

Original Paper

A Research on the Application of the BOPPPS Teaching Model in the Undergraduate “Financial Accounting” Course

Xiaofeng Liu¹

¹ Hainan Vocational University of Science and Technology, Haikou, 571126, Hainan Province, China

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Abstract

Vocational undergraduate education is centered on cultivating high-caliber technical and skilled professionals. As a core course for accounting-related majors, “Financial Accounting” faces several practical challenges in traditional teaching approaches—such as the disconnect between theory and practice, insufficient student engagement in class, and a narrow scope of teaching evaluation—making it difficult to align with the competency development requirements of accounting professions. The BOPPPS teaching model comprises six interconnected phases—Introduction, Objective Setting, Pre-test, Participatory Learning, Post-test, and Summary—forming a closed-loop instructional framework characterized by its student-centered approach, objective-oriented design, strong interactivity, and timely feedback. Grounded in the practical demands of vocational undergraduate education, this paper analyzes the essence and distinctive features of the BOPPPS teaching model, identifies the limitations of traditional teaching approaches for the “Financial Accounting” course in vocational undergraduate programs, and argues for the necessity of integrating this model into curriculum design; it then develops a specific instructional design plan based on these six teaching phases, creates teaching scenarios using real-world corporate cases, defines three-dimensional teaching objectives covering knowledge, skills, and literacy, utilizes information technology tools to conduct pre-test assessments of student learning outcomes, implements participatory learning through group-based practical tasks, employs diverse methods to conduct post-test evaluations of teaching effectiveness, and uses mind maps to consolidate the knowledge system; finally, the paper proposes practical implementation safeguards encompassing faculty training, integration of teaching resources, development of digital learning platforms, refinement of diversified assessment systems, and the establishment of supportive institutional and student guidance mechanisms. Research indicates that the BOPPPS teaching model can effectively address the pedagogical challenges associated with the “Financial Accounting” course in vocational undergraduate programs, foster the synergistic

development of students' practical accounting skills and professional competence, serve as a practical reference for teaching reform in finance and economics courses at the vocational undergraduate level, and contribute to the cultivation of accounting professionals who are well-equipped to meet industry demands.

Keywords

BOPPPS teaching model, Vocational undergraduate education, Financial Accounting, Teaching reform, Application strategies

1. Introduction

Professional undergraduate education, as a vital component of the higher education system for cultivating applied and skilled professionals, focuses on achieving a deep integration of theoretical knowledge and practical skills to meet the real-world demand for high-caliber technical and skilled personnel within industrial development. The course “Financial Accounting” is a core course for business and management majors; it serves to develop students’ accounting proficiency, professional judgment, and practical business processing capabilities, serving as the foundational knowledge base for their future careers in accounting-related fields. However, the traditional teaching approach used in current professional undergraduate “Financial Accounting” courses reveals several significant shortcomings. In terms of teaching methodology, the approach remains predominantly “cramming-style” —characterized by one-way instruction delivered by instructors—where students passively absorb knowledge while their space for active thinking and classroom participation is limited; in terms of content design, the curriculum overemphasizes theoretical exposition, while practical training is largely confined to post-class exercises, which differ substantially from actual accounting work scenarios in enterprises, making it difficult for students to translate theoretical knowledge into practical skills; regarding the assessment system, there is an excessive reliance on final examinations, while the assessment of students’ learning processes and practical abilities is overlooked. These multiple issues have collectively led to a decline in students’ learning interest and hindered further improvement in the quality of course instruction. Sheng Yeqing et al. conducted a practical research study on a blended learning model, finding that a student-centered teaching approach can effectively enhance students’ engagement in learning and their mastery of knowledge; this finding provides both theoretical support and practical reference for introducing the BOPPPS teaching model into the “Financial Accounting” course (Sheng, Kuang, & Guan, 2023).

The BOPPPS teaching model originated in Canada and represents a modular, closed-loop instructional framework that divides the teaching process into six interconnected phases: Introduction (Bridge-in), Objective, Pre-assessment, Participatory Learning, Post-assessment, and Summary. Each phase is designed around students’ learning needs and competency development, with an emphasis on classroom interaction and practical training; this approach helps stimulate students’ interest in learning and facilitates their transition from passive listening to active learning. Chen Xian et al. applied the

BOPPPS model combined with a multi-stage assessment system to practical courses for undergraduate nursing students; the results demonstrated significant improvements in students' practical skills, overall competence, and learning satisfaction (Chen, Ren, Wang et al., 2024). When implemented in the teaching of the "Financial Accounting" course for vocational undergraduate programs, the Introduction phase can leverage real-world accounting cases or industry-related topics to engage students' interest in learning; the Pre-assessment phase enables the rapid diagnosis of students' prior knowledge base, allowing for targeted adjustments to both the instructional content and teaching pace; the Participatory Learning phase can utilize activities such as group case discussions, accounting simulation exercises, and role-playing to help students acquire professional accounting skills within simulated workplace scenarios; the Post-assessment phase employs immediate quizzes and evaluation of task outcomes to assess learning effectiveness and provide instructional feedback; and the Summary phase helps consolidate the knowledge framework and reinforce key learning points. Xia Kexin conducted an applied research study on the BOPPPS model within the junior high school physics curriculum, demonstrating that this model helps enhance students' interest in learning and their self-directed learning capabilities. Despite differences in subject-specific backgrounds, the student-centered teaching approach advocated by this model holds interdisciplinary reference value for the curriculum reform of the "Financial Accounting" course at the vocational undergraduate level (Xia, 2023).

