Innovation of SPOC Blended Learning Model Based on MOOC Resources: A Case Study of Management Accounting Course

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Abstract: Against the background of realizing educational modernization through information technology, promoting blended learning in the "Management Accounting" course for undergraduate accounting majors in colleges and universities is an inevitable requirement to adapt to the teaching reform of digital-intelligent talent cultivation. Based on the connotation of blended learning, constructivist learning theory, and systematic instructional design theory, this study actively explores the expansion of the temporal and spatial dimensions of the course, and forms an online-offline three-stage progressive learning model integrated with "course, research, certification, competition, and practice".This study proposes an educational innovation concept that utilizes MOOC resources as teaching content, the SPOC platform as the teaching environment, and the flipped classroom as the teaching method, along with a student-centered learning model. Without compromising the quality of the course, it shifts the focus from "student-centered" to "centered around students' learning needs and learning outcomes," effectively enhancing teaching effectiveness. This study combines the characteristics of SPOC resources with the practical needs of university teaching reform, designs a blended learning model based on SPOC, and takes the "Management Accounting" course as an example to design an application case. It aims to provide reference for universities to deeply construct and apply SPOC, enable MOOC to take root in university teaching applications, and promote the transformation of university education concepts and teaching modes

Keywords: MOOC, SPOC, Blended Learning, Management Accounting

1. Introduction

With the in-depth penetration of information technology into the field of education, teaching methods have undergone corresponding reforms. Traditional classroom teaching can no longer meet the needs of modern education, and the online-offline blended teaching model has gradually become a trend in the education field. Blended learning refers to a teaching model that organically combines traditional face-to-face classroom teaching with modern online learning to optimize learning objectives. It integrates the advantages of traditional teaching and e-learning, stimulates students' enthusiasm, initiative, and creativity in learning, and effectively improves teaching performance.

Small Private Online Course (SPOC) is a blended learning model based on Massive Open Online Courses (MOOC) platforms that combines classroom and online teaching. It has gradually gained attention and application from domestic and foreign universities. SPOC blended learning is mainly aimed at students in school. Firstly, relevant teaching platforms are used to provide teaching resources such as videos and courseware for students to learn independently and complete tests. Teachers understand students' learning situation based on test results, and then solve key and difficult problems through targeted offline teaching. Discussions and flipped classroom extension of the learned content are organized to form an online offline blended learning mode. The SPOC blended learning model can create an intimate interactive environment for teachers and students [1]. Difficult problems can be guided and answered by teachers and classmates in a timely manner, effectively stimulating students' interest, initiative, and consciousness in learning. Through self referencing materials and interactive discussions with classmates, students can develop the ability to analyze and solve problems. The SPOC-based blended learning

model using MOOC resources gives full play to the role of information technology. With the help of intelligent teaching tools, it fully integrates the offline physical classroom of the Management Accounting course with online course learning.

2. Research Status

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With the advent of the "Internet +" era, the integration of MOOCs (Massive Open Online Courses) with different educational theories and learning methods has spawned the development of various new educational teaching and learning models, such as SPOC (Small Private Online Course), Meta-MOOC, DLMOOC, MOOL, MOOR, and DOCC. Among them, SPOC is known for its characteristics of small scale and restricted access, which can significantly improve the learning effect of MOOCs.

In 2013, Professor Armando Fox from the University of California, Berkeley first proposed the concept of SPOC, aiming to organically combine high-quality MOOC resources with face-to-face classroom teaching to flip classroom teaching, transform the teaching structure, and improve teaching quality. Scholars such as Zhang Qiliang & Wang Aichun [2], Mu Su & Wen Huiqun [3], and Wen Huiqun & Mu Su [4]designed SPOC-based blended learning models and application cases. Subsequently, a large number of scholars conducted empirical studies on the application effects of these models in different contexts and courses [5].

