

Course Teaching Design in General Colleges and Universities under the Concept of Achievement-oriented Education : Practical Exploration and Optimization Path

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[**Abstract**] Outcome-based Education (OBE), as a mainstream concept in international higher education reform, takes “student learning outcomes” as the core orientation. It emphasizes that the entire process of teaching design and implementation should revolve around the expected learning outcomes, focusing on cultivating students’ comprehensive abilities and core competencies. This provides a new perspective and paradigm for curriculum teaching reform in ordinary universities. This paper systematically analyzes the prominent issues in the current curriculum teaching design of ordinary universities, such as conceptual deviations, vague objectives, implementation disconnection, and singular evaluation, based on the actual situation of curriculum teaching reform in ordinary universities. It delves into the underlying causes of these problems, proposes targeted optimization paths for teaching design, and verifies their feasibility through case studies. This provides theoretical reference and practical guidance for ordinary universities to implement the concept of Outcome-based Education, enhance the quality of curriculum teaching, and cultivate high-quality talents who can meet the needs of the new era.

[**Key words**] Outcome-based Education; general universities; course teaching design; teaching reform

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1 Introduction

As higher education enters a phase of connotative development, cultivating high-quality talents with innovative spirit, practical ability, and social adaptability has become the core mission of ordinary universities. Originating from the United States in the 1980s, Outcome-based Education (OBE) is an educational philosophy centered on students’ learning outcomes. It emphasizes “first defining the learning outcomes that students are expected to achieve, and then reversely designing course content, teaching methods, and evaluation methods to achieve the integration of ‘teaching, learning, and evaluation’”. It has been widely applied in global higher education teaching reforms. The Ministry of Education of China clearly states in the “National Standards for Teaching Quality of Undergraduate Majors in General Colleges and Universities” that it is necessary to take students as the center, strengthen output-oriented education, focus on cultivating students’ innovative and practical abilities, and promote the transformation of university curriculum teaching reforms towards connotative development. Against this backdrop, integrating the OBE concept into the curriculum teaching design of ordinary universities, breaking the limitations of traditional teaching modes, and reconstructing the curriculum teaching system have become inevitable choices for ordinary universities to improve teaching quality and achieve talent cultivation goals.

2 Core connotation and value orientation of Outcome-based Education

The OBE (Outcome-based Education) philosophy is a comprehensive educational system centered around student learning outcomes, encompassing goal setting, content design, teaching implementation, evaluation feedback, and continuous improvement. Clarifying its core connotation and characteristics serves as the foundation for constructing a curriculum teaching design system in ordinary universities under the OBE philosophy, as well as the key to ensuring the implementation of the philosophy.

2.1 Core connotation and core characteristics of OBE concept

The core connotation of the OBE concept is “student-centered, outcome-oriented, and driven by continuous improvement”. Its core logic is “defining expected outcomes—designing teaching processes—evaluating achievement of outcomes—optimizing teaching for improvement”, forming a closed-loop educational teaching system. Combined with the characteristics of ordinary university education and teaching, the OBE concept has four core characteristics: first, it is oriented towards student learning outcomes, with all teaching activities centered around expected outcomes, abandoning the traditional tendency to “emphasize teaching and neglect learning”; second, it emphasizes student agency, highlighting the principal role of students, focusing on guiding students to actively participate in the learning process, and cultivating their autonomous learning and innovation abilities; third, it is systematic, emphasizing the systematicness and integrity of course teaching design, thus achieving organic connection between course objectives, teaching content, teaching methods, and evaluation methods, and forming a complete teaching closed loop; and fourth, it is sustainable, focusing on continuous improvement of the teaching process, through normalized evaluation and feedback, continuously optimizing teaching design and improving teaching quality. It is worth noting that the design of course objectives under the OBE concept needs to follow the reverse design principle, establishing a substantive supporting relationship between course objectives and graduation requirements, ensuring that teaching output highly aligns with talent cultivation needs.