2. Overview of the BOPPPS Teaching Model

The BOPPPS teaching model originates from the North American university faculty teaching skills training system; it represents a structured classroom instructional design framework whose core objective is to facilitate effective, student-centered teaching practices. Initially proposed by the University Faculty Development Center in British Columbia, Canada, the model aims to enhance teachers' ability to design classroom lessons and improve the effectiveness of their instruction; since then, it has been progressively adopted and implemented across a wide range of educational contexts worldwide (Wang, 2024; Yang, 2024; Dong, 2023). Unlike the mere accumulation of discrete teaching activities, BOPPPS establishes a comprehensive instructional closed-loop system that shifts students from passive knowledge recipients to active participants in the learning process (Wang, 2024). This model is learning-outcomes oriented; it maintains students' attention and engagement in the classroom through clearly defined instructional objectives and diverse interactive design approaches, thereby restoring the student's central role in the learning experience—ensuring that every teaching component is aligned with students' learning needs and the development of their competencies (Yang, 2024; Dong, 2023). Although the BOPPPS model has been applied across various disciplinary contexts, its core focus remains on enhancing the interactivity, relevance, and effectiveness of teaching, providing a structured paradigm that can serve as a valuable reference for curriculum reform initiatives.

2.1 The Connotation of the BOPPPS Teaching Model

The BOPPPS teaching model consists of six interconnected components—Bridge-in, Objective, Preassessment, Participatory Learning, Postassessment, and Summary—each serving relatively independent yet interrelated instructional functions. The Bridge-in phase primarily captures students' attention quickly and establishes connections between prior and new knowledge through methods such as scenario creation or the posing of questions, thereby laying the groundwork for introducing new lesson content; for example, a classroom introduction may be conducted using video materials or thought-provoking questions (Wang, 2024). The Objective phase involves clearly communicating the learning content and expected learning outcomes of the lesson to students, enabling them to understand the key learning points and the direction in which they should focus (Yang, 2024); it also helps teachers gauge student understanding and provides a practical basis for adjusting the depth and pace of the instructional content (Dong, 2023). Participatory Learning is the core component of the teaching process; through diverse activities—such as group discussions, case studies, and hands-on exercises—it guides students to actively construct knowledge while developing their critical thinking and practical application skills. The Postassessment phase utilizes exercises, quizzes, and task-based assessments to evaluate whether the instructional objectives have been met and to gather valuable teaching feedback. The Summary helps organize and consolidate key classroom concepts, enhances students' memory retention, and assists them in building a systematic knowledge framework.

The BOPPPS teaching model is fundamentally a teaching system that organically integrates three key components: “goal orientation,” “interactive participation,” and “feedback loop.” Goal orientation ensures that all instructional activities are centered around predefined learning objectives, thereby guaranteeing the relevance of the teaching content; interactive participation emphasizes the central role of students, transforming their role from passive listeners into active participants; the feedback loop utilizes pre-assessment to diagnose student learning progress and post-assessment to evaluate learning outcomes, thereby establishing a dynamic teaching adjustment mechanism. Compared to traditional lecture-based classrooms, the BOPPPS model places greater emphasis on students' active engagement and classroom interaction, aligning well with the educational philosophy of vocational undergraduate programs, which prioritize the development of practical skills and professional competence. Existing research has shown that the implementation of this model leads to significant improvements in students' learning motivation and classroom participation, consequently enhancing overall classroom teaching effectiveness (Dong, 2023). In essence, BOPPPS represents not merely an innovation in teaching methodology but also a shift in educational philosophy—moving the focus of instruction from “teacher-led instruction” to “student-centered learning” and evolving from the mere transmission of knowledge to the cultivation of comprehensive competencies.

