

Research on the Teaching of Environmental Design Specialized Courses in the Context of Industry-Education Integration

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Abstract: With the rapid development of the times, the mode of integration of industry and education has become an important trend in the sustainable development of education in colleges and universities, and has gradually become the responsibility of enterprises and society. In order to realize the continuous development of the environmental design major and the rational development and utilization of human resources, the cooperation between schools and enterprises to carry out personnel training and education is conducive to the implementation of the strategic objectives of enterprise development and to meet the employment needs of students. Therefore, colleges and universities in the process of cultivating high-quality environmental design professionals should continue to explore innovative modes of professional teaching to promote the development of environmental design professional courses corresponding to the talents required by the market and the development of social productivity. In this regard, the article will analyze and study the innovation of environmental design education in the context of industry-education integration, and explain its importance and measures.

Keywords: industry-education integration; environmental design; professional curriculum teaching

1. Introduction

Environmental design is an interdisciplinary field integrating art and design, integrating aesthetics, psychology, sociology, architecture and other disciplines, and is a comprehensive discipline focusing on the harmony, comfort and sustainable development of people and the environment. Currently, the design field is deeply thinking about the relationship between human development and social needs and constantly seeking change, which requires environmental design talents to improve their professionalism. The development of environmental design education is relatively short, and there are many unavoidable problems in classroom education objectives and curriculum construction. Therefore, schools need to create a new model of teaching environmental design courses in the context of industry-teaching integration, and apply it to the practice of teaching knowledge.

2. The Impact of Industry-Education Integration on the Environmental Design Professional Curriculum

The integration of industry and education is oriented to the development of talents, industry and education cooperation and integration, joint training of talents and scientific research and other aspects of collaboration, is to promote the effective link between education, enterprises and talents, is to realize the win-win development of education and industry base. The integration of industry and education is the key issue facing the transformation and development of various specialties in colleges and universities at present, and it is the organic integration of the teaching of specialized courses and the practice of social industries. School-enterprise cooperation in education is an important hand in promoting the mutual integration of enterprise development and university education, and jointly building a modern professional skills education system, forming a benign interface between cultivation and employment, and realizing the mutual promotion of scientific research and production, and cultivating more high-quality talents with professional skills. The integration of industry and education will directly affect the effectiveness of cultivating high-quality talents and the effectiveness of education in serving the society and industry. The concept of the integration of industry and education is to let students practice their skills through social practice, so that they can really master professional

skills and become talents required by the market^[3]. Therefore, in-depth cooperation between the needs of enterprises and the teaching system can jointly contribute to the sustainable development of talent training.

The current digital revolution is changing the world, only innovation is the core of the long-term development of the field of environmental design. In the process of education system and reform in the new era, in order to cultivate a new generation of excellent designers, we must fully implement project-based comprehensive training that combines teaching and practice, transforms theory and practice, integrates cutting-edge social knowledge and skills into new classroom concepts, and enables classroom training to enter the market. Enable students to identify design problems, develop creative solutions and serve the needs of the design market. The responsibility of environmental design education has changed to train students to create comfortable, beautiful, harmonious and durable human environments. Therefore, it is necessary to keep abreast of the times to construct students' artistic personality, practical ability, design ability and professional literacy ability, and to strengthen the interaction between students and industrial development. Environmental design courses should always establish the idea that "innovation is the first productive force", and deepen the integration and development through the joint development of teaching curriculum and talent training system between schools and enterprises.

3. Analysis of the current situation of teaching environmental design courses in the context of industry-education integration

The "environmental art" originated from the interior decoration department of the Central Academy of Arts and Crafts established in the middle of the 20th century, which is still less than seventy years ago, and its professional knowledge system shows the shortcomings of insufficient vertical depth and excessive horizontal breadth. With the rapid outbreak of artificial intelligence applications, it not only has a great impact on the environmental design profession, but also has an impact on the creation mode of today's design industry. Nowadays, the integration of science and technology and art, and the integration of education science and industry have become the core factors affecting the modernization process of education. Therefore, the shortcomings of the professional skills training mode of talents in the field of environmental design have also been infinitely magnified, which are reflected as follows: insufficient combination of the teaching curriculum with the practice of circular economy. The healthy and dynamic development of the environmental design profession needs to be combined with the new needs of the human environment in the Internet era, in order to realize the discipline's advancement with the times, that is, the professional curriculum should be matched with the practice content, and the knowledge of the discipline should be applied in practice. Most of the courses related to environmental design use PPT and animation to teach, and most of the theoretical courses, resulting in a lack of rational consideration of the actual case design and layout. The programmed lectures make students lack creative thinking and practical experience, making it difficult for them to make actual progress.

