

Research on the Teaching of the “Landscape Botany” Course Based on the OBE Concept in the “Internet +” Era

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Abstract: “Landscape Botany” is a compulsory professional course for landscape architecture majors. It mainly introduces knowledge about the classification, morphological characteristics, ecological characteristics, and applications of landscape plants, playing a crucial role in helping students understand traditional Chinese plant culture and cultivating their learning interests. In the “Internet +” era, guided by the OBE concept, this course combines teaching content with ideological and political education, uses information-based teaching methods, and diversified assessment methods to guide students to learn independently, raise questions, and solve problems. The aim is to cultivate compound talents with practical and innovative abilities who can adapt to social development. Based on this, this article explores the teaching approaches of the “Landscape Botany” course based on the OBE concept in the “Internet +” era for reference.

Keywords: “Internet +” era; OBE concept; “Landscape Botany” course; Teaching approaches

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1. Introduction

The OBE educational concept, also known as outcome-based education, competence-based education, goal-based education, or needs-based education, requires teachers to construct classroom teaching models through reverse thinking^[1]. In the “Internet +” era, when teaching the “Landscape Botany” course, teachers can rely on the OBE concept to further affirm the importance of cultivation strategies in expanding educational outcomes, developing students’ abilities, achieving educational goals, and meeting educational development needs. This is an important way to improve the teaching quality of this course. Under the guidance of the OBE concept, teachers can build a student-centered teaching model and apply various modern teaching technologies to all teaching links, providing a corresponding field for students to enhance their professional abilities^[2].

2. Overview of the OBE concept

The OBE concept has been widely promoted and applied in the context of modern education. It is an innovative concept emphasizing the student-centered approach and learning outcomes. This concept holds that the ultimate goal of education is to enable students to grow (truly transform knowledge into their abilities and qualities and use them to solve problems). Therefore, in the educational process, it is necessary to integrate students' needs to determine goals and then implement them specifically. The OBE concept is "outcome-oriented," which means that the design, implementation, and evaluation of educational activities should be carried out in an orderly manner according to the established learning outcomes to develop students' abilities and achievements ^[3]. In practice, attention should be paid to students' learning processes, exploration, and practice, rather than simply evaluating whether their learning outcomes match the expectations. The study concludes that the implementation of the OBE concept requires teachers with professional qualities. These teachers should not only understand and implement this concept but also combine it with professional classrooms to promote a new educational model, cultivating college students' learning interests, innovative awareness, and comprehensive qualities, achieving a multiplier effect in education. In summary, the OBE concept is a modern educational concept with strong inclusiveness and openness. It has broad prospects for application in various disciplines and is worthy of in-depth exploration and practice ^[4].

3. Analysis of the characteristics of the OBE concept in the "Internet +" era

Firstly, the most prominent feature of the OBE concept in the "Internet +" era is its outcome orientation. In this model, the core of teachers' teaching is to clearly define the learning outcomes that students should achieve, that is, the knowledge, skills, and abilities that students need to master. These learning outcomes should be specific, measurable, and observable, reflecting students' actual ability levels. Therefore, teaching activities are oriented towards achieving these learning outcomes, and all teaching and assessment are closely centered around them ^[5].

Secondly, the OBE concept in the "Internet +" era emphasizes students' active learning and independent development. The traditional education model is often teacher-centered, with teachers dominating the teaching process and students passively receiving knowledge. Under the OBE concept, the role of teachers is to be guides and instructors, stimulating students' learning interests and cultivating their autonomous learning abilities. Students achieve learning outcomes through active participation and independent exploration. They can also choose learning projects according to their interests and specialties and learn at their own pace and in their way, thus having a deeper understanding and mastery of knowledge.

Finally, the OBE concept in the "Internet +" era encourages effective cooperation between teachers, enterprises, and industries. The teaching work in colleges and universities needs to be closely linked with enterprises, especially in the curriculum teaching based on the OBE concept. Teachers can cooperate with industry experts and enterprises to jointly develop learning plans and curriculum content, ensuring the practical application and industry orientation of teaching content. In addition, industry practical experience and cases can be integrated into the teaching of the "Landscape Botany" course, enriching students' learning experiences and knowledge backgrounds.

4. Advantages and challenges of the teaching of the “Landscape Botany” course based on the OBE concept in the “Internet +” era

4.1. Advantages of the teaching of the “Landscape Botany” course based on the OBE concept

4.1.1. Conducive to improving the teaching quality of the course

The OBE educational concept includes three links: learning output, organizing teaching activities to achieve learning output, and evaluating learning output. It highlights the principles of student-centered competence and outcome-orientation, which are more conducive to improving students' autonomous learning and practical abilities. Integrating the OBE educational concept into the “Landscape Botany” course is beneficial for teachers to change their teaching concepts, urging them to adhere to an employment-oriented approach. Teachers can formulate teaching goals, conduct classroom teaching, and establish teaching evaluation indicators based on the requirements of relevant job positions, emphasizing students' learning outcomes and constructing an outcome-oriented teaching system, which is conducive to improving the teaching quality of the course ^[6].

