

Chapter 72

Study of Network Media on Art Design Education Based on Demand Model and Dynamics Theory

Jing Wang and Ning Song

Abstract The network media is being used more and more widely. The reform of professional education of art design was strongly influenced by the network media. Through the systematic research to the education mode of art design based on network media, it established the plane type media, the three-dimensional animation media, interactive media, and the budget design kinematics influence equation. Meanwhile, it analyzed the art design education mode system of network media, and established art design education pattern based on the network media. The structure of the system was four channel application structures which were to meet the needs of art design education.

Keywords Network media · Two-dimensional model equation · Kinetic theory · Demand model

72.1 Introduction

With the rapid development of computer network technology, education in Internet technology as the tool and art design has become the popular trend in university art design teaching. Network media art design education was adapted to the time and society as well as the demand of talented people in the art technology field [1]. The specialty of Network media of university art design is to combine the open network technology and art design organically thus forming the interdisciplinary professional teaching. The art design specialty was mainly to train more

J. Wang (✉) · N. Song
Institute of Arts and Media, Handan College, Handan 056001, China
e-mail: wang_jing11@126.com

versatile professionals who were equipped with good design literacy and arts accomplishment. They should not only understand relevant professional skills but also have very good ideas of art, and be able to use the network media tools to design and create art works [2]. For art design students, they should be able to grasp the basic knowledge, theory, and design skills related to network science and network technology, and to manipulate various software of network media to do art work. At the same time, they should be equipped with basic requirements of art design, namely the ability of arts appreciation and design, and apply software tools of network media into art design work.

72.2 The Establishment of Art Design Education Model and Kinematics Influence Equation from Network Media

At present, the main performances of the network media are: the plane-types media, the three-dimensional animation, interactive media, and other network media forms. At the same time, different transmission modes of network media included Internet graphics, network animation, or images and interactive network media content. In the performance form of network media, it required a big database of technology. Therefore, in the process of art design, network media tools became more and more important. So, for art design talents, they needed to have the systematic structure of art design knowledge and art design skills. The goal needed plane-type media, the three dimensional animation media, interactive media and other network media to establish. In order to achieve this, it must establish demand model of art design goal to the Internet media.

According to these characteristics, the establishment of the systematic model should include art design education target of the dynamics needs of plane type media, three-dimensional animation media and network interactive media. The two-dimensional model equations are shown as follows [3]:

$$F_{XYZ} = \frac{1}{XY} \int_0^Z F_{XY}(Z) dz \quad (72.1)$$

Among them, F_{XYZ} stand for art design education target; X stand for the demand degree of plane type media tools of network media; Y stand for the demand degree of the three dimensional animation media tools of network media; Z stand for the demand degrees of network interactive media tools of network media.

According to the simplified formula of the demand model of dynamics theory, the simplified formula is shown as follows [4]:

$$F_{XYZ} = \int_0^Z F_X\left(\frac{Z}{Y}\right) dF_Y(Y) = \int_0^Z F_Y\left(\frac{Z}{X}\right) dF_X(X) \quad (72.2)$$

From the formula, it is known that the target of art design education needed network media tools necessarily; especially the interactive media tools of network media, namely art design needed a lot of interactive evaluation and directions in network media to pursue a perfect artistic design.

72.3 Systematic Research of Art Design Education Mode Influenced by Network Media

The given art design education model system of network media was mainly shown in three aspects [5, 6]:

1. The plane art design teaching mode of network media

The plane art design of network media needed to make different types or the same type into new artistic images in a two-dimensional graphic. Its basic form of the picture plane framework showed out a very strong flexibility according to different direction and conversion, and all kinds of permutation of different arrays and combination and finally showed out different art pictures. So the teaching process to the students of art design major could not only search one art picture for it did not conducive to develop students' thinking. The network media of graphic design software AutoCAD had a very strong drawing function of graphic art. It could not only accomplish 2D graphics rendering but also make 3D entity model at the same time. Therefore, in the teaching process of art design, using AutoCAD to coach the plane art design teaching could help students of art design major accurately render the needed art graphics work quickly. What's more important, this means was able to help students create a command changing image combination with copy, mirror and rotated tools, render different art graphic works of different effects, and improve the quality of the teaching effect.

2. The color art design teaching mode of network media

Cooler was very important for art design professional student. So to understand cooler of art work and create a unique art cooler was very vital. Artistic beauty of works was a collection of the forms, color and the simple sense of art works. The image processing software of Network media tools namely the Photoshop was very quick in the use of colors and the control of the whole beauty. The Photoshop software tool was applied in color composition teaching process. Students could master the original cooler collocation of art works through real color works. It simplified students' work and expanded the scope of practice with more options.

3. Three-dimensional art design teaching mode of network media

The three-dimensional perspective of art form needed the points of view of geometry: dot, line, face, body. As to the students who studied art animation works design, three-dimensional works of art were very difficult. The 3D modeling and model building technology of network media had a very big liquidity. Each detail of the artistic works was very vital. And the pilots in the space must also be constructed and decorated. The artistic design students could use the 3D MAX software of network media to do the rendering of the later stage. At the same time, 3D MAX tools of software system provided a huge material database for those who worked for art design and it could do the real simulation design with materials of art works.

