Exploration and Practice of the "Four-In-One" Online and Offline Blended Teaching Mode Based on Superstar Learning Platform

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Abstract. How to highlight the main and central role of students through online and offline blended teaching design, enhance effective interaction in teaching, and promote students' deep learning become a topic of great theoretical and practical value. Based on Superstar Learning platform, the "four-in-one" online and offline blended teaching mode organically combined "OBE + SPOC + PBL + BOPPPS" was framed and developed; Then, taking innovative teaching of Tourism Statistics as an example, explain and show how the 'four-in-one' online and offline blended teaching mode was applied and practiced, shed a new enlightenment to the reform of professional compulsory courses in China.

Keywords: Superstar Learning platform · the "four-in-one" teaching mode · Online and offline blended teaching · Tourism Statistics

1 Introduction

With the advancement of the digital education, course-teaching mode undergone earth-shaking changes, online and offline blended teaching has gradually become the main-stream of teaching reform [1]. How to highlight the central role of students through online and offline blended teaching design, enhance effective interaction in teaching, and promote students' deep learning to become a topic of great theoretical and practical value [2]. Superstar Learning is an online interactive-teaching and sharing platform with higher popularity in China, which provides comprehensive technical support for remote and short-distance interaction between teachers and students [3]. Exploring the organic integration of "Outcome Based Education" + "Project Based Learning" + "Small Private Online Course" + "BOPPPS" and developing the "four-in-one" online and offline blended teaching mode, facilitate the transformation of course teaching from "teaching-centred" to "learning-centred". Then, taking innovative teaching of Tourism Statistics as an example, explain and show how the "four-in-one" online and offline blended teaching mode was applied and practiced, shed a new enlightenment to the reform of professional compulsory courses and enrich the relevant research on online and offline blended teaching.

2 Framework Design

2.1 Embedding of Superstar Learning Platform

Superstar Learning not only share a great number of online courses and learning materials, but also support multi-terminal operation, provides online live broadcasting, video production and storage, real-time interaction, online interaction, learning monitoring and statistical tools, having the potential to support teachers to connect and integrate online and offline teaching [4]. The app interacts teachers and students before-during-after class by digital technology, greatly expanded teaching space and increased opportunities for interaction, and laying the foundation for online and offline blended teaching.

First, teachers create courses on Superstar Learning. Then, the main course design can be efficiently completed on the platform, including preparing teaching plan and syllabus, PPT and videos' production and sharing, online quizzes, group cooperative project, etc. Various interactive activities, such as posting assignment, check-ins, selection, quizzes, scoring, live broadcasts, topic discussions, etc., can be pre-designed and organized. In addition, the app provides functions of monitoring and analysing students' online learning status, help teacher to adjust and optimize teaching content and progress promptly. After joining the course, students can use different kinds of terminals to interact with teachers anytime, anywhere, such as computers, mobile phones, or Pad, taking the courses in their pockets for independent learning, join in or initiate discussions, complete homework, and participate in various interactions in class.

2.2 Reconstruction of Teaching System According to OBE

Outcome Based Education (Abbreviated as OBE) is an advanced and students' learning outcomes-oriented teaching concept, which highlights reversal design of teaching-learning system according to learning outcome [5]. OBE provides guiding concept for the reconstruction of online and offline blended teaching system, following the idea of "student-centred, outcome-oriented and continuous improvement", taken student's "learning" as the centre rather than teacher's "teaching" as the centre, combined top-down design, and bottom-up evaluation to form feedback loop. Subsequently, based on the analysis of the role of the course in the talent training system and the learning condition of the students, the knowledge genealogy and teaching elements of the coursed are systematically reconstructed in line with the requirements of students' ability growth, such as the educational resource configuration, course content, teaching methods, schedule, and teaching supervision and evaluation etc. teachers mainly direct and guide independent learning, active learning and enjoy learning, and cultivate and improve students' cognition-discovery-analysis-explanation-problem-solving ability in an orderly and in-depth manner.

2.3 Immersive Construction of PBL

Project-Based Learning (Abbreviated as PBL) is an effective teaching method that takes students as the main body of teaching, advocates introducing semi-realistic project tasks into courses, guiding students to grasp the knowledge from solving realistic problems

through inquiry, discussion, and cooperation, which is especially suitable for the applied subjects with certain difficulties and challenges. In the design of online and offline blended teaching, the knowledge points and teaching content are transformed into a series of tasks closely related to reality, knowledge point and learning objectives is interpreted and lectured by means of photograph, PPT, videos, building a more vivid and three-dimensional scenario. Then, with the support of Superstar Learning platform, teachers can dynamically monitor, guide and guide project drills, and group discussions, practical exercises, cooperative exploration, etc. are more effective. Furthermore, students' learning outcome can be evaluated and feedback in a timely manner according to the requirements of real projects, so students can witness the actual outcome of their operation, which enhances cooperative learning and students' learning participation, sense of achievement and sense of gain.

