Application of Multimedia Technology in Dance Creation

Wei Lei1,*, Kemeng Yu2

1Jiangxi Science and Technology Normal University, Jiangxi, China, 330100
2Aixihu No.1 Primary School in Nanchang City, Jiangxi Province, China, 330100

*Corresponding author e-mail: leiwei@jxstnu.edu.cn

Abstract. Art and science and technology combine to create works, art is still its core, technology is a tool to achieve imagination. In the past, many ideas were shelved because of the limitation of technical conditions. Nowadays, the development of various technologies can meet the realization of more ideas. Technology expands the boundary of real space and even creates new spatial dimensions. Art leads technology, technology drives art. The application of multimedia technology makes the creation of dance more possible

Keywords: Multimedia, Dance Creation, Application

1. Introduction
Dance creation, 3D Mapping, the introduction of real-time interaction and other multimedia technology, as well as with the special-shaped projection, ball screen, various stage devices the previous graphic image creation process; The application of virtual reality (VR) and virtual augmented reality (AR) technology expands the space of the stage visually and gives more possibilities to visual creation. At the same time, it also puts forward higher requirements for multimedia designers, which not only involve image creation, but also cover interactive programming, artificial intelligence, virtual / augmented reality, UAV, robot and other broader multimedia technologies [1].

![Multimedia Technology](image)

**Figure 1.** General classification of multimedia technologies.
2. Advantages of multimedia in dance

Dance is a performing art, and its materials and tools are human bodies. Its artistic image is shaped by the rhythmic movement of the human body. In the process of teaching, it is difficult for teachers to explain clearly to students in language. The use of multimedia can make the teaching material intuitive, vivid and vivid picture to express the teaching content accurately, so that students can obtain full perception, stimulate interest in learning, deepen understanding and memory, and can reproduce and watch repeatedly. Because in dance multimedia teaching, the introduction of text, graphics, animation, sound and video and other media forms to express dance [2-3]. In the multimedia dance of the computer, it can establish a virtual environment, not just the background, but the space of the whole dancer. The stage of the dancer is no longer a structure with only one side facing the audience, but can rotate and watch the dance in three-dimensional environment. That is, people can dance in any imaginable environment, the formal beauty of dance will be further strengthened by these three-dimensional graphics and images. The dance of three-dimensional animation can complete many people can not complete the action, because the human body model provided in the three-bit animation software has no physiological limit, can complete many people can not complete the action, greatly expanded the dance imagination. Such as floating in the air, perfect jump beyond the limits of the human body, the completion of various technical actions and so on. This not only increases the appreciation of the dance, but also challenges our imagination, using animation to show the dance, will truly achieve that sentence "only think, not do ."

![3D Animation Dance Action "Back Kick" Side](image1)

![3D Animation Dance Action "Back Kick" Behind](image2)

![Animation demonstration in Battement tendu](image3)

![Arabesque dance 3D animation different points of force, produce different action effects](image4)

**Figure 2.** 3D Animation dance action.

The above picture is the application of three-dimensional animation software, in the design process of several screenshots, which can not fully reflect the powerful function of multimedia technology. The actions in figures (1), (2) are idealized and can transcend the physiological limitations of the body, but they should still be designed on the basis of our body, and at the same time, they can realize the viewing and appreciation of different perspectives. With the continuous progress of time and practice, dance teaching will be changed. The dance with multimedia elements will be more and more approachable, but also more and more rich and good-looking, multimedia in the dance will have a profound development prospects.
3. The future of multimedia in dance creation
Before choreography, it can greatly improve the choreographer to obtain more information in a limited unit of time, decompose the complexity of knowledge and skill information more thoroughly, and reduce the information from image to abstraction in the brain. Then from abstract to image processing and transformation process, fully convey the intention of the goal. In operation, multimedia is more flexible and easy to control than TV, which is the characteristic of information integration control. The key of its value is not only that TV has strong image expressiveness, that is, "good-looking ", but also lies in the random control ability of flexible presentation of information, that is ," good use ". In the relationship between "good-looking" and "good use ", multimedia is more prominent in the characteristics of" good use ", avoiding the defects of the same indoctrination of TV textbooks, and can truly achieve the scene choreographer-centered choreography. Mobilize the effective form of subjective initiative. Making visual and auditory functions work at the same time is the best choice for digestion and absorption of dance movements [4]. The multimedia way makes the choreographer enter the positive thinking state harmoniously and naturally in the relaxed and pleasant emotional experience, in the emotion and the thought blend, from the sensitivity to the reason, from the reason to the practice cycle, realizes the cognition unceasing leap, this is what people often say multimedia causes the psychological effect and the emotion effect. At the same time, multimedia information integration control is helpful to turn the boring choreography process into a lively way, which greatly reduces the choreographer's psychological pressure and learning burden. Finally, multimedia is especially suitable for knowledge updating and adding academic frontier content to choreography at any time. The addition and deletion of dance materials, new, choreographers can complete alone.

