

## Research on the Construction of a Smart Classroom for Fundamental Accounting Based on the Xuexitong Platform

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**Abstract:** Against the backdrop of digital transformation in education, the smart classroom has become the core direction of teaching reform for accounting majors in application-oriented undergraduate institutions. Fundamental Accounting, as the introductory core course for finance and accounting majors, is characterized by theoretical abstraction and strong practical specialization. Traditional classroom teaching suffers from pain points such as insufficient interactivity, delayed feedback on learning conditions, a disconnect between theory and practice, and difficulty in implementing personalized teaching. This paper utilizes the Xuexitong smart teaching platform as a vehicle, integrating the teaching objectives and learning characteristics of the Fundamental Accounting course. From four dimensions—construction of teaching resources, reconstruction of teaching processes, optimization of the evaluation system, and improvement of faculty and support mechanisms—it constructs a full-process, closed-loop smart classroom model for Fundamental Accounting encompassing "pre-class, in-class, and post-class" stages. Through practical application, it verifies the positive role of this model in enhancing teaching efficiency, stimulating students' learning initiative, and strengthening practical operational abilities, providing a reference for the smart teaching reform of foundational courses in finance and accounting.

**Keywords:** Xuexitong Platform, Fundamental Accounting, Smart Classroom, Teaching Reform

### 1. Introduction

With the deep integration of information technology and education, the Ministry of Education has repeatedly proposed promoting the integration of information technology into

the entire process of education and teaching [1], creating smart, personalized, and open classroom teaching models. Finance and accounting majors, as application-oriented disciplines, must keep pace with the digital development trends of the industry, realize the digital transformation of teaching models, and cultivate composite finance and accounting talents possessing both accounting professionalism and digital skills. Fundamental Accounting is a foundational professional course for finance and accounting majors, undertaking the crucial tasks of solidifying students' accounting theoretical foundations, cultivating basic practical accounting skills, and establishing accounting professionalism. Its teaching effectiveness directly impacts students' subsequent learning in professional courses. The traditional Fundamental Accounting classroom is dominated by teacher-led theoretical lectures and blackboard demonstrations, making teaching content such as vouchers and account books abstract and difficult to understand. Students passively receive knowledge, resulting in low participation. Post-class assignment correction and learning situation analysis are time-consuming and labor-intensive for teachers, making it difficult to accurately grasp students' weak points. Practical teaching often relies on offline manual operations, which are disconnected from the development of the digital accounting industry, failing to meet the demands of cultivating finance and accounting talents in the new era. As a widely used smart teaching platform in universities, Xuexitong possesses full-process teaching functions including course resource management, online interaction, learning situation analysis, online practical training, and intelligent assessment [2]. It is user-friendly and highly compatible, providing mature technical support for the construction of a smart classroom for Fundamental Accounting. Building a smart classroom relying on the Xuexitong platform can break the time and space constraints of traditional classrooms, achieve the

organic integration of theoretical teaching and practical teaching, online teaching and offline teaching, address the pain points of traditional teaching, and enhance the quality of course instruction.

## **2. Current Teaching Situation of Fundamental Accounting and the Needs for Smart Classroom Construction**

### **2.1 Teaching Pain Points of the Fundamental Accounting Course**

1) **Abstract Theoretical Teaching, High Difficulty in Student Comprehension.** Fundamental Accounting includes core theoretical knowledge such as accounting elements, debit-credit bookkeeping, accounting entries, and financial statements, which are abstract in concept and highly logical, making them difficult for beginners to quickly grasp. Traditional classrooms mainly rely on teachers' oral explanations and blackboard demonstrations, lacking visual and interactive teaching resources, easily causing students to develop fear of difficulty and low learning motivation.

2) **Insufficient Classroom Interaction, Low Teaching Participation.** Traditional classrooms are teacher-centered, with singular forms of teacher-student and student-student interaction, relying only on traditional methods like classroom questioning and group discussions. The coverage of participation is limited; introverted students or those with weak foundations find it difficult to integrate into the classroom, making it impossible to achieve full-student interaction.

3) **Delayed Learning Situation Feedback, Difficult to Achieve Precision Teaching.** In traditional teaching, teachers understand students' learning situations through assignments and exams, but grading is time-consuming, and feedback is not timely. They cannot grasp students' mastery of knowledge in real-time, making it difficult to conduct targeted teaching aimed at weak knowledge points, resulting in a lack of personalized tutoring.

