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THE BLENDED TEACHING MODEL OF INTERMEDIATE FINANCIAL ACCOUNTING BASED ON USER EXPERIENCE THINKING

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Abstract: As a core course for accounting majors, Intermediate Financial Accounting has long been confronted with teaching dilemmas such as highly abstract theories, stringent practical operation requirements, and insufficient student participation. Although traditional blended teaching has improved teaching effectiveness to a certain extent, it still has prominent problems including low utilization rate of online resources, superficial offline classroom interaction, and fragmented learning experiences. This study innovatively introduces User Experience (UX) thinking into the design of the blended teaching model for Intermediate Financial Accounting, and constructs a blended teaching framework based on the five-element user experience model (strategy layer, scope layer, structure layer, skeleton layer, and surface layer). Adopting questionnaire survey and quasi-experimental research methods, this study takes 186 students from 4 classes of the 2024 accounting major of a finance and economics university as the research objects. Through a 16-week teaching experiment, the teaching effect is systematically evaluated from four dimensions: usefulness, usability, satisfaction, and emotional experience. The experimental results show that the students in the experimental group are significantly superior to those in the control group in key indicators such as final exam scores (mean score 85.6 vs. 76.3), learning satisfaction (4.32/5.0 vs. 3.51/5.0), and learning engagement (4.15/5.0 vs. 3.38/5.0). In the knowledge transfer ability test, the average score of the experimental group is 12.7 percentage points higher than that of the control group. The study further reveals the in-depth mechanism of user experience thinking empowering accounting teaching: user demand-oriented teaching design can effectively reduce cognitive load, emotion-driven learning environment can significantly improve learning motivation, and teaching optimization characterized by continuous iteration can realize the spiral improvement of teaching quality. This paper provides a new theoretical perspective and practical path for the digital transformation of accounting education, and has important reference value for promoting accounting teaching reform under the background of new liberal arts.
Keywords: User experience thinking; Intermediate financial accounting; Blended teaching model; Teaching design; Learning experience

1 INTRODUCTION

The advent of the digital economy era has profoundly changed the ecological pattern of the accounting industry. With the widespread application of emerging technologies such as artificial intelligence, big data, and blockchain in the accounting field, accounting functions are accelerating the transformation from traditional "accounting-oriented" to "management-oriented" and "decision support-oriented". This transformation puts forward new requirements for the training of accounting talents: students are not only required to master solid professional accounting knowledge, but also need to have digital thinking, critical thinking and lifelong learning abilities. However, as a core course for accounting majors, Intermediate Financial Accounting has long been plagued by teaching difficulties including abstract teaching content, complex theoretical systems, and high practical operation requirements, which cannot be effectively addressed by traditional teaching models.

As a teaching model integrating online independent learning and offline classroom interaction, blended teaching has been widely promoted in the field of higher education in recent years. The Ministry of Education clearly proposes to vigorously promote the construction of online and offline blended first-class courses in the *Implementation Opinions on the Construction of First-Class Undergraduate Courses*. By the end of 2025, more than 5,000 online and offline blended first-class courses have been built in universities across the country. In the field of accounting education, blended teaching has also made positive progress, and many universities have carried out blended teaching reform practices in courses such as Accounting Principles and Financial Management. Nevertheless, the current blended teaching of Intermediate Financial Accounting still has three prominent problems. First, the design of online teaching resources lacks systematicness, which mostly relies on video recording and courseware uploading, failing to fully consider learners' cognitive rules and emotional needs. Second, the connection between online and offline teaching links is not close, resulting in a "disconnection" phenomenon between online learning and offline classrooms. Third, the teaching evaluation system is single, which overemphasizes knowledge assessment while ignoring the evaluation of learning experience and learning process.

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User Experience (UX) thinking originates from the field of human-computer interaction, adhering to the user-centered design concept and focusing on users' overall perceptions and emotional responses in the process of using products or services. In recent years, UX thinking has expanded from the field of Internet product design to education, providing a new methodological support for teaching design. In educational scenarios, students are regarded as the "users" of educational services, and the learning process is regarded as a "service experience". The core goal of teaching design has shifted from "knowledge transmission" to "experience creation". This conceptual transformation provides a new approach to solve the deep-seated problems in the blended teaching of Intermediate Financial Accounting.

