Research on blended learning of design practice courses based on OBE concepts

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Abstract: In the context of higher education reform, the OBE-based teaching model has gradually attracted attention, emphasizing a student-centered and learning outcome-oriented approach. Using the course Cultural and Creative Product Design as an example, this paper explores methods of integrating the OBE concept into blended learning for design practice courses. Through a combination of online and offline activities, project-driven tasks, and multi-dimensional evaluation methods, students' innovative and practical abilities are enhanced. The study shows that the blended learning model under the OBE concept can effectively improve course outcomes and achieve teaching objectives.

Key words: OBE; blended learning; design education; pedagogical reforms

1 Introduction

With the modernization of education, traditional teaching methods can hardly meet the needs of cultivating innovative talents. Higher education faces challenges in developing students' professional skills and innovative awareness. Design practice courses emphasize practicality, typically covering design theory, design methods, the design process, and other components. These courses play a crucial role in cultivating students' practical design skills. In design practice courses, applying the OBE concept can clarify learning objectives, optimize curriculum design, and assess students' learning outcomes, thereby enhancing educational effectiveness and efficiency.

The OBE concept has gained emphasis and been applied not only abroad but also in China. The traditional education model is teacher-centered and focuses on knowledge transmission, whereas the OBE concept advocates a student-centered, learning outcome-oriented approach that prioritizes students' learning experiences and results. Blended learning, a mode combining online learning with traditional face-to-face teaching, can address the limitations of traditional methods, broaden students' learning channels, and improve learning efficiency. Blended learning includes various forms such as online classrooms, video lectures, and discussion forums, which can enhance teaching efficiency while ensuring effective learning outcomes.

2 Overview of the development and application of the OBE concept

OBE (outcome-based education) is an educational philosophy that emphasizes a learning outcome-oriented approach, where teachers should focus on students' actual learning outcomes. By setting clear learning objectives, carefully designing courses, and tracking students' progress, OBE aims to achieve effective and efficient teaching. The premise of implementing OBE-based teaching is that all stages of teaching activities should be organized and designed around well-

-defined learning outcomes with specific and measurable goals. Throughout this process, teachers should employ flexible teaching methods to maintain coherence in the educational process and provide students with ongoing, effective feedback.

A search of the CNKI using "OBE" as a keyword yielded 11,500 journal articles, 422 dissertations, and 447 conference papers as of July 2024. Bibliometric visualization analysis on this network shows a sharp increase in related research since 2015, with main associated keywords including "blended learning", "teaching reform", "new engineering", "instructional design", "talent cultivation" and "practice teaching".

Narrowing the search scope to "OBE + Art Design", 95 academic journal articles and 3 dissertations can be found. The research content can be mainly summarized into the following categories. The first category is the analysis of teaching design under the OBE concept, including the construction of teaching systems, setting of teaching models, and specific processes of teaching implementation. For example, "OBE-based curriculum reform practice in cultural creative product development" focuses on curriculum reform and optimization [1]. The second category is research on talent cultivation under the OBE concept, such as "Exploration of classroom introduction teaching mode of product design graduate students under the OBE concept", which proposes "learning through competition" by introducing contests into the classroom as a cultivation goal [2]. The third category is research on teaching evaluation methods for teaching practice guided by the OBE concept, such as "Exploration and practice of the dynamic teaching evaluation mode of 'three-stage verification' under the outcome-based (OBE) perspective", which discusses the achievements and challenges of applying the "three-stage verification" dynamic evaluation model in art and design courses [3]. These articles reflect the specific application of the OBE concept in the art and design courses of higher education in China and provide valuable insights and methods for this study.

3 Existing problems of design practice courses

3.1 Less practical teaching activities

Currently, most domestic institutions still primarily use the traditional "three-stage" teaching model in design practice courses: conceptual explanation, example evaluation, and homework practice. This model emphasizes theoretical knowledge, while practical teaching is relatively limited. Due to this lack of practical instruction, students have insufficient opportunities for hands-on experience, making it difficult to integrate theoretical knowledge with practical application. This limitation affects the development of students' hands-on skills and their ability to solve practical problems. Design practice courses should include various practical components, such as course internships, off-campus internships, and social practice. However, many courses currently lack essential practical activities, such as off-campus practice activities. The absence of comprehensive practical teaching components means that students have limited exposure to actual work environments, making it challenging for them to build a complete understanding of vocational skills and knowledge.

3.2 The design theme is too homogeneous

The focus on a single design theme arises from several factors, including limited teaching resources, market demand biases, and insufficient emphasis on cultivating innovative thinking. During instruction, teachers may concentrate heavily on in-depth training within traditional or mainstream design fields, while emerging and niche design areas often receive less resource allocation. This tendency restricts students' practical exploration and narrows their horizons, leading to a lack of diversity and innovation in their work. In today's efficiency-driven business environment, this trend also indirectly shapes curriculum design, making it more inclined toward themes that closely align with market demands to improve students' employability. However, this approach may unintentionally hinder students' creative potential, confining their creativity within predefined boundaries.