72.4 The Technology Principle of the Teaching Platform of Art Design Education Based on Network Media

In order to meet the needs of art design education, it established the pattern of art design and education design based on network media. The system structure was a four channel application structure and it was as shown in Fig. 72.1.

In the user layer of art design teaching platform of network media, its mainly function was to help art design student go into the network media platform for service, and realize the background management of teaching network. In art design teaching platform, the major customers were network media manager, art design teachers and students. It realized the establishment of the analysis system of artistic design Angle and the implementation view [7, 8].

1. Administrators' view of network media platform: in administrators' elevation of the network media platform, they obtained the new dynamic of art design

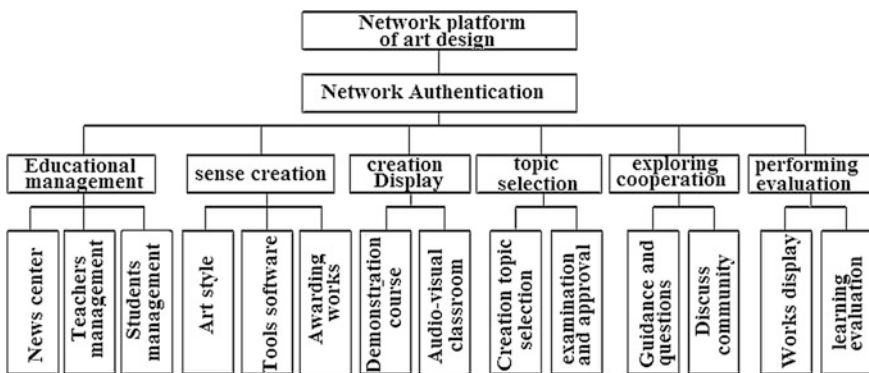


Fig. 72.1 The structure figure of network media platform of art design

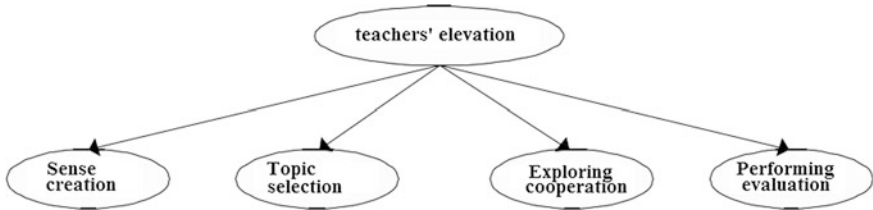


Fig. 72.2 Professional teachers' elevation of network media platform

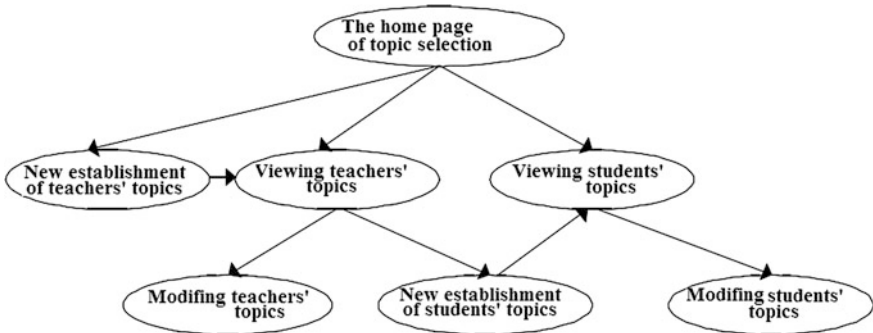


Fig. 72.3 Professional teachers' elevation of topic selection management in network media platform

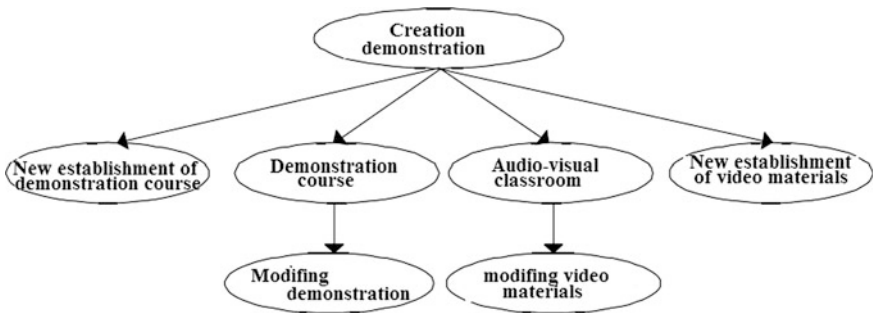


Fig. 72.4 Professional teachers' elevation of creation demonstration in network media platform

education and detailed information of art works mainly through checking the list of art design students and art works, etc.

