

Research and Practice of Integrated Classroom Teaching Mode Based on OBE-TOPCARES Concept

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Abstract: Classroom teaching is the main battlefield of university education, which plays a decisive role in the process of achieving the training objectives. Drawing lessons from the engineering education model based on Outcomes-Based Education (abbreviated as OBE), we should deepen the TOPCARES teaching reform with Neusoft characteristics, integrate innovation, construct an integrated classroom teaching system based on OBE-TOPCARES concept, and take students as the center. The integration of classroom and competition, classroom and ideological and political education, classroom and certification, and classroom and MOOC is designed to create a university scholarship classroom with online and offline, in-class and out-of-class deep integration, which enables college students to improve their knowledge, ability and quality in an all-round way, and promotes the overall improvement of students' comprehensive professional quality and practical ability.

Keywords: OBE; TOPCARES; Golden Classroom

Introduction

Classroom teaching is the main battlefield of university education, and improving the quality of classroom teaching is the fundamental and guarantee of improving the quality of university teaching. Breaking through the main battlefield of classroom teaching is tantamount to finding the golden key to improve the quality of teaching. Drawing on the engineering education model based on Outcomes-Based Education (OBE), we should deepen the TOPCARES teaching reform with Neusoft characteristics, integrate innovation, construct an integrated classroom teaching system based on OBE-TOPCARES concept, and take students as the center. The integration of classroom and competition, classroom and ideological and political education, classroom and certification, and classroom and MOOC is designed to create an online and offline, in-class and out-of-class university scholarship classroom, which is highly recognized by teachers, students and society for its effectiveness of "significantly improving the style of study, significantly improving learning output, significantly improving teachers' teaching level and significantly improving the quality of education".

1. The Connotation of Integrated Classroom Teaching System

The exploration of integrated classroom teaching system based on OBE-TOPCARES concept originates from the reform of "integrated TOPCARES talent training mode" of Chengdu Neusoft University. Through the in-depth study of the Outcomes-Based Education (OBE) engineering education model, on the basis of fully considering the needs of stakeholders, combined with the actual situation of higher education in China and the practice of applied talents training in colleges. The TOPCARES ability index system with the characteristics of our school is constructed, and the integrated talent training mode based on OBE-TOPCARES is put forward, which is implemented on a large scale in the whole school.

With the continuous advancement of the reform of OBE-TOPCARES integrated talent training mode, the reform has entered the main battlefield of university education-the battle of classroom teaching reform. In the monitoring process of teaching reform, it is found that the classroom teaching is outdated, the form is single, the knowledge is more important than the ability, and the teaching effect is not ideal. There are the following common problems: students' insufficient input before

class, less participation in class, and plagiarism of homework after class. There is less interaction between teachers and students, students and students, and occasional interaction is also a simple "I ask you to answer". The phenomenon of reading according to the text has basically disappeared, but the phenomenon of reading according to the screen and explaining to the screen is widespread. Paper examination papers are basically used at the end of the term, and the results are determined by one test. We are truly aware of the seriousness of classroom teaching problems and the urgency of classroom teaching reform, and are determined to concentrate on breaking through the main battlefield of classroom teaching and strive to build a golden classroom in line with the university level of the new era. Through the discussion, reform pilot, experience summary and abstract generalization of the roles of teachers and students in the new era, we have created "golden lessons", eliminated "water lessons", constructed an integrated classroom teaching mode based on the concept of OBE-TOPCARES, centered on students, and integrated classroom and competition, classroom and ideological and political education, classroom and certification, classroom and MOOC. Create a university scholarship class that integrates online and offline, in-class and out-of-class.^[1] focuses on four core issues: what are the learning outcomes achieved by students, why should students achieve such learning outcomes, how to effectively help students achieve these learning outcomes, and how to know that students have achieved these learning outcomes. TOPCARES is a combination of the first English letters of eight first-level capability indicators, namely T (Technical Knowledge and Reasoning) technical knowledge and reasoning ability, O (Open Minded and Innovation) open thinking and innovation. P (Personal and Professional Skills) Personal professional ability, C (Communication and Teamwork) Communication expression and team work, A (Attitude and Manner) Attitude and habit. R (Responsibility), E (Ethical Values), S (Social Value Created by Application Practice).