Based on the above analysis, this paper proposes to systematically integrate user experience thinking into the design of the blended teaching model of Intermediate Financial Accounting, and construct a learner-centered blended teaching framework. This study focuses on three core research questions: First, how to combine user experience thinking with the disciplinary characteristics of Intermediate Financial Accounting to construct an effective blended teaching model? Second, what impact does the blended teaching model based on user experience thinking have on students' learning effects? Third, what is the in-depth mechanism of user experience thinking empowering accounting teaching?

The theoretical contributions of this paper are reflected in three aspects. First, it introduces user experience thinking into the field of accounting education, expands the application boundary of UX theory, and provides a new theoretical perspective for accounting teaching research. Second, it constructs a blended teaching framework based on the five-element user experience model, providing an operable methodology for the teaching design of accounting courses. Third, it verifies the effectiveness of user experience thinking in accounting teaching through empirical research and reveals its mechanism of action, laying an empirical foundation for subsequent research.

2 THEORETICAL BASIS AND LITERATURE REVIEW

2.1 User Experience Theory and Its Application in the Education Field

The concept of User Experience (UX) was first proposed by Don Norman in the 1990s, emphasizing that product design should go beyond the functional usability and focus on users' subjective feelings and emotional experience in the use process. The International Organization for Standardization (ISO 9241-210) defines user experience as "users' perceptions and responses resulting from the use or anticipated use of a product, system or service", covering users' emotions, beliefs, preferences, perceptions, physiological and psychological reactions, behaviors and achievements.

One of the most influential theoretical frameworks in UX research is the five-element user experience model proposed by Jesse James Garrett. This model divides user experience design into five levels: strategy layer (product goals and user needs), scope layer (functional specifications and content requirements), structure layer (interaction design and information architecture), skeleton layer (interface design and navigation design), and surface layer (visual design). These five levels form a complete user experience design framework from abstraction to concreteness and from strategy to implementation.

In recent years, the application of UX thinking in the education field has attracted increasing attention. In educational scenarios, learners are regarded as the "users" of educational services, and learning experience is regarded as the core value of educational products. Studies have shown that a good learning experience can significantly improve learners' learning motivation, learning engagement and learning effects. Huang integrated UX principles into the problem-based learning (PBL) framework and found that UX-driven teaching design can effectively improve students' participation and learning effectiveness [1]. Lilley et al. applied user experience technology to course website design, and significantly improved learners' online learning experience through card sorting and participatory design methods. These studies provide strong empirical support for the application of UX thinking in the education field.

2.2 Theoretical Evolution and Practical Development of Blended Teaching

Blended teaching refers to a teaching model that organically combines traditional face-to-face teaching with online learning. Its theoretical basis mainly includes constructivist learning theory, connectivist learning theory and autonomous learning theory. Constructivism emphasizes the process of learners' active knowledge construction in real situations; connectivism focuses on the formation and connection of knowledge networks in the digital era; autonomous learning theory emphasizes learners' subjectivity and self-regulation ability.

From the perspective of practical development, blended teaching has gone through three main stages. The first stage (2000-2010) was technology-oriented, focusing on the introduction of information technology into teaching links. The second stage (2010-2020) was model innovation-oriented, exploring effective integration methods of online and offline teaching. The third stage (2020-present) is experience optimization-oriented, focusing on learners' overall learning experience and learning quality. At present, blended teaching is developing towards intelligence, personalization and experience.

Research on blended teaching in the field of accounting education mainly focuses on three aspects: first, the construction and implementation of blended teaching models, such as the application of flipped classroom in accounting courses; second, the evaluation and comparison of blended teaching effects, such as the comparative analysis of online and offline teaching effects; third, the design and development of blended teaching resources, such as the application of MOOC and SPOC in accounting education. However, most existing studies start from the perspective of technology application and model innovation, and few systematically examine the design of blended teaching from the perspective of user experience.

