

Analysis of the Development Trends of Higher Vocational Education Talent Training in the Field of Architectural Landscape in the Intelligent Era

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Abstract: This paper takes the intelligent age as the background, discusses the development trend of higher vocational education talent training of environmental art design major in the field of architectural landscape. Through analyzing the influence of the intelligent age on the architectural landscape industry, as well as the challenges and opportunities that higher vocational education faces in this background, this paper puts forward the talent cultivation strategy of higher vocational education that ADAPTS to the intelligent age.

Key words: Intelligent Age; Architectural Landscape; Higher Vocational Education; Personnel Training; Development Trend

1. Introduction

With the rapid development of information technology and artificial intelligence, the traditional field of architectural landscape is undergoing a revolutionary change. the introduction of new technologies such as digital design and intelligent construction has brought new opportunities and challenges to the field of architectural landscape. In this context, the development trend of talent cultivation in higher vocational education also needs to keep pace with the Times. [1-2]

1.1 Overview of the Development of Digital Design and Intelligent Construction of Environmental Art Design Major

Overview of the development of digital design for environmental art design major in China Domestic environmental art and design majors have gradually realized the importance of digital design in the field of landscape architecture. For example, in landscape planning, garden design and other aspects, digital design can provide more accurate and efficient schemes, and through virtual reality

technology, people can better feel the effect of future landscape.

1.2 Overview of The Development of Intelligent Construction in Domestic Environmental Art Design Profession

Intelligent construction refers to the use of information technology and artificial intelligence technology to achieve automation, intelligent management and control in the building construction process. In China, intelligent construction has been widely used, such as the use of drones for measurement and monitoring in the construction process, and the use of robots for construction.

2. The Development Trend of Digital Design and Intelligent Construction in The Field of Landscape Architecture Abroad

2.1 Development trend of digital design in the field of landscape architecture abroad

Some foreign advanced landscape architecture design institutions have begun to use digital design technology, for example, the use of three-dimensional modeling software in the design process for project display and communication, the use of simulation software for lighting effect simulation.

2.2 The Development Trend of Intelligent Construction in The Field of Foreign Landscape Architecture

In foreign countries, intelligent construction has become the mainstream trend in the field of landscape architecture. For example, the use of automation equipment and drones for monitoring and management in the construction process, the use of sensors and Internet of things technology to achieve intelligent control of landscape facilities, etc.

3. The Country's New Development in Architectural Landscape and

Environmental Art Design in The Digital Era

3.1 Digital Urban Planning and Construction

With the acceleration of urbanization, digital city planning and construction has become an important national development direction. Digital city planning not only needs to take into account the layout of urban functions, transportation system and other aspects, but also needs to pay attention to urban environmental art design, landscape protection and other aspects.

3.2 Environmental art Design and Sustainable Development

In the digital age, environmental art design and sustainability are closely linked. For example, in urban park design, issues such as ecological protection and resource recycling need to be taken into account.

3.3 Green and Sustainable Development

Pay attention to ecological environmental protection and resource utilization, advocate green building and ecological landscape design.

3.4 Cross-Border Integration and Innovation

Break the traditional professional boundaries, achieve interdisciplinary integration, and promote innovative design.

3.5 Application of Intelligent and Digital Means in Environmental Art Design

3.5.1 Application of Building Information Modeling (BIM)

Building Information modeling (BIM) is an advanced means of building design and management based on digital technology. In environmental art design, the application of BIM technology plays an important role. First of all, BIM technology can provide designers with real-time and accurate project information, which helps to improve the accuracy and feasibility of design schemes. Secondly, BIM technology supports the whole process of design, including the design, construction and operation and maintenance stages, which helps to improve the efficiency of project management. In addition, BIM technology can also realize multi-professional collaborative design and promote interdisciplinary

integration and innovation. In terms of green and sustainable development, BIM technology can simulate building energy consumption, ecological environment and other indicators to provide a scientific basis for green building design.

3.5.2 Application of virtual reality (VR) technology

Virtual reality (VR) technology has a wide range of application prospects in environmental art design. Through the immersive virtual reality environment, designers can display design schemes more intuitively and provide an immersive experience for customers and construction parties. During the design process, VR technology can help designers quickly adjust their plans and improve their satisfaction with the design proposals. In addition, VR technology can also be applied to construction training and safety management to improve construction quality and safety. In the field of environmental art and design education, VR technology can provide students with rich practical experience and improve their ability to innovate and practical operation. [3-5]

3.5.3 Application of augmented reality (AR) technology

Augmented reality (AR) technology plays an important role in environmental art design. By combining the real environment with virtual information, AR technology can provide designers with more abundant and intuitive design aid information. In the design process, AR technology can realize the real-time integration of the real scene and the design scheme, and help designers quickly evaluate the feasibility of the scheme. In addition, AR technology can also be applied to construction guidance and project management to improve construction efficiency and quality. In the field of education, AR technology can provide students with more vivid and intuitive teaching resources and improve learning results.