4.1.2. Conducive to promoting the construction of ideological and political education in courses

Ideological and political education in courses advocates “whole-process, all-staff, and all-dimensional education”, enabling ideological and political education to go hand in hand with various course teachings and constructing a collaborative education model to improve students' comprehensive qualities, indicating the direction for the teaching reform of the “Landscape Botany” course in the new era ^[7]. Integrating the OBE educational concept into the teaching of the “Landscape Botany” course is conducive to promoting the construction of ideological and political education in courses, urging teachers to explore the ideological and political elements contained in textbooks. This can not only highlight the characteristics of the course but also enable students to receive the influence of ideological and political education while learning professional knowledge, thus promoting the in-depth integration of course teaching and ideological and political education. It is conducive to improving the teaching quality of the course and the effectiveness of education, and giving full play to the educational value of the course ^[8].

4.1.3. Conducive to improving the quality of talent cultivation

The OBE educational concept is helpful for vocational colleges to optimize the talent cultivation model, coordinate the relationship between professional course teaching and students' comprehensive cultivation, optimize the teaching model of the “Landscape Botany” course, highlight the outcome-oriented educational concept, and promote the development of students' vocational skills, thereby improving the quality of talent cultivation. In addition, the OBE educational concept is conducive to promoting the connection between job skills and the teaching content of the “Landscape Botany” course, enabling students to understand the professional ethics and qualities required of excellent landscape workers, making them aware of the importance of comprehensive qualities for employment, thus stimulating their enthusiasm for independent learning, improving their comprehensive qualities, and cultivating more excellent talents with both moral integrity and professional competence ^[9].

4.2. Challenges of the teaching of the “Landscape Botany” course based on the OBE concept in the “Internet +” era

4.2.1. Unreasonable curriculum setting

The curriculum system of the “Landscape Botany” course based on the OBE concept in the “Internet +” era

should reflect outcome-orientation and needs-orientation, closely connecting the ability structure with the curriculum structure. However, currently, the “Landscape Botany” curriculum system has problems such as emphasizing theory over practice and lacking cross-curricular integration, which affects the teaching quality.

4.2.2. Teaching methods need to be innovated

Some teachers of the “Landscape Botany” course do not have a good understanding of the OBE educational concept and cannot improve the curriculum system, adjust teaching evaluation indicators, or optimize teaching strategies according to this concept. This affects students’ understanding of landscape botany knowledge, makes it difficult to help them develop career plans, fails to stimulate their enthusiasm for independent learning, affects the quality of practical teaching, and makes it difficult for students to achieve the expected learning outcomes^[10].

4.2.3. Incomplete teaching evaluation system

At present, the teaching evaluation of the “Landscape Botany” course mainly focuses on the final written exam results, with students’ attendance and the quality of daily assignments as auxiliary evaluation indicators. It mainly conducts outcome-based evaluations, ignoring teaching evaluations based on student-centered competence and outcome orientation. This affects the development of students’ professional ethics and vocational skills and restricts the development of their comprehensive abilities. Some teachers lack an understanding of the OBE educational concept and do not conduct teaching evaluations based on the three links of learning output, organizing teaching activities to achieve learning output, and evaluating learning output, making it difficult to tap students’ potential and affecting the teaching quality of the course^[11].

5. Teaching approaches of the “Landscape Botany” course based on the OBE concept in the “Internet +” era

5.1. Defining talent cultivation goals based on the OBE concept

5.1.1. Defining teaching goals based on students’ learning outcomes

Based on the OBE concept, teachers need to start from the teaching goals of the course, organically integrate the knowledge goals, ability goals, and emotional attitude and values goals of the course, and formulate corresponding teaching goals. Landscape Botany mainly introduces knowledge about the morphology, classification, biological characteristics, applications, and maintenance management of landscape plants. The main task of the course is to enable students to master the basic knowledge and skills of landscape plants and improve their abilities to observe, analyze, and solve problems. This course mainly aims to cultivate students’ learning interests, enhance their understanding and interest in traditional Chinese plant culture, and cultivate their love for the natural landscapes of the motherland, excellent traditional Chinese culture, and life^[12]. Through learning, students should master the basic methods and skills of identifying and appraising landscape plants, learn the maintenance and management measures of landscape plants, and improve their comprehensive qualities and practical and innovative abilities.

5.1.2. Formulating talent cultivation plans based on students’ learning outcomes

The OBE educational concept mainly integrates the student-centered cultivation direction into the teaching process and emphasizes the ability requirements that students need to achieve. Teachers should reverse-design the corresponding curriculum system according to this direction to give full play to the teaching effect of the

OBE concept. When re-setting the curriculum system of the “Landscape Botany” course based on the OBE concept, it is necessary to fully understand students’ actual learning situations, learning ability requirements, and their relationship with the curriculum system, to reflect students’ overall learning qualities through curriculum arrangements. Through teaching practice, it can be found that the teaching goals of the “Landscape Botany” course are more likely to be achieved. Teachers should follow the OBE concept in teaching, use students’ learning outcomes as an important basis for formulating talent cultivation plans, and build a scientific and reasonable curriculum system on this basis to achieve the talent cultivation goals^[13].