2.3 Compatibility Logic of User Experience Thinking and Blended Teaching

There is an internal compatibility logic between user experience thinking and blended teaching. Firstly, at the goal level, UX thinking emphasizes "user-centered", while blended teaching advocates "student-centered", and the two are highly consistent in core concepts. Secondly, at the method level, UX thinking provides a systematic design methodology, including user research, demand analysis, prototype design, usability testing and iterative optimization, which can be directly applied to the design and improvement of blended teaching. Thirdly, at the value level, UX thinking focuses on users' overall experience and emotional satisfaction, while blended teaching pursues learners' in-depth learning experience and all-round development, and the two echo each other in value orientation.

Specifically for the course of Intermediate Financial Accounting, the introduction of user experience thinking has special necessity. Intermediate Financial Accounting covers the confirmation, measurement, recording and reporting of six major accounting elements including assets, liabilities, owners' equity, income, expenses and profits, with a complex theoretical system, frequent updates of accounting standards and high requirements for practical operation. Traditional blended teaching simply positions online resources as "knowledge transfer tools" and ignores learners' cognitive load and emotional experience in the learning process. User experience thinking requires teaching designers to start from learners' real needs and systematically optimize every contact point in the learning process, so as to improve the overall learning experience and learning effect.

3 RESEARCH DESIGN AND METHODS

3.1 Research Framework Construction

Based on Garrett's five-element user experience model and combined with the disciplinary characteristics of Intermediate Financial Accounting, this study constructs a research framework of "UX-driven blended teaching model for Intermediate Financial Accounting". The framework divides blended teaching design into five levels:

The first layer is the strategy layer, which clarifies curriculum objectives and learner needs. The strategic objectives of the Intermediate Financial Accounting course include knowledge objectives (mastering the core content of accounting standards), ability objectives (having accounting practical operation ability) and literacy objectives (cultivating professional ethics and critical thinking). Learner demand analysis adopts questionnaire surveys and interviews to understand students' prior knowledge level, learning style preferences and expected learning experience.

The second layer is the scope layer, which defines curriculum content and functional specifications. According to the positioning of the strategy layer, the content of Intermediate Financial Accounting is divided into six modules (asset accounting, liability accounting, owners' equity accounting, income, expense and profit accounting, financial statement preparation, and special business processing), and each module is designed with online self-study resources and offline interactive activities.

The third layer is the structure layer, which designs learning paths and interaction modes. A three-stage learning path of "pre-class online self-study - in-class in-depth interaction - after-class consolidation and expansion" is adopted to ensure the effective connection of online and offline teaching links.

The fourth layer is the skeleton layer, which optimizes interface design and information presentation. Based on cognitive load theory, the interface layout, information organization and navigation system of the online learning platform are optimized to reduce learners' cognitive burden.

The fifth layer is the surface layer, which improves visual design and emotional experience. Through the design of visual elements, interactive feedback and incentive mechanisms, a positive learning atmosphere is created to enhance learners' emotional experience.

3.2 Teaching Experiment Design

This study adopts a quasi-experimental research design, selecting 186 students from 4 classes of the 2024 accounting major of a finance and economics university as research objects. Among them, 2 classes (93 students) are set as the experimental group, adopting the blended teaching model based on user experience thinking; the other 2 classes (93 students) are set as the control group, adopting the traditional blended teaching model. There is no significant difference between the two groups in age, gender, prior accounting knowledge level and other basic indicators.

The experimental period lasts for 16 weeks (spring semester of 2025), and the teaching content covers the core modules of Intermediate Financial Accounting. To ensure the internal validity of the experiment, students in the two groups are taught by the same teacher with the same textbooks and teaching syllabus, and the only difference lies in the teaching design method.

3.3 Data Collection and Measurement Tools

This study adopts a mixed research method combining quantitative and qualitative analysis. Quantitative data include:

1. Academic performance: including mid-term exam scores, final exam scores and knowledge transfer ability test scores.
2. Learning satisfaction questionnaire: adapted from the learning satisfaction scale of Wang et al.[2], covering four dimensions of usefulness, usability, emotional experience and overall satisfaction, with 25 items and a 5-point Likert scoring method.

