

Digital Illustration Design and U3d Interactive Experience Innovative Teaching Research

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Keywords: Digital Illustration Design, U3d, Interactive Experience, Innovative Teaching

Abstract: in the New Era of Digital Technology Development, Digital Technology Has Been Widely Used in the Field of Media, Film and Television and Animation. Digital Illustration Design Provides Rich Content for the Development and Innovation of Related Fields. in the Process of Rapid Development of Information Technology, Network Technology and Intelligent Technology, the Combination of Digital Illustration Design and 3d Interactive Mode Can Greatly Improve the Level of Visual Art. the Teaching of Digital Illustration Design in Art Colleges Has Also Been Inspired. the Use of U3d Innovative Experience Teaching to Achieve Educational Innovation Reform. through the Research on the Innovative Teaching Approaches of Digital Illustration Design and U3d Interactive Experience, This Paper Improves the Teaching System of Art Colleges and Improves the Social Development Ability of Art College Students.

1. Introduction

In the development of visual art with network media as the core, the innovation of digital design thinking and design mode has become the driving force to promote the development of art design. As the cradle of training high-end art and design talents, China's art colleges should also boldly carry out teaching reform in the era of rapid development of science and technology. In the traditional digital illustration art teaching, traditional technology is often used to express the visual effect of the shape and color of the design content. In the increasing social demand, the traditional teaching mode of digital illustration design has caused a certain lag. The application of U3D technology in the teaching of digital illustration design has become an inevitable trend of teaching development in art colleges.

2. Overview of U3d (Universal 3d) Technology Connotation

U3D is developed on the basis of traditional 3D composition technology. It has many advantages such as interactivity, design and compression. The emergence of U3D brings new opportunities for the development of Visual Arts [1]. When digital illustration design course is carried out in art colleges, U3D standard format can be used to edit and access graphics. Because the traditional 3D composition technology is based on the source file, when the designer is in a non 3D environment, the digital illustration design content cannot be opened and browsed. Before the emergence of U3D technology, users can only use technical means to change the program of digital illustration design documents, which not only wastes users' time, but also easily damages the source documents of digital illustration design. In addition, because the traditional 3D file format is in the form of pictures, this format of files occupies a large amount of computer storage space, when the designer's source files are too many, it will bring a great impact on computer storage and operation, and do not use the effective transmission of digital files on the Internet. In the U3D teaching mode, digital format technology has been greatly innovated. Using the material source file format technology, digital illustration design can be better displayed in front of the audience. Passive file technology can facilitate the content of complex digital illustration design, form interactive experience, and improve the value of digital illustration design.

3. Digital Illustration Design and U3d Interactive Experience Innovative Teaching Method

3.1 Using U3d to Develop Digital Illustration Design Script

In the teaching of digital illustration design, U3D technology can be used to develop design scripts. The teaching of digital illustration design needs to be based on design components, and the traditional art design software needs students to have certain programming ability to add personalized graphic design functions. Because the teaching purpose of art colleges is to train art design talents, and programming technology teaching is the main subject of engineering colleges. In order to reduce the learning burden of art students, with the help of U3D script development function, it can present an intuitive script editing interface for art students, and help students to realize easy programming on a visual platform. In the digital illustration design, students can use the relevant components of the U3D teaching platform to freely edit each link in the design content, such as inserting a design object, using a design element, etc., so as to make the digital illustration show a better visual effect [2]. The script development in U3D technology mode is based on the basic script components for free combination, addition, deletion, change and other operations, so as to form a new script content.

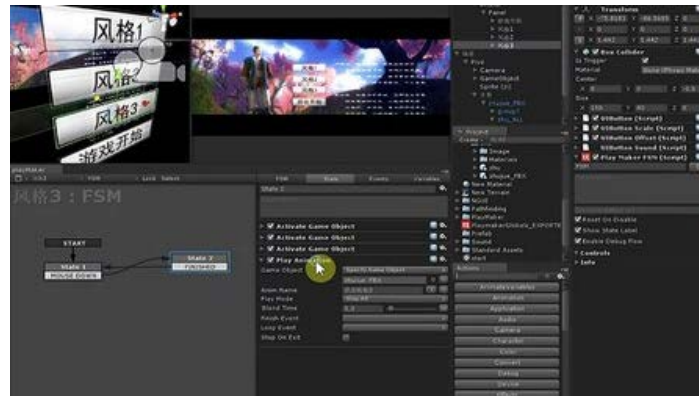


Fig.1 Schematic Diagram of Illustration Design Script

3.2 Using U3d to Build Digital Illustration Design Engine

Under the teaching mode of U3D, through the digital illustration design of human-computer interaction, students' ability of graph construction can be better trained. In the process of digital illustration design, students should first master the use conditions of U3D technology, such as screen touch mode and handle operation skills in interactive experience, so as to improve students' proficiency in using U3D. The construction of digital illustration by U3D enables the engine to build a close bridge between students and interactive computers. On the computer input port, it can be compatible with a variety of auxiliary devices for digital illustration design, such as touch panel devices, inductive scanning devices, etc., so as to make the interaction experience between illustration design and U3D platform more comprehensive and optimized, and enhance the overall control effect of students on U3D composition Guo [3]. The graphic attribute components of the U3D composition platform need students to stimulate the contact through the computer, such as using the computer mouse tool to click the corresponding component functions, so that the digital illustration design can achieve dynamic effects, such as collision, jumping, color change, etc.