In recent years, scholars have further focused on the development of SPOC learning resources, hardware construction [6], influencing factors and evaluation of SPOC teaching effects [7], learners' motivation and behavioral differences in SPOC learning [8], and model innovation [9], resulting in fruitful research outcomes. The blended learning model, through the flexible integration of online and offline resources and technical support, can provide students with personalized learning experiences and real-time feedback[10].Deep Blended Learning (DBL) can achieve the deep learning goals of knowledge transfer and high-order competence development. The current situation of students' DBL in the smart classroom environment, screens the influencing factors using hierarchical regression analysis, constructs an influencing factor model of students' DBL in the smart classroom environment.[11]

3. Exploration Process of SPOC Blended Learning Model for Management Accounting Based on MOOC Resources

In accordance with the Opinions on Strengthening the Construction, Application and Management of Online Open Courses in Higher Education Institutions, Beijing Union University has guided teachers to pay attention to online course construction since 2015 and promoted the reform of the blended teaching model combining online learning and offline classrooms.

In 2018, the university officially issued the Measures for the Construction, Application and Management of Online Courses in Beijing Union University to guide and encourage teachers to conduct teaching research and reform. In 2019 and 2020, the university organized the application for online open course construction projects. A total of 35 projects were approved for online open courses in 2019.

Since October 2019, the course team has launched the MOOC Management Accounting: Tools and Applications on the China University MOOC platform. After 8 rounds of operation, more than 6,300 students have registered for the course, accumulating rich experience in MOOC teaching. Since March 2020, the team has offered SPOC online courses based on MOOC resources for accounting and financial management majors of the 2017 cohort, conducting multiple rounds of teaching exploration.

Adhering to the concept of "student development-oriented", the teaching team integrates the needs of new liberal arts construction and ideological and political education into specific teaching reform practices, strengthens in-depth cooperation

and exchanges with the Institute of Management Accountants, continuously enriches course resources, improves teaching methods, and organically integrates ideological and political elements, achieving good teaching effects.

4. Design of SPOC Blended Learning Model Based on MOOC Resources

The SPOC-based blended learning model is an innovative integration of face-to-face classroom teaching and SPOC online learning. Based on the connotation of blended learning, constructivist learning theory, and systematic instructional design theory, this study proposes design principles and conducts model design under the guidance of these principles.

The SPOC blended learning model to the design of the teaching plan for the "Management Accounting" course mainly includes the following parts: The first part is the preliminary preparation, which requires front-end analysis and the design and development of learning resources. Front end analysis includes learner analysis, learning content analysis, and learning environment analysis. Learning resource design and development includes two modes: introduction and self construction. The second part is the design of blended learning activities, with problem-based learning activities as the main design thread, including pre class guidance, in class research, and post class practice. The third part is the implementation and evaluation of learning activities, providing timely evaluation and feedback based on the effectiveness of course implementation to optimize teaching. The construction of new liberal arts, ideological and political education in courses, and knowledge impartment share common methodological paths. To address the pain points in teaching, the course team actively explores the expansion of the temporal and spatial dimensions of the course, and forms an online-offline three-stage progressive learning model integrated with "course, research, certification, competition, and practice".

4.1 Expanding the Temporal Dimension of Teaching: Implementing "Online-Offline Blended Three-Stage Progressive Teaching" to Promote In-Depth Learning

Before class: Through platform training and MOOC-based simulation of start-up stores, students construct basic ideas for solving problems. In class: Through discussions, presentations by other groups, situational simulations, debates, and guidance from industry experts, students reflect on and improve their ideas. After class: Groups reach a consensus to form solutions, implement them, draft reports, revise drafts, present results in class, and finalize reports.

With the help of diverse and rich MOOC learning resources, students' needs for fragmented learning and personalized exploration are met. By means of smart classrooms and the "question setting-questioning-question solving" process, students achieve the transition from "willing to learn" to "able to learn" and finally to "learn well", realizing effective interaction between teachers and students, and among students.

Students participate in group projects and gain progressive in-depth learning experiences, including "basic training and cognitive simulation—specialized expansion and shared thinking—comprehensive improvement and innovative creation".

4.2 Expanding the Spatial Dimension of Teaching: "Integration of Course, Research, Certification, Competition, and Practice" to Support Personalized Development

Students are stratified according to their learning efficiency and learning expectations. Through students' high-quality learning investment and teachers' careful guidance, students improve their thinking quality and problem-solving abilities in the challenging learning process. This ensures that every student makes progress and enhances their recognition of the major and sense of responsibility.

Integration of Course and Research: For students with strong learning efficiency who aim to improve research capabilities, more challenging projects are provided. With reference to master's theses and academic papers, students are guided to construct and compare different problem-solving ideas, enhance the application of scientific methods, and foster innovation awareness.