2. Professional teachers' elevation of network media platform: they were to create the sense of art work, manage the topic selection of art work, explore and collaborate the color of artistic work, and evaluate the design works of art students. As shown in Fig. 72.2.
3. The professional teachers' elevation of topic selection management in network media platform was as shown in Fig. 72.3: mainly included: established new

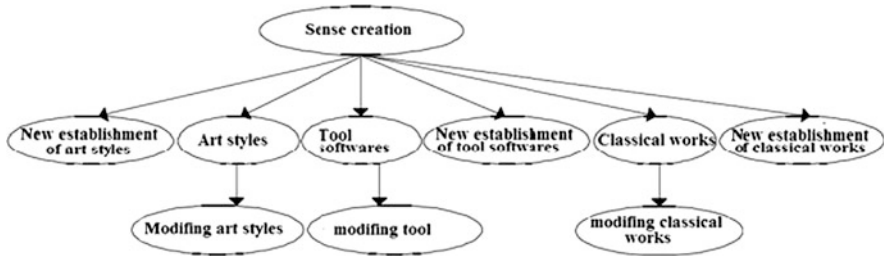


Fig. 72.5 Professional teachers' elevation of senses creation in network media platform

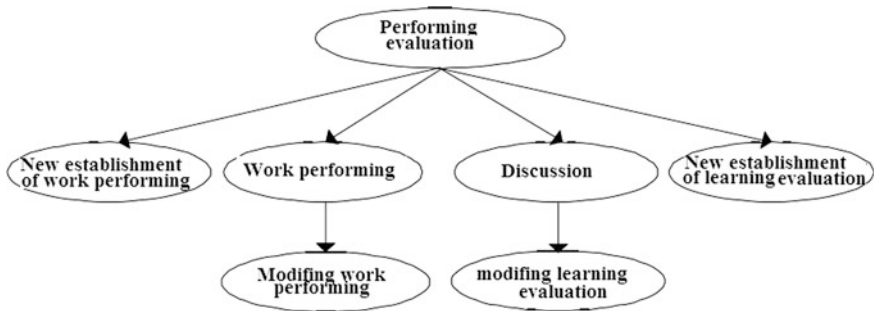


Fig. 72.6 The view structure of showing evaluation

topic selection of teachers' art works, viewed the topic selections of teachers' art works and students', and could do some changes.

4. The professional teachers' elevation of creation demonstration in network media platform was as shown in Fig. 72.4: mainly included: established new demonstration course ware, video classrooms of art design and video materials; modified demonstration course ware and video materials of art design.
5. In the demonstration Figure of creation, only professional teachers of art design could add, modify or upload course ware and teaching video. They chose related data files in view of course ware and then clicked to submit via network media platform to add components thus uploading teaching materials of art design to the education platform of network media. When viewing the materials of art design, teachers could modify, upload, and delete the teaching materials of art design while professional students of art design could only see and download teaching course wares and videos.
6. The professional teachers' elevation of senses creation in network media platform was as shown in Fig. 72.5: mainly included: the shows of art design works, the application of software of network media tools as well as displays of classic works.
7. The professional teachers' elevation of exhibition evaluation in network media platform was as shown in Fig. 72.6. The realization of the art works display

was similar to scene creation part, and it evaluated the theme of the art design. It established the evaluation system around the market need of art design professional talent and skillful specialties. The practical skills training of art design education with network media was always around the skills of the plane type media, the three dimensional animation media and the interactive network media.

72.5 Conclusion

Network media art design education is a necessity in the field of art design education and network communication making it more convenient and faster for teachers and students to communicate in the process of art design. Therefore, the influence of network media was very huge to art design education. The space of art design had established a interactive behavior on the Internet. The new situation of the relationship between teachers and students was based on the network media. The electronic teaching classroom which regarded network media as the medium would ignore the ages and different art design specialties, and combine their different design concepts and thoughts. Network media provided a very distinctive space which led to learning and inter-communication for art design education. At the same time, in the environment of a new era based on the network media, art design education would play a more potential role, accelerate and improve aesthetic ability of art design.

References

1. Jiang X (2005) The thinking on the reform of art designs teaching. *J Chongqing Radio* 1(12):23–25
2. Li Y (2010) New experience of art design teaching style-research and development on science network platform of art design, vol 2(6). Donghua university, Shanghai, pp 112–115
3. He H, Hua W, Xie Q (2010) The practice on art design teaching database of applied digital network construction. *Art Educ* 3(11):35–37
4. Xu W, Xudan Y (2011) The effect of digital age on art. *J Dalian Univ Technol* 4(3):43–45
5. Zheng G, Jiang F (2012) Talking about problems existing in the construction of the network course and suggestions. *Educ Prof* 5(1):21–23
6. Xie W (2010) New talent view, teaching view and management view of the network education. *China High Educ* 6(12):2–5
7. Wu Y (2011) The construction of teaching mode based on the information environment. *China Audio-Visual Educ* 7(3):65–67
8. Yang Z (2008) The standards and technology of network education, vol 8(6). Tsinghai University Press, Beijing, pp 231–234