

Research on the Reform and Innovation of College English Teaching Model Based on the OBE-CDIO Concept

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ABSTRACT

The OBE concept is a specific guide to "what students should be trained", which is the idea and guidance, while the CDIO teaching model is the answer to "how to train students", which is the implementation and method, and the two are complementary to each other. The college English teaching model based on OBE-CDIO concept is outcomes-oriented, based on language projects, and cultivates students' exploration and research ability, teamwork ability and practical innovation ability during the integrated teaching practice of "conception-design-implementation-operation", while emphasizing the cultivation and inheritance of humanistic knowledge, which is highly consistent with the current college English teaching object location and is a new idea and an important attempt to reform university English teaching under the new situation and new background.

Keywords: OBE-CDIO concept, College English teaching, Reform and innovation.

1. INTRODUCTION: OVERVIEW OF THE OBE-CDIO CONCEPT

The OBE (outcomes-based education) education concept, also known as outcomes-oriented education, is a student-centered and student learning outcomes-oriented education concept. Its teaching design and implementation are centered on the outcomes students achieve through the education process, advocating an independent, cooperative and inquiry learning style and using the final expected achieved outcomes to reversely guide the teaching in the present. The concept was first proposed by American scholars Spady and others in 1981, which was later fully accepted by the Washington Agreement, the world's most influential international agreement on mutual recognition of undergraduate engineering degrees, gained widespread attention and application with astonishing speed, and is still considered the right direction for the pursuit of excellence in education. In 2016, China became a full member of the Washington Agreement, requiring the implementation of the concept of outcomes-oriented education into China's educational teaching reform and curriculum construction, which

is inseparable from the continuous deepening of China's educational reform and opening up and the more mature educational system. The introduction of college English teaching is the inevitable result.

CDIO engineering education concept stands for conceive, design, implement and operate, which is a new engineering education concept and an implementation system jointly created by MIT and three other famous universities in the United States in 2000. In 2005, CDIO engineering education concept was introduced in China. By 2022, nearly 200 colleges and universities in China have carried out CDIO pilot work. The essence of CDIO concept is "learning by doing", with practice as the core, being problem-oriented and emphasizing the subjectivity of students in the teaching process, which is highly systematic and scientific and is of great significance to cultivate students' ability of independent inquiry, teamwork, practical innovation and other abilities. In the context of deepening education reform, it is an important attempt to integrate CDIO education concept into college English teaching.

The OBE-CDIO concept is a CDIO teaching concept based on the output of outcomes. The

common point of OBE and CDIO is that both of them aim at cultivating students' ability. The OBE concept is a specific guide to "what students should be trained", which is the idea and guidance, while the CDIO teaching model is the answer to "how to train students", which is the implementation and method, and the two are complementary to each other. The project team creatively combines OBE and CDIO so that the two can complement each other, thus building a college English teaching model based on the OBE-CDIO concept, which is of great value and significance to cultivate applied and innovative English talents and enhance students' sustainable development ability and employment competitiveness.

2. THE INTEGRATION OF OBE-CDIO CONCEPT AND COLLEGE ENGLISH TEACHING

The Teaching Requirements for College English and the Teaching Guide of College English have proposed that the nature of college English is both "instrumental" and "humanistic", and that students should be trained to have both strong comprehensive English application ability and high humanistic literacy and sound personality. The "instrumental" is reflected in the practicalness character of the college English courses. However, the teaching of college English today is generally "emphasizing theory but ignoring practice" with "weakened language output capability". It is necessary to further consider the teaching model of college English, so as to carry out effective reform and innovation, among which the renewal of teaching concept is the first link in the reform of college English teaching.

The essence of CDIO concept is "learning by doing", which focuses on cultivating students' exploration and research ability, teamwork ability and practical innovation ability during the integrated teaching practice of "conception-design-implementation-operation", while emphasizing the cultivation and inheritance of humanistic knowledge, which is highly consistent with the current college English teaching object location. In contrast, OBE focuses on improving the quality of English output skills and the effectiveness of teaching output. Therefore, the organic integration and complementary advantages of OBE's outcomes-oriented principle and CDIO's practicalness-oriented characteristics can provide theoretical basis and practical significance for

enhancing the effectiveness of college English teaching.