2.4   Online SPOC-Guided Construction

Small Private Online Course (Abbreviated as SPOC) is an online course system for small-scale group, which combined micro-videos, learning materials, training and quizzes, automatic machine scoring, forums, etc. On the one hand, targeted interpretation and guidance of SPOC can not only facilitate independent learning, but also expand students' learning space and opportunities; On the other hand, for students with different characteristics, personalized learning methods can be adopted to independently control learning progress, knowledge consolidation and extension. Teachers can continuously monitor students' learning status and adjust teaching schedule in a flexible manner.

According to Bloom's-Taxonomy, content design and arrangement of SPOC, are focusing on primary cognitive levels: memory, comprehension and application [6]. Based on teaching objectives and knowledge system, online interpretation video mainly focuses on the key points, core concepts and principles, in line with the 'introduction of the point- method-analysing steps-operation demonstration-result' chain, accompanied with interactive questions and answers, quiz, small discussions in the middle, leading students to go deeper layer by layer. Consequently, stimulate students' interest, guide students to pay attention to the practical application of the course, and at the same time facilitate teacher-student interaction, break through teaching difficulties and blocking points.

2.5   Offline BOPPPS Integrated Construction

"BOPPPS" decomposes the teaching process into five parts: Bridge-in, Objective, Pre-assessment, Participatory Learning, Post-test, and Summary, which is student-cantered learning design model. In the actual classroom, offline teaching coupled with SPOC through the pre-test part, and combined with PBL by following the steps 'case introduction + seminar learning + summary expansion + post-test', through interactive discussion, cooperative learning, reflection, and discussion, to expand the depth of learning, combined with after-class homework, interactive discussion, performance etc. forming feedback closed loop, integrate online and online, before and after-class learning space. Achieve continuous improvement in teaching effectiveness.

3   Implementation and Practice

Tourism statistics is a methodological science mainly deal with tourism data processing and analysis 1 as a compulsory course of tourism management program, it has the characteristics of "diverse methods, abstract concepts and strong logic". It is not only necessary to teach students how to collect, organize, analyse, and interpret tourism data, be familiar with tourism data processing procedures and software operations, but also cultivate students' statistical thinking logic and quantitative research ability, and enhance professional identity and pride. Most of the tourism management students are liberal arts students, and their mathematical foundation is relatively weak. In the traditional classroom, teachers sing a one-man show, cramming the classroom, students have no time, no enthusiasm to understand, digest and reaction, for time is limited, theoretical exploration and data processing exercises are superficial, lack of effectiveness, teachers and students all feel very passive. In response to the above problems, the online and offline blended teaching innovation is divided into three stages: before, during and after class, multi-terminal 'online independent learning + project-based offline learning + after class extended learning + process evaluation' is organically combined to meet the different students, giving full play to students' autonomy, stimulating students' potential, and make teaching interaction in-depth and efficient.

3.1   Before Class

Before-class stage is planning and preparing part of the course, teacher team discusses the teaching content in detail and organizes teaching resources. The main job composed of selecting key points and difficulties to processing online videos, arranging interactive activities, enriching learning resources and preparing test, etc., designing and posting a list of independent learning tasks, preparing interpreting videos and sharing them on the learning platform, assigning exercises and discussion, utilizing the "statistics" module to monitor students' independent learning status through learning intervals, duration, correct ratio, etc. Find out the difficulties and problems in students' independent learning, clarify the focus and key point of classroom teaching, and adjust the teaching plan timely, besides, teachers can also provide personalized guidance under certain circumstances.

Students can take advantage of the learning platform to independently control the pace of learning before the deadline. Through video watching, online discussion and online tests, students may understand the main content of the chapter, be stimulated, directed, facilitated to preview, and grasp the important knowledge points through 'video + task point interaction + chapter testing'.

3.2   During Class

In the "in-class" stage, PBL and BOPPPS are integrated to design and organize inquiry-based classrooms, cultivate students' understanding of tourism data and the ability to use data thinking to analyse problems and solve practical problems through a series of case analysis training and seminars.

Teacher bridge in the lesson with project tasks, pictures, videos, stories, questions, hot topics, etc.; Videos and pictures provide more vivid presentation of project and task,

help students understand what is the objectives of the class, what's the meaning and value of the knowledge, what kind of problem should be solved [7]; by means of Q&A, quizzes, anonymous voting, group discussion, etc. to test students' interest and prior knowledge of the topic, then, adjust the depth and pace of subsequent teaching content, so that the goals of the course are more focused.