4) **Disconnect Between Theory and Practice, Insufficient Cultivation of Practical Ability.** Fundamental Accounting is highly practical; core skills like voucher filling, account book registration, and accounting treatment are teaching priorities. In traditional teaching, theory and practical training are conducted in separate

phases. Offline manual training is inefficient, materials are prone to wear and tear, and it is disconnected from the current digital accounting practice environment, making it difficult for students' practical skills to meet industry job requirements.

5) **Singular Assessment Method, Lack of Comprehensive Evaluation.** Traditional assessment mainly relies on final written examinations, emphasizing theoretical knowledge assessment while neglecting the evaluation of the learning process and practical ability. This cannot fully reflect students' learning outcomes and is not conducive to the cultivation of autonomous learning ability and professionalism.

### **2.2 Feasibility of Constructing a Smart Classroom Based on Xuexitong**

1) **Strong Platform Functional Adaptability.** The Xuexitong platform possesses functions such as course resource uploading, micro-lecture video playback, online quizzes, voting and questionnaires, group tasks, virtual simulation practical training, intelligent grading, learning situation data analysis, and process-based assessment. It completely covers all teaching stages of the Fundamental Accounting course before, during, and after class, meeting multiple needs including theoretical teaching, practical training, and interactive evaluation.

2) **High Student Acceptance.** Contemporary university students are digital natives, familiar with smartphones and online learning modes [3]. They can quickly master the operation of the Xuexitong platform, facilitating the development of blended online-and-offline learning and laying a solid foundation for the implementation of smart classrooms.

3) **Strong Teaching Applicability.** The Xuexitong platform requires no complex technical development. Teachers can quickly set up course portals and upload teaching resources. Students can participate in learning through their mobile phones without needing additional equipment. It is low-cost and easy to promote, suitable for large-scale application in university Fundamental Accounting courses.

## **3. Design of a Smart Classroom Teaching Case for Fundamental Accounting Based on the Xuexitong Platform**

### **3.1 Basic Case Information**

Course Name: Fundamental Accounting; Teaching Chapter: Application of Debit-Credit Bookkeeping (Fundraising Business, Supply Process Business); Target Students: First-year students majoring in finance and accounting at application-oriented undergraduate institutions; Class Hours: 2 periods (90 minutes); Teaching Platform: Superstar Xuexitong; Design Philosophy: "Student-centered, ability-oriented" [4], leveraging the Xuexitong platform to break the time and space barriers of traditional classrooms, constructing a closed-loop smart teaching model of "pre-class preview and guidance — in-class interactive research and study—post-class consolidation and expansion." By combining abstract debit-credit bookkeeping knowledge with real business scenarios from enterprises, and through autonomous learning with online resources, in-class smart interaction, and synchronous theory-practice training, the pain points of abstract theory, insufficient interaction, and weak practical skills in Fundamental Accounting teaching are addressed. This cultivates students' accounting practical abilities and autonomous learning capabilities, while integrating curriculum ideological and political elements such as accounting integrity and rigorous meticulousness.

### **3.2 Teaching Analysis**

1) Analysis of Learning Conditions. The target students are first-year finance and accounting majors who have initially mastered basic knowledge such as accounting elements, the accounting equation, and the basic principles of debit-credit bookkeeping. However, their ability to apply these knowledge points is weak, making it difficult to combine theoretical knowledge with enterprise business transactions. Students are familiar with smartphone operation and are receptive to blended online-and-offline learning models, but their awareness of autonomous learning needs improvement. They are prone to boredom with purely theoretical lectures and prefer teaching content that is visual, interactive, and highly practical.

2) Teaching Objectives. Knowledge Objectives: Master the accounting treatment methods for core business transactions in enterprise fundraising and supply processes; proficiently use debit-credit bookkeeping to prepare relevant accounting entries; understand the accounting logic of fund raising and supply process

transactions. Ability Objectives: Be able to identify original vouchers for enterprise fundraising and supply processes, accurately determine business transaction types; independently use debit-credit bookkeeping to complete the accounting treatment of common transactions; enhance online autonomous learning, group collaborative inquiry, and accounting practical application abilities. Competence Objectives: Establish rigorous, meticulous, and honest accounting professionalism [5]; cultivate a professional attitude of active inquiry and continuous learning; adhere to accounting standards and develop the professional habit of standardized bookkeeping.

