

RESEARCH ON THE IMPACT OF BLENDED TEACHING MODE OF ACCOUNTING PRINCIPLES COURSES ON STUDENTS' LEARNING OUTCOMES IN GUANGXI HIGHER EDUCATION INSTITUTIONS*

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Received 10 September 2025; Revised 18 September 2025; Accepted 20 September 2025

Abstract

This study aimed to investigate the impact of the blended teaching mode of the Accounting Principles course on students' learning outcomes in Guangxi higher education institutions. The specific objectives were: (1) to examine the overall effect of blended teaching on students' learning outcomes; (2) to analyze its effect on the cognitive domain; (3) to analyze its effect on the skill domain; (4) to analyze its effect on the affective domain; (5) to determine the effect of online preview activities; and (6) to determine the effect of offline hands-on practice on students' learning outcomes. A quasi-experimental research design was employed, supported by a questionnaire survey. The population comprised first-year accounting students at Guangxi University of Foreign Languages (2024 cohort). The sample included two parallel classes selected through cluster sampling (n = 205): 105 students in the experimental class (blended teaching) and 100 students in the control class (traditional teaching). Research instruments

Citation:



* Wanwang Lu. (2025). Research On The Impact Of Blended Teaching Mode Of Accounting Principles Courses On Students' Learning Outcomes In Guangxi Higher Education Institutions.

Journal of Interdisciplinary Social Development, 3(5), 262-279.;

DOI: <https://doi.org/10.>

Website: <https://so12.tci-thaijo.org/index.php/JISDIADP/>

included standardized achievement tests and validated questionnaires (Cronbach's alpha > 0.80; IOC \geq 0.67). Data were analyzed using SPSS through descriptive statistics, independent-samples t-tests, Pearson correlation, and regression analysis.

The findings revealed that 1) students taught through the blended teaching mode achieved significantly higher overall learning outcomes than those taught through the traditional mode; 2) blended teaching positively influenced the cognitive domain, leading to improved mastery of accounting principles; 3) it significantly enhanced skill outcomes, including problem-solving, teamwork, and information literacy; 4) it positively affected the affective domain, increasing motivation, engagement, and learning interest; 5) the online preview component contributed significantly to pre-class preparation and in-class performance; and 6) the offline hands-on practice component further improved learning through case studies, simulation training, and guided practice. In conclusion, the blended teaching mode effectively improves cognitive, skill-based, and affective learning outcomes in Accounting Principles courses. Recommendations are proposed at institutional, teacher, and student levels to optimize implementation and sustain improvements.

Keywords: Blended Teaching Mode, Online Preview, Offline Practice, Cognitive Domain, Skill Domain, Affective Domain, Accounting Principles, Learning Outcomes

Introduction

With the rapid advancement of educational informatization and the widespread application of digital technologies, higher education worldwide has entered a new phase of transformation in both teaching philosophy and instructional practice. Traditional teacher-centered instruction, which relies primarily on face-to-face lectures, is gradually giving way to student-centered and

technology-supported approaches. Among these, the blended teaching mode-which integrates the strengths of traditional classroom learning with the flexibility and interactivity of online learning- has emerged as a dominant trend in educational reform. By combining the advantages of both modalities, blended teaching seeks to create a more engaging, efficient, and personalized learning environment.

Scholars such as He Kekang (2016) have emphasized that the student-centered concept represents a turning point in educational reform. This paradigm shift encourages students to move from being passive recipients of knowledge toward becoming active constructors of meaning, engaging in exploration, collaboration, and critical inquiry. Within this context, blended teaching is particularly effective, as it provides opportunities for pre-class online preparation, interactive in-class practice, and post-class reflection, thereby extending learning beyond the boundaries of the classroom.

In China, the rise of educational informatization has been strongly supported by national policies such as the “Internet+ Education” initiative, which promotes the use of digital platforms, MOOCs, big data, and smart classrooms. These initiatives have significantly enhanced access to high-quality teaching resources, encouraged innovative teaching design, and fostered data-driven evaluation mechanisms. As a result, blended teaching has been increasingly applied in universities to improve both teaching effectiveness and student engagement.