Under the OBE-CDIO concept, college English teaching is based on language projects, and teachers design language project tasks in the reverse direction based on the final learning outcomes (summit outcomes) they expect students to achieve, taking into account the syllabus, course standards and students' reality. The core elements and principles of project tasks are "outcome-oriented, input-based, output-driven, and driving output by optimizing input", so the project tasks should have clear core objectives and realistic contexts, and be creative and challenging. In the integrated teaching practice of "conception-design-implementation-operation", under the guidance of teachers, students complete the activities of information collection, program designing, project implementation, presentation and evaluation through teamwork, and actively acquire knowledge by "learning by doing". The college English teaching model based on the OBE-CDIO concept can create realistic contexts and communicative experience situations for students, and pay more attention to the cultivation of students' higher-order abilities, such as creative thinking ability, team planning and organizing ability, communication ability and practical problem-solving ability, so as to effectively improve the quality and effectiveness of college English teaching.

3. THE DESIGN AND APPLICATION OF OBE-CDIO CONCEPT IN COLLEGE ENGLISH TEACHING

In this study, a total of 134 students from 4 teaching classes in College of Business and College of Engineering of The Tourism College of Changchun University are selected as the subjects of the study, and their indicators in various aspects such as class size and English performance are similar. The research group designs reversely the curriculum according to the OBE principle, analyzes the teaching content based on the unit theme as a whole, predetermines the final learning outcomes of the unit, forms an integrated three-loop teaching process of "online learning before class + offline face-to-face teaching during class + innovative practice after class", adopts the CDIO model for concrete implementation and conducts inquiry-based teaching around language projects. The research group started to apply the OBE-CDIO concept to college English teaching in March 2021, adopts the new OBE-CDIO college English

teaching model in the experimental classes of Class A1 in the College of Business and Class A9 in the College of Engineering, and adopts the traditional college English teaching model in the control classes of Class A2 in the College of Business and Class A10 in the College of Engineering. The research group uses a series of textbooks such as "New Horizon College English Comprehensive Course", takes the cultivation of students' ability of comprehensive language application, cooperative communication, innovation and practice, and critical thinking as the overall teaching goal, and relies on online teaching platforms such as Learning Platform and Tencent Meetings to effectively integrate online and offline teaching content, independent and collaborative learning methods, and language project practice. It is specifically composed of the following links:

3.1 Project Conception

This stage includes the teacher's conception of the design of the language project and the students' conception of the completion of the language project, in which the teacher's conception of the project is the first part of the teaching process and is conducted online before the class. Teachers should do the following during the project conception stage: The first is that they should initially examine some relevant questions, for instance, why should students know about this knowledge point? What do students end up doing, creating and sharing? What forms of student work can demonstrate their level of content mastery and skill development? What can students learn at the end of the project? The second is to provide students with scientific and effective language input and expand their thinking through "micro-course + SPOC" and other methods. The form, quantity and difficulty of the language input should be closely related to the syllabus, curriculum standards and students' language proficiency, cognitive characteristics and learning needs. The third is to create authentic and appropriate contexts, meaningfully correlate and interact the project learning content with the real environment, create immersive learning experiences for students, promote deeper understanding of knowledge, and enable students to discover, enhance and demonstrate themselves in active inquiry. The fourth is to reflect the reverse design principle of OBE, which is outcomes-oriented, and the teaching design and activities should clearly focus on the "final outcomes" that students can achieve after completing the learning process. [1] However, the

focus on "final outcomes" doesn't disregard the phased outcomes in the learning process, but rather the teachers design the course according to the summit outcomes expected at the end, in accordance with the principles of OBE reverse design, and present and evaluate the phased and final outcomes in stages. [2] At the students' level, students analyze and discuss the outcome objectives, learning requirements, and proposed learning methods in an independent, collaborative, and inquiry-based manner level by level.

3.2 Project Design

This stage is based on the design of a specific program based on the idea of a language project, which is carried out in a mixed mode of "online + offline" before and after class. After the analysis and discussion in the previous phase, the cooperative groups are carefully organized to set clear goals and objectives for the project, and the tasks are broken down and refined with a reasonable division of labor based on the group members' interests, expertise and language skills. They plan and formulate the design program together, discuss the problems that may be encountered during the implementation of the program and the specific methods and strategies that may be used, and optimize the design program according to the objectives to be achieved, and discuss the implementation.