3.3 Low student engagement in class

Traditional teaching methods rely on theoretical instruction with limited opportunities for hands-on practice, which makes it difficult for students to master design skills. The lack of interactivity and practicality also contributes to decreased student engagement. The nature of design courses requires the integration of diverse teaching methods, such as in-depth case studies, effective teamwork, and challenging project-based tasks. If the teaching approach becomes too uniform, it will not only reduce students' enthusiasm and engagement in the course but also directly impact their learning outcomes. Especially in design practice courses, the educational goal extends beyond students' comprehensive understanding of theoretical knowledge; it also emphasizes their ability to apply this knowledge to solve real-world problems through practical experience.

4 A blended learning design for design practice courses based on the concept of OBE -- taking "cultural and creative product design" course as an example

4.1 Analysis of student status

After one year of basic courses and one year of specialized courses, students have initially mastered the basic knowledge and skills of visual design before starting this course. They can skillfully use graphic design software such as Adobe Illustrator, Adobe Photoshop, etc., and have a certain aesthetic appreciation of design works. However, they may lack a systematic knowledge structure and practical experience in cultural and creative product design. Therefore, they are eager to improve their innovation ability and hands-on ability through the course.

4.2 Objectives of the course

The Stanford University 2025 Plan suggests that future educational reforms should implement a shift from "knowledge before ability" to "ability before knowledge", establishing ability as the foundation of undergraduate study. This course is a professional practice course for junior students in digital media art. Through this course, students will gain skills in cultural value refinement, visual integration design, and product production and display. The course emphasizes the integration of theory and practice in cultural creative design, focusing on creativity and applicability based on China's rich cultural resources. By guiding students to explore Chinese culture from multiple perspectives, innovate with cultural elements, and study diverse application forms, the course enables students to master the theory and creative methods of cultural and creative design through the use of high-quality work evaluation and project design training.

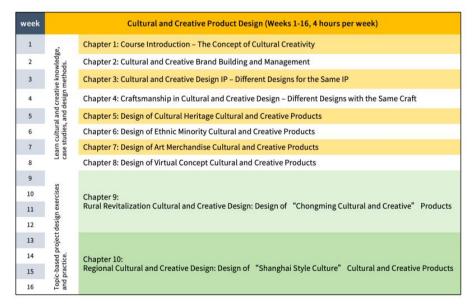4.3 Design of course content

Figure 1. Course design

The cultural and creative product design course spans 16 weeks, with 4 class hours per week. In the course structure, the first week introduces the course content, covering the concepts of cultural creativity and cultural creative products. The second week focuses on the construction and management of cultural creative brands, while the third week introduces cultural creative design IP, showcasing different designs of the same IP. In the fourth week, students learn about and experience the design process of cultural creative products. From the fifth to eighth weeks, the course delves into the theory and case studies of four categories of cultural creative design: "rural village", "ethnic minorities", "art peripherals" and "virtual concepts". The final eight weeks of the course are divided into two thematic design practices, each lasting four weeks. The first theme is "Cultural and Creative Design for Rural Revitalization: Chongming Cultural and Creative Theme", and the second is "Regional Characteristic Cultural Design: Haipai Cultural Theme". These topics enable students to complete a semester of cultural and creative product design theory and practical learning in a structured, step-by-step approach.

4.4 Blended instructional design

The online course uses the Super Star learning channel to publish and store course materials and collect students' assignments. Before class, the teacher sets up the course framework on the platform, allowing students to understand the course content and objectives and gain a preliminary understanding of the subject. Students can log onto the platform at any time to submit assignments, review learning materials, and more. If students have questions, they can leave messages on the platform or contact teachers on WeChat. Offline classes take place in the classroom or in the cultural and creative design studio, which is equipped with screen printing, 3D printing, and other tools. This setup allows students to experience the process of creative production firsthand. Through a hybrid of online and offline teaching, students can flexibly master theoretical knowledge and apply it in hands-on practice. The combination of the online platform and the studio provides students with rich learning resources and practical opportunities, which comprehensively enhances their overall skills and innovative abilities in cultural and creative product design.

4.5 Effectiveness and evaluation of teaching and learning implementation

4.5.1 Course effectiveness evaluation

Students are able to think and innovate independently throughout the design process. Through a cooperative learning approach, they establish close working relationships with their project partners, learn how to collaborate and communicate effectively in a team, improving their teamwork and communication skills.

4.5.2 Student professional competence evaluation

Through this course, students master the processes and concepts of cultural and creative product design, enabling them to design a complete set of cultural and creative products according to specified themes and requirements. Through independent study and practical application, students can flexibly utilize the knowledge and skills they have learned, enhancing their independent thinking and innovation abilities.

4.5.3 Analysis of outcomes of course outputs

The lectures of this course are oriented towards participating in competitions and designing commercial projects. Ultimately, an IP image design work is transformed into a commercial product and applied. More than ten works were featured at the school's special exhibition of IP image design and Shanghai's cultural and creative bazaar, while dozens of works won domestic and international design awards. The results of the course output clearly show that students have gained significantly from taking this course.

5 Conclusion

The exploration and practice of blended learning for design practice courses based on the OBE concept aims to develop a teaching model that emphasizes students' independent learning and practice, while improving their design skills, innovation ability, and teamwork. In the teaching process, students are provided with more comprehensive and diverse learning experiences and practical opportunities through online classrooms, offline practice, expert lectures, exams, and other activities. At the same time, independent and cooperative learning methods are used to stimulate students' interest and initiative in learning.

Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

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