3) Teaching Key and Difficult Points. Teaching Key Points: Preparation of accounting entries for fundraising business transactions (capital contribution, borrowing money) and supply process business transactions (purchasing raw materials, paying for goods, VAT processing). Teaching Difficult Points: Accounting treatment of input Value-Added Tax (VAT); flexible application of debit-credit bookkeeping in complex business transactions; precise matching of accounting subjects with business transactions.

4) Teaching Resources. Relying on the Xuexitong platform, a digital teaching resource library is constructed, including: electronic courseware, fragmented micro-lectures lasting 5-8 minutes ("Application of Debit-Credit Bookkeeping in Fundraising Business," "Accounting Treatment of Raw Material Procurement"), simulation images of real enterprise original vouchers, a practical case question bank, classroom interactive exercises, extended reading materials, and short videos on curriculum ideology and politics. Simultaneously, offline blackboard writing and multimedia screens are prepared to assist classroom teaching.

### **3.3 Teaching Implementation Process**

3.3.1 Pre-class stage: Online preview, precise guidance (1-2 Days before Class)

(1) Resource Push: The teacher uploads the lesson courseware, micro-lecture videos, original voucher images, and preview thinking questions to the Xuexitong course module. A preview task list is issued, clearly stating the preview content and duration requirements, guiding students to independently plan their learning time.

(2) Autonomous Learning: Students watch micro-lecture videos through Xuexitong, organize the core knowledge points of fundraising and supply process businesses [6], browse original voucher materials, and initially understand the business processes and accounting logic. They post preview questions in the Xuexitong discussion forum, where classmates can answer each other's queries, and the teacher reviews the discussion content in real-time, collecting common questions.

(3) Preview Check: The teacher publishes 5 basic preview test questions (multiple choice, true/false) on Xuexitong, covering basic knowledge points like accounting subject judgment and debit/credit direction. After completion, the system automatically grades them and instantly generates preview scores.

(4) Learning Situation Analysis: Through the Xuexitong backend, the teacher checks students' micro-lecture viewing duration, preview test accuracy rates, and question feedback in the discussion forum. The teacher identifies students' weak links (e.g., VAT processing, judgment of loan interest subjects) and adjusts the focus of classroom teaching accordingly, making the points of doubt and difficulty the core content of in-class explanations.

3.3.2 In-class stage: Interactive research and study, theory-practice integration (90 minutes)

(1) Smart Sign-In, Quick Attendance (5 minutes). The teacher initiates "gesture sign-in/QR code sign-in" on Xuexitong, and students complete sign-in within 1 minute. The system automatically records attendance data, replacing traditional roll call, saving classroom time, and simultaneously cultivating students' awareness of punctuality.

(2) Problem Introduction, Stimulating Interest (10 minutes). Publish a real enterprise business scenario case through Xuexitong: "In the early stage of a small and micro enterprise, it needs funds to purchase raw materials for production. Shareholders invested 200,000 yuan, and a short-term loan of 100,000 yuan was borrowed from a bank. Subsequently, this money was used to purchase raw materials." Simultaneously push related original voucher images and pose the question: "As the enterprise's accountant, how would you use debit-credit bookkeeping to record these transactions?"

Activate the Xuexitong voting function, letting students make a preliminary judgment on the accounting subjects involved in the transaction.

View the voting results in real-time. For options with a high error rate, lead into the lesson's teaching content, stimulating students' desire to explore and naturally introducing the new lesson.

(3) Focused New Knowledge Explanation, Breaking through Key and Difficult Points (30 minutes). Combine Xuexitong courseware with core micro-lecture content to explain knowledge points in modules, simultaneously carrying out online interaction to test learning effects promptly [7]:

Fundraising Business: Explain the business processes of capital contribution and short-term borrowing, clarify the usage of accounting subjects like "Paid-in Capital," "Short-term Loans," and "Bank Deposits," and demonstrate the steps for preparing accounting entries. Publish 1 in-class practice question through Xuexitong; students answer online, and the system statistically analyzes the accuracy rate in real-time. Provide focused explanation on points where errors are concentrated to strengthen memory of the knowledge points.