3. Learning engagement scale: adopting the Chinese version of the Utrecht Work Engagement Scale-Student (UWES-S) compiled by Schaufeli et al., including three dimensions of vitality, dedication and concentration, with 17 items.
4. User experience evaluation questionnaire: self-compiled based on Garrett's five-element model, with 25 items.
Qualitative data include:
1. Semi-structured interviews: 8 students are randomly selected from each class for in-depth interviews.
2. Learning reflection logs: students in the experimental group submit weekly learning reflection logs.
3. Classroom observation records: research assistants conduct full-process observation and recording of classroom teaching.

3.4 Data Analysis Methods

Quantitative data are statistically analyzed by SPSS 27.0 and Mplus 8.3, including descriptive statistics, independent sample t-test, analysis of covariance (ANCOVA) and structural equation modeling (SEM). Qualitative data are analyzed by thematic analysis, and core themes are refined through three steps of open coding, axial coding and selective coding.

4 CONSTRUCTION OF BLENDED TEACHING MODEL BASED ON USER EXPERIENCE THINKING

4.1 Strategy Layer: Curriculum Goal Positioning and Learner Demand Analysis

At the strategy layer, this study clarifies the curriculum goal system and user portrait of Intermediate Financial Accounting through demand analysis. The questionnaire survey is conducted on 186 students in the early stage, and the results are as follows:
1. Learning motivation distribution: 63.4% of students choose accounting major based on employment prospects, 21.5% based on personal interests, and 15.1% based on other factors.
2. Perception of learning difficulties: the main learning difficulties of students in Intermediate Financial Accounting are successively difficulty in understanding accounting standards (78.5%), insufficient practical operation ability (65.1%), heavy knowledge memory burden (52.7%), and disconnection between learning content and practice (41.9%).
3. Learning preferences: 72.0% of students prefer "case-driven" learning methods, 65.6% prefer "group collaboration" learning methods, and 58.1% prefer "problem-oriented" learning methods.
4. Expectations for blended teaching: the most expected characteristics of blended teaching for students are rich case resources (81.7%), timely feedback mechanism (76.3%), flexible schedule (69.9%), and highly interactive classroom activities (64.5%).
Based on the above analysis, this study constructs a three-dimensional integrated curriculum goal system: knowledge dimension (mastering the core content of accounting standards), ability dimension (possessing accounting professional judgment ability), and literacy dimension (cultivating digital literacy and lifelong learning ability). Meanwhile, four types of learner portraits are constructed: weak foundation type (accounting for about 25%), theoretical preference type (accounting for about 20%), practical preference type (accounting for about 35%), and all-round development type (accounting for about 20%), which provides a basis for subsequent personalized teaching design.

4.2 Scope Layer: Curriculum Content Restructuring and Functional Module Design

At the scope layer, this study systematically restructures the content of Intermediate Financial Accounting. The traditional teaching content of Intermediate Financial Accounting takes the chapter structure of accounting standards as the clue, expanding in the order of "assets - liabilities - owners' equity - income - expenses - profits - financial statements". Although this organizational method has clear logic, it easily leads to fragmented knowledge points and makes it difficult for students to form a systematic knowledge structure [3-6].
Based on user experience thinking, this study carries out modular reorganization of curriculum content and constructs a content system of "six core modules + two comprehensive trainings". The six core modules include: Module 1 (asset accounting: current assets and non-current assets), Module 2 (liability accounting: current liabilities and non-current liabilities), Module 3 (owners' equity accounting), Module 4 (income, expense and profit accounting), Module 5 (financial statement preparation and analysis), and Module 6 (special business processing: debt restructuring, non-monetary asset exchange, accounting policy changes, etc.). The two comprehensive trainings include mid-term comprehensive training (integrating the content of Module 1 to Module 3) and final comprehensive training (integrating all module content).
The functional design of each module includes three levels: basic level (knowledge explanation and concept understanding), application level (case analysis and enterprise practice), and expansion level (frontier discussion and critical thinking). This hierarchical design can meet the differentiated needs of different learners.

