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Research on Instructional Design and Implementation Path of Management Accounting Course Integrating BOPPPS Teaching Model under the OBE Concept

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Abstract

In response to the rapidly evolving demands of the "New Liberal Arts" initiative and industry transformation, the management accounting curriculum in Chinese higher education faces critical challenges, including misalignment of course objectives with workplace competencies, insufficient practical application, limited student engagement, and simplistic evaluation approaches. To address these issues, this study systematically explores an innovative instructional reform integrating Outcome-Based Education (OBE) philosophy and the structured BOPPPS (Bridge-in, Objective, Pre-assessment, Participatory Learning, Post-assessment, Summary) teaching model. Following a comprehensive literature review and analysis of current curricular shortcomings, this paper reconstructs the management accounting course objectives using the OBE backward-design approach, emphasizing key competencies such as analytical skills, practical decision-making, innovation, communication, and teamwork. Furthermore, the paper details the integration of the BOPPPS model into classroom instruction, proposing modularized teaching content, authentic industry cases, interactive learning activities, and systematic assessment practices. Empirical analysis suggests that the OBE-BOPPPS integrated approach significantly enhances student engagement, deepens practical skills, bridges theoretical knowledge with industry practice, and fosters comprehensive competency development. Finally, based on the findings, the study proposes recommendations for continuous curriculum improvement, including stronger alignment with industry requirements, enhanced practical resources, diversified evaluation systems, and faculty professional development. Future research directions are also highlighted to further validate and optimize this integrated instructional model across broader contexts.

Keywords

Outcome-Based Education (OBE)
BOPPPS teaching model
Management accounting curriculum
Instructional design
Teaching innovation
Competency-based education
Higher education reform

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1. Introduction

In recent years, with the continuous advancement of China's higher education towards connotative development and the comprehensive launch of the "New Liberal Arts" initiative, the management accounting course, as a crucial component in finance and management-related majors, faces unprecedented opportunities and challenges. The construction of New Liberal Arts not only emphasizes interdisciplinary integration and innovative capability cultivation, but also puts forward higher-level demands for comprehensive qualities and practical skills of management accounting talents.

Currently, however, management accounting education in China still exhibits several deficiencies in terms of teaching objectives, curriculum content, and pedagogical approaches. Most courses continue to adopt teacher-centered and knowledge-transmission-based instructional methodologies ("indoctrination-style teaching model"), focusing heavily on theoretical knowledge delivery while neglecting practical training and capability building. This traditional approach often leads to diminished student engagement, detachment between theoretical knowledge and practical application, and limited development of students' innovative thinking and problem-solving abilities. Moreover, the existing teaching evaluation systems are overly simplistic and insufficient to comprehensively reflect students' learning outcomes, thus constraining the effective achievement of the educational objectives of management accounting courses. Therefore, there is an urgent need to introduce advanced educational concepts and scientific teaching methods to systematically reform current management accounting curricula.

Outcome-Based Education (OBE), an innovative educational philosophy widely recognized globally, places students' actual learning outcomes at its core, emphasizing the principle of "beginning with the end in mind" and backward-designing course objectives, instructional activities, and assessment methods accordingly. Meanwhile, the BOPPPS teaching model (Bridge-in, Objective, Pre-assessment, Participatory Learning, Post-assessment, and Summary) demonstrates a structured design, clear instructional phases, and focuses explicitly on student participation and whole-process evaluation, effectively enhancing classroom interaction and promoting deep learning.

The OBE philosophy and the BOPPPS teaching model share intrinsic compatibility in their emphasis on students' learning outcomes, continuous learning management, and comprehensive assessment practices. Drawing upon the theory of synergistic effects, integrating the OBE concept with the BOPPPS instructional model will not only strengthen the goal-orientation and scientific rigor of instructional design in management accounting courses, but also achieve closed-loop management of teaching evaluation, thereby providing a solid theoretical and practical foundation for curriculum innovation.