Lack of effective connection between professional skills courses and digital market. While mastering basic environmental theory and professional skills, students fail to integrate design with the needs of the environment, economy and society to create a creative design solution. Revolutionizing the way professional skills are taught can provide a source of inspiration for the conceptual design of programs. In teaching, it is necessary to emphasize the concern for human-machine relationship as well as the lack of human emotion and the humanization of conceptual design, to think deeply about the market development trend, and to focus on innovative thinking. To create design works with temperature, empower modern design, and promote the deep integration of artificial intelligence and professional skills education, it is necessary to organically combine productivity and education, and integrate market demand for further planning of creation.

The teaching of professional courses lacks the transmission of engineering knowledge and logical thinking ability. For most art students, the foundation of science and engineering is relatively weak, logical thinking ability is insufficient, and three-dimensional space design ability is lacking. In the environmental design professional skills courses to cultivate students better artistic cultivation and spatial modeling ability, language expression ability, logical thinking ability and image thinking ability, as well as the pursuit of professionalism and identity to be high. Therefore, it is necessary to strengthen the improvement of thinking and logic literacy and to consolidate the basic knowledge of science and technology.

The depth of school-enterprise cooperation is insufficient. In the curriculum of colleges and

universities, industrial integration is aimed at education, while schools are aimed at educating people, and enterprises are focused on obtaining profits^[1]. Therefore, students' participation in practice during the implementation of cooperation is only on the surface of cooperative practical learning, showing insufficient internal drive, shallow depth and lack of vitality, resulting in the inability of students to gain access to real practical experience.

4. Innovative Measures for Teaching Environmental Design Courses in the Context of Industry-Education Integration

The teaching purpose of the environmental design course is to create a healthy living environment for people through technology and art, to enhance people's sense of security, acquisition and happiness as well as to promote the harmonious development of society. Therefore, when teaching the course, students should master the new design software of the times, such as CAD, Rhino and 3Dmax. The curriculum of professional skills courses should focus on the real-time development of the current society, and teachers should be trained regularly to master new skills, so as to update the teaching content of professional skills courses. At the same time of skill cultivation, students are trained to observe their surroundings and track the hot ideas of the society, and the ability to accurately capture the pain points of the design objects. When facing the current design situation, students are educated to conduct a down-to-earth basic investigation, focus on adopting a qualitative analysis of sustainability, and carry out a multi-dimensional rationality assessment before conceptualizing the program. Therefore, the innovation mode of environmental design professional course teaching in the context of industry-education integration should do the following:

4.1 Keep pace with the times and regularly update the professional curriculum

The innovation of the education curriculum of environmental design should master the dynamic update of the proprietary knowledge system architecture and meet the social requirements of real-time updating, presenting a top-down dynamic development of the discipline and balancing the interrelationship between enterprises and school education. Therefore, the framework of systematic integration of environmental design disciplines should be oriented to the basic fields of people, environment and needs, forming a knowledge architecture of harmonious development between schools and enterprises, and the teaching design should be in line with the clear field of industry practice. Therefore, the construction of the environmental design teaching curriculum should be based on the essential characteristics of art disciplines, keep up with the changes of the times, and innovate the knowledge re-construction of the teaching of this specialty^[2]. Schools can sign cooperation with industry experts to regularly review and update course content to ensure synchronization with industry technology and needs. And new technologies and methodologies, such as digital tools and data analysis, are introduced to keep the environmental professional skills curriculum cutting-edge and attractive.

4.2 Classroom introduction of curricular knowledge of human-related behavioral studies

In design education, the practice and theory of personalized learning process is strongly strengthened, drawing on the teaching and creative model of fine arts and applying it to environmental design education, in which teaching and learning are based on students' individual talents, interests and personalities. Human-centered behavioral research is conducted in teaching and learning, more consideration is given to the user's requirements for use, and more attention is given to conveying research on aesthetic information about the design of environmental spaces while improving people's work efficiency and living comfort. In order to enable students to learn the basic ability to synthesize the professional knowledge of the subject to realize the comprehensive development of interdisciplinary research.