In this link, teachers provide positive guidance to students, and encourage them to enhance their self-efficacy, find the right fit between their personal ability level and the project content, give full play to their strengths and advantages, share their creative ideas, and embed them into the design of the project. Teachers also need to assist cooperative groups in refining the design of the program to create a more elastic and flexible program structure that meets the individual learning needs of students at different levels. [3] Teaching practice proves that only when students are given opportunities to learn at their own level of competence in project tasks so that they can prove themselves to the greatest extent possible can each student actively participate in the project tasks, bring their language skills and practical skills into play in the project tasks, continually challenge and sharpen themselves by setting high expectations for themselves, and ultimately obtain the expected learning outcomes and achieve the best teaching and learning results.

3.3 Project Implementation

Project implementation is a key link in the college English teaching model under the concept of OBE-CDIO, which is mainly carried out offline and supplemented by online in class. In the implementation stage, students work in groups to explore and collaborate independently according to the pre-conception and design of the program, and complete the set objectives and tasks. The teachers are ready to answer all kinds of problems encountered by students during the project implementation stage, to conduct inquiry-based and experiential learning together with students, to focus on problem solving and to help students grow. In this process, students will become innovators of learning and constructors of knowledge, successfully completing tasks step by step in a pleasant atmosphere, and experiencing the joy of learning and success in practice.

In the stage of outcomes presentation, large class exchange and roundtable sharing sessions will be held. Each group presents to the class the outcomes of their carefully designed and completed project tasks according to the project implementation, including the ideas and principles in the process of project conception and design, the information collection and the ways to achieve the outcomes in the process of project completion, and the insights and experiences. The form of presentation includes but is not limited to texts, pictures, videos, audios, PPTs, scenario demonstrations, etc. [4] This is the implementation link of the college English teaching model based on the OBE-CDIO concept, which is crucial because it can test students' learning attitude and participation, examine their mastery of language knowledge, as well as exercise students' creative thinking ability, teamwork ability, and comprehensive language application.

Teaching evaluation is essential to ensure the quality of teaching and learning. At this stage, the research group evaluates students' performance in the process of completing project tasks and the final outcomes achieved into performance indicators based on the OBE concept, which is carried out in a dynamic form. The evaluation covers the students' activity in online learning, the synergy of group offline learning, the participation in completing project tasks, the innovation and completion of project results, and the depth and quality of self-reflection and self-evaluation, fully reflecting the integration of process evaluation and summative evaluation. In the evaluation process, the

conventional teacher-led linear evaluation is broken and a multiple evaluation approach of teacher evaluation, student mutual evaluation, and student self-evaluation is mainly used to form a win-win evaluation subject built by teachers and students. [5] Based on the reverse design principle of OBE, the research group uses the evaluation situation as feedback to guide and improve the teaching in the present.

3.4 Project Operation

The operation phase of the project is about whether students can really apply what they have learned and apply what they have learned to solve practical problems, so it is conducted offline after class. After class, the school and clubs should regularly carry out various English practice activities, such as holding English learning exchange sessions with foreign language teachers and international students, setting up English corners, and conducting English debate competitions or English sitcom performances. Through a variety of extracurricular practical activities, it can create an authentic language environment, create an intelligent makerspace, and give students the opportunity to prove what they have learned, demonstrate their learning outcomes, and experience the fun of moving from conception and design to experience and operation in English learning. In addition, in today's era of rapid development of the Internet and abundant online information resources, students can create an "immersive" English environment for themselves with cell phones, computers, and other devices and massive learning resources. Especially for the development of English listening and speaking skills, it is more necessary to maintain a certain "intensity" of "immersion" in order to achieve. [6] Teaching practice proves that the students in the experimental classes are significantly more motivated to learn English, and the teacher-student interaction and student-student interaction are frequent. By completing the language project tasks with quality and quantity, the students have improved their English application skills and humanistic literacy, as well as developed their creative critical thinking and teamwork skills.

4. CONCLUSION

In the context of China's accelerated modernization of education and the construction of an education power, applied colleges and universities, as the main site for cultivating applied

talents in China, need to implement diverse curriculum reforms to cultivate innovative, complex and applied talents. The college English teaching mode based on OBE-CDIO concept is result-oriented, based on language projects, highlights the systematic, practical and operable characteristics of CDIO from conception and design to implementation and operation, and is a new idea and an important attempt to reform college English teaching in line with the new situation and new background, providing ideas and references for college English teaching research and bringing vitality to college English teaching reform. Of course, the college English teaching model based on OBE-CDIO concept also faces a series of challenges, requiring teachers to have the spirit of daring to innovate, profound professional knowledge, good research ability, and also master advanced information technology and operational skills. This is what needs to be broken through when any new teaching model is implemented and is also the direction of efforts in future practical research.

AUTHORS' CONTRIBUTIONS

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