The “Financial Accounting” course at the undergraduate level combines a strong theoretical foundation with rigorous practical application requirements; however, the traditional lecture-based teaching approach often fails to adequately meet students' needs for developing their practical skills and

professional competence. The BOPPPS model—characterized by its goal-oriented approach, participatory learning, and feedback loop—effectively addresses the key challenges encountered in this course’s instructional delivery. In a “Financial Accounting” classroom, the introduction phase can utilize real-world corporate financial cases to stimulate critical thinking; the goal-setting phase clearly defines the key and challenging aspects of accounting practices and the application of accounting standards; the participatory learning phase can involve students in group-based practical tasks, such as preparing accounting entries or analyzing financial statements; the post-test phase employs case-based exercises to assess students’ ability to apply their knowledge; and the summary phase helps students systematically organize the underlying logic connecting theoretical concepts with practical skills. The implementation of the BOPPPS model can substantially enhance the teaching quality of the “Financial Accounting” course, foster students’ professional practical abilities and career readiness, and provide a solid theoretical foundation for subsequent research on application strategies.

2.2 Characteristics of the BOPPPS Teaching Model

First, the modular structure creates a comprehensive teaching 闭环. The BOPPPS framework consists of six distinct yet interlinked modules—Introduction, Learning Objectives, Pre-test, Participatory Learning, Post-test, and Summary—covering the entire teaching process, from classroom engagement to the assessment of instructional effectiveness (Li, 2023). The Introduction module stimulates learners’ interest; the Learning Objectives module clarifies the key teaching points and challenging areas; the Pre-test module assesses students’ foundational knowledge; the Participatory Learning module facilitates the internalization of knowledge; the Post-test module evaluates learning outcomes; and the Summary module helps consolidate the knowledge acquired. This modular design ensures a clear, hierarchical, and logically coherent teaching process, effectively addressing the limitations of traditional classroom approaches—such as the fragmented nature of knowledge points and the ambiguity of instructional objectives. It is particularly well-suited to the characteristics of the “Financial Accounting” course, which features a vast array of knowledge points and a tightly interlinked logical framework, thereby enabling students to systematically master accounting procedures and professional methodologies.

Second, emphasize a student-centered approach and highlight classroom interaction. Unlike traditional lecture-based teaching methods, the BOPPPS framework positions students as the central participants in classroom activities; it employs tasks such as group discussions, case studies, and simulated practical exercises to implement participatory learning, facilitating a shift among students from passive knowledge reception to active inquiry (Peng, 2024). When teaching the course “Financial Accounting,” for example, when covering the accounting for accounts receivable, real-world corporate accounts receivable management cases can be introduced to organize group discussions among students on methods for recognizing bad debt provisions and the corresponding accounting treatments; alternatively, accounting simulation software can be utilized for hands-on practice sessions to reinforce practical experience. Peng Juping’s curriculum research has demonstrated that interactive teaching

methods can significantly enhance students' classroom engagement and improve their knowledge mastery (Peng, 2024); this finding is equally applicable to the "Financial Accounting" course, which places strong emphasis on practical training, thereby effectively addressing the disconnect between theoretical and practical aspects inherent in traditional teaching approaches.

Third, adopt a goal-oriented approach to enable real-time assessment and feedback. The BOPPPS framework uses clear instructional objectives as the central guiding principle for all teaching activities, ensuring the relevance and effectiveness of these activities (Chen, 2024). The pre-test utilizes brief questions and small quizzes to quickly assess students' prior knowledge, enabling teachers to flexibly adjust the pace and difficulty of the instructional content; the post-test employs assignments and in-class quizzes to measure students' knowledge mastery in real time, promptly identify areas where students struggle, and facilitate timely instructional adjustments. Chen Zixuan's research indicates that the BOPPPS real-time assessment mechanism helps teachers dynamically optimize their teaching strategies and enhance the precision of their instruction (Chen, 2024). When applied to the "Financial Accounting" course, each lesson includes specific, actionable skill-based objectives—such as "mastering the inventory issuance valuation method"; through real-time assessment, teachers can promptly identify errors made by students when applying the First-In, First-Out (FIFO) or weighted average costing methods and provide targeted coaching to prevent the accumulation of knowledge gaps.

Fourth, it possesses strong adaptability and flexibility, aligning well with the educational requirements of vocational undergraduate programs. Vocational undergraduate education emphasizes the development of practical skills and professional competence; the BOPPPS modular design enables complex accounting skills to be broken down into multiple actionable teaching units; the interactive components provide ample opportunities for hands-on practice; and the goal-oriented approach, combined with immediate assessment, ensures the effectiveness of skill development (Li, 2023). The teaching design can be flexibly adapted to different sections within the "Financial Accounting" course: for chapters with a strong theoretical focus on accounting principles, the focus should be on case-based participatory activities; for chapters that emphasize practical application—such as the preparation of financial statements—simulated practical tasks for preparing financial statements should be prominently featured. Additionally, instructors can dynamically adjust their teaching based on pre-assessment feedback; for example, when teaching fixed asset accounting, if the pre-assessment reveals that students have an inadequate understanding of the depreciation concept, a group-based depreciation calculation exercise can be incorporated into the participatory learning session. The flexible adaptability of the BOPPPS model aligns well with the actual teaching context of the "Financial Accounting" course in vocational undergraduate programs, providing robust support for the cultivation of high-caliber accounting professionals with technical and practical skills.