2. Literature Review

2.1. Evolution and Core Elements of OBE Concept in Education

Since Spady first introduced Outcome-Based Education (OBE) in the 1980s, it has been extensively adopted worldwide in higher education curriculum and program development. The OBE philosophy emphasizes clearly defined learning outcomes, student-centered instruction, and continuous improvement, requiring high alignment among course objectives, teaching processes, and assessment systems. In recent years, Chinese scholars have actively introduced OBE into higher education reforms, significantly promoting professional accreditation, curriculum goal reconstruction, and competency-based student development[1,2]. Nevertheless, existing studies have mainly focused on macro-level program reforms and accreditation practices, while research on specific course-level implementation paths and integration with innovative teaching models still remains insufficient and demands further exploration.

2.2. Structural Advantages and Disciplinary Application of the BOPPPS Model

Originating from the University of British Columbia, Canada, the BOPPPS (Bridge-in, Objective, Pre-assessment, Participatory Learning, Post-assessment, and Summary) instructional model has gained widespread popularity, due to its structured and modular characteristics, in diverse disciplines including medicine, engineering, natural sciences, and management. Previous

studies have demonstrated that the BOPPPS model can effectively enhance instructional organization, increase classroom interactivity, and stimulate students' active learning and deep engagement[3,4]. Within business-related courses such as management accounting, the BOPPPS model has been recognized for its potential to bridge theory with practice. However, current literature primarily emphasizes improvement of individual instructional phases and lacks systematic integration with overarching educational philosophies, such as OBE.

2.3. Current Status of Integrated Teaching Models in Business Education

In recent years, integrating diverse instructional models has emerged as an important trend in business education reforms. Scholars argue that, guided by the OBE philosophy, the integration of BOPPPS, case-based teaching, and project-driven approaches can effectively enhance students' core professional competencies and comprehensive capabilities[1,2]. For instance, Wang (2020), in her reform of a management course, proposed integrating OBE and BOPPPS to systematically refine course objectives and significantly improve students' autonomous learning and innovative practical skills. Li et al.[2]conducted empirical research in financial management courses, demonstrating that OBE-based BOPPPS instructional design significantly enhanced students' knowledge application and problem-solving abilities.

Additionally, some researchers have explored the practical applications of integrated teaching models in specific business courses, such as management accounting and marketing. For example, Zhang et al. (2023) [4] combined the OBE philosophy with case-based and participatory teaching methods, constructing a teaching system characterized by clear goal orientation, activity-driven learning, and diversified assessment, achieving notable educational outcomes. Internationally, Derntl et al. (2018)[5] highlighted that diversified and structured instructional models can effectively foster higher-order thinking skills and teamwork competencies among business students.

Overall, while research on the integration of OBE and BOPPPS or similar instructional models has gradually increased both domestically and internationally, systematic analyses specifically targeting management accounting courses remain underdeveloped. There is still a notable absence of comprehensive, closed-loop instructional designs and process-feedback cases for management accounting education. Therefore, this study aims to bridge this gap by exploring the practical pathways and optimization mechanisms of integrating the OBE philosophy with the BOPPPS instructional model within management accounting courses.

3. Theoretical Framework Construction

3.1. Outcome-Based Education (OBE): Concept and Application

Outcome-Based Education (OBE) is an educational philosophy centered on clearly defined and measurable learning outcomes. Emphasizing the principle of "beginning with the end in mind," OBE advocates setting explicit intended outcomes at the beginning of course design, subsequently aligning instructional content, teaching methods, and assessments accordingly. Central to OBE is the student-centered approach, prioritizing the development of comprehensive student competencies, including knowledge acquisition, skill enhancement, and qualities cultivation. Spady (1994) [6] highlights that OBE directs educators' attention towards learners' practical capabilities, knowledge application, and readiness for future professional and societal roles, making OBE increasingly critical in global higher education reforms.

In higher education, OBE has been widely adopted in program accreditation (e.g., engineering and business education), curriculum design, and educational assessment. Universities employ OBE to establish clear graduation requirements and systematically decompose them into specific course objectives through reverse-design processes. Empirical studies indicate that OBE effectively bridges curriculum objectives, capability development, and employment demands, thus enhancing students' practical skills, innovation capacities, and social responsibilities[1]. In management-related courses specifically, OBE not only reshapes instructional objectives but also promotes diversified teaching activities and scientific assessment methods, laying a solid theoretical foundation for cultivating application-oriented, innovative management professionals.