4.3 Structure Layer: Learning Path Design and Interaction Mechanism Construction

At the structure layer, this study designs a "three-stage and five-link" learning path. The "three stages" refer to pre-class, in-class and after-class stages; the "five links" are five core learning procedures:
The first link is pre-class guidance (online): students watch micro-lesson videos (8-12 minutes per video) through the

online platform, complete pre-class exercises, and submit learning puzzles [7]. The micro-lesson videos adopt a five-step teaching method of "problem introduction - scenario creation - knowledge explanation - case application - summary and reflection", with 1-2 thinking questions set at the end of each video to guide students to conduct in-depth thinking.

The second link is pre-class diagnosis (online): according to students' preview data and exercise completion status, teachers analyze students' weak knowledge points and dynamically adjust classroom teaching schemes, reflecting the user feedback-driven design principle of UX thinking.

The third link is in-class deepening (offline): the classroom activity adopts a "30+50+20" time allocation model, namely 30 minutes for key and difficult points explanation, 50 minutes for interactive discussion (including case analysis, group discussion, role-playing, etc.), and 20 minutes for real-time evaluation and feedback. Classroom interaction emphasizes "high participation, deep thinking and strong feedback" to avoid the "one-man show" phenomenon in traditional classrooms.

The fourth link is after-class consolidation (online + offline): students complete online exercises and practical operation tasks, and participate in interactive communication in the online discussion area. Teachers provide personalized tutoring and Q&A through the online platform.

The fifth link is after-class expansion (online): expanded learning resources including frontier literature, enterprise cases and academic lecture videos are provided for advanced students to meet their in-depth learning needs.

In terms of interaction mechanism design, this study constructs a three-channel interaction system: teacher-student interaction (teacher Q&A and personalized feedback), student-student interaction (group discussion, peer evaluation and collaborative learning), and human-computer interaction (intelligent recommendation, adaptive testing and learning analysis dashboard). The immersive learning experience is created through diverse interaction mechanisms.

4.4 Skeleton Layer: Interface Optimization and Information Architecture Design

At the skeleton layer, this study optimizes the interface design and information architecture of the online learning platform based on cognitive load theory. The specific measures are as follows:

1. Information organization optimization: adopting a three-level information architecture of "module - unit - knowledge point", with clear learning objectives and estimated learning duration set for each knowledge point to help students reasonably arrange learning time.
2. Navigation system design: adopting a dual navigation mode of "breadcrumb navigation + sidebar navigation" to ensure that students can always grasp their learning position and progress during the learning process.
3. Interface layout optimization: following the F-type visual browsing mode, placing core content in the upper left corner of the page and auxiliary information on the right or bottom. High-contrast colors are adopted for important operation buttons to reduce visual search cost.
4. Feedback mechanism design: providing three forms of feedback including real-time feedback (correct/incorrect prompt for answers), process feedback (learning progress bar and visualized knowledge mastery degree), and summary feedback (learning report and competency radar chart).

4.5 Surface Layer: Visual Design and Emotional Experience Creation

At the surface layer, design optimization is carried out from two dimensions of visual aesthetics and emotional experience:

1. Visual design: adopting a unified color system (blue as the main color to reflect professionalism and trust), standardized font typesetting (Song font for body text and Hei font for titles), and reasonable blank spacing control to create a comfortable and professional visual experience.
2. Emotional design: enhancing learners' emotional engagement and sense of belonging through micro-interactions (likes, emotional feedback), progress incentives (learning medals and achievement badges), and social elements (learning ranking list and excellent homework display).
3. Immersive experience: introducing a virtual simulation experiment platform to simulate enterprise accounting practical scenarios, enabling students to learn through practice and improving the immersion and authenticity of learning.

5 EMPIRICAL RESULTS AND ANALYSIS

5.1 Academic Performance Analysis

After the teaching experiment, statistical analysis is conducted on the academic performance of the two groups of students. Table 1 shows the performance comparison of the two groups in mid-term exam, final exam and knowledge transfer ability test.

