Application of Digital Media Technology in Animation Design and Production

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Abstract: This article discusses the related concepts of animation design and digital media technology, combines the application value and application requirements of digital media technology in animation design and production, integrates traditional elements of the country through research, introduces other science and technology, and gives full play to technical advantages. We can establish take some measures like a communication platform mechanism and strengthen relevant personnel training strategies. These measures are aimed at improving people's awareness of the advantages of digital media technology applications and promoting the healthy development of the animation industry.

1. Introduction
With the continuous improvement of the scientific and technological system, the animation industry has also developed rapidly. In the initial stage of development, animation works were mainly two-dimensional animations, and the three-dimensional effect of characters and story scenes was poor. With the addition of three-dimensional production technology, animation works began to become full of three-dimensionality and layering. At this stage, digital media technology, as a combination of computer technology and digital information technology, applies this technology to animation design and production, which plays an important role in improving the display effect of animation works.

2. Related Concepts

2.1 Cartoon Design
In the definition of animation design, in a broad sense, it is a combination of manga or animation with a given storyline, and in the process of story display, some animation special effects are also incorporated to enhance the creation of the audience's visual experience. form. In a narrow sense, animation design is a profession used to cultivate students' artistic and creative abilities in art, so that they can be proficient in the creative design of conceptual works using 3D production software. The animation design industry has the following characteristics: First, high investment. During the production of animation works, the time cost is very large, especially after 3D production technology is added to the animation design and production. The production cycle of the works is usually one year, and the cost of related auxiliary equipment is also very high, such as the domestically produced animation "Nazi's Devil's Birth" cost tens of millions of production costs. Second, high profits. After the cartoon works are accepted by the world, the profits they bring are also very objective. For example, "Luo Xiaohui's Achievements" exchanged tens of millions of investment for hundreds of millions of economic profits, while the serialized animation "One Piece" has been in High-yield status. Third, the risks are high. If the works produced can not meet people's needs, they will face the risk of loss. For example, the anime work "Enchanter" is forced to stop because they cannot make ends meet.
2.2 Digital Media Technology

Digital media technology is a relatively comprehensive application technology. In the process of application, this technology will take the current mass communication theory as the guiding direction, and use modern information communication technology to present such a comprehensive discipline of information art. In the process of information dissemination, the technology has a variety of comprehensive expression forms, including text, pictures, video, audio and other content. At the same time, relying on the network, its information transmission speed is also very fast, and it can achieve regional information coverage in a short time. Similar to the animation design industry, the application prospects of this discipline are also very broad. As shown in Figure 1, the current average salary level of this major is 3932 yuan, and in Beijing, Shanghai and Guangzhou, this position is also very scarce, and has very good employment prospects. For example, Beijing can provide digital media designer positions of about 167. Posts. At the same time, the economic income of the specialty will show a rapid growth trend. The longer the working period, the higher the salary. For example, a person who has worked for 8 to 10 years can earn a monthly salary of about 9,000. The first figure is the data information up to 2015. According to such trends, it is estimated that designers who have worked for 3 to 4 years now have a salary of more than 10,000 yuan.

3. Application Value of Digital Media Technology in Animation Design and Production

3.1 Improve Production Efficiency

In the new media era, film and television art creation, game special effects design, and animation image modeling are all inseparable from animation design and production. Especially with the in-depth development of the animation industry, 3D animation images have been widely used in many fields, and the application range continues The expansion also promoted the batch development of animation design and production [1]. The traditional hand-drawn animation image and character modeling methods have been unable to meet the requirements of the new era. Therefore, the development of digital media technology has provided support for the scale and efficient creation of animation design and production. Digital media technology integrates 3Ds Max, Photoshop, Flash and other animation design and production software. Designers can use the computer for online design and import the design drawing library into 3Ds Max for character modeling. Modify and process anime images through Photoshop, configure sound effects for anime characters based on Flash software, and preview anime scene effects in a virtual environment created by Virtual Reality (VR) technology to achieve three-dimensional rendering of anime characters [2].
3.2 Improve the Quality of Production
Under the limitation of traditional design technology, cartoons mostly use hand-drawn images to show the creative connotation and artistic conception, and promote and promote based on paper media or television. The cartoon effects presented are dull and boring, and lack creative ideas. These fundamentally restrict the quality and effects of animation design and production, and cannot attract people's attention. In the new media era, the application and promotion of digital media technology provides life cycle support for animation design and creation. Pre-production can use 3D, Flash, VR and other software and technologies to give animation design and production the texture of three-dimensional animation, so that animation characters more vivid, expressive, full and connotative. In the later stage of publicity and promotion, we can use digital technologies such as media graphics, audio and video to vividly display animation. At the same time, the creation of virtualized animation experience scenes based on VR can bring people a sense of shock and hearing, deepen people's multi-dimensional and deep knowledge of anime images and creativity, and can also improve the quality and promotion of animation design and production. The long-term sustainable development of the animation industry is infused with source power [3].

3.3 Increase the Commercial Value of Work
With the rapid development of science and technology, the institutional structure of the animation industry has also undergone some changes. The dissemination of many works has transitioned from traditional media to networked new media dissemination. The original intention of the design of animation works is to obtain more commercial value. Therefore, in the context of the application of digital media technology, animation works can be better applied and spread, and it can be promoted in a direction of diversified development. For example, in the process of designing anime works, the commonly used design software is Flash. When designing the works, you can use the emoticons on the network, digital comics and other models to enrich the production of the works, and also increase the impact of the anime works inorder to create more business and economic value. For example, in the animation work "Alike", the entire work does not have lines, but it uses digital features to build a life scene, and the content is more in line with the life scene, thereby improving the audience's sense of identity [4].