Courses like Accounting Principles are especially suited to the blended teaching approach. As a foundational subject for business and accounting majors, Accounting Principles is highly operational in nature: students are expected not only to understand theoretical concepts but also to apply them in solving practical problems and developing professional skills such as preparing journal entries, performing reconciliations, and interpreting financial statements. Traditional lecture-based instruction often fails to provide sufficient opportunities

for interactive learning and hands-on practice, leading to gaps between theoretical understanding and practical application. Fully online teaching, while resource-rich and flexible, may lack immediacy, supervision, and emotional interaction, which are necessary for sustained learning motivation and engagement.

Blended teaching provides a potential solution by integrating online and offline learning in a complementary manner. Online preview activities allow students to study key concepts at their own pace, equipping them with background knowledge before class. This ensures that classroom time can be used for deeper exploration, discussion, and problem-solving. Offline practical sessions, including case studies, simulations, and group projects, provide students with authentic opportunities to apply knowledge in realistic scenarios, thereby enhancing their skills, critical thinking, and teamwork.

In summary, the increasing emphasis on blended teaching reflects a global shift toward more student-centered, interactive, and technology-enhanced education. For operationally intensive courses such as Accounting Principles, this approach has strong potential to improve cognitive outcomes, develop practical skills, and foster positive learning attitudes. Against this backdrop, this study investigates the impact of the blended teaching mode on students' learning outcomes in Guangxi higher education institutions, with the aim of providing empirical evidence and practical recommendations for enhancing accounting education and related disciplines.

Objectives

1. To examine the overall impact of the blended teaching mode on students' learning outcomes.
2. To analyze the impact of the blended teaching mode on the cognitive domain.

3. To analyze the impact of the blended teaching mode on the skill domain.

4. To analyze the impact of the blended teaching mode on the affective domain.

5. To determine the impact of online preview on students' learning outcomes.

6. To determine the impact of offline hands-on practice on students' learning outcomes.

Literature Review

Theoretical Review of Blended Teaching Mode

Definition and Evolution

Blended teaching originated in the corporate training sector when traditional models could no longer satisfy demands for efficiency and flexibility. IBM's "Basic Blue for Manager" program in 1999 integrated online and offline elements and inspired the higher education sector to adopt similar approaches. Scholars have since provided varied definitions. Singh and Reed (2004) emphasized aligning technologies with learner needs, while Rovai and Jordan (2004) defined blended learning broadly as instruction situated between face-to-face and online teaching. In China, Li Jiahou (2004) and Chen Min (2009) highlighted the optimal integration of teaching methods and resources to balance efficiency and learner needs.

With the emergence of "Internet+ Education," blended teaching has evolved beyond a simple combination of modalities. Feng and Wang (2018) underscored the role of mobile devices and interactive classrooms, while Han (2019) and Zhang (2020) emphasized the integrative nature of teaching time, space, and assessment. Recent scholarship positions blended teaching firmly as

a student-centered model, aiming to provide flexible, engaging, and personalized learning experiences.

Characteristics

Blended teaching is characterized by: Complementarity: Combining the strengths of online learning (flexibility, diverse resources) and offline learning (interaction, real-time feedback).

Student-centeredness: Emphasizing active engagement and self-directed learning.

Flexibility: Allowing learners to access resources anytime, anywhere.

Interactivity: Facilitating communication among students and teachers both synchronously and asynchronously.

Continuous improvement: Leveraging digital platforms for real-time monitoring and instructional adjustment.

Theoretical Review of Learning Outcomes: Learning outcomes represent the achievements learners demonstrate after participating in educational experiences (Eisner, 1979; UNESCO, 2007). Huang Haitao (2020) further distinguished between broad outcomes (all accumulated learning experiences) and narrow outcomes (measurable knowledge and skills).

Bloom's Taxonomy (1956) provides the framework adopted in this study:

Cognitive domain: intellectual skills ranging from recall to evaluation.

Affective domain: attitudes, values, and motivation (Krathwohl et al., 1989).

Skill (psychomotor) domain: physical and practical competencies (Harrow & Simpson, 1989).