It can be seen from Table 1 that the experimental group scores significantly higher than the control group in the three tests ($p<0.001$). Among them, the effect sizes of the final exam (Cohen's $d=1.05$) and knowledge transfer test (Cohen's $d=1.17$) both reach the large effect level, indicating that the blended teaching model based on user experience thinking has a significant positive impact on students' academic performance [8]. Notably, the score difference in the knowledge transfer test is the most significant (the experimental group is 12.7 percentage points higher than the control group),

which shows that the UX-driven teaching model not only improves students' knowledge mastery, but also promotes their knowledge transfer and application ability.

Table 1 Significant Gains in Mid-term, Final, and Knowledge Transfer Tests: An Experimental vs. Control Group Comparison

Test Item	Experimental Group (n=93)	Control Group (n=93)	t-value	p-value	Cohen's d
Mid-term Exam	82.4±8.3	75.6±9.1	5.37	<0.001	0.79
Final Exam	85.6±7.9	76.3±9.8	7.12	<0.001	1.05
Knowledge Transfer Test	81.3±10.2	68.6±11.5	7.98	<0.001	1.17

Note: The scores are based on a 100-point system, and the data are expressed as mean ± standard deviation.

5.2 Learning Satisfaction Analysis

Learning satisfaction is an important indicator to measure teaching effectiveness. This study compares and analyzes the learning satisfaction of the two groups from four dimensions: usefulness, usability, emotional experience and overall satisfaction.

Table 2 Evaluating Student Satisfaction Across Multiple Dimensions: A Comparative Study of Experimental and Control Groups

Dimension	Experimental Group (n=93)	Control Group (n=93)	t-value	p-value
Usefulness	4.38±0.52	3.62±0.71	8.24	<0.001
Usability	4.21±0.58	3.45±0.68	8.16	<0.001
Emotional Experience	4.28±0.55	3.38±0.72	9.51	<0.001
Overall Satisfaction	4.32±0.51	3.51±0.69	9.03	<0.001

Note: 5-point Likert scoring is adopted, and the data are expressed as mean ± standard deviation.

The data in Table 2 show that the experimental group has significantly higher satisfaction scores than the control group in all four dimensions ($p<0.001$). Among them, the difference in the emotional experience dimension is the most prominent (4.28 points for the experimental group vs. 3.38 points for the control group, with a difference of 0.90 points), indicating that the blended teaching model based on user experience thinking has significant advantages in improving learners' emotional experience. This result verifies the core proposition of UX thinking: well-designed experience can significantly improve users' (learners') satisfaction and emotional engagement.

5.3 Learning Engagement Analysis

Learning engagement is a key variable predicting learning effects. This study adopts the UWES-S scale to measure the learning engagement of the two groups of students.

Table 3 Effects of Instructional Intervention on Student Engagement: A Comparative Analysis of Vitality, Dedication, and Concentration

Dimension	Experimental Group (n=93)	Control Group (n=93)	t-value	p-value
Vitality	4.08±0.61	3.32±0.75	7.52	<0.001
Dedication	4.22±0.55	3.45±0.71	8.23	<0.001
Concentration	4.15±0.58	3.38±0.73	7.96	<0.001
Overall Engagement	4.15±0.56	3.38±0.71	8.12	<0.001

Note: 5-point Likert scoring is adopted, and the data are expressed as mean ± standard deviation.

The results in Table 3 indicate that the experimental group is significantly higher than the control group in the three dimensions of vitality, dedication, concentration and overall learning engagement ($p<0.001$). This finding shows that the blended teaching model based on user experience thinking can effectively stimulate students' learning enthusiasm and enhance their engagement in learning tasks. Qualitative interview data further reveal the reasons for the improvement of learning engagement: students in the experimental group generally reported that "the learning process is more interesting", "they feel valued", and "they are willing to spend more time on learning".

5.4 User Experience Evaluation Analysis

Students in the experimental group evaluated the blended teaching model based on user experience thinking through a self-compiled questionnaire with 25 items based on Garrett's five-element model.

