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Exploration of Curriculum Reform Based on ADDIO2OE Blended Teaching Model

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Abstract: Blended learning is an important practice of teaching reform in universities, which effectively integrates online and offline teaching resources. Through the participation of teachers in the learning process and helping students construct knowledge, the teaching philosophy of "learning as the center" is realized, which plays an important role in improving the quality of teaching courses and cultivating professional talents. This article analyzes the problems in course teaching, proposes a hybrid teaching design strategy based on the ADDIO2OE model, analyzes the specific requirements of each stage, and conducts research and discussion to form a complete teaching model, aiming to deepen teaching reform and improve teaching quality.

Keywords: Blended learning; ADDIO2OE model; Course design; Teaching reform

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1. Introduction

The development of information technology has driven the pace of curriculum and teaching reform in universities, as well as promoted changes in the teaching mode of in-service courses. The blended learning model is usually guided by constructivist learning theory and behaviorism, and utilizes modern information education technology and platforms to integrate and optimize teaching resources, achieving complementary advantages between classroom teaching and online learning. Blended learning breaks through the limitations of traditional teaching space and time, redefining the subject position of students in learning. Teachers fully play a guiding and supervisory role, thereby mobilizing the enthusiasm and initiative of students in learning. Integrating online learning into the teaching process allows students to engage in self-directed learning according to their individual needs and time arrangements [1].

2. ADDIO2OE teaching design model

A systematic instructional design model is an abstract graphical description of instructional design theory and a

guiding model for curriculum design and development. The course is based on talent cultivation goals and the ADDIE model, combined with the concept of "O2O" proposed by Professor Alex Rampell of the United States, and innovatively proposes the "ADDIO2OE" blended teaching model (as shown in **Figure 1**), fully reflecting the "student-centered" teaching philosophy [2–4].

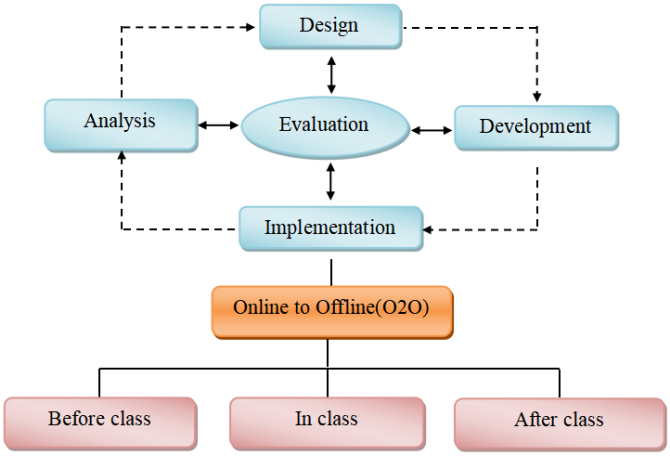

Figure 1. "ADDIO2OE" teaching model

3. Scientific construction of a blended teaching model for curriculum

The ADDIO2OE blended learning model embodies the core and common characteristics of the instructional design theory model. The instructional design process is divided into five stages: analysis, design, development, implementation, and evaluation [5–8], as shown in **Figure 2**. The following is a detailed explanation of the instructional design model.