The reform of integrated classroom teaching system based on the concept of OBE-TOPCARES mainly focuses on the four core issues of OBE and the implementation of topcares capability objectives. (1) Pay attention to the training objectives of students, form quantifiable TOPCARES ability indicators, so that teachers and students can clearly understand the learning results to be achieved. Each specialty is based on the training target orientation of international high-tech, high-skilled and high-quality applied talents with innovative and entrepreneurial abilities, precise analysis of skills competitions, vocational qualification certification process, technical requirements, etc., and adheres to the deep integration of classroom and certification, classroom and competition. The requirements of vocational skills competition tasks, vocational qualification certification and vocational skills appraisal are transformed into TOPCARES classroom teaching objectives. (2) Pay attention to students' performance responsibility, establish a three-dimensional concept of responsibility for society, family and individuals, so that students can understand why they want to achieve such learning results. Education is the collision and exchange of life and life, and the real education should be full of humanity, wisdom and enlightenment. Integrating classroom teaching with ideological and political education, we should strive to stimulate the sense of responsibility of college students in the new era to create value for society, so that they can understand happiness, create happiness and establish the concept of struggling for happiness. Everyone should clearly define the role of realizing the two centenary goals, what qualities, knowledge and abilities are needed to create greater value for society. (3) Pay attention to students' learning approaches and build three-dimensional learning resources to help students achieve these learning outcomes efficiently. At present, the learning characteristics of cloud computing and big data era make students acquire knowledge in a variety of ways, and this flexible learning brings about new changes in learning methods. We should give full play to the advantages of big data, make full use of modern science and technology, use creative thinking to integrate and innovate university classroom teaching, and constantly promote classroom and MOOC. Promote the "normalization" of classroom revolution. Teachers and students jointly set up a community of teaching resources construction, carry out the collection, construction and management of network resources, and jointly develop teaching materials, curriculum resources, learning communities and resource banks suitable for students' autonomous learning. Teachers make clear before class that students are in edX, Coursera, China University mooc-Love Course Self-study content on global online platforms, and upload classroom teaching content, learning requirements, homework and evaluation to the intelligent teaching platform in advance, so that students can watch lectures and videos in advance, study problems in teams, and jointly generate a "list of questions"

in class, so as to gradually cultivate and enhance creative learning abilities such as "autonomous learning, ubiquitous learning and cooperative learning". Teachers organize teacher-student and student-student interaction in class, and use at least one third of the class time to discuss and solve the key, key and difficult problems in the "list of problems", so as to cultivate students'ability to construct knowledge, use knowledge to analyze and solve problems. (4) Pay attention to how to evaluate the learning effect of students and establish a scientific and reasonable evaluation mechanism. As the saying goes, "points, points, points, the lifeblood of students;" Test, test, test, the teacher's magic weapon. This statement not only truly reflects that students "study for examination, do not study for examination, study for examination", but also profoundly exposes the drawbacks of the current assessment methods for college students. At present, the examination of college students in our country mainly focuses on the mid-term and final examinations, in which the memory component accounts for a large proportion, and the examination methods mostly adopt the closed-book examination with a single standard. This kind of examination encourages the bad style of study of not working hard at ordinary times, even skipping classes and substituting classes, which is not conducive to the development of students'individuality and the cultivation of creative thinking. As we all know, assessment methods and assessment system are the most basic and direct means to test students'learning situation and evaluate students' learning output. Therefore, we should innovate and reconstruct classroom teaching evaluation, take non-standardized examinations as the traction, increase the evaluation of students'learning input, learning ability and learning effect, and promote learning through examinations, competitions and certificates. It can effectively improve the quality of learning and encourage the healthy growth of various innovative learning modes.

2. Innovation of Integrated Classroom Teaching System

In fact, building first-class undergraduate education and reforming classroom teaching is a "worldwide problem"^[2]. In order to solve this worldwide problem and win the battle, we need to spend a lot of time and energy on the innovation and reform of classroom teaching mode^[3], we must constantly innovate the teaching concept of teachers and students, fully integrate online and offline teaching, carry out the evaluation of the whole learning process, and create online and offline, in-class and out-of-class integration of university gold classroom to meet students. Only in this way can we achieve good results.

