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Exploration into the Reform of Innovative Teaching Models in Environmental Art Design under the Background of the Digital Age

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Abstract: In the context of the digital age, in order to apply digital technology to innovate environmental art design, it is necessary to strengthen talent cultivation, improve their digital literacy, achieve human-machine collaboration goals, and promote the cross-border integration of digital technology and environmental art. In the traditional teaching process of environmental art, the curriculum is relatively lagging behind, and the theory and practice are disconnected. The evaluation mode is relatively single, and the integration of industry and education has not been deeply realized, which cannot meet the needs of the industry's transformation and development. Therefore, it is necessary to fully utilize advanced digital intelligence technologies, including digital twins, big data, and artificial intelligence, in environmental art teaching work, comprehensively innovate teaching models, enhance students' core competitiveness, and improve the quality of environmental art teaching.

Keywords: Era of digital intelligence, Environmental art design, Innovation in teaching mode

1. Introduction

With the rapid development of digital intelligence technology in China, virtual reality, big data, artificial intelligence and other technological means have been widely applied in the field of environmental art and design, presenting characteristics of interactivity, dataization and intelligence. For environmental art designers, they should gradually shift from manual drawing and software operation to data-driven and human-machine collaboration, and achieve interdisciplinary integration. From the perspective of environmental art teaching, it is necessary to transform the previous teaching mode of topic simulation, software training, and theoretical lectures, and use digital technology to reform the teaching mode, reconstruct the curriculum system, optimize teaching methods, improve evaluation mechanisms, enhance practical education effects, and promote innovative development in the field of environmental art design.

2. The Importance of Innovative Teaching Models in Environmental Art Design in the Digital Age

2.1 Adapt to the development trend of digital intelligence technology

In the field of environmental art and design, digital intelligence technology, as a core tool, is an innovative carrier of environmental art design. It can use artificial intelligence technology to assist in design and utilize virtual simulation technology for display. It can also use big data technology to conduct site analysis and optimize indoor and landscape design. In the teaching process of environmental art design, digital intelligence technology can be used to innovate the teaching mode, ensure that the teaching content is consistent with the technological development trend,

comprehensively strengthen the professional construction, keep pace with the development of the times, prevent the teaching work from being disconnected from the industry, improve the education system, and fully ensure the progressiveness of environmental art teaching.

2.2 Cracking the drawbacks of traditional teaching

For the traditional environmental art teaching mode, there is a problem of emphasizing hand drawing over technical skills, placing more emphasis on theoretical teaching and neglecting practical teaching. At the same time, the course content is relatively lagging behind, which cannot effectively improve students' innovation ability. Based on the innovation of digital technology in environmental art teaching mode, teaching methods can be updated, advanced technological means can be integrated, and problems such as one-sided evaluation, single resources, and rigid teaching in previous teaching can be solved, comprehensively enhancing classroom vitality and improving the teaching quality of environmental art design major.

2.3 Cultivate versatile design talents

In the context of the digital age, the environmental art and design industry not only focuses on drawing and modeling abilities, but also needs to enhance the digital literacy of designers, strengthen their human-machine collaboration abilities, cultivate their interdisciplinary thinking, and improve their practical abilities in design projects. After innovating the teaching mode of environmental art and design, the core goal can be to enhance students' abilities, fully integrate digital technology and artistic aesthetics, comprehensively cultivate innovative and versatile design talents, ensure compliance with market demand, enhance students' employment advantages, and fully stimulate their career development potential[1].

2.4 Promote interdisciplinary integration

By utilizing digital technology in a rational manner, the boundaries between art, engineering, technology, and design can be bridged, resulting in a distinct interdisciplinary nature in the field of environmental art and design. After the innovation of environmental art teaching mode, environmental art design can be fully integrated into fields such as ecological landscape, artificial intelligence, and digital technology, expanding its professional connotation, enriching the research directions in the field of environmental art design, and achieving the goal of innovative upgrading of the discipline.

3. Reform Path of Innovative Teaching Mode in Environmental Art Design in the Digital Age

3. Update teaching philosophy

In the process of reforming environmental art and design teaching, it is necessary to timely change the teaching philosophy, strictly follow the principle of student-centered, innovate teaching ideas, and achieve innovation oriented and practical application. During the training of design talents, innovative thinking and digital literacy should be included in the training objectives, and humanistic care should be reflected to fully cultivate the sustainable design awareness of designers. During this period, it is necessary to comprehensively strengthen human-machine collaboration, ensure a balance between creativity and technology, so that students can correctly use digital tools, always adhere to the essence of design, and fully reflect aesthetic value. Therefore, university teachers need to use digital technology reasonably based on artistic aesthetics and engineering logic, guide students to adhere to originality in environmental art design, comprehensively enhance humanistic value, comprehensively cultivate innovative environmental art talents, and ensure that they are in line with the development needs of the digital age.