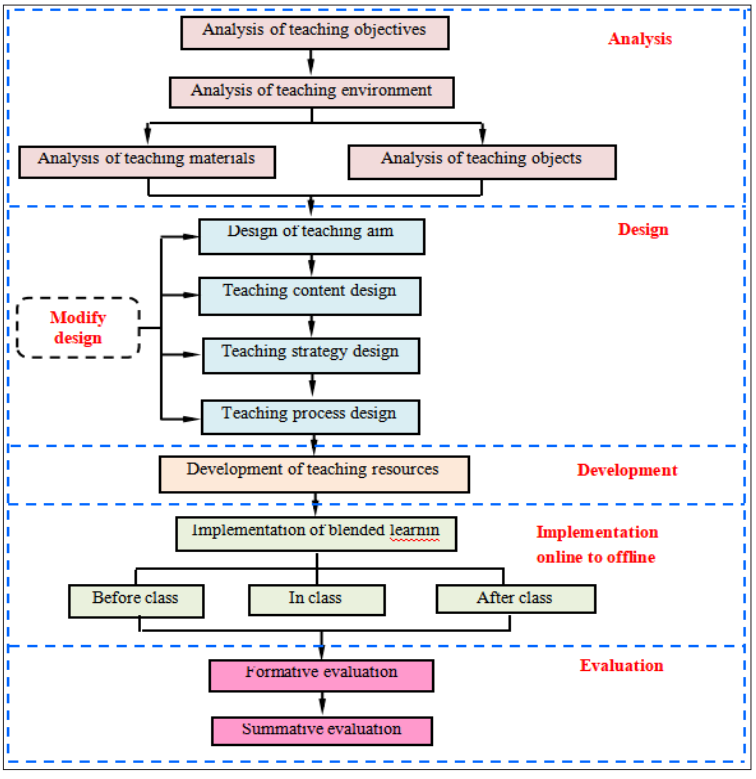

Figure 2. ADDIO2OE blended learning model

3.1. Analysis stage

Analysis is a prerequisite for smooth teaching practice. The analysis stage runs through the entire process of course teaching, mainly analyzing teaching objectives, learning objects, and teaching environment. The analysis stage, as the primary component of the ADDIO2OE model, plays an important role in the subsequent teaching work. In the analysis of teaching objectives and learning objects, teachers should rely on the curriculum design in the talent training program to match the professional teaching needs of students, and complete the overall teaching objectives on the basis of ensuring personalized teaching for students. In the analysis of the teaching environment, attention should be paid to the integration of classroom teaching and online learning modes, which not only stimulates the enthusiasm of students for online learning but also achieves the effect of offline classroom teaching.

3.2. Design stage

During the design stage, teaching objectives and content were designed based on the above analysis of the learning situation. As a professional export course to cultivate aviation material storage personnel, students need to achieve knowledge, abilities, and ideological and political goals through learning. Guided by the new teaching reform concept of "focusing on employment, focusing on actual combat, and focusing on shipboard," and based on the design idea of "going from simple to deep," the course content is constructed according to the "backward method," the typical work tasks are determined, the corresponding business capabilities are sorted out, and three knowledge modules are constructed. The second module, "aviation materials warehouse equipment management," covers the key and difficult contents of the course, mainly including warehouse equipment management, storage and transportation operation processes, and different warehouse operation methods and requirements in each link. Through learning, the storage management ability of students is improved, laying the foundation for achieving the talent training goal.

3.3. Development stage

Based on the analysis of course construction goals and content design, we have entered the development stage. The main tasks of this stage are to collect teaching materials, publish basic textbooks, and develop and select auxiliary teaching resources. Firstly, following the concept of "position-driven and ability-driven," we have completed the construction of "three-dimensional" textbooks and have successively published academic monograph-style textbooks, smart textbooks, and practical teaching guidance books. Secondly, following the concept of "shore ship integration and information fusion," a "multifunctional" laboratory group has been established, such as the Aviation Materials Professional Smart Classroom and Aviation Materials Storage Training Center, which can support the development of multiple practical teaching courses in this course. Finally, following the concept of "co-construction and sharing, diverse forms," a "series" of digital resources have been developed, including high-quality MOOC and micro courses, supporting SPOC courses, etc., providing strong support for the reform of the curriculum teaching mode.

3.4. Implementation stage

Before class, a notice will be posted on the teaching platform for students to preview and complete the pre-class self-test through the guidance task sheet. In class, the course is taught in a smart classroom. Students are divided into groups to report the pre-class preview content, guide discussions and exchanges, and the teacher explains the key and difficult points through theoretical explanations, multimedia courseware, and practical teaching, promoting the understanding and digestion of knowledge. After class, the instructor supervises the students to

complete their homework and actively guides them to fill in any gaps, participate in online discussions, and promote the improvement of their job skills [9,10].

During the implementation stage of the curriculum, ideological and political education should always be integrated throughout the entire teaching process. Teachers can share a micro video on the spirit of craftsmanship before class to cultivate the professional ethics of soldiers who fulfill their duties and responsibilities. Combining teaching cases and typical characters with ideological and political elements in class, students' rigorous and meticulous work style is cultivated. After class, a mind map is drawn to stimulate students' creative thinking.

3.5. Evaluation stage

The evaluation stage includes both the evaluation of the learning effectiveness of the students and the evaluation of the course and implementation effectiveness, including formative evaluation and summative evaluation.

Formative evaluation runs through various stages of blended learning, focusing on examining the completion of learning tasks by students, as well as the comprehensive analysis and cultivation of practical application abilities. It comprehensively evaluates students from multiple perspectives. The summative evaluation is conducted after the completion of teaching implementation, mainly focusing on the comprehensive assessment and evaluation of students' learning effectiveness, knowledge mastery, and ability development. Teachers summarize and reflect on the evaluation results, correct the pre-steps of teaching design, and form a practice of blended teaching design through iterative cycles [11].

4. Conclusion

The blended teaching design of in-service courses based on the ADDIO2OE teaching model is a new teaching attempt. The model has strong step-by-step operability and introspective cycle characteristics. The five stages work together to form a closed loop, integrating the advantages of traditional lecture-based teaching and online teaching. It helps to transform the teaching philosophy of teachers and innovate classroom teaching modes, greatly mobilize the learning enthusiasm of students, cultivate their job skills, and improve the quality of course teaching.

Disclosure statement

The authors declare no conflict of interest.

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