3. The Necessity of Introducing the BOPPPS Teaching Model into the Undergraduate “Financial Accounting” Course

3.1 Limitations of Traditional Teaching Approaches in Curriculum Instruction

The core objective of vocational undergraduate education is to cultivate applied, skilled accounting professionals, emphasizing the organic integration of theoretical knowledge and workplace practice; however, the traditional lecture-based teaching approach employed in the “Financial Accounting” course within vocational undergraduate programs has revealed multiple practical challenges that make it difficult to align with the educational mission of vocational undergraduate talent development.

This issue is primarily manifested as the one-way nature of knowledge transmission and the lack of deep classroom interaction. In traditional teaching approaches, the teacher’s lecture dominates the classroom environment, and knowledge delivery predominantly takes the form of one-way indoctrination; as a result, students are relegated to a passive role in receiving knowledge, with limited opportunities for independent thinking or deep engagement in class (Wu & Pan, 2024). Taking the instruction of the “Allowance for Bad Debts” concept as an example, classroom teaching often focuses solely on the theoretical explanation of accounting standard provisions and the preparation of accounting entries, without incorporating case studies based on real-world corporate management scenarios. As a consequence, students struggle to grasp the practical business significance and real-world application of making a bad debt provision, leading to a disconnect between theoretical understanding and actual business contexts. Traditional classroom interactions are largely confined to simple Q&A formats, while in-depth interactive activities—such as group discussions or case-based explorations—are relatively scarce, failing to meet the practical needs of developing the hands-on skills required by undergraduate accounting students. Over time, this can foster in students a habit of passively absorbing knowledge, while their abilities for independent thinking and practical problem-solving are not adequately cultivated—yet these very competencies are essential core professional qualities for accounting professionals.

Second, the practical teaching component has been weakened, resulting in a disconnect from the actual requirements of professional accounting roles. Accounting transaction processing, financial statement preparation, and financial data analysis are the core competencies that the “Financial Accounting” course should emphasize developing; however, traditional teaching approaches focus primarily on the instruction of theoretical knowledge, with insufficient emphasis placed on practical training. The teaching cases are often oversimplified or artificially constructed, creating a significant gap compared to the real-world financial operations encountered in enterprises (Ma, 2024). Taking the “Financial Statement Preparation” module as an example, traditional teaching methods typically provide accounting entries directly to students, who are then asked to fill in the relevant statement items—without providing them with the complete set of business documentation, such as the review of source documents or the preparation of journal entries. As a result, students are unable to fully experience the entire business process, from the acquisition of source documents to the final output of

financial statements. This lack of practical training makes it difficult for graduates to quickly adapt to accounting positions in enterprises upon entering the workforce; they often require an extended period of pre-employment training before becoming competent for their roles, which contradicts the “zero-distance employment” goal pursued by vocational undergraduate education (Ma, 2024). Furthermore, traditional practical teaching often employs uniformly designed case studies and operational steps, neglecting students’ individual baseline differences and future career trajectories, and lacks tiered, personalized guidance. For instance, while some students may pursue careers in accounting roles within small and medium-sized enterprises (SMEs), the practical case studies used in the curriculum tend to focus on the complex transactions typical of large corporations, leaving insufficient training in the accounting procedures commonly encountered in SMEs, thereby resulting in a poor alignment between students’ practical skills and the actual demands of their future jobs.

Third, the ill-designed curriculum evaluation system hinders the improvement of course teaching quality. The traditional evaluation system relies primarily on summative final examinations as its core assessment method; however, this approach places excessive emphasis on testing theoretical knowledge retention while significantly overlooking the assessment of practical operational skills, innovative thinking, and professional competence (Liu, 2024). The final examination for the “Financial Accounting” course typically consists of multiple-choice questions, true/false questions, journal entry exercises, and calculation problems, focusing mainly on assessing students’ ability to recall accounting standards and prepare basic journal entries—thereby making it difficult to gauge their core accounting competencies, such as financial analysis, problem-solving, and teamwork. Such a single, summative assessment method cannot objectively reflect students’ actual learning outcomes and may inadvertently encourage a rote-learning approach, which is detrimental to students’ long-term professional development (Liu, 2024). Additionally, traditional teaching practices lack a comprehensive formative assessment mechanism; key elements of the learning process—such as classroom participation, practical application outcomes, and group collaboration performance—are not incorporated into the assessment framework. On one hand, this fails to motivate students’ proactive learning; on the other hand, teachers are unable to promptly identify issues—such as non-standard accounting treatments or data processing errors—during students’ practical exercises, and thus cannot provide timely feedback or targeted guidance. As a result, knowledge gaps continue to accumulate, further impeding the enhancement of students’ practical skills.

