Discussion of the Problems of Sound Creation and the Use of Recording Technology in Microfilm

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Abstract: As an emerging form of film, microfilm, with its short, compact and relatively low production cost, has received widespread attention and love in recent years. However, in the process of microfilm creation, the use of sound creation and recording technology is often neglected, resulting in the work in the audio-visual effect is greatly compromised. The purpose of this paper is to discuss the problems of sound creation and recording technology in microfilm, in order to provide some useful references and suggestions for the production of microfilm.
***Keywords*:** microfilm, sound creation, recording technology, problems, application countermeasures

1. Introduction

With the rapid development of digital technology, microfilm, as an emerging art form of film and television, has gradually become an indispensable part of people's daily life. However, there are some common problems in this field, which may negatively affect the quality of the final work. Based on this, this paper discusses and solves these problems, which are of great significance for enhancing the overall artistic expression of microfilm and the immersion of the audience.

2. The importance of microfilm sound creation

2.1 The narrative function of sound creation in microfilm

Sound is not only a simple carrier of dialogues and sound effects, but also has the function of narrative, which can guide and influence the audience's emotional direction, thus enhancing the immersion and sense of immersion in the story. Through the layering and texture of sound, creators can skillfully shape various environmental atmospheres, convey the inner world of the characters, and even skillfully foreshadow the development and change of the plot.

For example, in a movie, the rhythm and pitch of the background music can suggest an upcoming tense or light-hearted plot, while the tone of voice of the characters can reveal their character traits and emotional states. Detailed treatment of sound, such as echo and reverb, can create a sense of empty or crowded space, making the audience feel as if they were there. In addition, specific sound effects, such as the wind blowing and the raindrops knocking on the window, can enhance the realism of the scene and make the audience more engaged in the story[1] .

2.2 The influence of sound creation on the emotional expression of microfilm

Emotion is the soul of movie art, and sound creation plays a crucial role in emotional expression. Through the skillful combination of carefully designed music, sound effects and dialogues, sound creation can not only strengthen the emotions conveyed by the picture, but also subvert and reverse these emotions in some cases, thus providing the audience with a richer and more delicate emotional experience. This combination of sound and picture makes the emotional expression of the movie more three-dimensional and multi-layered, greatly enhancing the audience's sense of immersion and immersion.

3. Microfilm sound creation skills

In the process of microfilm creation, sound creation is an important part that cannot be ignored. Here are some microfilm sound creation techniques that can help creators better express the theme and emotion of the movie.

3.1 Sound creation should be closely integrated with the content of the picture

Sound is not only a supplement to the picture, but also an important carrier of the film's emotion and atmosphere. Creators need to choose appropriate sound elements according to the content of the picture, such as background music, sound effects and dialogues, so as to make the sound and the picture complement each other and enhance the infectious force of the film. In professional film creation, creators often integrate sound elements into the structure of the film. In addition, sound design should also take into account the direction of the plot, and the plot's twist and development is often the key to the

style shift of the sound elements. In microfilm sound design, the use of sound elements of narration and performance and sound montage techniques, is particularly important. Some sound montage techniques are particularly effective, such as narrative sound montage in the sound ahead and sound lag, the former refers to the latter sound moved to the scene before, For instance, at the beginning of the short film Ambitions under the Military Sky, a tranquil rural scene is abruptly interrupted by the sounds of warfare. As the audience is left puzzled, the camera shifts to the battlefield, thereby providing the answer. This structure is like a "question" that captures the audience's attention and makes the transition between images smoother. In the latter case, on the contrary, this live sound effect will be extended to a later scene, for example, from the sounds of the battle to the countryside later on, making it seem that the battle is still going on[2] .

3.2 Sound creation with attention to detail

In microfilm, every sound detail may have a significant impact on the audience's viewing experience. For example, in the beginning of the microfilm Atonement, under normal circumstances the little girl is tapping on the keyboard, making a very soft sound, but in this scenario, the sound is amplified, emitting a low rhythm that hints at the next plot and adds a touch of gravity to the whole movie. So, in order to get the best sound effects, the creator must carefully conceptualize each detail and ensure that it is presented in the right time and space[3] .

4. Problems in the application of sound creation and recording technology

In the production process of microfilm, the application of sound creation and recording technology is a crucial link. However, in practice, this link often encounters some problems which may negatively affect the quality of the final movie. The following will discuss the main problems in the application of sound creation and recording techniques.

4.1 Inadequate sound design and homogenization of sound elements

Many microfilms lack innovation and diversity in the sound creation process, resulting in monotonous sound effects. For example, the choice of background music is often too banal, lacking the uniqueness that matches the plot and atmosphere of the movie. In addition, the combination and level processing of sound elements are often not fine enough, making the sound effect lack of hierarchy and three-dimensional sense.