5.2. Teaching resource reform of the “Landscape Botany” course based on the OBE concept

Under the guidance of the OBE concept, teachers of the “Landscape Botany” course should re-integrate teaching resources to improve students’ learning enthusiasm and initiative. Specifically, in the process of teaching resource reform, teachers should first integrate the teaching content to help students better master the knowledge they have learned. The traditional teaching resources of the course mainly rely on textbooks. As an important supplement to classroom teaching, the content of textbooks is mainly compiled by teachers, with students passively accepting it. This teaching resource model can give full play to teachers’ leading role in the classroom, but it cannot effectively cultivate students’ autonomous learning ability, independent thinking ability, and innovative spirit. To achieve effective teaching of the “Landscape Botany” course, the curriculum resource reform mainly includes the following aspects: compiling “Landscape Botany” course resources; optimizing “Landscape Botany” textbooks; adding ideological and political elements to the “Landscape Botany” course; enriching the teaching content of the “Landscape Botany” course; supplementing multimedia courseware, micro-lesson videos, and relevant learning materials related to the “Landscape Botany” course. Through the above-mentioned reforms, a teaching system centered on students, with knowledge as the carrier and ability cultivation as the goal, can be formed, stimulating students’ learning interests, enhancing their autonomous learning abilities, and cultivating their practical and innovative abilities^[14].

5.3. Adhering to outcome-orientation and designing a task-driven teaching model

Before carrying out the teaching activities of the “Landscape Botany” course, teachers should fully understand the development trend of current network space security and clarify the requirements of the industry for talents, so as to clarify the final teaching outcomes, adhere to outcome-orientation, and thus deduce a task-driven teaching model. Firstly, teachers can arrange students’ learning content by assigning theme-based tasks, adhere to the student-centered approach, and let them carry out independent exploration activities, thereby cultivating students’ offensive and defensive practical operation abilities^[15]. At the same time, the teaching content of practical courses should also be redesigned according to the job requirements of landscape positions in the new era. Teaching can be carried out in modules according to professional and theoretical courses. For example, multiple different modules, such as basic theoretical knowledge learning and comprehensive practice, can be set up, and the difficulty of learning should be increased step by step, and experiments should be promoted hierarchically to enhance students’ learning enthusiasm.

Secondly, in the teaching process, teachers should be guided by the OBE concept, create an autonomous learning environment for students, and guide them to participate in project-based learning. This enables them to actively conduct in-depth exploration and adopt a team-cooperation learning model while solving practical problems. When implementing project-based teaching, the corresponding group model can also be integrated.

Teachers can organize each group to be responsible for completing a specific network engineering security project or studying a specific practical case. Teachers can guide them to start from different aspects of planning to ensure the participation of each student, enabling them to fully experience the entire process of “Landscape Botany” and improve their overall cognitive level of this course.

5.4. Reform of the course assessment method based on OBE

In the entire teaching system, the evaluation method is an important means to ensure the overall teaching effect. Therefore, the evaluation method of the “Landscape Botany” course should also be continuously improved. Guided by the OBE concept, it is necessary to deepen the positive development trend and continuously stimulate students’ learning motivation. On the one hand, a diversified evaluation system should be constructed. The traditional evaluation and assessment mechanism only relies on the final exam results in a one-way manner. This method can only reflect students’ mastery of theoretical knowledge and cannot comprehensively reflect students’ learning processes, completion degrees, and the improvement of comprehensive qualities such as practical operation abilities. Therefore, the new evaluation system should also include aspects such as the proficiency of practical operations, the completeness of project reports, the comprehensive performance of the team, and the display of innovative abilities, comprehensively and multi-dimensionally evaluating students’ theoretical knowledge mastery, practical skill applications, innovative thinking, and teamwork abilities. On the other hand, process-based evaluation can be implemented. During the entire teaching process, teachers should pay special attention to students’ learning attitudes and record their progress in each class to achieve a real and effective process-based evaluation, rather than relying solely on the final exam results to reflect students’ overall learning effects. Through timely feedback and regular inspections, teachers can also understand the problems that students are prone to encounter during the learning process and provide targeted solutions, thereby enhancing students’ confidence in overcoming difficulties. In this way, the evaluation process can be continuously improved, and it can strongly guarantee the improvement of students’ learning enthusiasm and the further development of the “Landscape Botany” course.

6. Conclusion

In conclusion, teachers of the “Landscape Botany” course in vocational colleges should address the problems existing in current teaching, such as the imperfect construction of the professional curriculum system, insufficient professional teaching staff capabilities, and low student professional identity. In the construction of specific teaching strategies, the OBE concept can be introduced to create good conditions for students to learn professional knowledge and enhance their professional abilities. In specific teaching practices, under the guidance of the OBE concept, teachers can improve the construction of the curriculum system, strengthen the core motivation of teachers, and focus on cultivating students’ professional identity to improve the overall teaching quality of the “Landscape Botany” course.

Disclosure statement

The author declares no conflict of interest.

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