Empirical Research on Blended Teaching and Learning Outcomes

Early Studies: Early evidence demonstrated positive impacts across disciplines. For example, McFarlin (2008) found improved physiology outcomes, while O'Dwyer et al. (2007) reported higher Algebra scores under blended

instruction. However, some studies found neutral or negative outcomes, such as Rockman et al. (2007) in Spanish instruction, highlighting the importance of course design and student engagement.

Recent Studies (2020–2024): More recent studies have provided updated evidence, particularly within Chinese higher education. Liu et al. (2020) conducted a meta-analysis of 32 studies and confirmed that blended teaching has a moderate but significant impact on knowledge application. Kuang et al. (2022) reported that project-driven blended tasks enhanced engineering students' problem-solving efficacy and teamwork—directly linking to the skill domain. Han (2023) demonstrated that carefully designed blended courses foster deep learning and higher-order thinking. Pan et al. (2023) found that integrating online resources with offline project training improved knowledge internalization in database courses.

At the same time, vocational and applied fields showed similar benefits. Tao (2024) confirmed that blended teaching in construction surveying increased satisfaction and academic performance, while Zeng and He (2024) highlighted that combining online theory with offline labs improved problem-solving in programming. Yang et al. (2024) demonstrated that blended approaches enhanced understanding of abstract concepts in linear algebra, and Zhao and Jiang (2024) found that student-centered blended reform in physical education increased motivation, participation, and skill acquisition.

Internationally, Raes (2022) emphasized the role of interaction quality in blended synchronous learning, while Bond et al. (2021) highlighted self-regulation and teacher presence as key determinants of effectiveness. Hodges et al. (2020) clarified that negative outcomes during the pandemic often reflected emergency remote teaching rather than well-designed blended learning. These insights reinforce that design fidelity and pedagogical alignment are central to successful outcomes.

Synthesis and Research Gap: The accumulated evidence underscores that blended teaching contributes positively to cognitive, skill-based, and affective outcomes, particularly when online preview activities are well-integrated with offline practice. However, much of the literature has focused on STEM, health sciences, and vocational fields, with relatively limited research in accounting education within the Guangxi higher education context. Moreover, empirical studies directly comparing the contributions of online preview and offline practice to learning outcomes remain scarce.

Thus, this study addresses the gap by systematically examining the impact of blended teaching on Accounting Principles courses, focusing on the three learning domains (cognitive, skill, affective) and the distinct roles of online preview and offline practice.

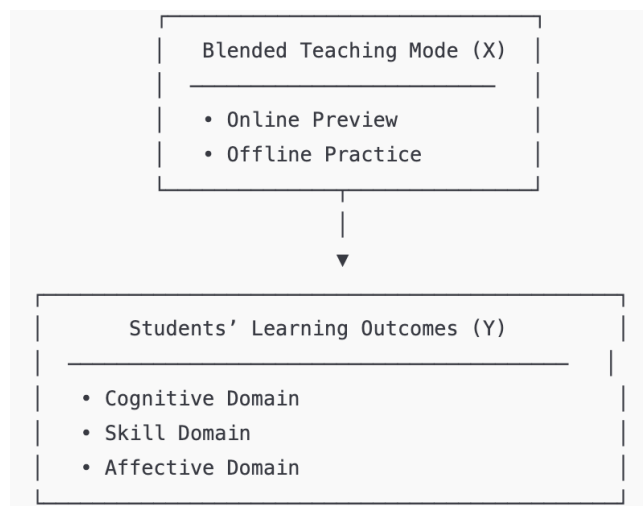


Figure 1: Conceptual model

Methodology

This study adopted a quasi-experimental research design combined with a questionnaire survey to investigate the impact of the blended teaching

mode on students' learning outcomes in the Accounting Principles course. The research involved two parallel classes of first-year students from the 2024 cohort at Guangxi University of Foreign Languages, selected through cluster sampling. The total sample consisted of 205 students, including 105 students in the experimental class (taught with the blended teaching mode) and 100 students in the control class (taught with the traditional lecture-based method).

Research Instruments

Two main instruments were employed:

Standardized Achievement Tests – to measure students' mastery of Accounting Principles content, administered under identical conditions in both groups.