Finally, traditional teaching approaches often overlook the cultivation of students’ professional competence. Accounting professionals at the undergraduate level need not only to master specialized theoretical knowledge and practical skills but also to possess essential professional qualities—such as a rigorous and meticulous work ethic, strong teamwork skills, and effective communication abilities. However, traditional teaching methods tend to focus primarily on the delivery of professional knowledge, which often marginalizes the development of these professional competencies. For example, when covering topics related to financial statement auditing, instruction may merely

introduce the auditing processes and methodologies without integrating the cultivation of professional qualities—such as rigor and accountability—in the auditing process, nor include practical tasks like group-based simulated auditing projects, thereby failing to develop students’ teamwork skills. The absence of professional competence development can result in students possessing solid professional knowledge but lacking the necessary soft skills for the workplace, thereby undermining their competitiveness in the job market. Additionally, many curricula fail to seamlessly integrate ideological and political education into the entire teaching process, making it difficult to foster in students a sound professional ethics and value system in accounting—contrary to the “student-centered” educational philosophy inherent in undergraduate accounting programs.

3.2 The Role of the BOPPPS Teaching Model in Enhancing Course Teaching Quality

The BOPPPS teaching model constructs a structured instructional sequence comprising six key phases—Introduction, Learning Objectives, Pre-test, Participatory Learning, Post-test, and Summary—providing an effective solution to the various challenges encountered in traditional teaching approaches for the “Financial Accounting” course at vocational undergraduate programs. This model adheres to a student-centered pedagogical approach, moving away from the traditional one-way knowledge transmission method prevalent in conventional classrooms. Through diverse interactive classroom activities, it enhances students’ engagement in class, making it highly suitable for the “Financial Accounting” course, which combines both theoretical and practical components (Fang, 2022). Vocational undergraduate education focuses on cultivating applied accounting professionals; however, traditional teaching methods often fail to adequately meet students’ needs for hands-on skill development. In contrast, the participatory learning component of the BOPPPS model enables instructors to organize classroom activities such as case study analyses and practical accounting transaction exercises, facilitating the translation of abstract accounting theories into tangible practical skills and thereby significantly improving the effectiveness of classroom instruction (Fang, 2022).

First, the BOPPPS teaching model helps cultivate students’ self-directed learning skills. The pre-test phase enables teachers to quickly assess students’ prior knowledge base, allowing them to flexibly adjust the difficulty level and pacing of the instructional content; the participatory learning phase involves students working in groups on tasks such as analyzing corporate financial statements, motivating them to actively seek out information and engage in discussions, thereby gradually developing a habit of self-directed inquiry. Research conducted by Dong Min et al. confirms that integrating the BOPPPS model with other teaching methodologies can significantly enhance students’ self-directed learning capabilities (Dong, 2024). Meanwhile, the “Objective” phase clearly defines the key learning points for each lesson, helping students gain a clear sense of their learning direction; the “Post-Test” phase promptly assesses learning outcomes, identifies gaps in knowledge mastery, and expands the depth and breadth of students’ understanding of the subject matter. Huang Yao notes that the BOPPPS model is an effective tool for vocational undergraduate institutions to develop high-quality courses; its goal-oriented and process-based assessment characteristics ensure that the

course content is advanced, innovative, and challenging (Huang, 2024). When applied to the “Financial Accounting” course, this model not only enables students to master fundamental accounting methods but also guides them in interpreting the economic transactions underlying financial data, thereby honing their analytical and decision-making skills (Huang, 2024).

Secondly, the coordinated integration of all components within the BOPPPS framework enables the optimization of classroom implementation processes and enhances the development of students’ professional skills. The introduction phase incorporates real-world industry topics—such as financial fraud cases involving listed companies—and corporate financial case studies to create problem-based scenarios that stimulate students’ reflection on the authenticity of accounting information and engage their learning interest; the objective phase clearly defines the learning requirements at both knowledge and skill levels—e.g., “master the method for making provisions for bad debts on accounts receivable” or “be able to prepare key items for a balance sheet”—thereby anchoring students’ learning direction; the participatory learning phase features simulated practical tasks in which students role-play through the entire business process—from reviewing source documents to preparing accounting vouchers—thereby strengthening their practical operational skills; the post-test phase utilizes online quizzes, group presentations, and other methods to assess learning outcomes; and the summary phase consolidates core knowledge points to reinforce students’ memory. Through this comprehensive teaching framework, students deepen their understanding of accounting concepts and enhance their practical skills through active participation, aligning with the practical demands of cultivating applied talent for undergraduate accounting programs.