2.2 Value orientation of course teaching design in ordinary universities under the OBE concept

Integrating the OBE concept into the teaching design of ordinary universities is essentially a reconstruction of traditional course teaching models. Its value orientation is mainly reflected in three aspects: First, it adheres to “student development as the core”, breaking the traditional teaching mode of “teacher lecturing, student passive accepting”, focusing on students’ active participation and personalized development, cultivating students’ comprehensive abilities and core competencies, and meeting students’ future career development and lifelong learning needs. Second, it adheres to “achievement as the orientation”, abandoning the traditional teaching evaluation tendency of “emphasizing process and neglecting results”, and taking the achievement of students’ learning outcomes as the core criterion for measuring teaching quality, ensuring that teaching activities are highly aligned with talent cultivation goals. Third, it adheres to “continuous improvement as the driving force”, focusing on the dynamic optimization of the teaching process, timely discovering problems in teaching design and implementation through regular evaluation and feedback, continuously improving the teaching system, and enhancing the quality of course teaching. At the same time, course teaching design under the OBE concept also emphasizes aligning with industry and enterprise needs, establishing a regular industry research mechanism, ensuring precise alignment between course objectives and social talent needs, and avoiding the phenomenon of “two skins” between talent cultivation and market demand.

3 Core elements and design principles of course teaching design in ordinary colleges and universities under the OBE concept

The instructional design of general college courses under the OBE (Outcome-based Education) philosophy is not a mere modification of traditional instructional design. Instead, it is a brand-new teaching system constructed around “expected learning outcomes”. Its core elements and design principles bear distinct OBE characteristics, which are crucial for ensuring the scientificity and feasibility of instructional design.

3.1 Core elements

Combining the core essence of the OBE (Outcome-based Education) concept with the practical realities of course teaching in ordinary universities, the core elements of course teaching design under the OBE concept encompass four aspects: First, expected learning outcomes, which are the core and starting point of course teaching design and also the departure and destination of all teaching activities. Expected learning outcomes should be aligned with professional talent cultivation goals, social needs, and student development needs, clarifying the knowledge and competencies that students should possess upon completing the course. These outcomes should be

measurable, achievable, and evaluable. Expected learning outcomes should be stratified according to the complexity of the cognitive process, be expressed using specific action verbs, and avoid vague terms such as “understand” and “familiarize”. This ensures consistency between teaching activities and evaluation criteria. Second, course content design, which revolves around expected learning outcomes to inversely select and organize course content. It abandons the traditional “textbook–centric” concept, focusing on the practicality, relevance, and innovativeness of course content. Course content needs to cover the core knowledge and skills required to achieve expected learning outcomes, while incorporating the latest theoretical achievements and practical cases in alignment with industry trends and disciplinary frontiers, ensuring that course content keeps pace with social needs and disciplinary development. Furthermore, it is necessary to establish a correspondence between course content and expected learning outcomes, clarifying the supporting role of each part of the course content in achieving expected learning outcomes, and creating a support matrix between course content and graduation requirements. Third, teaching method design, which combines expected learning outcomes and course content characteristics to select appropriate teaching methods, focusing on stimulating students’ learning initiative and participation. The OBE concept advocates for the adoption of diversified teaching methods such as project–based teaching, case teaching, group cooperative learning, and flipped classrooms, replacing traditional “spoon–feeding” teaching methods. This guides students to actively think, independently explore, and collaborate, cultivating their practical and innovative abilities. At the same time, digital technology can be integrated to build an online and offline blended teaching platform, expanding teaching space and time to meet students’ personalized learning needs. Fourth, evaluation system design, which is crucial for assessing the achievement of expected learning outcomes and an important basis for continuous improvement. The course evaluation system under the OBE concept needs to break through the traditional “single examination” evaluation model, constructing a diversified, process–oriented, and comprehensive evaluation system. It combines process evaluation with summative evaluation, and quantitative evaluation with qualitative evaluation. The evaluation subjects include teachers, students, and industry experts, ensuring the comprehensiveness, objectivity, and scientific nature of evaluation results. The evaluation content should focus on expected learning outcomes, emphasizing students’ knowledge mastery, ability development level, and competency improvement. At the same time, a weighted quantitative calculation model is established to achieve precise measurement of the achievement of learning outcomes.

