

Research on the Construction and Evaluation System of OBE Course Based on Sydney Agreement

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Abstract: Results-oriented education (OBE) is the embodiment of the core idea of the Sydney Agreement. The Sydney Agreement has a very important role in promoting the quality improvement of professional talents who are “student-centered, learning-oriented, and professionally and continuously improving”. According to the PDCA continuous improvement cycle model, formulating professional training objectives and graduation requirements, designing the professional curriculum and curriculum evaluation system according to the OBE theoretical system can promote the professional self-examination, self-evaluation and self-improvement.

1. Introduction

The Sydney Agreement was first contracted in June 2001 and was initiated by seven countries or regions including Australia, Canada, Ireland, New Zealand, South Africa, the United Kingdom and Hong Kong, together with the Washington Agreement (signed in 1989) and the Dublin Agreement (initiated in 2002). Three different levels of international agreements that constitute mutual recognition of engineering education. Sydney Agreement and International Engineering Technician qualification (usually 3 years) Qualification mutual recognition, engineering education and engineering technicians in seven aspects: training objectives, student development, graduation requirements, curriculum system, teacher team, support conditions, and continuous improvement. The certification has made clear regulations, and its norms are very close to the training orientation of talents in higher vocational colleges in China. The Outline of the National Medium- and Long-Term Education Reform and Development Plan (2010-2020) proposes: "Strengthen international exchanges and cooperation, adhere to open reform, promote development, carry out multi-level and wide-ranging educational exchanges and cooperation, and improve China's education. The level of internationalization. Although although China has not officially joined the Sydney Agreement, this international agreement provides China with a paradigm for international professional construction of higher vocational education[1]. Unlike the previous assessments, the Sydney Agreement is not used for professional or institutional rankings, nor is it used to consider whether professional construction meets uniform standards. The Sydney Agreement encourages the faculty to develop professional education goals with self-characteristics according to industry needs and professional

characteristics, and to continuously improve the results of the graduation requirements through the curriculum system, the teaching staff, facilities and equipment support and various support conditions. In this sense, the purpose of certification of the Sydney Agreement is exactly the same as that of the ongoing quality diagnostic and improvement work in higher vocational colleges in China. The Sydney Accord advocates “student-centered, learning-oriented, and professional continuous improvement”. In accordance with the goal of results-oriented education, we should reversely design professional talent training programs and formulate talent training goals. According to the talent training goal[2], first determine the graduation requirements that students should meet, and then launch the curriculum system, formulate the teaching content and teaching objectives, and determine the teaching methods. In the teaching process, the department constantly adjusts the curriculum system through feedback from teachers, students and professional committees to ensure the achievement of graduation requirements. At the same time, through the feedback of graduates, industry representatives and relevant experts, the professional training objectives will be revised in time to form a closed-loop spiral rising reform model to meet the needs of the industry, so that the profession continues to develop positively in the continuous self-diagnosis.

2. Building an OBE course model

OBE first appeared in the education reforms of the United States and Australia. After years of development, OBE has formed a relatively complete theoretical system and become the mainstream educational concept in many Western countries. The Australian Department of Education defines OBE as: “Based on the educational process that achieves student-specific learning outcomes, educational structures and curricula are seen as a means rather than an end. If they are unable to contribute to the development of students' specific abilities, they will be rebuilt. The student output drives the education system to operate. Therefore, OBE requires that the teaching be student-centered, aiming at the abilities and knowledge acquired by the students, and the teaching objectives, teaching methods, and instructional design are built around the expected design learning outcomes. The construction of the OBE curriculum system mainly goes through the following processes: The first step is to determine the goals and clarify the results of the students after learning; the second step is to determine the requirements, that is, why students should learn these knowledge skills; The third step, the design process, the design teaching Content and teaching methods; The fourth step is to design the evaluation method to judge whether the students have achieved the expected goals. The fifth step, feedback and improvement, according to the problems in the teaching process and the feedback of the students, timely adjust the course objectives, course content and Teaching methods[3].

When designing the OBE curriculum system, you must not leave the training objectives and graduation requirements set by the department. The training target refers to the level of ability that students can achieve after 3 to 5 years of graduation. The graduation requirement is the core ability of knowledge, skills, and quality that students should achieve when they graduate. All teaching activities must be carried out around the cultivation of students' core competencies, so as to meet the requirements of training objectives. The OBE course can be built around core competencies through a curriculum-core competency relationship. Each core competency should be supported by 2 to 3 courses. If there is only one course corresponding to it, the teaching objectives of the course need to be adjusted.

Corresponding to graduation requirements and training objectives, comprehensive courses should be arranged after all professional foundation courses. For engineering students, you should also set up a course on exercise practice. This type of course is called Capstone in Taiwan, which is

the top stone course. The objectives of such courses should cover most of the core competencies, with a focus on developing students' knowledge, skills, teamwork, professionalism and more.

3. OBE course evaluation system

Based on the training objectives and graduation requirements, the training objectives of the curriculum are determined first, and the expected learning outcomes of each course are finalized as a direct basis for the evaluation of the OBE curriculum. The results of the OBE course study are no longer focused on the teacher's teaching intentions, but on the student's learning achievements. In Bloom's educational goal taxonomy, learning outcomes include cognitive, emotional, and motor skills. As far as software majors are concerned, they can be described in terms of knowledge, skills, and professionalism. Take the mobile professional front-end course of Tianjin Vocational University as an example. The goal of this course is to “train engineers who are proficient in using JavaScript and jQuery framework for front-end design”. According to the training objectives, the content of the course, the expected learning outcomes of each chapter and the evaluation system are designed.

According to the content of the course, after each part of the course, the expected goals of the student's completion should include the weight of the knowledge, skills and professional qualities of the part of the course. After the student completes the tasks of each stage, the teacher should give the assessment according to the weight and give feedback to the students. In view of the low initiative of higher vocational students, the curriculum evaluation should adopt a combination of formative evaluation and final evaluation. At the end of the course, students are required to use the course knowledge to design a relatively complete and moderately difficult case, which is the expected result of this course. This case can be called the Capstone case of this course. The assessment of such cases is similar to the assessment of the Capstone curriculum in the curriculum, and should be linked to the student's graduation requirements (ie, core competencies), which should be team projects.

4. Course improvement

According to the evaluation results of the OBE course, especially the comprehensive case and the evaluation results of the Capstone course, the teacher can analyze the achievement of the course's core competence training, and facilitate the revision of the course objectives, course content and teaching methods.

5. Conclusions

The PDCA continuous improvement model is a common mode for improving the quality of teaching in higher vocational education, and it is also the only way to conduct professional evaluation in accordance with the Sydney Agreement. Focusing on the training objectives and core competencies, the teaching design and teaching implementation are carried out in accordance with the PDCA principle. The OBE curriculum system focuses on student-centered, learning-oriented, and conducts teaching activities and teaching evaluations in accordance with the PDCA continuous improvement model. After a period of time, the professional construction will enter a virtuous cycle of continuous improvement and continuous improvement, so that the professional talents of higher vocational engineering in China will keep up with the needs of enterprises and cultivate engineering and technical personnel that meet the requirements of society and the industry.

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