4.2 Technical aspects of sound recording

For example, improper selection and use of recording equipment can lead to poor sound quality. Some microfilm production teams use low-quality microphones and recording equipment during the recording process, resulting in significant noise and distortion in the recorded sound. In addition, the selection and control of the recording environment is also a common problem. Inappropriate recording environments can introduce all kinds of background noise, affecting the clarity and purity of the sound.

4.3 Sound post-processing issues

Many microfilms do not pay enough attention to the editing and mixing of sound in the post-production process, resulting in the sound effect not harmonizing with the picture effect. For example, the volume of the dialog is not properly adjusted, making it difficult for the audience to hear the characters' lines clearly during the viewing process. In addition, the addition of sound effects and the mixing process often lacks professionalism, making the sound effects seem hard and unnatural.

5. Application of Recording Technology in Microfilm

5.1 Selection and use of recording equipment

In the sound creation of microfilm, the selection and use of recording equipment plays a crucial role. The right equipment can capture delicate sound effects and enhance the clarity and three-dimensionality of the sound, thus enhancing the audience's movie-going experience. For example, choosing microphones with high sensitivity and wide dynamic range ensures that high-quality audio can be captured even in complex shooting environments. In addition, the portability and durability of the equipment is also a consideration, especially in the outdoor or limited conditions of the shooting site, lightweight and sturdy equipment to ensure the smooth running of the recording work. Taking the short film The Sound of the Wind as an example, the sound team employed professional directional microphones, which effectively reduced environmental noise interference and accentuated the crucial sound effect of the wind. This technique enhanced the audience's immersive experience, creating a sense of presence within a natural setting. At the same time, portable recording equipment was used to ensure recording quality even under adverse weather conditions, reflecting the scientific and practical nature of equipment selection. In the use of the equipment, in addition to mastering the operation of the equipment, it is also necessary to flexibly

adjust the equipment settings according to the needs of the scene and the plot. For example, by adjusting the distance and angle of the microphone to control the size and texture of the sound, or use the filter function of the equipment to remove unwanted frequency components. In addition, monitoring during the recording process is also crucial. Real-time monitoring can identify and solve recording problems in a timely manner, ensuring the availability of the sound material[4] .

5.2 Optimization of the recording environment and noise control

In the sound creation of microfilm, the optimization of the recording environment and noise control are crucial aspects. A good recording environment can ensure the purity of sound and improve the audibility and artistic expression of sound. For example, professional recording studios will use sound-absorbing materials to control reflections to minimize reverberation and echo, so that the environment can better capture the details of the actors' voices. At the same time, acoustic design of the environment is necessary to prevent interference from external noises, such as traffic noise or the sound of nearby construction, which is especially critical to creating a specific atmosphere and mood. Noise control, on the other hand, is more often found in post-processing. By using noise suppression software, you can effectively remove unwanted background noise from your recordings, such as wind noise and current sounds. For instance, in the production of a short film like A Quiet Place, the meticulous control of ambient noise emerges as a significant highlight of sound design. Furthermore, sound editors may generate noise spectra to identify and isolate specific frequency bands of noise, enabling more precise noise reduction and ensuring the clarity of audio and the audience's auditory experience.

5.3 Integration of field recordings and post-dubbing

In the sound creation of microfilm, the integration of field recording and post-dubbing is a crucial part. On-set recording can capture the most realistic and on-set sound elements, such as the subtle noises of the environment and the immediate emotional expression of the characters, which cannot be completely replaced by post-dubbing. However, post-dubbing can provide room for more fine-tuning, such as optimizing the clarity of dialogue and adding sound effects to enhance the synchronization of visual effects. For example, in the short film On the Brink, the integration of ambient vibration sounds captured on-site with post-production dialogue dubbing successfully created a tense and authentic atmosphere. Therefore, achieving a seamless blend between these two elements and finding the right balance is crucial for enhancing the sound quality of short films.

6. Conclusion

In summary, the use of sound creation and recording techniques is crucial in the microfilm production process. However, there are still some problems and challenges in this field. First, the imperfection of sound design and the homogenization of sound elements. Secondly, the application of recording technology is not mature enough, the selection and use of recording equipment is improper, and the noise control of the recording environment is ineffective, all of which will affect the final sound quality. In addition, improper fusion treatment of field recording and post-dubbing will also cause the incongruity between sound and picture, affecting the audience's viewing experience. Therefore, this paper will discuss these problems in depth and propose corresponding solution strategies, with a view to providing reference and guidance for the application of microfilm sound creation and recording technology.

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