3.2 Design principles

To ensure the effective implementation of the OBE (Outcome–based Education) concept in curriculum teaching design, the following four principles must be adhered to in the teaching design of general colleges and universities: First, the principle of reverse design, which is the core principle of the OBE concept. Specifically, it involves first defining the expected learning outcomes, and then reversely designing the course content, teaching methods, and evaluation methods to ensure that every teaching activity is centered around the expected learning outcomes and avoids any disconnection between teaching activities and expected outcomes. Specifically, it means that the talent cultivation objectives are determined by social and industry needs, the graduation requirements are determined by the cultivation objectives, and then the graduation requirements are decomposed and implemented level by level into specific course objectives and expected learning outcomes. Finally, the entire teaching process is designed around the expected learning outcomes. Second, the principle of subjectivity highlights the central role of students, respects their individualized development needs, and guides them to actively participate in the learning process. In teaching design, it is necessary to fully consider students’ cognitive patterns and learning characteristics, design diversified teaching activities, provide students with sufficient space for autonomous learning and exploration, and cultivate students’ autonomous learning abilities and innovative thinking. At the same time, attention should be paid to students’ learning feedback, and teaching strategies should be adjusted in a timely manner to meet students’ individualized learning needs. Third, the principle of relevance ensures that all elements of curriculum teaching design are interrelated and organically connected, forming a complete teaching loop. The

expected learning outcomes, course content, teaching methods, and evaluation system must be highly aligned. The course content supports the achievement of expected learning outcomes, teaching methods serve the delivery of course content and the cultivation of student abilities, and the evaluation system verifies the achievement of expected learning outcomes while providing a basis for optimizing teaching design. Furthermore, attention should be paid to the relevance between courses to ensure that the teaching design of individual courses is aligned with professional talent cultivation goals and the overall curriculum system. Fourth, the principle of operability requires that teaching design be combined with the actual teaching situation in general colleges and universities, fully considering factors such as teaching resources, faculty strength, and student foundation to ensure that the teaching design is highly operable and implementable. Avoid overly idealized designs, and focus on the practicality and relevance of teaching design, ensuring that teaching activities can be smoothly carried out, and expected learning outcomes can be effectively achieved. At the same time, teaching design needs to have a certain degree of flexibility, allowing for dynamic adjustments based on the actual situation during the teaching process.

4 Current situation and prominent difficulties of course teaching design in ordinary colleges and universities under the OBE concept

In recent years, with the widespread promotion of the OBE (Outcome-based Education) concept in China's higher education sector, an increasing number of general universities have begun to integrate the OBE concept into their course teaching design, driving curriculum reform and achieving certain results. However, from an overall perspective, there are still many issues with the implementation of the OBE concept in the course teaching design of general universities. Based on research and practical observations, the prominent difficulties are mainly reflected in the following aspects.

4.1 Deviations in the understanding of the OBE concept

Some teachers in ordinary universities have deviations in their understanding of the OBE concept, failing to accurately grasp the core connotation and essential requirements of the OBE concept. They simply equate the OBE concept with "outcome-oriented", believing that focusing on superficial achievements such as students' exam scores and course pass rates is the implementation of the OBE concept. This cognitive deviation leads to the teaching design remaining in the traditional mode, with only simple modifications to course objectives and evaluation methods, failing to truly achieve the teaching transformation centered around "students' learning outcomes". In addition, some teachers are deeply influenced by traditional teaching concepts, accustomed to the teaching mode of "teacher lecturing, students passively accepting", and have resistance towards teaching methods and evaluation methods under the OBE concept, lacking the awareness and motivation to actively practice the OBE concept, resulting in the implementation of the OBE concept becoming a mere formality, difficult to exert its educational value. Some teachers also fail to understand the core logic of the reverse design of the OBE concept, still following the "textbook-oriented" design approach, failing to establish an effective connection between course objectives, graduation requirements, and social needs.

4.2 Unclear expected learning outcomes

Expected learning outcomes are the core of curriculum teaching design under the OBE (Outcome-based Education) concept, but there are significant issues in the design of expected learning outcomes for some general college courses. Firstly, the outcomes are set too vaguely, often expressed in general terms such as "mastering professional knowledge and enhancing practical abilities", lacking specific and measurable indicators, making it difficult to accurately assess students' achievement of learning outcomes. Secondly, the outcomes are not targeted, failing to align with professional talent cultivation goals, social needs, and student development needs, resulting in a disconnect between expected learning outcomes and talent cultivation goals, and failing to meet students' future career development needs. Thirdly, the outcomes are not hierarchical, failing to design tiered and progressive expected learning outcomes based on students' cognitive patterns and learning foundations, making it difficult for students of different levels to achieve corresponding improvements in course learning. This is a significant gap from

the OBE concept's requirement that "outcomes are measurable and achievable".