It can be seen from Table 4 that students in the experimental group have a high overall evaluation of the UX-based blended teaching model (mean value 4.24, standard deviation 0.51), with the satisfaction rate reaching 89.9%. Among all dimensions, the strategy layer (mean value 4.35) and scope layer (mean value 4.28) have the highest evaluation scores, indicating that students have high recognition of curriculum goal positioning and content design. The skeleton layer has a relatively low score (mean value 4.12), suggesting that there is still room for optimization in interface design and information architecture.

Table 4 User Satisfaction Evaluation Based on a Five-Layer Framework: A Descriptive Analysis of Strategy, Scope, Structure, Skeleton, and Surface Dimensions

Dimension	Mean Value	Standard Deviation	Very Satisfied (%)	Satisfied (%)	Neutral (%)	Dissatisfied (%)	Very Dissatisfied (%)
Strategy Layer	4.35	0.48	41.9	52.7	4.3	1.1	0.0
Scope Layer	4.28	0.52	38.7	53.8	5.4	2.1	0.0
Structure Layer	4.19	0.56	34.4	53.8	8.6	3.2	0.0
Skeleton Layer	4.12	0.61	32.3	51.6	11.8	4.3	0.0
Surface Layer	4.25	0.53	37.6	52.7	7.5	2.2	0.0
Overall Evaluation	4.24	0.51	37.0	52.9	7.5	2.6	0.0

5.5 Qualitative Analysis: The Mechanism of User Experience Thinking

Through thematic analysis of interview data and learning reflection logs, this study refines three core mechanisms of user experience thinking empowering the blended teaching of Intermediate Financial Accounting:

5.5.1 Demand orientation reduces cognitive load

Demand-based teaching design can accurately identify students' learning difficulties and cognitive bottlenecks, so as to optimize teaching content and learning paths in a targeted manner. Students in the experimental group generally reported that "micro-lessons break down difficult knowledge points in detail, making learning less burdensome" and "learning goals are clear, and we know the learning steps clearly". This indicates that user demand-oriented teaching design effectively reduces learners' extrinsic cognitive load, enabling them to invest more cognitive resources in in-depth learning.

5.5.2 Emotional drive improves learning motivation

Positive emotional experience is the key to sustaining learning motivation. Students in the experimental group repeatedly mentioned positive emotional feelings such as "looking forward to classes", "gaining a sense of achievement" and "feeling encouraged" in their reflection logs. Emotional design (including real-time feedback, achievement badges and peer interaction) creates a positive learning atmosphere, transforming learning from "passive acceptance" to "active exploration".

5.5.3 Iterative optimization realizes continuous improvement

User experience thinking emphasizes a continuous optimization cycle of "testing-feedback-iteration". In this study, teachers dynamically adjust teaching strategies and resource design according to weekly learning data and student feedback. For example, the online learning completion rate of the chapter "Long-term Equity Investment" was only 62% according to the learning data of the 4th week. Teachers then optimized the micro-lessons of this chapter (adding case explanations and shortening video duration), and the completion rate increased to 85% in the 5th week. This data-driven iterative optimization mechanism ensures the continuous improvement of teaching quality.

6 DISCUSSION

6.1 Main Findings and Theoretical Contributions

The main findings of this study include three aspects. First, the blended teaching model based on user experience thinking can significantly improve the teaching effect of Intermediate Financial Accounting courses, and the experimental group is significantly superior to the control group in key indicators such as academic performance, learning satisfaction and learning engagement. Second, the in-depth mechanisms of user experience thinking empowering accounting teaching include three paths: cognitive load reduction, learning motivation improvement and continuous iterative optimization. Third, Garrett's five-element user experience model provides a systematic methodological framework for accounting course teaching design, and layer-by-layer design from the strategy layer to the surface layer can ensure the integrity and consistency of teaching design.

The theoretical contributions of this study are as follows. First, it introduces user experience theory into the field of

accounting education research, expands the application scenarios of UX theory, and provides a new theoretical perspective for accounting teaching research. Second, it constructs a blended teaching framework based on the five-element user experience model, providing an operable methodology for the systematic design of accounting courses. Third, it reveals the in-depth mechanism of UX thinking empowering teaching through empirical research, enriching the theoretical system of blended teaching.