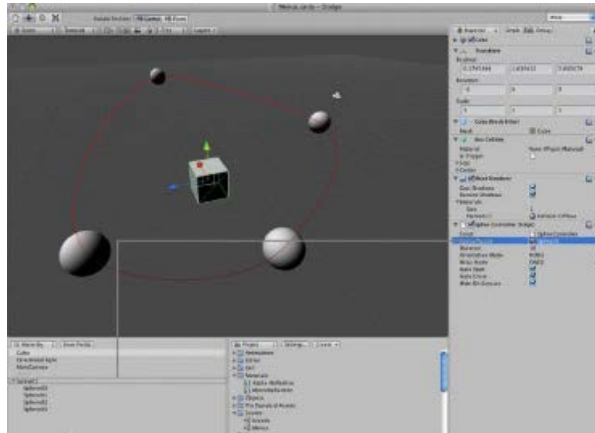


Fig.2 Illustration Design Engine

3.3 Using U3d to Show Digital Illustration Design Materials

In the teaching of digital illustration design, it can also display the effect of graphic materials with the help of U3D platform function. In the design of digital illustration content, in order to better realize the visual sensory effect, it is necessary to present the material characteristics of the object according to the design content, such as steel ball, wood frame, etc. With the help of U3D technology, students can use the rendering function of related components to set the materials and dynamic effects of illustration [4]. For example, different dynamic roles are given to steel balls to form different design purposes. In order to improve the interactive experience effect of the students on the digital illustration design of U3D technology, the illustration design teacher can assign certain teaching tasks to the students, for example, let the students design an object moving on the slope, and observe the artistic effect presented under different attribute material modes.



Fig.3 Illustration Design Material Diagram

4. Digital Illustration Design and U3d Interactive Experience Innovative Teaching Effect

4.1 Using Digital Illustration Design and U3d Interactive Experience to Stimulate Design Interest

In the traditional digital illustration design, students can only carry out design learning in 2D or traditional 3D mode. The traditional teaching mode can only provide students with static graphics and images, and can not bring dynamic simulation experience to students. Under the U3D interactive experience learning mode, students can use the intuitive, dynamic and interactive design process to simulate the overall effect of digital illustration design, give the viewer strong sensory stimulation, so as to better stimulate students' interest in learning [5]. With the continuous development and innovation of information technology, the compatibility of digital illustration design software has also been greatly optimized. The illustration design software breaks the traditional professional restrictions and can combine the graphic software and mechanical software of engineering, so that the students majoring in digital illustration design can better understand and master the design skills.

4.2 Using Digital Illustration Design and U3d Interactive Experience to Cultivate Design Ability

Digital illustration design is closely related to practical exploration. The use of U3D interactive experience in the design teaching classroom of art colleges can provide students with a more comprehensive practice environment and opportunities. U3D technology platform can improve the environment of analog digital illustration design studio for students, enable students to combine classroom theory and practice process, and improve students' digital illustration design ability. In the process of U3D interactive experience teaching, students can effectively expand their thinking and realize their design ideas through U3D technology [6]. The digital design classroom in art colleges includes not only illustration design, but also animation design and other branches. With the help of U3D interactive experience platform, it helps students to apply professional knowledge and skills to design practice, and promotes students to form multi-angle and multi-level innovative design quality. In the teaching process of digital illustration design, teachers should pay attention to the cultivation of students' interactive ability, promote the goal of subject interaction, human-computer interaction, theory and practice interaction through U3D interactive experience, combine art creation with teaching process, and improve students' digital illustration design level.

4.3 Using Digital Illustration Design and U3d Interactive Experience to Cultivate Innovation Ability

In the process of educational reform, art colleges need to actively change their teaching thinking and pay attention to the cultivation of students' creative ability of digital illustration design on the basis of knowledge and skills transfer. In the teaching of the combination of digital illustration design and U3D interactive experience, teachers should encourage students to use innovative thinking to integrate more design concepts in the original human-computer interactive experience. In the continuous development of society, digital illustration design has been widely used in the field of film and television, art design, architectural design, animation design, etc., which requires art design students to have innovative cross knowledge capabilities, break through the limitations of computer screen in the realization of U3D interactive experience, and achieve the comprehensive interactive goal of multiple projects.

5. Conclusion

With the increasing demand of art design talents in the society, art colleges should pay attention to the development of teaching methods when offering relevant courses. In the teaching of digital illustration design, U3D interactive experience is integrated into it to create an intuitive and rich illustration design environment for students. At the same time, U3D interactive experience stimulates students to better combine their own design ideas and use various functional conditions of U3D to carry out experiential learning. U3D technology platform forms a link between art design and engineering technology. The professional course teachers of art colleges should deeply tap the advantages of U3D technology in digital illustration design, cultivate students' art visual literacy through interactive teaching process, and enhance students' ability of art design innovation and development, so as to cultivate more excellent talents for the art visual field of our country Well meet the needs of social development.

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