4. Application Requirements of Digital Media Technology in Animation Design and Production

4.1 Proper Design
In the context of the continuous maturity of animation production technology, the accuracy of animation production is also improving. At the same time, the improvement of people's aesthetics also has new requirements for animation works. The most basic requirements are dynamic and three-dimensional [5]. This also means that when designers create animation works, they need to rely on digital media technology, and apply VR technology, AR technology, 3D technology, and CG technology to the production of animation works to improve the fidelity of the story scenes they build visualization. And in the design process, it is also necessary to expand the storyline and the character image in accordance with the current application status. So that it can meet the future development needs and provide the development direction for the innovation of the animation industry.

4.2 Highlight the Characteristics of Personalized Applications
Because digital media technology is a relatively comprehensive application technology, it involves a lot of content, so when it is applied again, it should combine the needs and effects of animation design content to reflect the structural artistic creation characteristics. When designing 2D animation works, the technology should focus on the line processing of the animation to improve the color richness of the 2D animation content. When designing 3D animation works, you need to focus on the three-dimensionality of the animation. We can use design software such as Painter graphic production software, Flash animation production software, 3Ds Max to complete the three-dimensional scene
required for 3D animation, thereby enhancing the layered sense of the overall structure and reflecting the personalized application characteristics of the animation work itself.

5. Application Strategies of Digital Media Technology in Animation Design and Production

5.1 Incorporating Elements of National Tradition
By incorporating elements of national tradition, you can enhance the personal characteristics of anime works and deepen people's visual impression. In the process of producing anime works, not only must they meet the basic production requirements, but also they must integrate into the traditional elements of the nation and increase the cultural charm of the works themselves. For example, in the "Kung Fu Panda" series, in order to meet the needs of audiences in the Chinese market, many traditional Chinese cultural elements have been added in the process of producing anime works. For an instance, the "Dragon" and various Chinese martial arts in the first work, "Xiangyun" in the opening part of the second part, and the shadow play in the third part are all the integration of traditional elements of the nation. The integration of national traditional elements makes the work more able to meet people's cultural needs, which also creates more economic value for it. This is also what Guoman needs to learn from in the process of applying digital media technology when opening the international market.

5.2 Introduce Other Science and Technology
Through the introduction of other science and technology, it can enrich the production content of animation works, and make better use of the application value of digital media technology. Digital media technology is a very comprehensive application technology. Even so, in the production process of anime works, it cannot be completely dependent on digital media technology. Other application technologies need to be introduced to meet the production needs of works. For example, in the animated works of "The Lion King" released in 2019, in addition to applying digital media technology to optimize the picture, it also uses sound-changing technology and Ps technology to correct the picture, making the whole picture more layered, and also bring people better visual enjoyment. In addition, animation designers can also find design inspiration from other industries, thereby effectively improving the innovation of animation works themselves.

5.3 Give Full Play to Technical Advantages
By giving full play to its technological advantages, it is possible to maximize the application potential of digital media technology and increase the application value of animation works. In the context of the rapid development of digital media technology, integrating it into the process of animation design and production should give full play to the application advantages of the technology itself, such as VR technology, 3D production technology, audio special effects synthesis technology, etc. We need to comprehensively analyze such technologies so that they can form a relatively complete application system, broaden the production space of animation works and optimize the core content of the works by combining different application requirements. For example, in the work "The Evil Child", the animation designer integrated two-dimensional characters into the three-dimensional scene. The fidelity of the three-dimensional scene can be highly restored to the background of the time, highlighting the sense of the times of the story, and the two-dimensional characters can play the main line of traction, thereby increasing the sense of substitution of the audience and enhancing the sense of layering of the work.

5.4 Create Communication Platform Mechanism
By creating a communication platform mechanism, it can provide more inspiration for animation designers and increase the number of audiences for animation works. Digital media technology involves relatively many fields, such as two-dimensional animation production, three-dimensional model construction, and web design. There are also differences in the learning requirements of different types of content, so we can use information technology to build a network sharing platform.
Animation designers can exchange ideas on the platform, as well as carry out technical research, so that people can systematically learn about digital media technology, thereby designing their own comprehensive quality capabilities. In addition, some special content can be uploaded on the platform mechanism, and animation designers can combine their own needs to carry out targeted learning, so that their learning skills can be improved accordingly, laying a foundation for higher-quality animation works output.

5.5 Strengthen Related Talent Training
By strengthening the cultivation of relevant talents, the comprehensive quality of animation designers can be improved, and the production quality of animation works can be improved. In the process of animation design and production, the output quality of works is directly related to the comprehensive capabilities of animation designers. In this regard, in the application of digital media technology, its key content is the cultivation of animation talents. China's current animation talent reserves are relatively small, which also restricts the development speed of China Man, so universities with relatively comprehensive strength should play a leading role. Universities with relatively strong comprehensive strengths need to set up industries related to the animation industry and digital media technology, combined with the current industry development trends, and establish an animation talent training system in line with social development, so that it can train technical talents that meet industry development. At the same time, colleges and universities can also cooperate with enterprises or other efficient and implement dual-teacher education mode, so as to achieve the purpose of talent training.

6. Conclusion
In summary, the integration of national traditional elements can enhance the personalized characteristics of animation works, and introduce other science and technology, which can enrich the production content of animation works and give full play to their technical advantages. At the same time, integrating traditional elements of the country can maximize the potential of digital media technology and create a communication platform mechanism, which can provide more inspiration for animation designers, strengthen the cultivation of relevant talents, and improve the comprehensive quality of animation designers. By applying digital media technology to animation design and production, it has a positive meaning for enriching the content of animation works and promoting the sound development of the industry economy.

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