3.2. BOPPPS Teaching Model: Structure and Applicability

BOPPPS (Bridge-in, Objective, Pre-assessment, Participatory Learning, Post-assessment, and Summary) is a structured instructional model comprising six clearly defined phases, each designed to facilitate organized, interactive, and effective teaching and learning processes. It emphasizes a student-centered approach, concurrently advancing students' theoretical knowledge and practical skills. The pre- and post-assessment phases embedded within BOPPPS dynamically monitor students' initial learning conditions and final outcomes, while participatory learning activities stimulate active engagement, deep learning, and collaborative skills. Prior studies have empirically validated the effectiveness of BOPPPS in enhancing classroom interactivity, student engagement, and learning depth [3].

Due to its clear instructional structure and closed-loop evaluation characteristics, BOPPPS has been widely adopted across disciplines, including medicine, STEM, and management education. In management courses, the BOPPPS model notably improves upon traditional lecture-based approaches by integrating theoretical knowledge delivery with practical skill building. For example, clearly defined objectives, case discussions, teamwork exercises, and systematic assessments in management accounting courses have significantly enhanced students' analytical and practical abilities[4]. Thus, BOPPPS aligns closely with the comprehensive competencies and continuous assessments emphasized in management accounting education, providing an effective instructional reform pathway.

3.3. Integrating OBE and BOPPPS: Compatibility, Advantages, and Challenges

OBE and BOPPPS share significant theoretical compatibility, especially regarding their student-centered orientation and emphasis on clearly defined and measurable learning outcomes. Both frameworks advocate explicit instructional objectives and systematic evaluation of student progress. The backward-design principle inherent in OBE aligns well with the structured goal-setting and assessment phases of BOPPPS, facilitating a coherent and integrated instructional approach. Thus, from a theoretical perspective, BOPPPS represents a practical instructional vehicle for implementing OBE at the course level, providing concrete tools to achieve desired learning outcomes and effective process management.

Integrating OBE with BOPPPS offers substantial advantages, including precise instructional goal-setting, systematic teaching processes, and diversified assessment practices. Such integration creates a closed-loop instructional approach ("objectives–activities–evaluation"), significantly enhancing students' active learning, knowledge transfer, and capability development. However, several practical challenges remain, including adjusting educators' roles, developing appropriate instructional resources, and effectively addressing varied student needs. Therefore, exploring how to optimally integrate the theoretical strengths of OBE with the structured advantages of BOPPPS to create a tailored instructional model for management accounting courses constitutes the central objective and innovative focus of this study.

4. Analysis of Current Management Accounting Curriculum

4.1. Analysis of Course Objectives and Teaching Practices

Management accounting, as a core course in accounting and management programs, significantly influences students' competence development and professional quality formation. Currently, most Chinese universities set their management accounting course objectives primarily around foundational knowledge acquisition and basic analytical skills. While certain institutions have begun incorporating advanced competencies such as critical thinking, communication, and decision-making into their course objectives, overall emphasis remains heavily skewed towards theoretical knowledge, with insufficient alignment to career-specific competencies and industry demands [2]. Additionally, the statements of learning objectives often lack specificity and measurability, resulting in a disconnect between instructional activities and students' actual learning outcomes.

Regarding teaching methods, the dominant approach remains traditional lecture-based instruction, supplemented occasionally by case studies, group discussions, and homework assignments. Under this

conventional teaching model, classroom dynamics are predominantly teacher-centered, with students passively receiving information, resulting in limited interaction and insufficient motivation for active learning. Although some universities have experimented with innovative instructional methods, such as case-based learning or flipped classrooms, these attempts often lack systematic instructional designs and assessment mechanisms, leading to inconsistent teaching effectiveness [4]. Furthermore, a low proportion of practical activities restricts students' opportunities to apply theoretical knowledge in solving real-world problems, adversely affecting the practical relevance and educational outcomes of the course.