3.2 Refactoring the curriculum system

College teachers should optimize the curriculum of environmental art design based on their needs for digital intelligence. Specifically, courses such as big data site analysis, digital twins, parametric design, and AI design applications can be added. At the same time, digital technology should be reasonably integrated into practical courses, professional courses, and basic courses, and a modular curriculum system should be established to scientifically divide different course levels. Specifically, the curriculum should be set up as a foundation layer, an expansion layer, a core layer, and a practical layer. College teachers should do a good job in updating teaching resources and textbooks, and

integrate digital resources and industry cases into their teaching work to ensure that course content can be dynamically updated. In the actual teaching process, curriculum barriers should be broken down, and courses should be reasonably added at the basic level, so that students can correctly use AI design tools, master digital media, and deeply analyze design data. At the core level, courses such as digital twin operation and maintenance, interactive space design, BIM application, and parametric design should be added. In the expansion layer, interdisciplinary courses should be designed reasonably, including digital protection, sustainable digital spaces, and intelligent landscapes. Finally, at the practical level, it is necessary to fully integrate project driven approaches into the curriculum, and make reasonable use of digital technology to generate teaching plans in a timely manner, fully simulate and optimize them, and demonstrate specific teaching results[2].

3.3 Innovative teaching methods

In the process of teaching environmental art and design, it is necessary to change the traditional lecture style teaching method, fully mix online and offline teaching, timely carry out project-based teaching, and guide students to participate in inquiry based learning activities. Specifically, teachers can use AI design tools to assist in the generation of environmental art and design creativity, and adopt virtual reality technology to enable students to have an immersive experience of the space. They can conduct program evaluations, innovate teaching models through digital platforms, organize student group collaborations, and conduct online peer evaluations to fully share learning resources. In the era of digital intelligence, teachers should transform their role from knowledge transmitters to learning guides, give full play to the role of students as the main body, enhance students' autonomous learning ability, and enable them to actively innovate and think. Teachers need to make reasonable use of online platforms, conduct timely previews and assessments, drive classroom teaching with learning tasks, and fully carry out plan discussions. In addition, teachers should make reasonable use of artificial intelligence technology to provide assistance for students' creative stimulation, and use parametric tools to optimize functions and forms. On this basis, teachers should also use big data technology to deeply explore user needs, strengthen their guidance, evaluation, and organizational roles, so that students can correctly apply digital technology and accurately grasp the bottom line of creativity.

3.4 Strengthening practical teaching

For universities, it is necessary to construct digital design laboratories and establish virtual simulation training centers to create a good practical environment for students to apply digital intelligence technology. During this period, it is necessary to strengthen cooperation between schools and enterprises, introduce real projects from enterprises into teaching work, adopt a dual teacher guidance model, fully integrate on campus mentors and industry mentors, and combine environmental engineering, practical training, and graduation design to improve the quality of practical teaching. At the same time, teachers should fully encourage students and guide them to participate fully in practical activities, such as rural revitalization design, urban environmental micro updates, and digital design competitions, to ensure the smooth implementation of environmental engineering projects. Colleges and universities need to create a reasonable integrated practice platform, combining on campus virtual simulation with off campus engineering practice. During the period of school enterprise cooperation, commercial space should also be integrated, real projects should be introduced in a timely manner, enterprise mentors should be arranged to fully participate in teaching work, and student practical training should be strengthened to provide guidance for their graduation design.

3.5 Improve the evaluation mechanism

In the teaching of environmental art and design, it is necessary to innovate the teaching evaluation mode and improve the evaluation mechanism reasonably. In previous teaching work, the evaluation model mainly relied on a single result. In order to ensure the accuracy and objectivity of teaching evaluation, a competency based and process based evaluation system should be established. Specifically, project practice, team collaboration, technology application, classroom performance, and other aspects should be fully included in the evaluation content, and the evaluation subject should be expanded to include industry experts, enterprise mentors, and classmates. Teachers can use big data technology to record students' learning processes in detail, achieving the effect of promoting learning and teaching

through evaluation, ensuring that students' comprehensive qualities are fully reflected[3].

Conclusion:

In summary, in the era of digital intelligence, innovation in the teaching mode of environmental art and design can better respond to technological changes and improve the quality of talent cultivation. From the perspective of universities, it is necessary to continuously update teaching concepts, rebuild the curriculum system, innovate teaching methods, strengthen practical teaching, optimize teaching evaluation, fully integrate digital technology into design teaching, fully cultivate environmental art and design talents, ensure meeting the development needs of the new era, promote the innovative development of environmental art and design majors, improve the development level of smart cities, and optimize the living environment.

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