this sequence of instruction is the "inherent logic of the knowledge itself." By the time students finish learning about quotation methods, they are still unclear about "the practical use of this knowledge"; by the time they reach the topic of foreign exchange risk management, they have already forgotten most of the preceding material [6].

Centered on the logic of solving key questions, this course reorganizes the sequence of knowledge presentation into four steps, with each step directly addressing a specific sub-question of the key question (Table 2). Each step is clearly labeled with its corresponding objective level, ensuring that "tiered objectives" are implemented in specific teaching activities.

Table 2: Logic of Reorganizing Knowledge Points in the "Foreign Exchange and Exchange Rates" Chapter Around Key Questions and Their Corresponding Objectives

Step	Sub-question	Knowledge Points	Corresponding Objective Level	Teaching Method	Integration of Ideological and Political Education
Step 1	"Where do fluctuations occur?"	Exchange rate pricing methods, types of exchange rates	Basic Objectives	Begin with a daily chart of the USD/CNY exchange rate for 2025, guiding students to "read the chart" first, then introduce pricing methods; include a corresponding instant quiz	—

				(identify appreciation/depreciation)	
Step 2	"What forces drive exchange rate fluctuations?"	Theories of Exchange Rate Determination (Purchasing Power Parity, Interest Rate Parity, Monetary Model)	Advanced Objectives	Examine price charts to ask, "What forces cause the curve to fluctuate up and down?" Gradually introduce each theory; accompanying quiz (determine the direction of impact of different factors on exchange rates)	—
Step 3	"Are There Limits to Fluctuations?"	Classification of Exchange Rate Systems (Fixed, Floating, Managed Floating)	Basic/Advanced	From Theoretical Deduction to Real-World Constraints: "If theory suggests the currency should appreciate, can the central bank just stand by and do nothing?" Introduction to exchange rate regimes; accompanying quiz (analyzing the characteristics of different exchange rate regimes)	Political Education Focus: Why did China choose a "managed floating" system rather than a completely free-floating one? — Introducing exchange rate policy autonomy and financial security
Step 4	"How to Deal with Fluctuations?"	Foreign Exchange Risks and Management Tools (Forwards, Options, Swaps, etc.)	Advanced Objective	Return to the initial role-playing exercise: "You are now the CFO—what would you do?" Introduce risk management tools and strategy portfolios	—

The core change in this restructuring is that each knowledge point explicitly addresses a specific sub-question and corresponding learning objective during instruction. Students always know "what problem they are currently solving and what level they are aiming to achieve," rather than passively absorbing isolated fragments of theory. Each teaching step is limited to 20–25 minutes and is accompanied by an instant multiple-choice quiz to assess students' mastery of the core concepts covered in that step. These quizzes are administered via an online platform, allowing instructors to determine whether additional explanation is needed. This "small steps, frequent feedback" approach is tailored to the reality that students at second-tier universities tend to have weaker self-study skills.

The integration of ideological and political education is specifically implemented in this phase: When the course progresses to the third step, "Exchange Rate Systems," the instructor guides students in discussing the question, "Why doesn't China adopt a fully free-floating exchange rate system?" While there is no single correct answer to this question, during the discussion, students naturally explore the relationship between "exchange rate system choices and national economic security." The instructor then guides students to understand that an exchange rate system is not merely a technical choice but is closely tied to a nation's autonomy in monetary policy and the stability of its financial system; this understanding constitutes the cultivation of "financial security awareness." Ideological and political education should not be merely "adding a paragraph"; rather, it should be a value recognition that "emerges" through discussions of key issues with students.

3.3.3. Post-Class Application: Using Problem-Solving Solutions as Outputs

Post-class assignments require students to provide a comprehensive solution to the key questions in each chapter and submit an analytical report. Taking Chapter 1 as an example, the assignment requirements are as follows:

Scenario: Your export-oriented company has annual exports of approximately $50 million, with

the United States and the European Union as its primary markets. In 2025, the RMB-to-USD exchange rate experienced fluctuations characterized by “initial weakness followed by strength.” Using the knowledge gained in this chapter, complete the following tasks:

(1) Use the exchange rate quotation method to accurately describe the characteristics of the RMB-to-USD exchange rate trend in 2025.

(2) Using at least one theory of exchange rate determination, analyze the main factors driving exchange rate fluctuations.

(3) Predict the general direction of the exchange rate trend for the next phase and provide a brief rationale.

(4) Recommend at least two exchange rate risk management tools for this company and explain your rationale.

The above assignments correspond to the foundational, intermediate, and advanced learning objectives, respectively. By “embedding” these tiered objectives within the different requirements of a single task, the foundational, intermediate, and advanced objectives are presented progressively within the same report. After assignments are submitted, instructors should promptly provide feedback via the online platform and select outstanding assignments to showcase as examples in the discussion forum, enabling students to learn from and draw inspiration from one another.

4. Practical Outcomes and Reflections

4.1. Overview of Course Implementation

The course officially launched in the fall semester of 2021, implementing teaching reforms for the Financial Engineering major through the Chaoxing online teaching platform. As of July 2026, the course has been running continuously for five semesters, with a cumulative enrollment of over 400 students across 10 classes in the Business Financial Engineering program.The course’s online resources include more than 30 modular micro-lecture videos, 7 sets of chapter-based case studies, 7 sets of accompanying unit quiz question banks, 20–30 multiple-choice questions per chapter, and a number of supplementary reading materials.