Integration of Course and Certification: For students with strong learning efficiency who aim to improve professional capabilities and plan to take professional certifications, simulation exercises using real exam cases

from authoritative management accounting certifications such as CIMA (Chartered Institute of Management Accountants) and CMA (Certified Management Accountant) are provided to enhance their ability to solve complex problems.

Integration of Course and Competition: For students with relatively weak learning efficiency, participation in academic competitions is encouraged, including management accounting association competitions (course selection-school-level competitions-national competitions), professional skills competitions (training-simulation-competitions), and interdisciplinary competitions (innovation and entrepreneurship competitions). These competitions help expand students' understanding of the application of new management accounting tools in enterprises under the background of digital transformation.

Integration of Course and Practice: For students with relatively weak learning efficiency who are willing to engage in practical activities, guidance is provided for on-site surveys of nearby small stores or internship units. Students overcome practical difficulties, learn from each other, help small stores or units reduce costs, increase efficiency, and provide support for scientific decision-making. This builds a bridge between theory and practice and enhances students' sense of accomplishment.

5. Joint Construction of Teaching Resources to Adapt to Online-Offline Blended Learning Practice

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Teaching resources are integrated through multiple channels and dimensions based on industry-education integration and teacher-student co-construction.

Teachers independently develop MOOCs, enrich non-text resources such as videos, select academic papers (including their own research papers) as extended materials, and feed back research results into teaching to meet students' needs for online independent learning.

Research reports and competition reports of previous students are jointly developed by teachers and students into typical teaching cases, which are integrated into MOOCs to enhance students' internal motivation.

The industry-education integration practice platform provides a closed-loop practical teaching process of "practice—competition simulation—competition—reflection—practice consolidation". Industry reports and teachers' horizontal research reports complement each other to broaden students' horizons, while the financial big data practical teaching platform expands students' practical links in intelligent prediction and decision-making.

6. Innovation in Practice Evaluation of Online-Offline Blended Learning

To address the pain points in teaching, through the study of teaching theories, the value orientation of teaching evaluation has shifted from "evaluation of learning results" to "evaluation for promoting learning". The evaluation of teaching effectiveness comes from regular student interviews and final questionnaire surveys, which are mainly divided into cognitive surveys; Survey on students' pre class learning stage; Survey on the effectiveness of after-school learning, with evaluation indicators including learning motivation, learning ability, learning attitude, and satisfaction; On the other hand, it comes from the analysis of the final overall evaluation score, which includes evaluation indicators such as exam results, pass rate, and excellence rate.

Starting from the teaching objectives of the course, we adopt a combination of online and offline assessments, process assessments and summative assessments, and evaluation and incentives. Through online and offline preview, homework, course participation, and case analysis, process assessment is conducted. Students who take the Management Accountant Practice Certificate exam, participate in case competitions and win awards, participate in teacher research activities, share learning experiences, learn resources, correct mistakes, and provide mutual assistance in groups are given extra points to enhance their recognition and enthusiasm for the course. Setting up one to three tiered assignments and assigning different highest scores can achieve hierarchical teaching and personalized learning. Case analysis with certain difficulties can also stimulate students' determination to actively explore and dare to

challenge, truly realizing the high-level and challenging nature of the curriculum.

Fully utilize information technology to collect multimodal learning data from students in a blended learning environment in all aspects and processes, with a focus on dynamic evaluation and feedback. Real time collection of online self-learning performance, in class in-depth research performance, completion of homework and knowledge expansion, test scores, system points, student attention, and timely improvement of their learning status; Students who pass the exam but are not satisfied can also revise and submit their homework case reports until they achieve their desired grades. Transforming the 'one-time formation' of grades into dynamic management, enabling students to learn and reflect during the evaluation process, and making the evaluation process a continuous process of improvement and progress for students.

6.1 Dynamic Assessment and Feedback Based on Information Technology

Information technology is fully utilized to collect multi-modal learning data of students in the blended teaching environment in an all-round and whole-process manner, with emphasis on dynamic assessment and feedback.

Data on students' online independent learning performance, in-class in-depth research performance, after-class homework completion, knowledge expansion progress, and test scores are collected in real time. A point system is adopted, and students can check their scores in real time to adjust their learning status promptly. For students who pass the course but are not satisfied with their grades, they can revise and resubmit their homework and case reports until they achieve the desired results.