4.3 Create a professional teaching and training room environment

Environmental design courses should be modernized and professional construction as a whole direction, to cultivate excellent environmental design professionals as the goal, equipped with various types of functional, advanced equipment, reasonable configuration of the training room, to promote better creation and design of students. When coursework operations are carried out in the training room, it should be equipped with professional teachers to guide professional practical training. Teaching space based on student practice, create areas for communication and sharing, promote the innovative

development of teachers and students in the training room, meet the needs of users while stimulating the innovative vitality of the space, and promote the benign development of the profession.

4.4 Participate in field project design, build flexibility of design thinking

Teaching practice is an important part of teaching innovation. Introducing cutting-edge projects and market docking of front-line designers into the classroom is more conducive to students' understanding and cognition of the course, and enables students to understand how knowledge can be transformed into real productivity, and how design can serve the society and make people's lives better. At the same time, in the implementation of the teaching process, students should be guided to pay attention to the hot issues of social reality and put forward feasible strategies. Students should participate in the field project design, conduct field research on the site to be landed, establish a preliminary understanding, and discuss the research situation under the leadership of teachers, share the preliminary concept of program design, and deepen their design plan. Finally, the best design solution is selected by democratic selection to implement the landing, in order to promote the development of students' design thinking flexibility and promote the cultivation of professionalism^[4].

4.5 Integration of industry and education, building a new environment of practice base

In course teaching, teachers should establish contacts with various industries, build a cooperation framework and system, and let enterprises, education experts and schools participate in course teaching planning. Schools should carry out various ways of production-teaching docking and cooperation, stimulate students' practical innovation ability, increase students' mode of thinking, improve students' design vision, and comprehensively establish a new environment for environmental design education. Schools and enterprises jointly create internship and training bases with professionalism and productivity, build a professional and innovative training base construction mode, and improve the practical teaching level of the environmental design specialty and the quality of talent training^[5].

4.6 Constructing the curriculum teaching of environmental design with an international perspective

It is pointed out in the outline of the environmental design course that students should master the relationship between human beings and various elements of the environment, promote the sustainable construction and development of the environment and society, and carry out the core idea of the environmental design specialty. International exchanges and cooperation in various ways are carried out in the course teaching to stimulate students' originality, change their way of thinking, increase their perspectives and improve their design vision. Teachers should lead students to actively learn the design concepts, educational mechanisms and knowledge transfer methods of western countries, which is conducive to the establishment of a comprehensive environmental design education system and the cultivation of environmental designers with Chinese characteristics.

5. Conclusions

Nowadays, environmental design has long penetrated into all areas of life, environmental design solutions should not only meet the needs of users to a great extent, but also take into account the practicality and recyclability. Then, the challenge for future designers is to think about what kind of design power to change the world from a longer perspective. However, the construction system of most colleges and universities to cultivate talents in environmental design shows a disconnect between the teaching content and the real market demand. The teaching content of some courses is lagging behind the actual social development, and the teaching method is traditional and lacks creativity and innovation. Therefore, it is necessary to innovate the teaching methods of environmental design courses under the background of industry-education integration, and combine various educational channels, grasp the key point of school-enterprise cooperation to cultivate students' practical ability, and improve students' differentiated and personalized design ability. Under the premise of understanding the complexity and basic characteristics of urban renewal, we can better grasp the law of redesign through scientific and rational design thinking, and improve the comprehensive design practice ability of urban renewal and environmental design. Teachers need to combine theory and practice in the context of industry-education integration to enrich the content and methods of professional practice courses. In the construction of professional skills teaching, they constantly integrate multidisciplinary knowledge and integrate it into systematic theories, deepen the content of school-enterprise cooperation, realize the

development advantage of complementary resources, and provide students with professional in-depth teaching from campus development to the real market. In summary, under the background of industry-teaching integration, the talent training mode of colleges and universities should be adapted to the needs of the development of the artificial intelligence era, to improve the practical ability of students and to protect their employment; to extend the learning cycle of the integration of industry-teaching and to broaden the depth and breadth of the students' learning, so that the enterprises can better attract the talents they need, which is of great significance to optimize and improve the training mode of the talents in the field of modern environmental design. In addition, it is necessary to accurately grasp the basic national conditions of China, master the development of science, establish scientific and systematic design thinking and methods, and conduct in-depth research and teaching for the characteristics of the specialty and the physiological characteristics of the students.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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