From a long-term perspective, the BOPPPS teaching model also fosters the development of students’ professional competence and comprehensive skills. Group-based collaborative tasks within the participatory learning framework not only enhance students’ professional expertise but also develop their communication and teamwork skills, laying a solid foundation for their future careers in accounting. Additionally, the built-in formative assessment mechanism enables immediate feedback on teaching effectiveness, encouraging instructors to continuously refine their instructional designs and creating a virtuous cycle of mutual improvement between teaching and learning (Huang, 2024). Applying the BOPPPS model to the “Financial Accounting” course can transform the course from a mere transmission of knowledge into an environment focused on cultivating comprehensive competencies, thereby establishing a strong foundation for students’ future career development. Furthermore, the modular design of the instructional components standardizes teachers’ classroom practices, reduces the spontaneity of teaching implementation, ensures that the learning objectives of each lesson are effectively achieved, and ultimately leads to a dual improvement in both student learning outcomes and the overall quality of the course.

4. Application Strategies for the BOPPPS Teaching Model in the “Financial Accounting” Course

4.1 Teaching design based on each stage of the BOPPPS framework

Aligned with the talent development objectives for applied accounting professionals at the undergraduate level, the BOPPPS instructional design for the “Financial Accounting” course integrates six key phases—Introduction, Learning Objectives, Pre-test, Participatory Learning, Post-test, and Summary—into a cohesive framework, achieving a seamless integration of theoretical instruction and practical training.

During the Bridge-in phase, real-world business cases drawn from actual corporate environments—particularly those relevant to accounting practice—are selected to create instructional scenarios that stimulate students’ curiosity and desire to explore. Taking the teaching of raw material procurement and inventory accounting in the manufacturing sector as an example, the instructor presents original vouchers such as purchase invoices and receiving slips in class and poses the thought-provoking question, “How should this batch of raw materials be accounted for?” This approach helps students quickly immerse themselves in the learning context. This instructional design aligns with the problem-based learning principle inherent in the OBE framework; by introducing new lessons through authentic business scenarios, it fosters students’ proactive engagement in learning (Fang, 2021).

The Objective section requires the establishment of measurable, three-dimensional teaching objectives covering knowledge, skills, and competencies. Taking the Inventory chapter as an example, the knowledge objective is to understand the basic principles of inventory valuation methods such as the First-In, First-Out (FIFO) method and the weighted average method; the skill objective is to be able to independently prepare accounting entries for inventory procurement, issuance, and ending balance transactions; and the competency objective is to foster in students a rigorous and meticulous professional accounting attitude. Clear and specific teaching objectives can help students clarify their learning direction and enhance classroom learning efficiency (Deng, 2024).

The preassessment phase utilizes digital teaching platforms such as YukeTang to conduct lightweight assessments. The assessment content covers both the foundational knowledge students already possess—such as accounting equations and double-entry bookkeeping rules—and the basic concepts relevant to the current lesson, such as the definition and scope of inventory. Teachers perform a statistical analysis of the preassessment results and adjust the instructional depth and pacing accordingly based on the varying levels of students’ knowledge mastery, thereby preventing learning gaps that may arise from disparities in students’ prior knowledge. The preassessment helps teachers accurately identify students’ knowledge gaps and provides a practical basis for designing activities in subsequent participatory learning sessions (Liu, Pang, Wang et al., 2024).

Participatory Learning serves as the core component of the entire instructional design process, utilizing diverse group-based practical tasks to implement hands-on teaching. Taking the inventory module instruction as an example, students work in groups to simulate the complete monthly inventory

transaction processing workflow for small and medium-sized enterprises. These tasks encompass activities such as reviewing procurement contracts and source documents, preparing accounting entries, recording inventory transactions in the general ledger and subsidiary ledgers, and adjusting for discrepancies arising from inventory overage or shortage. By embedding common business challenges encountered in real-world corporate operations into these tasks, students engage in the analysis and resolution of practical business problems through collaborative group work, thereby simultaneously honing their accounting practical skills and fostering their teamwork mindset.

The post-assessment component employs a diversified evaluation approach that combines theoretical testing with practical assessments. The theoretical section uses multiple-choice questions and short-answer questions to assess students' understanding of theoretical concepts, such as inventory valuation methods; the practical section provides complete business data and requires students to prepare relevant accounting entries for inventory transactions as well as populate the corresponding financial statement items. The content of the post-assessment should be closely aligned with the pre-designed teaching objectives to objectively measure the effectiveness of classroom instruction. The results of the post-assessment can both evaluate students' learning outcomes in the current lesson and serve as feedback for teachers to refine their subsequent instructional design (Fang, 2021).

The Summary session guides students to independently organize the lesson's knowledge framework using mind maps, helping them clarify the inherent logical relationships between the inventory accounting business processes and the various knowledge points. Students are encouraged to reflect on the challenges they encountered during the practical tasks and the corresponding solutions they adopted; the teacher will set aside dedicated time for Q&A sessions to promptly address any lingering questions and ensure that there are no significant gaps in their understanding of the material.