3.5.4 Application of artificial intelligence (AI) in environmental art design

Artificial intelligence (AI) technology has great potential in environmental art design. By analyzing a large number of design cases and data, AI technology can assist designers to generate innovative design solutions. During the design process, AI technology can automatically adjust and optimize the design scheme according to the designer's needs. In

addition, AI technology can also be applied to green building design to optimize building energy consumption and ecological environment indicators through intelligent algorithms. In the design review process, AI technology can provide objective and fair evaluation and improve design quality. In the field of education, AI technology can provide students with personalized learning paths and intelligent tutoring to improve their innovative ability.

4. New Requirements for Talent Training in The Architectural Landscape Industry Under the Background of The Intelligent Era

4.1 Cultivation of Interdisciplinary Ability

Digital design and intelligent construction require talents in the field of architectural landscape to have interdisciplinary abilities, such as the need to master the knowledge of computer technology, project management and so on.

4.2 Cultivation of Innovation Consciousness and Practical Ability

In the digital age, innovation consciousness and practical ability have become the necessary qualities for talents in the field of architectural landscape. Only those with innovative consciousness and practical ability can adapt to the rapidly changing needs of the industry.

5. The Architectural Landscape Industry's Ability Demand for Environmental Art Design Talents Under the Background of The Intelligent Era

5.1 Technological Innovation Ability

In the intelligent era, the architectural landscape industry needs talents with technological innovation ability to have digital skills: master building information modeling (BIM), virtual reality (VR), augmented reality (AR) and artificial intelligence (AI) and be able to skillfully use emerging technologies such as BIM, GIS, VR/AR, etc., to improve design efficiency and quality.

5.2 Innovation ability: Have the ability of cross-border integration and innovative design

Architectural landscape projects involve multiple disciplines and require talents with the ability to collaborate across boundaries and work with other professionals to complete the project.

5.3 Ensure Awareness and Sustainability

Have the concept of green design, pay attention to ecological environment protection and sustainable development. With the emphasis on environmental protection, the architectural landscape industry needs talents with environmental awareness and sustainable development capabilities to ensure that the impact of projects on the environment is minimized.

6. Update and Change of Talent Training Program

6.1 Update and optimization of Educational Content

With the rapid development of science and technology, the intelligent era has come. In this context, the architectural landscape industry's demand for environmental art design talents has changed significantly. In order to adapt to the new trend of the development of the industry and cultivate environmental art design talents with innovative ability and practical ability, the updating and optimization of educational content has become an urgent need.

6.1.1 Strengthen digital skills training: Add BIM, VR, AR, AI and other related courses to improve students' digital application ability.

6.1.2 Integrate green design concepts: Pay attention to ecological environmental protection and sustainable development, and improve the level of green building design.

6.1.3 Cultivate innovation ability: encourage interdisciplinary integration and innovation, and stimulate students' creativity.

The educational content needs to be updated and optimized in response to the development trends in the fields of digital design and intelligent construction. For example, add related courses, such as virtual reality technology and intelligent machine operation learning.

6.2 Practical Ability Training and Innovation

By cooperating with enterprises to carry out practical teaching activities, students are

exposed to real projects and improve practical ability. At the same time, the combination of production, university and research should be strengthened to promote the deep integration of education and industry.

6.2.1 Strengthen practical teaching: Add practical courses to improve students' hands-on ability.

6.2.2 School-enterprise cooperation: Cooperate with enterprises to carry out industry-university-research projects and provide practical opportunities for students.

6.2.3 Innovative education mode: project teaching, workshops and other forms are introduced to cultivate students' teamwork and innovation ability.

6.3 Interdisciplinary Integration and Collaboration

6.3.1 Promote interdisciplinary integration: set up interdisciplinary courses to cultivate students' comprehensive knowledge system.

6.3.2 Strengthen industry-university-research cooperation: achieve school-enterprise cooperation and promote the close connection between industry and academia.

6.3.3 Introduce international advanced educational concepts: learn from international excellent teaching models to improve education quality. At the same time, we should pay attention to the inheritance of local culture, carry forward local culture, and realize localized development.

7. Conclusion

With the advent of the intelligent era, the cultivation of higher vocational education talents in the field of architectural landscape is facing new opportunities and challenges. Through the analysis and research of the development of digital design and intelligent

construction at home and abroad, it can be seen that digital design and intelligent construction have become an important trend that cannot be ignored in the field of architectural landscape. Therefore, in the formulation of talent training program, it is necessary to pay attention to the cultivation of interdisciplinary ability, innovative consciousness and practical ability, and pay attention to the reform of educational content, interdisciplinary integration and collaboration, which provide a strong guarantee for the cultivation of environmental art design talents to meet the needs of industry development.

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