4.3 Disconnection between teaching implementation and expected outcomes

Although some ordinary universities have clarified the expected learning outcomes of courses, they still adhere to traditional teaching methods and teaching models during the teaching implementation process, resulting in a serious disconnection between teaching implementation and expected learning outcomes. Firstly, the design of course content is unreasonable, still centered around textbook content, lacking integration of industry development trends and disciplinary frontiers. The content is outdated and not practical, unable to support the achievement of expected learning outcomes. Secondly, teaching methods are monotonous, still dominated by "spoon-feeding" lectures, lacking the use of diversified teaching methods such as project-based teaching, case teaching, and group cooperative learning. This makes it difficult to stimulate students' learning initiative and participation, and cultivate students' practical and innovative abilities. Thirdly, the design of teaching links is unreasonable, lacking the design of links such as students' independent exploration and cooperative communication. Students passively receive knowledge, making it difficult for them to actively participate in the learning process, leading to the difficulty in effectively achieving expected learning outcomes. In addition, some teachers lack the use of digital teaching tools and fail to build an online and offline blended teaching platform, making it difficult to meet students' personalized learning needs.

4.4 Imperfect evaluation system

The evaluation system is crucial for assessing the achievement of expected learning outcomes. However, the current curriculum evaluation system in ordinary universities still has many shortcomings, making it difficult to adapt to the requirements of the OBE (Outcome-based Education) concept. Firstly, the evaluation methods are monotonous, mainly relying on summative evaluation, which primarily assesses students' learning outcomes based on final exam scores. This approach neglects the evaluation of students' learning processes, failing to comprehensively and objectively reflect their knowledge mastery, ability development, and quality improvement. Secondly, the evaluation content is one-sided, mainly focusing on students' knowledge mastery while neglecting the evaluation of core competencies such as practical ability, innovation ability, and cooperation ability, which is disconnected from the requirements of expected learning outcomes. Thirdly, the evaluation subjects are limited, primarily relying on teacher evaluation, lacking diversified evaluation subjects such as student self-evaluation, peer evaluation, and expert evaluation from enterprises. This results in insufficient objectivity and comprehensiveness of evaluation results. In addition, some universities lack a systematic data analysis and feedback mechanism, and evaluation results are not effectively utilized for optimizing teaching design, making it difficult to achieve a virtuous cycle of "evaluation-feedback-improvement".

4.5 Insufficient faculty resources

The design and implementation of course teaching under the OBE (Outcome-based Education) concept impose higher requirements on teachers' professional abilities and teaching levels. However, there are still significant deficiencies in the faculty resources and support systems of ordinary universities. Firstly, some teachers lack training and learning related to the OBE concept, and are not proficient in grasping the core connotation and teaching design methods of OBE. This makes it difficult for them to effectively carry out the design and implementation of course teaching under the OBE concept. Secondly, teachers' practical abilities are insufficient. Some teachers lack industry practical experience, making it difficult for them to design course content and teaching activities that meet industry needs and focus on practical ability cultivation, thus failing to support the achievement of expected learning outcomes. Thirdly, the support system of schools is imperfect, lacking comprehensive teaching resources, digital teaching platforms, and practical teaching bases, making it difficult to provide strong support for the design and implementation of course teaching under the OBE concept. At the same time, there is a lack of effective incentive mechanisms, and teachers who practice the OBE concept and carry out teaching reforms are not commended and rewarded, making it difficult to stimulate teachers' enthusiasm and initiative. In addition, some

schools lack a dedicated teaching guidance team, and teachers encountering problems in the process of carrying out OBE teaching design cannot get timely solutions.