This transforms the "one-time final grade" into dynamic management, enabling students to learn how to learn and reflect during the evaluation process, and making the evaluation process a process for students to continuously improve and make progress.

This study proposes an educational innovation concept that takes MOOC resources as teaching content, SPOC platform as the teaching environment, and flipped classroom as the teaching method, as well as a student-centered learning model. On the premise of not reducing the course quality, it upgrades the "student-centered" concept to "centered on students' learning needs and learning effects", effectively improving the teaching effect.

7. Conclusion

The SPOC blended learning model based on the MOOC teaching platform adopts the student-centered concept, which makes up for the shortcomings of classroom teaching mode and is conducive to stimulating students' learning autonomy, providing convenience for students to preview before class and repeat learning after class. The construction of this course in the MOOC online education comprehensive platform enriches teaching resources, realizes teacher-student interaction and communication, and enhances students' self-learning ability, independent thinking ability, and summarization and expression ability. The SPOC blended learning model effectively combines online and offline teaching, improving students' learning outcomes. At the same time, according to the specific situation of teaching practice and student feedback, corresponding adjustments should be made in a timely manner to further improve the quality of teaching and provide guarantees for cultivating high-quality talents with comprehensive development. Combining the characteristics of SPOC resources and the actual needs of teaching reform in colleges and universities, this study designs a SPOC-based blended learning model and develops an application case using the "Management Accounting" course. It is expected to provide reference for colleges and universities to further construct and apply SPOCs, promote the implementation of MOOCs in college teaching, and drive the reform of educational concepts and teaching models in colleges and universities.

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References

[1] Wan Xuerui, Wang Chuan, Zhang Xiaoli, Liu Guo, Kang Di, Peng Jie, Song Yangming Exploration of SPOC blended teaching of "Veterinary Microbiology and Immunology" based on the YouMOOC

teaching platform. Microbiology Bulletin, 2025, 52 (05): 2381-2391

[2] Zhang Qiliang, Wang Aichun. Research on a New Blended Teaching Model Based on the “Flipped Classroom”. Modern Educational Technology, 2014, 24 (04): 27-32.

[3] Mu Su, Wen Huiqun. Adapting to Student Learning: Design and Implementation of Blended Learning with Different Complexity Levels. Research on Open Education, 2018, 24 (06): 60-69.

[4] Wen Huiqun, Mu Su. How Do Different Paths Converge? —An Analysis of the Effectiveness of Blended Teaching Practices with Different Complexities. China Distance Education, 2023, 43 (02): 64-72.

[5] Chen Ming, Sang Xiaoshuang. Empirical Study on University Students' Perception and Satisfaction with Blended Teaching Model Reform Courses. Modern Distance Education, 2018, (05): 57-64.

[6] Chai Huifang, Yang Yuhui, Dong Rong, Zhang Zihui, Li Meng, Shen Liyan. Exploration of Smart Classroom Construction and Blended Teaching Application: Taking Zhejiang University's Smart Cloud Classroom" as an Example. Modern Educational Technology, 2022, 32 (05): 110-118.

[7] Cai Minjun, Tang Rui, Wei Yu. Research on College Students' Online Learning Behavior Based on Two-Dimensional Quadrant Analysis: Taking SPOC Practice in a Blended Learning Environment as an Example. Research on Educational Technology, 2023, 44 (08): 49-56.

[8] Liu Ling, Wang Qiong. Characteristics and Influencing Factors of Student Learning Engagement in Blended Teaching Models. Modern Educational Technology, 2021, 31 (11): 80-86.

[9] Yang Ruiping, Wang Xiaoliang. Intermediate Financial Accounting MOOCs Construction and Blended Teaching Innovation. Journal of Shanxi University of Finance and Economics, 2022, 44 (S2): 146-148.

[10] Shi Yinghui, Chen Ling, Chen Hongxue, Wei Yitong Research on the influencing factors of deep blended learning for students in smart classroom environment. Modern Educational Technology, 2025, 35 (05): 71-81

[11] Zheng Yanqun, Liu Bing On the Integration and Development of Project based Teaching and Blended Learning Models in International Chinese Education. Chinese Language Teaching and Research, 2025, (02): 51-57.