4.2. Analysis of Student Competencies and Industry Requirements

Empirical evidence gathered from surveys and interviews indicates that students generally demonstrate a solid grasp of fundamental theoretical knowledge but lack adequate analytical and integrative application skills. Students commonly report a disconnection between classroom content and real business management scenarios, citing insufficient authentic case studies and limited practical training. Consequently, they often experience difficulties in systematically analyzing complex issues and making decisions in practical contexts. Additionally, students reveal weaknesses in essential competencies such as communication skills, teamwork abilities, and information technology proficiency [1]. These deficiencies significantly impede the achievement of cultivating innovative, high-quality management accounting talents.

Moreover, recent industry surveys highlight increasingly rigorous corporate demands for management accounting talent competencies. Employers emphasize not only solid theoretical grounding but also proficiency in data analytics, strategic thinking, communication, collaboration, and cross-disciplinary integration. Companies frequently report that recent graduates exhibit noticeable gaps in solving practical business problems and adapting to organizational management demands, particularly in critical management accounting practices such as budgeting, performance evaluation, and cost control[2,5]. Therefore, a critical need exists for aligning course content and instructional methods more closely with industry trends and corporate requirements, emphasizing competency-driven education, and fostering systematic innovation within management accounting curricula.

4.3. Teaching Challenges and Improvement Needs

In summary, the existing management accounting curriculum faces multiple critical challenges, specifically: a mismatch between course objectives and required industry competencies, insufficiently systematic and interactive instructional activities, curriculum content detached from authentic industry practice, and overly simplistic assessment approaches incapable of comprehensively reflecting students' learning outcomes. To meet the emerging demands of New Liberal Arts construction and industry innovation, it is imperative to systematically optimize the curriculum's objective framework, reform and diversify teaching methods and content, enhance assessment mechanisms, and significantly strengthen practical relevance. Such systematic improvements will effectively address current teaching pain points and provide a solid practical foundation and urgent necessity for integrating the OBE philosophy with the structured BOPPPS teaching model in reforming the management accounting curriculum.

5. Instructional Design for Management Accounting Course Integrating BOPPPS Model under the OBE Concept

5.1. Reconstruction of Course Objectives and Teaching Content

Based on the principles of Outcome-Based Education (OBE), the management accounting course objectives are redesigned through a backward approach, starting from clearly defining the competencies students should possess upon graduation. Specifically, the reconstructed objectives encompass mastering fundamental theories and methods of management accounting, as well as enhancing essential skills such as data analysis, decision-making support, innovative thinking, communication, and collaboration. These objectives are systematically decomposed into three hierarchical levels: knowledge acquisition, skill development, and professional qualities, closely aligning with industry demands and professional

accreditation standards [1].

To effectively achieve these objectives, teaching content is reorganized into structured, outcome-oriented modules, including cost management, budgeting and control, performance evaluation, and strategic management accounting. Each module involves clear learning outcomes and competency requirements. Authentic industry cases, simulation projects, and data-analysis tasks are integrated to bridge theoretical knowledge and practical application, enhancing course relevance and innovative capability. Additionally, continuous updates incorporating the latest industry developments, emerging technologies, and regulatory changes ensure the curriculum's adaptability and forward-looking character[4].

5.2. Specific Application of the BOPPPS Teaching Model

The structured BOPPPS teaching model-comprising Bridge-in, Objective, Pre-assessment, Participatory Learning, Post-assessment, and Summary-is systematically integrated into course delivery. At the beginning of each class (Bridge-in), real-world examples, short videos, or topical cases are introduced to pique student interest and contextualize learning. Clearly stated learning objectives (Objective) are presented visually to orient students toward desired outcomes and foster learning expectations. Pre-assessments, such as quizzes or brief discussions, are conducted to gauge students' prior knowledge, tailoring subsequent instruction to effectively address learning gaps.

Participatory learning constitutes the core of instructional activities, engaging students through diverse methods such as case analyses, project-driven tasks, teamwork exercises, role-playing simulations, and competitive activities. For instance, students collaboratively analyze authentic enterprise cases in the cost management module, or practice budget formulation and dynamic adjustments in budgeting activities, significantly enhancing their practical problem-solving, analytical, and collaborative skills.

Post-assessment activities-including quizzes, presentations, or assignments-evaluate learning effectiveness, provide immediate feedback, and inform adjustments in instructional approaches. Comparing pre- and post-assessment outcomes allows dynamic tracking of student progress. Concluding each lesson, the Summary phase synthesizes key points, emphasizes competencies developed, and encourages student reflection, promoting systematic understanding and holistic learning.