5 Optimization paths for course teaching design in ordinary colleges and universities under the OBE concept

Addressing the prominent dilemmas existing in the current curriculum teaching design in ordinary colleges and universities, and combining the core connotation and design principles of the OBE (Outcome-based Education) concept, this paper proposes optimization paths for curriculum teaching design in ordinary colleges and universities under the OBE concept, from six aspects: concept renewal, outcome setting, teaching implementation, evaluation system, faculty development, and support and guarantee. This aims to promote the effective implementation of the OBE concept in ordinary college curriculum teaching.

5.1 Deepen the understanding of OBE concept

Ordinary universities need to strengthen the promotion and training of the OBE concept, help teachers accurately grasp the core connotation and essential requirements of the OBE concept, abandon traditional teaching concepts, and establish a teaching philosophy that is “student-centered, outcome-oriented, and driven by continuous improvement”. Firstly, carry out systematic OBE concept training, invite experts and scholars to conduct special lectures, teaching seminars, and other activities, popularize the core logic, teaching design methods, and practical cases of the OBE concept to teachers, and enhance teachers’ understanding level and application ability of the OBE concept. Secondly, build a teaching exchange platform, organize teachers to carry out curriculum teaching design exchange activities under the OBE concept, share teaching experience and practical results, promote mutual learning and reference among teachers, and drive teachers to actively practice the OBE concept. Thirdly, strengthen teachers’ subjective responsibility, guide teachers to establish a teaching consciousness that “takes student development as the core”, actively change their teaching roles from “knowledge transmitters” to “guides, organizers, and promoters of student learning”, and promote the transformation of teaching modes. At the same time, guide teachers to understand the core principles of reverse design and establish a logical closed loop of “demand-goal-outcome-teaching-evaluation”.

5.2 Clarify expected learning outcomes

Expected learning outcomes are the core of curriculum teaching design under the OBE (Outcome-based Education) concept. General universities need to scientifically set expected learning outcomes in combination with professional talent cultivation goals, social needs, and student development needs, enhancing the relevance, measurability, and hierarchy of the outcomes. Firstly, conduct sufficient research to gain a deep understanding of the industry’s needs for talent competencies, subject development trends, and student learning needs, ensuring that expected learning outcomes are highly aligned with social needs, talent cultivation goals, and student development needs. Establish a regular industry and enterprise research mechanism to dynamically track technological iterations and talent demand changes in the industry, and adjust expected learning outcomes in a timely manner. Secondly, refine expected learning outcomes, transforming general outcome descriptions into specific and measurable indicators. Combining Bloom’s Taxonomy of Educational Objectives, outcomes are divided into three levels according to the complexity of cognitive processes: knowledge, ability, and competency, with each level having clear and specific achievement standards and evaluation indicators. For example, “mastering the basic theories of marketing” is refined into “being able to retell the core concepts and theoretical models of marketing, and being able to analyze practical cases using marketing theory”. Thirdly, design hierarchical and progressive expected learning outcomes, and divide them into basic, improvement, and expansion levels according to students’ cognitive patterns and learning foundations, meeting the learning needs of students at different levels and ensuring that each student can achieve corresponding improvements in course learning. At the same time, establish a support matrix for curriculum objectives and graduation requirements, clarifying the support weight of each expected learning outcome for graduation requirement indicators.

5.3 Promote innovation in teaching methods

Teaching implementation is crucial for achieving expected learning outcomes. General universities need to center around expected learning outcomes, reverse-optimize course content, innovate teaching methods, and improve teaching links, to promote a high degree of alignment between teaching implementation and expected learning outcomes. Firstly, optimize course content by abandoning the traditional concept of “textbook supremacy”, reversely selecting and organizing course content around expected learning outcomes, and incorporating cutting-edge industry knowledge, practical cases, and innovative achievements to enhance the practicality and relevance of course content. At the same time, integrate course content to avoid duplication, highlight core knowledge and skills, and ensure that course content effectively supports the achievement of expected learning outcomes. Secondly, innovate teaching methods by actively adopting diversified teaching methods such as project-based teaching, case teaching, group cooperative learning, and flipped classrooms, replacing traditional “spoon-feeding” teaching methods, and guiding students to actively think, independently explore, and collaborate and communicate. Thirdly, improve teaching links by increasing the design of student-led exploration, collaborative communication, practical operation, and other links, giving students sufficient space for autonomous learning and guiding students to actively participate in the learning process. At the same time, combine digital technology to build an online and offline blended teaching platform, expand teaching space and time, provide personalized learning resources and guidance, and meet students’ personalized learning needs.