Reform the teaching concept of teachers and students, and redefine the new roles of teachers and students in universities. The learning-centered educational view aims to put students' learning at the core of improving the quality of education, and emphasizes providing strong guidance and services for students' high-quality learning, so that students can become the masters of "learning" and achieve independent and all-round development. This means that the focus of classroom teaching has shifted from "teaching-centered" to "learning-centered", fully stimulating students'enthusiasm and initiative in learning, and comprehensively improving students' learning ability, so as to adapt to the challenges of an intelligent society. In order to ensure the full implementation of the concept of student learning center, it is necessary to change not only "teaching" but also "learning", especially the learning mentality and habits of "waiting, depending and wanting" that students are accustomed to. First of all, teachers should start with innovative solutions to the key issues affecting the quality of classroom teaching, such as what direction to teach, what to teach, how to teach, what to teach and how to teach so as to realize the orientation of application-oriented school-running, the landing of Topcares ability objectives and the grounding of teaching process, and change the teaching concepts formed over the years. Actively declaring war on the traditional classroom teaching mode characterized by mechanized indoctrination and becoming the inspiration, motivator, instructor and leader of students'development will not only reduce teachers' repetitive work, but also, more importantly, truly realize the educational concept of "making students the masters of learning", which is obviously of inestimable far-reaching significance for the realization of teaching and learning. In addition, innovation guides students to analyze and solve the core issues affecting the quality of learning, such as "what direction to learn, what to learn, who to learn, how to learn and how to learn", and helps college students form and pursue their dreams, untie their ideological buttons and change their learning outlook from the perspective of world outlook, values and outlook on life. It is particularly important to change their learning mentality and

habits of passive acceptance and coping with examinations, and gradually cultivate new learning modes such as "active learning, cooperative learning, ubiquitous learning" and corresponding creative learning abilities, so that students can become builders and consumers of learning resources, learning communities and resource banks.

Integrate online and offline teaching to rebuild the new classroom of modern universities. The integration of offline traditional classroom and distance teaching classroom and the reconstruction of new classroom in modern universities not only play the leading role of teachers in guiding, inspiring and monitoring the teaching process, but also reflect the initiative, enthusiasm and creativity of students as the main body of the learning process, which is an innovative paradigm to reduce teaching costs and improve teaching efficiency. Before class, teachers accurately determine the TOPCARES classroom teaching objectives of the trinity of knowledge, ability and quality according to the big data of students' learning. Students are required to refer to reference books before class, form experience, log on to the intelligent education teaching platform, and learn relevant courseware, teaching videos and other related curriculum resources independently. In addition, through the platform of wisdom education and teaching, teachers can understand students' learning progress and effectiveness, participate in students' exchanges and discussions in a timely manner, and record students' common and individual problems in the learning process. In class, aiming at common problems, teachers adopt role-playing to guide students to analyze and solve problems by grouping, and show them in groups in the form of competition, while other groups give comments and scores. In this process, teachers fully mobilize students' interest in learning and enthusiasm for participation with the help of the functions of random grouping, real-time interaction, live recording and broadcasting provided by the intelligent education and teaching platform. At the same time, they use the function of live recording and broadcasting to reproduce and open university classes, provide learning resources for students' ubiquitous learning after class, and meet personalized learning needs. After class, according to the online and offline learning situation of students, teachers arrange various forms of homework, such as testing and writing small papers, and give targeted guidance and feedback according to the quality of homework completion.

3. Effectiveness of Integrated Classroom Teaching

Through the exploration and practice of "1331" university integrated classroom teaching mode, it has been highly recognized by teachers, students and society for its effectiveness of "significantly improving the style of study, significantly improving the learning output, significantly improving teachers' teaching level and significantly improving the quality of education".

The style of study has improved significantly, and the quality of students' efforts has improved significantly. Students devote more and more time and energy to learning in and out of class, and the "quality of effort" has been improved rapidly. The survey data show that students' learning indicators such as overall style of study, learning environment, learning resources, knowledge and professional skills have improved significantly. MOOC open platform provides help and services for students' extracurricular learning, and students' time and energy devoted to platform learning have nearly doubled.

The learning effect is remarkable, and the students' learning output is obviously improved. Data from students, graduates, employers and other stakeholders show that students have achieved remarkable results in learning and improved their learning output. The rate of reaching the standard of students' courses, the rate of reaching the standard of graduates' knowledge, ability and quality objectives, the rate of graduation and the rate of granting places have been significantly improved. In the past three years, the number of awards awarded to students at or above the provincial level has increased nearly three times.

The teaching ability of teachers has been significantly improved, and the teaching level has been significantly improved. Student satisfaction is not only the core indicator of high-quality teaching, but also the key indicator to measure the improvement of teachers' teaching level. Evaluation data from schools show that students are more than 90% satisfied with teaching and more than 95% satisfied with the curriculum, among which the courses rated as "excellent" and "good" in theoretical teaching remain above 80%.

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