Structured Questionnaire – developed from established scales and refined through expert validation. The questionnaire assessed students' satisfaction with blended teaching and learning outcomes across two dimensions (online preview and offline practice) and three domains (cognitive, skill, affective).

Validity and Reliability

Reliability: Cronbach's alpha coefficients for all scales exceeded 0.80, indicating strong internal consistency.

Validity: Expert review was applied, and the Item-Objective Congruence (IOC) values were all ≥ 0.67 , confirming good content validity.

Data Collection and Analysis

Data collection was conducted over a two-month period. Statistical analyses were performed using SPSS, including:

Descriptive Statistics – to summarize students' achievement and satisfaction levels.

Independent-Samples t-tests – to compare mean differences between experimental and control groups.

Pearson Correlation Analysis – to explore relationships among variables.

Multiple Regression Analysis – to examine the predictive power of blended teaching components (online preview, offline practice) on learning outcomes.

This methodological framework ensured both the reliability and validity of the results, while providing comprehensive evidence of the effects of blended teaching on students' cognitive, skill-based, and affective learning outcomes.

Results

This Objective 1: Explore the impact of the blended teaching mode on students' overall learning outcomes.

The experimental class achieved a mean score of 82.44, while the control class had a mean score of 71.78, showing an average difference of 10.66 points.

The independent samples t-test revealed a significant difference between the two groups ($p = 0.008 < 0.05$).

Conclusion: The blended teaching mode significantly improved students' overall learning outcomes compared with the traditional teaching mode.

Objective 2: Explore the impact of the blended teaching mode on the Cognitive Domain.

Mean satisfaction score for cognitive outcomes was 4.16 (on a 5-point Likert scale), indicating a positive effect.

Regression analysis showed that blended teaching explained 65.2% of the variance in cognitive learning outcomes ($p < 0.001$).

Conclusion: Blended teaching enhanced students' knowledge acquisition, understanding of course content, and academic performance.

Objective 3: Explore the impact of the blended teaching mode on the Skill Domain.

Mean satisfaction score for skill outcomes was 4.23, the highest among the three domains.

Regression analysis indicated blended teaching explained 65.6% of the variance in skill outcomes ($p < 0.001$).

Conclusion: Blended teaching significantly improved students' problem-solving ability, communication skills, teamwork, and self-directed learning capacity.

Objective 4: Explore the impact of the blended teaching mode on the Affective Domain.

Mean satisfaction score for affective outcomes was 4.20, reflecting students' increased motivation and engagement.

Regression analysis indicated blended teaching explained 61.2% of the variance in affective outcomes ($p < 0.001$).

Conclusion: Blended teaching fostered students' positive learning attitudes, enjoyment of the course, and active participation in classroom activities.

Objective 5: Explore the impact of online preview on students' learning outcomes.

Mean satisfaction score for online preview was 4.22, with over 76% of students selecting "satisfied" or "very satisfied."

Regression results showed online preview explained 65.1% of the variance in learning outcomes ($p < 0.001$).

Conclusion: Online preview effectively supported students' pre-class preparation, improved comprehension, and enhanced engagement during offline sessions.

Objective 6: Explore the impact of offline practice on students' learning outcomes.

Mean satisfaction score for offline practice was 4.20, with more than 77% of students expressing satisfaction.

Regression results showed offline practice explained 68.7% of the variance in learning outcomes ($p < 0.001$).

Conclusion: Offline practical activities (e.g., case studies, simulation training, group work) significantly enhanced students' ability to apply knowledge and internalize key concepts.

Table 1: Summary of Research Results by Objectives

Objective	Mean Scores	Regression % (Variance Explained)	Conclusion
1. Overall learning outcomes	Exp: 82.44 / Ctrl: 71.78	- (t-test, $p = 0.008 < 0.05$)	Blended teaching significantly improved students' overall learning outcomes compared with the traditional mode.
2. Cognitive Domain	4.16	65.2% ($p < 0.001$)	Enhanced students' knowledge acquisition, course mastery, and academic performance.
3. Skill Domain	4.23	65.6% ($p < 0.001$)	Improved problem-solving, communication, teamwork, and self-directed learning capacity.
4. Affective Domain	4.20	61.2% ($p < 0.001$)	Fostered motivation, enjoyment, and active classroom participation.