Combined with the work content of the advanced task of the project, organize students' interactive discussions, operational exercises, case analysis and discussions, help students solve problems and familiarize themselves with and master the key points and skills, During the period, the learning platform can be used to intersperse rich and interesting learning activities such as selection, answering, group discussion, role playing, experimentation, storytelling, solitaire, etc., to enhance students' interest and participation in learning. After the participatory learning, post-test was carried out to grasp to what level the learning objectives are achieved by Q&A, exercises, demonstrating operations, and reporting; conclude the class, guide students to innovate and critically thinking, stimulate students' spirit and desire for exploration, and fully mobilize students' enthusiasm for classroom participation.

3.3   After Class

"After class" learning is just as important as before-class and in class. Post and mark homework on E-Learning platform to help students consolidate what they have learned. The results of classroom discussions, relevant case references, excellent group work can be shared and displayed online, so that students can Learn from each other and understand the key points more deeply, encourage them to cooperate and innovative scientific research, in addition, teacher can adjust project's situation, stimulate students' thinking and introduce new knowledge [8]. Meanwhile, teachers analyse students' learning status in a timely manner, carry out teaching reflection, and continuously improve and optimize teaching resources and teaching link design.

3.4   Diversified and Process-Oriented Assessment

Emphasize process-based assessment, comprehensively assess students' performance in terms of interactive participation, collaborative learning, and homework quality, before, during and after class, broken the traditional assessment mode of one test determines grades. The assessment of students' academic performance is divided into four areas: independent learning (20%), discussion (20%), online homework (10%), group task (10%), mid-term and final examination (40%), and. Furthermore, multi-agents participate in the assessment to ensure the fairness and increase students' engagement, and different assessment ratios are assigned according to the level of participation and ability: assessment of teacher accounting for 50%, inter-group mutual evaluation accounting for 20%, professional experts accounting for 10%, and teaching assistants accounting for 20%. The diversity of assessing agents not only ensures the scientific, comprehensive, and effective assessment results, but also mobilizes the enthusiasm and enthusiasm of learning subjects, plays a positive role in achieves the purpose of promoting learning
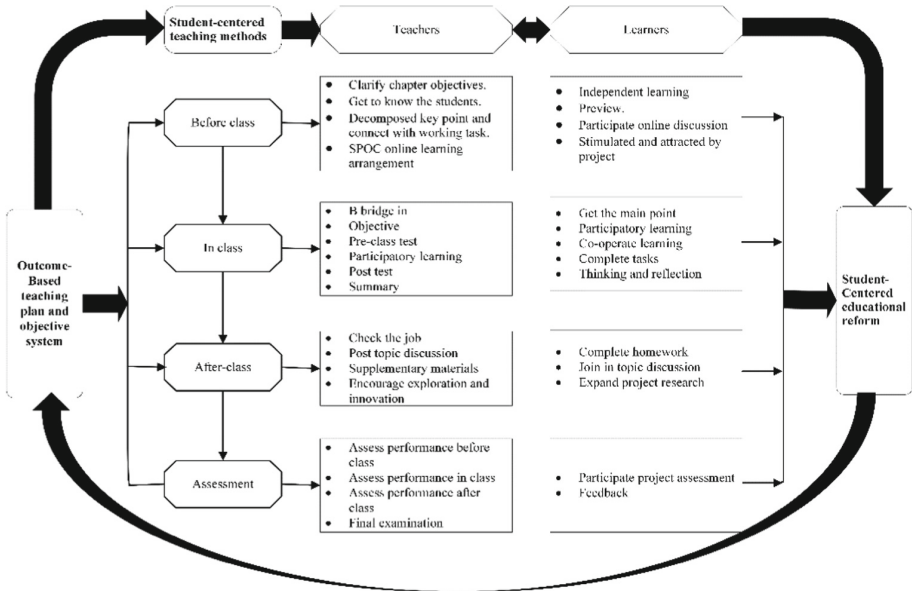
Fig. 1. Diagram of the 'four-in-one' online and offline blended teaching model

with evaluation. How the 'four-in-one' online and offline blended teaching model is carried out and embedded in before class, in class, after class and assessment of the course is showed in the following diagram (Fig. 1).

4 Conclusion and Discussion

With the vigorous development of the digital economy, digital technology has become a 'new energy' that empowers the high-quality development of the tourism industry. Meanwhile, the development of smart tourism also puts forward higher and newer requirements to application-oriented talent cultivation, traditional teaching, learning and examination modes do not meet the demands of the Z generation, which is common in most courses of the applied-oriented major faces such challenges.

The 'four-in-one' online and offline blended teaching mode based on Superstar Learning platform makes full use of the technical advantages of internet and digital education technology, runs through the learning space before, during and after class, and interacts with teachers and students both online and offline, liberates teachers from repetitive cramming teaching loads, becomes organizers, guides and supervisor in the teaching process, fully mobilizes students' enthusiasm and autonomy, realizes a more efficient and strong interactive teaching experience, and achieves better learning outcomes, which can provide reference for similar courses carry out online and offline blended teaching.

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