Overall, the comprehensive BOPPPS closed-loop instructional design adopts a student-centered approach, engaging students actively in the classroom through a series of steps: stimulating interest with an introduction, defining learning objectives to set clear direction, assessing learners' prior knowledge via a pre-test, reinforcing practical skills through participatory learning, evaluating learning outcomes with a post-test, and consolidating the knowledge system through a summary – thereby fully motivating students' participation in class (Deng, 2024). The implementation strategy that integrates online and offline learning also provides a viable pathway for reforming the "Financial Accounting" course at the vocational undergraduate level (Liu, Pang, Wang et al., 2024). This instructional design effectively addresses the longstanding issue of the disconnect between theoretical and practical components in traditional curricula, enables students to transform theoretical knowledge into practical workplace competencies, simultaneously cultivates the core professional competencies required by the industry, and lays a solid foundation for subsequent coursework as well as for successful employment in accounting roles.

4.2 Security Measures During Application Implementation

The implementation of the BOPPPS teaching model in the undergraduate “Financial Accounting” course requires a shift in teachers’ instructional philosophies and strong professional competence as the primary foundation. The traditional lecture-based teaching approach conflicts to some extent with the interactive participation and goal-oriented instructional design emphasized by the BOPPPS model; therefore, it is essential to strengthen faculty development and help teachers master the design methodologies and classroom implementation techniques associated with each phase of the BOPPPS model. Institutions can regularly organize specialized workshops on the BOPPPS teaching model, inviting experts to conduct case studies and provide hands-on guidance; they should also encourage teachers to participate in cross-institutional teaching exchange activities to draw upon advanced instructional design practices. Additionally, an after-class teaching reflection mechanism should be established, enabling teachers to promptly assess classroom outcomes and collect student feedback upon completing their lessons, thereby continuously refining the instructional design across all stages of the BOPPPS model and ensuring a precise alignment between teaching objectives and students’ learning needs (Zhao, 2023). Systematic faculty development serves as a crucial foundation for the routine adoption of the BOPPPS teaching model.

Abundant teaching resources and digital technology platforms are essential prerequisites for the successful implementation of the BOPPPS model, and they align well with the highly practical nature of the “Financial Accounting” course. Under the BOPPPS model, activities such as participatory learning and post-class exercises rely heavily on real-world corporate cases, interactive courseware, and digital learning resources. Schools should deepen their collaboration with enterprises and work alongside corporate finance departments to jointly develop a teaching case database tailored to the educational objectives of vocational undergraduate programs—covering core instructional content such as accounting practices and financial statement analysis—while ensuring the authenticity and timeliness of the case materials. By leveraging smart teaching platforms such as Yuke Classroom and Xuexitong, schools can implement end-to-end teaching management—including the distribution of pre-class preparatory materials, real-time quiz feedback during class, the assignment of post-class homework, and online discussions. Additionally, financial virtual simulation technology can be introduced to create simulated accounting practice scenarios, enabling students to perform accounting transactions within a simulated environment and thereby further enhancing the practicality and interactivity of the participatory learning components.

Establishing a scientific and diversified teaching evaluation system can effectively address the limitations of traditional summative assessments and objectively measure the actual effectiveness of implementing the BOPPPS teaching model. This approach moves away from the traditional “single-exam determines outcome” evaluation method and instead establishes a dual evaluation system that combines formative and summative assessments. In this system, formative assessment accounts for 60% of the total score; its assessment dimensions include students’ completion of pre-class preparation, classroom interaction performance, quality of group collaborative tasks, and the outcomes of post-class

assignments—with a focus on comprehensively evaluating students’ practical skills and classroom participation. Summative assessment accounts for 40% of the total score, primarily consisting of the final exam, and is designed to assess students’ ability to apply core financial accounting knowledge in a comprehensive manner. Additionally, a mechanism for student peer evaluation and teacher self-evaluation is introduced: students participate in the teaching evaluation process by providing feedback on their learning experience and suggestions for improvement; teachers conduct self-evaluations of their teaching practices to promptly identify any shortcomings in their instructional design (Gao, Liu, Chen et al., 2024). This diversified evaluation system not only accurately reflects students’ overall learning proficiency but also provides valuable data support for the iterative refinement and optimization of the BOPPPS teaching model.

Institutional safeguards and student learning guidance constitute the essential environment required for the long-term, stable implementation of the BOPPPS teaching model. At the school level, supporting incentive policies have been introduced: the BOPPPS teaching reform practice has been incorporated into teachers’ performance appraisal systems; a dedicated teaching reform fund has been established to support teachers in conducting curriculum reform research; and teachers’ proactive engagement in teaching innovation has been encouraged. At the beginning of each course, students are introduced to the implementation process and learning requirements of the BOPPPS teaching model; course learning guides are distributed, and online information sessions are organized to help students shift away from their traditional passive listening mindset, recognize the importance of pre-class preparation, in-class participation, and post-class consolidation, and enhance their willingness to actively engage in classroom activities. A regular student feedback mechanism has been established to periodically collect students’ opinions and suggestions regarding the implementation of the BOPPPS classroom approach; based on this feedback, teaching strategies are dynamically adjusted to ensure that the teaching model continuously aligns with students’ learning needs and to steadily improve the overall teaching quality of the “Financial Accounting” course.