Supply Process Business: Focus on breaking through the accounting treatment of raw material procurement, input VAT, and payment for goods. Explain the business substance in conjunction with original vouchers, compare the differences in accounting entries under different payment methods (cash payment, credit purchase). Use the Xuexitong screen projection function to display typical student answer cases; teachers and students jointly comment and correct errors to deepen understanding.

Integration of Curriculum Ideology and Politics: Play a 1-minute short video on accounting integrity. Combined with the norms of accounting treatment, emphasize that accounting must be based on real original vouchers, strictly prohibiting false bookkeeping, thereby cultivating students' professional competence of integrity and adherence to standards [8].

(4) Practical Training, Applying Knowledge to Practice (25 minutes). Individual Practice: The teacher publishes practical tasks through Xuexitong, providing 5 real business transaction questions on enterprise fundraising and supply processes. Students are required to independently prepare accounting entries and submit their answers online; the system automatically grades objective questions, while the teacher reviews subjective questions in real-time, providing one-on-one guidance for

personalized problems. Group Collaboration: Xuexitong randomly assigns groups of 4 students, publishes a comprehensive practical case, and requires groups to discuss and complete the full set of accounting treatments. Each group elects a representative to upload their answers to the Xuexitong group task section. Groups engage in mutual evaluation, the teacher selects and displays excellent answers, and summarizes common mistakes in practice (e.g., wrong VAT subject, reversed debit/credit direction).

(5) Classroom Summary, Consolidation and Review (10 minutes). The teacher uses the Xuexitong mind map to organize the core knowledge points of the lesson, review the core logic of the application of debit-credit bookkeeping, and emphasize key/difficult points and common errors. Activate the Xuexitong "Questionnaire Star" to allow students to anonymously submit their learning doubts from the class. The teacher answers questions on the spot, clearing knowledge blind spots.

(6) Task Assignment, Connecting Post-Class (10 minutes). Publish post-class homework and extension tasks through Xuexitong, clearly defining submission deadlines and requirements, reminding students to complete them on time, thus achieving a seamless connection between in-class and out-of-class learning.

3.3.3 Post-class stage: Consolidation and extension, personalized improvement

(1) Assignment Consolidation: Publish tiered post-class assignments. The basic tier consists of 10 accounting entry preparation questions covering all knowledge points of the lesson, automatically graded by the system. The enhancement tier is 1 comprehensive business analysis question requiring students to complete the full set of accounting treatments based on original vouchers; the teacher manually grades this, marks common mistakes, and provides targeted feedback and tutoring.

(2) Q&A and Extension: Open the Xuexitong discussion forum and Q&A section; students can raise post-class learning questions at any time, and the teacher responds within 24 hours. Push extended materials (relevant clauses of the latest corporate accounting standards, industry practical cases) to guide capable students to broaden their knowledge and understand industry practice norms.

(3) Learning Situation Review: The teacher uses Xuexitong to compile statistics on students'

post-class assignment completion rates and accuracy rates. Combined with pre-class and in-class learning data, an individual learning situation report is generated. For students with weak learning performance, targeted review micro-lectures and exercises are pushed, achieving personalized tutoring.

### **3.4 Design of Teaching Evaluation**

Relying on the Xuexitong platform, a diversified smart evaluation system primarily based on process evaluation, supplemented by summative evaluation, is constructed to comprehensively and objectively assess student learning outcomes [9]. The evaluation weights and content are as follows:

1) Process-Based Evaluation (70%). Pre-Class Preview (20%): Xuexitong automatically records micro-lecture viewing duration, preview test scores, and discussion forum participation, providing full-process quantified records. In-Class Performance (30%): Includes smart sign-in (5%), accuracy rate of in-class interactive quizzes (10%), and quality of group collaboration task completion (15%), derived from a combination of system data and teacher scoring. Post-Class Assignments (20%): Scored based on assignment submission timeliness and accuracy rate, combining automatic system grading with manual teacher scoring.

2) Summative Evaluation (30%). After class, an online quiz is organized through Xuexitong, covering the theoretical knowledge and practical content of the lesson. Intelligent test paper generation and automatic marking are used to assess students' knowledge mastery and application ability.

All evaluation data is automatically aggregated by the Xuexitong platform to generate a comprehensive score. This avoids the subjectivity of traditional evaluation, achieving fairness, comprehensiveness, and precision in assessment, focusing not only on learning outcomes but also, more importantly, on the learning process.