6.2 Comparison with Existing Studies

The results of this study are consistent with existing research conclusions. Huang found that integrating UX principles into PBL teaching can significantly improve students' participation and learning effectiveness [1], and this study verifies this conclusion in the field of accounting education. Martinez and Thompson pointed out that learning experience design has a significant impact on online learning effects [9], and this study further reveals the specific mechanism of experience design affecting learning effects.

Compared with existing studies, the innovations of this study are reflected in three aspects. First, it systematically applies the UX five-element model to accounting course teaching design, rather than only optimizing a single dimension of design. Second, it adopts a quasi-experimental research design to verify the effectiveness of UX-driven teaching through the comparison between experimental group and control group. Third, it combines quantitative and qualitative data to deeply explore the in-depth mechanism of UX thinking empowering teaching.

6.3 Practical Implications

This study has the following implications for accounting education practice. First, the design of accounting course teaching should shift from "teacher-centered" to "student-centered", taking learners' needs and experience as the starting point of teaching design. Second, blended teaching design should emphasize systematicness and be promoted layer by layer from the strategy layer to the surface layer to ensure the coordination and consistency of all levels. Third, teaching optimization should establish a dual-drive mechanism of "data-driven + user feedback" to realize the spiral improvement of teaching quality through continuous iteration. Fourth, the digital transformation of accounting education should not only focus on technology application, but also pay attention to learners' overall experience and emotional needs.

6.4 Research Limitations and Future Research Directions

This study has the following limitations. First, the research samples are from a single finance and economics university, with limited sample representativeness, and the generalization of the research conclusions needs to be further verified. Second, the teaching experiment lasts for 16 weeks, and the long-term effect needs to be tracked and studied. Third, this study focuses on the course of Intermediate Financial Accounting, and the applicability of UX thinking in other accounting courses (such as Advanced Financial Accounting, Management Accounting, Auditing, etc.) needs to be further tested.

Future research can be carried out in the following directions. First, carry out multi-university collaborative research to expand the sample scope and verify the universality of the research conclusions [10]. Second, conduct longitudinal tracking research to explore the long-term impact of UX-driven teaching model on students' development. Third, explore the integration path of artificial intelligence technology and user experience thinking to construct an intelligent adaptive learning system. Fourth, expand the research to other accounting courses to test the applicability and effectiveness of UX thinking in different courses.

7 CONCLUSION

This study introduces user experience thinking into the design of the blended teaching model of Intermediate Financial Accounting, constructs a systematic teaching framework based on Garrett's five-element user experience model, and verifies its effectiveness through quasi-experimental research. The main conclusions are drawn as follows:

First, the blended teaching model based on user experience thinking can significantly improve the teaching effect of Intermediate Financial Accounting. Students in the experimental group are significantly better than the control group in academic performance (final exam mean score 85.6 vs. 76.3), learning satisfaction (4.32/5.0 vs. 3.51/5.0) and learning engagement (4.15/5.0 vs. 3.38/5.0).

Second, the in-depth mechanisms of user experience thinking empowering accounting teaching include three paths: reducing cognitive load through demand orientation, improving learning motivation through emotional drive, and realizing continuous improvement through iterative characteristics.

Third, Garrett's five-element user experience model provides a systematic methodological framework for accounting course teaching design. Layer-by-layer design from the strategy layer, scope layer, structure layer, skeleton layer to the surface layer can ensure the integrity and consistency of teaching design.

Fourth, under the background of digital transformation, accounting education should go beyond the simple technology application thinking, turn to the systematic design thinking centered on learner experience, and integrate user experience concepts into the whole process of curriculum design, teaching implementation and teaching evaluation.

This study provides a new theoretical perspective and practical path for the digital transformation of accounting

education, and has important reference value for promoting accounting teaching reform under the background of new liberal arts. Future research can further expand the research scope, deepen theoretical exploration, and contribute to the construction of a high-quality accounting education system.

COMPETING INTERESTS

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