5. Conclusion

This study investigates the implementation of the “Financial Accounting” course within vocational undergraduate programs and systematically explores the application pathways of the BOPPPS teaching model, aiming to address practical challenges inherent in traditional teaching approaches—such as students’ inadequate practical skills and low classroom engagement. The BOPPPS teaching model comprises six interconnected phases—Introduction, Objective Setting, Pre-test, Participatory Learning, Post-test, and Summary—forming a closed-loop instructional system that facilitates the transition of classroom teaching toward a student-centered paradigm. Given the practical nature of vocational undergraduate curricula, traditional lecture-based teaching often suffers from shortcomings such as a disconnect between theory and practice and students’ limited ability to apply knowledge in real-world contexts; in contrast, the BOPPPS model—by incorporating real-world corporate case studies and

collaborative group-based accounting tasks into the participatory learning phase—can effectively enhance students’ practical skills and problem-solving abilities. Through the integrated use of pre-test and post-test mechanisms, instructors can monitor students’ knowledge acquisition in real time, dynamically adjust teaching content and pacing, and ensure the effective attainment of learning objectives. The action research conducted by Liu Meirong in English language teaching demonstrates that structured BOPPPS instructional design can effectively increase students’ interest in learning and their classroom participation; these findings hold interdisciplinary relevance for the curriculum reform of the “Financial Accounting” course (Liu, 2024).

This study proposes a comprehensive six-stage BOPPPS instructional design framework tailored to the characteristics of the course: the Introduction Stage utilizes real-world corporate financial case studies to spark learners’ interest; the Objective Stage clearly defines the dual objectives of fostering both knowledge and skill acquisition; and the Participatory Learning Stage integrates flipped classroom approaches and contextual simulation activities. This framework can serve as a practical, actionable roadmap for teaching reform in the “Financial Accounting” course at vocational undergraduate institutions. However, this study has certain limitations: the applied strategies proposed are primarily based on theoretical reasoning and small-scale classroom experiments, lacking robust empirical data from multiple institutions and large sample sizes, which makes it challenging to fully validate the suitability of this model across different vocational undergraduate institutions and student cohorts; in terms of outcome assessment, the study focuses on immediate instructional effectiveness indicators—such as post-class test scores and classroom participation levels—but lacks follow-up tracking of students’ long-term professional competencies, including their performance during workplace internships and their attainment of professional certifications, thereby failing to fully capture the long-term impact of the BOPPPS model on students’ career development; additionally, the study does not sufficiently explore the deep integration of information technology with the BOPPPS model, and the potential of digital teaching approaches—such as automated online assessments and immersive virtual simulation-based practical training—has not been fully leveraged.

To address the aforementioned limitations, future research could be further expanded along the following directions: conducting large-scale, multicenter comparative empirical studies by selecting vocational undergraduate institutions across different regions and educational tiers as research subjects; employing comparative experimental analysis to examine the impact of the BOPPPS model on the teaching of the “Financial Accounting” course; and developing a quantitative assessment model to provide data-driven support for the widespread adoption of this teaching approach; developing refined BOPPPS-based teaching cases centered on core course modules—such as fixed asset accounting and revenue recognition—while aligning these cases with occupational competency requirements to optimize the design of participatory learning tasks and enhance the relevance and practicality of the instructional content; exploring pathways for the deep integration of the BOPPPS model with information technology—utilizing abundant MOOC resources to enrich teaching materials, leveraging

virtual simulation systems to replicate real-world corporate financial scenarios, and employing learning analytics to enable real-time monitoring of students' learning behaviors and provide intelligent feedback, thereby elevating the level of intelligent teaching; and refining the teacher training system for vocational undergraduate educators by enhancing their BOPPPS-based instructional design and classroom implementation skills through specialized lectures, case study discussions, and classroom observation sessions, as well as establishing a teaching resource sharing platform to facilitate the widespread adoption and application of high-quality accounting course teaching cases.

Overall, the BOPPPS teaching model offers new perspectives and tools for reforming the "Financial Accounting" course at vocational undergraduate institutions; its core philosophy aligns closely with the educational objective of cultivating high-caliber, technically skilled accounting professionals at these institutions. Although existing research still has limitations, as empirical studies continue to advance and digital teaching methodologies become increasingly powerful, the BOPPPS teaching model is poised to play an even greater role in the field of financial and accounting education at vocational undergraduate programs. We look forward to seeing teaching researchers and frontline educators continue to explore the application boundaries and optimization pathways of the BOPPPS model, thereby enhancing the quality of vocational undergraduate education and supporting students' professional development.

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