5.4 Establish a diversified evaluation system

The evaluation system serves as a crucial basis for assessing the achievement of expected learning outcomes and driving continuous teaching improvement. Universities need to construct a diversified, process-oriented, and comprehensive evaluation system that aligns with the OBE (Outcome-based Education) concept. Firstly, refine evaluation methods by integrating process-oriented evaluation with summative evaluation. Process-oriented evaluation primarily focuses on students’ learning processes, engagement, and progress, encompassing classroom performance, homework completion, group collaboration outcomes, practical operations, etc. Summative evaluation, on the other hand, primarily assesses students’ achievement of learning outcomes, including final exams, course papers, project reports, etc. Reasonably allocate the weights of process-oriented and summative evaluations to ensure that evaluation results comprehensively and objectively reflect students’ learning outcomes. Secondly, enrich evaluation content by centering around expected learning outcomes. Not only should students’ mastery of knowledge be evaluated, but also their core abilities and qualities such as practical ability, innovation ability, collaboration ability, and professional ethics should be emphasized, ensuring a high degree of alignment between evaluation content and expected learning outcomes. Thirdly, expand the evaluation subjects by constructing a diversified evaluation system that combines teacher evaluation, student self-evaluation, peer evaluation, and expert evaluation from enterprises, enhancing the objectivity and comprehensiveness of evaluation results. For instance, in practical courses, invite enterprise experts to participate in evaluation, assessing students’ practical abilities in alignment with industry standards. Fourthly, establish a virtuous cycle mechanism of “evaluation-feedback-improvement”, regularly evaluate students’ achievement of learning outcomes, promptly collect feedback information, analyze issues in teaching design and implementation, and specifically optimize course teaching design and implementation to continuously improve teaching quality. Simultaneously, establish a weighted quantitative calculation model to precisely measure the achievement of learning outcomes, providing data support for teaching improvement.

5.5 Enhance teachers’ professional capabilities

Teacher resources are the core support for curriculum teaching design and implementation under the OBE (Outcome-based Education) concept. General universities need to strengthen teacher development, enhance teachers’ professional capabilities and teaching levels, and meet the needs of curriculum teaching reform under the OBE concept. Firstly, targeted teacher training should be carried out, focusing on the OBE concept, curriculum teaching design methods, teaching method innovation, practical teaching, and other content, to conduct systematic

training and enhance teachers' ability to apply the OBE concept, design teaching, and implement teaching. Secondly, the cultivation of teachers' practical abilities should be strengthened, and a teacher practice mechanism should be established to encourage teachers to conduct practical research and temporary duty training in industries and enterprises, accumulate practical experience in the industry, enhance practical teaching abilities, and ensure that curriculum teaching design can meet industry needs. Thirdly, a teacher development platform should be built to introduce industry experts and high-level talents to enrich the teaching staff; and a "senior mentoring junior" assistance mechanism should be established to leverage the exemplary and leading role of excellent teachers and promote the rapid growth of young teachers. Fourthly, the teacher incentive mechanism should be improved, and the effectiveness of curriculum teaching design and implementation under the OBE concept should be incorporated into the core content of teachers' performance evaluation, professional title evaluation, and excellence recognition. Teachers who practice the OBE concept, carry out teaching reforms, and achieve significant results should be commended and rewarded to stimulate teachers' enthusiasm and initiative.

6 Conclusion

To enhance the quality of curriculum teaching design in ordinary colleges and universities under the OBE (Outcome-based Education) concept, it is necessary to construct a comprehensive and multi-level teaching design optimization system, promoting the effective implementation of the OBE concept in ordinary college curriculum teaching. By updating concepts, teachers' understanding of the OBE concept can be deepened. By scientifically setting expected learning outcomes, teaching directions can be clarified. By optimizing teaching implementation, teaching method innovation can be promoted. By constructing a diversified evaluation system, outcome verification and continuous improvement can be strengthened. By strengthening teacher development, teachers' professional abilities can be enhanced. By improving the support system, teaching guarantees can be reinforced. Ultimately, the goal is to improve the quality of curriculum teaching and cultivate students' comprehensive abilities.

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