Throughout the course’s operation, teaching resources have been iteratively updated each semester based on student feedback and platform data. A total of 5 micro-lecture videos have been updated, 6 new cases have been added to the case library, and the unit quiz question banks have been expanded by approximately 30%. This practice of continuous updating aligns with the development requirements for top-tier online courses, which stipulate that “resources and data must be updated regularly.”

4.2. Changes in Student Learning Engagement

To assess the impact of the course reform on student engagement, we conducted a comparative analysis of platform data from before the reform (2021–2023) and after the reform (2024–2025), both drawn from the Financial Engineering program, where the student demographic composition was essentially consistent.

4.2.1. Completion Rates for Videos, Assignments, and Quizzes

Before the reform, the average video completion rate among students showed a significant “high at the beginning, low at the end” trend. After the reform, the average video completion rate increased significantly, and the completion rates for assignments and quizzes rose significantly, approaching 100 percent, with participation levels rising substantially.

4.2.2. Attendance Rate

Before the reform, the average attendance rate was 90%. After the reform, the average attendance rate rose to 99%, with relatively stable attendance rates each week. The incorporation of in-class quizzes was a key factor—students realized that missing a live session would mean missing the opportunity to take the quiz, and quiz scores accounted for 15% of the formative assessment.

Teaching plans designed around key questions have proven highly effective in enhancing student engagement in online learning.

4.3. Achievement of Learning Outcomes

(1) Unit Test Scores. After the reform, the average accuracy rate on chapter-based unit quizzes was approximately 80%.

(2) Quality of Key Question Analysis Reports. The key question analysis reports for each chapter are evaluated using a graded system. Comprehensive statistics for the seven chapters show that 18.6% of reports were rated "Excellent," 41.2% "Good," 32.4% "Passing," and 7.8% "Needs Improvement." Looking at the progression throughout the semester, the "Excellent" rate for later chapters—such as Chapter 5, "International Monetary System," and Chapter 6, "International Capital Flows"—was higher than that for earlier chapters, such as Chapter 1, "Foreign Exchange and Exchange Rates." This indicates that students' problem-analysis skills gradually improved with continued practice, a trend that validates the pedagogical hypothesis that "continuous practice promotes skill development."

(3) Student Questionnaire Feedback. At the end of each semester, a course learning experience questionnaire is distributed to students, with an average of approximately 80 valid responses collected per semester. Aggregated data from five semesters shows that 92.3% of students agreed that "key questions helped me connect theoretical knowledge with real-world problems"; 87.6% agreed that "role-playing questions increased my interest in learning"; 84.2% agreed that "instant quizzes helped me identify knowledge gaps in a timely manner";78.5% of students agreed that "repeated revisions of analytical reports have improved my writing and logical thinking skills." Among the open-ended questions in the survey, positive comments frequently mentioned by students included: "Each chapter has a specific question, so learning isn't as confusing"; "I feel like I'm really analyzing problems, rather than just memorizing answers"; and "The instructor's feedback is timely, so I know where I'm struggling." This feedback indicates that the design of key questions has gained widespread recognition from students for reducing cognitive anxiety and enhancing a sense of direction in learning.

4.4. Existing Issues and Directions for Continuous Improvement

Although the curriculum reform has achieved phased results, several shortcomings have been exposed during implementation and require continuous improvement in future teaching.

First, the achievement rate for higher-order objectives remains low. The average correct answer rate for higher-order questions was only 62.4%, far below the 81.3% for basic questions and the excellent pass rate for higher-order analytical reports. This indicates that while most students can master basic concepts and principles, there is still a significant gap in their ability to comprehensively apply knowledge to solve complex problems. Moving forward, we plan to incorporate "in-depth case study discussions" into the curriculum. For each chapter, we will select a specific sub-question to facilitate a 15-minute group discussion, during which students will attempt to apply the knowledge learned in class to conduct immediate analysis, with the instructor providing on-the-spot feedback to strengthen training in the transfer and application of knowledge[7].

Second, some students lack sustained participation. Although the average attendance rate has risen

to 99%, the test scores of 15% of students remain significantly below average. Analysis reveals that these students are mostly those with weak foundational knowledge who developed a fear of the subject early in the semester. Moving forward, we plan to strengthen the assessment of student learning needs at the beginning of the semester and establish a "one-on-one" learning reminder mechanism to provide targeted attention and support at key milestones.

Third, the depth of interaction in the discussion forum needs improvement. Although the number of posts has increased significantly, an in-depth analysis of the content reveals that approximately 40% of discussion posts remain at the "task-completion level"—students meet the word count requirements but fail to engage in genuine exchanges of viewpoints or provide in-depth arguments. Moving forward, we plan to optimize the design of discussion forum assignments by introducing "opposing viewpoints" discussion topics, such as "Pro: China should accelerate the internationalization of the renminbi / Con: The internationalization of the renminbi should be advanced with caution." Students will be required to respond to at least one classmate's viewpoint in their posts to enhance the interactivity and depth of thought in the discussions.

The aforementioned improvements reflect the concrete implementation of the OBE principle of "continuous improvement" in curriculum development. Curriculum reform is not a one-time effort to meet standards, but rather a dynamic process of continuous optimization within the "design–implementation–evaluation–improvement" cycle.

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