5. Online Preview	4.22	65.1% ($p < 0.001$)	Supported pre-class preparation, comprehension, and engagement in offline sessions.
6. Offline Practice	4.20	68.7% ($p < 0.001$)	Enhanced ability to apply knowledge, conduct case studies, and internalize concepts.

Discussion

The findings of this study confirm that the blended teaching mode has a significant positive impact on students' learning outcomes in the Accounting Principles course. These results are consistent with prior research that emphasized the advantages of integrating online and offline instruction (Zhang Shuying et al., 2025; Liu Lingling et al., 2020).

First, students in the experimental class achieved significantly higher scores compared with those in the control class. This supports the argument that blended teaching effectively addresses the limitations of traditional lecture-based methods by combining online preview with offline practice, thereby enhancing comprehension and knowledge retention.

Second, the positive effect on the cognitive domain indicates that blended teaching helps students systematically accumulate and internalize accounting knowledge. This finding aligns with Bloom's Taxonomy, which emphasizes that understanding, application, and analysis require active engagement. Through pre-class resources such as videos and readings, students were able to familiarize themselves with core concepts in advance, allowing class time to be devoted to clarification, interaction, and deeper learning.

Third, the significant improvement in the skill domain demonstrates that blended teaching strengthens students' practical abilities. Offline simulation training and collaborative activities gave students opportunities to apply accounting principles in real-world contexts, enhancing their problem-solving, communication, teamwork, and self-directed learning capacities. This is consistent with Kuang Xiaoxue et al. (2022), who showed that project-driven blended tasks significantly improved students' problem-solving efficacy in engineering contexts.

Fourth, the results in the affective domain reveal that blended teaching fosters a more engaging and motivating learning environment. Students reported increased interest and enjoyment, which aligns with Zhao Wentao and Jiang Liling (2024), who noted that blended learning enhances students' sense of participation and learning motivation.

Fifth, analysis of the online preview dimension shows that students benefited from diverse resources such as videos, PPTs, and simulation tools. These resources supported flexible, self-paced learning, allowing students to address knowledge gaps before class and arrive better prepared for in-person activities.

Finally, the offline practical operation dimension was found to be critical for consolidating knowledge. Students expressed high satisfaction with case studies, group work, and teacher-led guidance, confirming that active participation and real-time feedback promote knowledge internalization and skill mastery.

In summary, the blended teaching mode establishes a balanced learning environment that combines teacher guidance with student autonomy. It supports deep learning and significantly enhances cognitive, skill-based, and affective outcomes. These results provide strong empirical evidence for promoting

blended teaching as an effective pedagogical strategy in accounting education and other practice-oriented disciplines.

Recommendation

Based on the findings of this study, the following recommendations are proposed:

Institutional Level

Establish comprehensive management systems to support the sustainable implementation of blended teaching.

Increase investment in smart classrooms, digital platforms, and stable technical infrastructure to ensure high-quality teaching delivery.

Provide continuous institutional support and incentives to encourage teachers' active participation in blended teaching initiatives.

Teacher Level

Organize regular training programs to strengthen teachers' competencies in designing and delivering blended courses.

Promote a student-centered teaching philosophy by encouraging teachers to shift from traditional lecture-based methods to facilitator roles.

Develop engaging instructional materials such as case studies, simulations, and interactive tasks to foster deeper learning.

Provide timely feedback and personalized guidance based on student learning data to address individual needs.

Student Level

Encourage students to cultivate self-directed learning habits by completing online previews consistently and preparing for class activities.

Motivate students to actively participate in classroom discussions, group projects, and problem-solving activities.

Guide students to maximize the use of online platforms for communication, peer collaboration, and feedback sharing to continuously improve their learning experiences.

Future Research

Expand the research scope to include multiple universities, various academic disciplines, and different cultural contexts to enhance the generalizability of findings.

Standardize blended teaching interventions and evaluation tools to ensure comparability across studies.

Examine additional influencing factors such as students' motivation, technology acceptance, digital literacy, and learning styles.

Conduct longitudinal studies to assess the long-term impact of blended teaching on academic performance, skill development, and affective outcomes.

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