Exploration of the Integration of Computer Technology into Design Art Education in the Information Age

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Abstract. The arrival of the information age has promoted the development of all walks of life, and the design art education has also gained an opportunity for development. In particular, the popularity of computer technology has made traditional art and design break through the constraints, and has produced new forms of expression, which has promoted the diversified development of the design art education profession.

Introduction

The rapid development of network culture since the 1990s has brought about the globalization of information, and great progress has been made in various types of information support technologies. These technologies include computer software and hardware technologies, communication technologies, sensing technologies, wireless technologies, and virtual technologies. Not only do they develop independently, but communication and cooperation between various technical fields is growing. The development of technology has promoted various advances and changes in society. On the one hand, design art needs to match aesthetic needs with the development of technology. On the other hand, the design art education is inseparable from the integration and promotion of computer technology.

The Development of Computer Technology Art and Design

The course of social development shows that advanced technology is the premise of social development. Without papermaking and printing, human beings cannot retain and transmit information or culture in writing; without telephone, human communication may still remain in the state of depending on the pigeon to send letters; Without computers, society may still be in the industrial age, and it is even less able to enjoy the modern and convenient network and the fast and comprehensive information it provides... At each stage of social development, the power of technology is important.

Figure. 1 Development Trend of Computers

For art and design, what the artist or designer cares about is what the technology is about, and how it is expressed. The development of technology has made art and design performance gradually move from two-dimensional to three-dimensional, geography and space are rationally utilized, and the user's senses are fully mobilized, so that information can be received more quickly, accurately and comprehensively. With its strong driving force, technology has promoted the development of all

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aspects of society, and it has gradually penetrated into every corner of life. With the application of technology, traditional art and design break the conventional constraints and produce new forms of expression.

The Relationship between Computer Technology and Design Art Education

After the first computer was introduced, technicians could use a computer window to edit a document or program. At that time, the keyboard and mouse were the only standard input devices, and the computer screen was the standard output device. From the current scientific and technological development, the invention of new products such as tablet, camera, projector, wireless device, etc., all optimize the information performance and receiving mode of the original multiplayer era.

(1) Computer-aided Design is Basic and Universal in Art Design Education

Most of the design art education systems at home and abroad today retain the education system and model of Bauhaus design institutes. However, with the development of computer technology, computer-aided design has been widely applied to various lines of design. Whether it is based on two-dimensional graphic design or three-dimensional environmental art design, animation design, and emerging multimedia design, computer design is used to achieve design effects. Therefore, many design art educations now offer basic courses in computer technology, and even some majors are mainly dependent on the development of computer technology.

(2) Computer Technology Promotes Diversified Development of Design Art Education Major

With the development of computer technology, the professional development of design art education is more diverse.

The third major scientific and technological revolution that began in the late 1940s and early 1950s and continues to this day is the economic globalization. With the development of economic globalization, information globalization has inevitably become a key step. As the times progress, information has a profound impact on society and human life. The rapid spread of information and the large amount of information are the basic portrayal of the modern society that has entered the information age. With the application of computer technology and network technology, from the digital processing era to the computer era to the Internet age, the modern society of information explosion has put forward new requirements for society and human life. With the rapid development of information industrialization, post-industrial trends dominated by information technology have been formed on a global scale. As information and information technology play a huge role, the globalization process in politics, economy, culture and industry is in full swing. In the information age, the concept of the market has also quietly changed. Many commercial operations are no longer carried out in the “market” but “online”. Being independent, the transmission of information through the network and various types of communication devices breaks the geographical restrictions. In the context of the great social changes, especially in the information age, some disciplines and majors related to design art education have been derived. For example, new media is a form of media emerging under the computer technology support system, such as digital magazines, digital newspapers, digital broadcasting, mobile messaging, mobile TV, Internet, desktop windows, digital TV, digital movies, touch media, and so on.

Figure. 2 New Media Form: Digital Magazine

There are a lot of design art education in the new media background, to start a new media design professional research or computer related design art major, so that design art education can adapt to social development.

Figure. 3 Visualization of Information

(3) Computer Technology Promotes the Development of Design Art Education

Previous art design education stayed in manual creation and simple computer presentation, now due to the development of computer technology. Not only can it be designed with the help of a computer, but also a lot of design ideas can be realized due to the promotion of technology. After the 1970s, as the design concept gradually returned to nature and humanization, as well as the miniaturization of computers, the improvement of performance and the reduction of the cost of auxiliary equipment, the expression of art and design presented a new trend. This is mainly manifested by changes in the way of creation and changes in the relationship between products and users. First of all, multi-field cooperative innovation is becoming more and more common, including the integration of different subject areas, cooperation between technology and art; Second, it is also a relatively important change, that is, the change in the user's location. The design user is no longer a pure audience but can communicate directly with the work. For example: tracking the work that completes the interaction through the camera; virtual reality art that drives the virtual world with physical media and acts with people or things in the virtual world; uses the network and robot technology to irrigate the gardens thousands of miles away with strangers... At this point, the simple graphical user interface has not kept pace with the development of modern high-tech, and various forms of new media art have sprung up and applied to all aspects of social life. As various technologies continue to evolve, product forms that operate using a variety of integrated media technologies continue to be enriched. The requirements of its design art are also constantly evolving.


Figure. 4 Interactivity of User Interface

Conclusion

In the age of information technology, computer technology has driven the society to keep moving forward and affects all walks of life. Under the development of society, the integration of design art education and computer technology will become more and more close. It is also more important to study the reasonable ways to ensure the effective combination of computer technology and design art education.

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