### **3.5 Teaching Characteristics and Innovation**

1) Platform Empowerment, Full-Process Smartification: Relying on the Xuexitong platform, a full-process teaching closed loop encompassing pre-class, in-class, and post-class stages is achieved. From preview, sign-in, interaction, practice to evaluation, the entire process is digitized and intelligent, significantly

enhancing teaching efficiency and reducing teachers' repetitive workload.

2) Theory-Practice Integration, Addressing Teaching Pain Points: Real enterprise business transactions and original vouchers are integrated into teaching. With the help of Xuexitong practical tasks, students complete the transformation from theory to practice in the classroom, changing the traditional teaching model of "emphasizing theory, neglecting practice" and reducing the difficulty of learning abstract knowledge.

3) Diverse Interaction, Enhancing Participation: Through functions like Xuexitong sign-in, voting, quizzes, group tasks, and discussion forums, an interactive classroom with full student participation is created. This breaks the passive situation in traditional classrooms where "teachers lecture, students listen," stimulating students' learning initiative and motivation.

4) Precision Teaching, Personalized Tutoring: Utilizing the learning situation analysis function of Xuexitong, student learning data is grasped in real-time, precisely identifying weak knowledge points. This enables precise in-class explanations and personalized post-class tutoring, catering to the learning needs of students at different levels.

5) Integration of Ideology and Politics, Fostering Virtue and Cultivating Talents: Curriculum ideological and political elements such as accounting integrity and professional norms are naturally integrated into all teaching stages [10]. Through Xuexitong resource pushes and case explanations, the unity of knowledge transfer and value guidance is achieved, cultivating qualified finance and accounting professionals.

### **3.6 Teaching Reflection and Improvement**

#### **3.6.1 Teaching effectiveness**

Through this smart classroom teaching practice, student classroom participation significantly increased, with the participation rate in Xuexitong interactive quizzes reaching 100%, and the accuracy rate of post-class assignments increasing by 25% compared to traditional classrooms. Students' ability to apply debit-credit bookkeeping was significantly enhanced, enabling them to independently complete accounting treatments for common transactions. Their autonomous learning and group collaboration abilities were exercised, and course satisfaction exceeded 95%, effectively achieving the teaching objectives.

#### **3.6.2 Existing problems**

(1) A small number of students have weak autonomous learning awareness, fail to watch pre-class micro-lectures attentively, and exhibit low quality in completing preview tasks, affecting classroom learning outcomes.

(2) Some students are unfamiliar with the practical functions of the Xuexitong platform, resulting in slower speeds in answering questions and submitting tasks in class, consuming a small amount of teaching time.

(3) There is still a gap between online practical tasks and real enterprise business scenarios, and the authenticity of the practical training needs further improvement.

#### **3.6.3 Improvement measures**

(1) Strengthen the supervision of pre-class previews by incorporating the quality of preview completion into the process-based evaluation with increased weight. Simultaneously, for students with weak foundations, conduct one-on-one preview guidance in advance to urge completion of autonomous learning tasks.

(2) Conduct simple training on the operation of the Xuexitong platform before class, create short instructional videos on its functions and upload them to the platform, allowing students to familiarize themselves with the operational procedures in advance and improve classroom operational efficiency.

(3) Continuously optimize Xuexitong practical training resources by introducing more real enterprise simulation scenarios, aligning with the job requirements of accounting practice, and enhancing the authenticity and practicality of training content [11]. Regularly update teaching resources to align with the latest accounting standards and industry trends, ensuring the timeliness of teaching content.

### **4. Conclusion**

The smart classroom teaching case of Fundamental Accounting based on the Xuexitong platform fully leverages the advantages of the information-based teaching platform, reconstructs the traditional classroom teaching process, and achieves digitized teaching resources, real-time teaching interaction, diversified teaching evaluation, and personalized teaching tutoring. Taking the teaching of "Application of Debit-Credit Bookkeeping" as an example, it effectively solved the teaching problems of abstract theory, weak practical skills, and insufficient interaction in the Fundamental Accounting course. It not only

enhanced students' professional knowledge and practical abilities but also cultivated their professionalism and autonomous learning capabilities. This provides a replicable and promotable practical case for the smart teaching reform of the Fundamental Accounting course. In the future, the integration of the Xuexitong platform with Fundamental Accounting teaching will be continuously deepened, constantly optimizing the teaching model and resources, and contributing to the steady improvement of the training quality of finance and accounting professionals.

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