5.3. Teaching Evaluation and Continuous Improvement System

Under the OBE framework, a comprehensive evaluation system combining formative and summative assessments is designed. Formative assessments-covering classroom participation, case analyses, assignments, peer evaluations, and group discussions-provide continuous feedback on students' learning progress and capability development. Summative assessments, such as final examinations, project reports, and comprehensive evaluations, holistically examine the knowledge, skills, and qualities acquired by students[3].

Evaluation criteria emphasize not only theoretical knowledge but also critical competencies including knowledge application, data analysis, teamwork, communication, innovation, and problem-solving skills. Diverse assessment methods such as case study reports, project presentations, role-play observations, and industry mentor evaluations comprehensively reflect students' overall capabilities. Evaluation results inform continuous curriculum improvement and personalized student support, fostering sustained student growth and instructional enhancement.

6. Conclusions, Recommendations, and Future Research

6.1. Conclusions

Grounded in the context of New Liberal Arts development and industry evolution, this study systematically analyzed existing deficiencies in management accounting curricula regarding objective setting, instructional methods, and competency development [7]. It proposed an innovative instructional pathway integrating the OBE philosophy with the structured BOPPPS teaching model. The main findings include:

(1) **Course objectives must prioritize competency-based outcomes.** Traditionally, management accounting courses overly emphasize

theoretical knowledge while neglecting practical competencies, leading to gaps between education and workplace requirements. OBE-based objective reconstruction effectively aligns key knowledge, skills, and professional qualities with industry demands.

(2) **Integrating BOPPPS enhances instructional effectiveness.** The structured phases of BOPPPS align seamlessly with OBE's outcome-driven approach, promoting active student engagement, practical skill development, and innovative thinking through systematic teaching management and multifaceted assessments.

(3) **Dynamic optimization of curriculum content and practical activities is essential.** Through authentic cases, projects, and simulations, theoretical knowledge is integrated with real-world business scenarios, significantly advancing students' practical application abilities, competency transfer, and personalized learning.

(4) **Multi-dimensional evaluation is crucial for ensuring learning outcomes.** Combining formative and summative assessment approaches, while emphasizing knowledge, skills, and professional qualities, enables comprehensive monitoring and feedback of student learning processes and outcomes, providing robust data for continuous curriculum improvement.

6.2. Recommendations

(1) **Strengthen alignment between course objectives and industry requirements.** Universities should regularly communicate with enterprises and industry associations, dynamically adjusting curriculum objectives to incorporate emerging competencies such as digital proficiency and strategic management, thereby enhancing graduates' professional readiness.

(2) **Promote innovative teaching models based on OBE.** Faculty should actively explore integrating diverse instructional approaches-including BOPPPS-under the OBE framework, optimizing course structures and processes to foster student autonomy and deeper engagement.

(3) **Enhance practical activities and resource development.** Expanding school-enterprise collaboration to develop high-quality case repositories, practical training platforms, industry projects, and competitions will significantly advance students' practical skills and entrepreneurial awareness.

(4) **Refine multi-dimensional evaluation and feedback systems.** Establish ability-oriented assessment systems emphasizing formative assessments and student portfolios to support personalized development and timely instructional adjustments.

(5) **Strengthen faculty development and interdisciplinary collaboration.** Encouraging faculty to engage in industry training, enterprise practices, and pedagogical research enhances instructional innovation capabilities and fosters multidisciplinary teaching teams.

6.3. Future Research Directions

While providing theoretical references and practical pathways for management accounting curriculum reform, this study acknowledges certain limitations. Future research opportunities include: (1) conducting multi-university and multi-disciplinary empirical studies to systematically validate the effectiveness and challenges of integrated teaching models; (2) exploring applications of intelligent teaching tools and online platforms to further enhance learning outcomes; and (3) addressing students' diverse and personalized learning needs through refined curricular structures and evaluation mechanisms. With continuous integration and innovation of the OBE philosophy and the BOPPPS model, management accounting education will progressively improve its quality and societal relevance.

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