4. Application of multimedia technology

4.1. led large screen applications
Because of its high color saturation, low power consumption, long service life and convenient use, electronic display technology has been widely used in all kinds of dance in China in recent years. Its display color is gorgeous, the stage presents the effect to be good. And it is made of small display screen, which can be spliced according to different scene requirements, not only as display screen, but also as stage setting and program props [5].

At the same time, because of its excellent durability, small power consumption, stable voltage output and high safety, it can ensure more safe stage presentation. Because of the great expansion of the stage performance space of the LED screen, the stage performance effect has been greatly improved. As a new art form, it has been sought after by all walks of life since it was put into use. And widely used in practice. Both the company's annual meeting, school performances, or the opening and closing of the Olympic Games, the Spring Festival party and other large-scale performances, the use of LED to add to these performances.
China held the opening ceremony of the 2008 Olympic Games, slowly launched the LED screen in the silk road scroll, these and the scene lights reflect each other, forming a beautiful light and shadow effect. In addition, there are the signs of the Olympic rings rising in the air, as well as the main composition of the stage performance, which are presented by this effect.

4.2. Acoustic and photoelectricity synthesis
With the development of modern information technology and digital technology, the products of digital technology are integrated with traditional dance design, which greatly expands the presentation form of stage art and the technical level of stage display. With the maturity of sound technology, multi-channel stereo effect can be formed, and the sound effect of stage appears three-dimensional. The development of multimedia technology, on the one hand, promotes the stage sound rich and multi-level, on the other hand, greatly extends the stage space. For example, under the effect of stereo, it can not only realize the occurrence of multi-channel and multi-part, but also widen the effect of sound and the source of channel, which can better restore the real feeling of stage and realize better audiovisual

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experience. In the light and screen of the interaction, the stage performance is also greatly enhanced. Lighting here is not only the display of dance effect, but also the indispensable key factor of portraying characters and showing details in the performance.

4.3. Application of virtual interactive technology
Virtual interactive technology presents images, multimedia and other presentation methods, using technical means to compile them together, and then through digital imaging technology, the image effect is presented, bringing sensory experience to the viewer. After the virtual technology is integrated into practice, it can greatly improve the effect of well as improve the efficiency of post-production. In this way, the reality and image can be integrated, so that the audience's real experience greatly increased [6]. At present, the most real-time mixed reality technology in this field is the cutting-edge science and technology, which needs the real-time mixing of stage multimedia art, so as to better integrate the real world with the virtual world. Bring people a stronger sensory experience. For example, in the musical Butterfly, its deductive process combines the picture with the virtual image technology, and adds the holographic image technology, which makes the combination of virtual and realistic elements just right, makes its stage presentation feeling greatly enhanced, and the audience thinks it is very wonderful after watching.

5. Conclusion
At present, the golden age of the combination of science and technology and art, but technological innovation not only enriches the effect, but also brings some problems. Therefore, the unique aesthetic and creativity in creation is particularly important. We should continue to explore the cross-border integration of science and technology and art, and create excellent works that highlight the characteristics of national culture and the times.

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