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A Study on the Application of Visual Element Technology in Television Programs (Postprint)

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Abstract

With the advent of the new media era, television program production technology has experienced further development, substantially enhancing program visual effects. The constituent elements of visual elements are numerous and complex, exerting an extremely significant influence on television program production quality. How to rationally employ visual elements to create outstanding visual effects has become the paramount task in contemporary television program production. Accordingly, this paper takes visual elements as its research subject, briefly introduces relevant content regarding visual elements, analyzes the principles governing their application in television programs, and proposes corresponding improvement recommendations, with the aim of promoting enhanced television program quality.

Full Text

Abstract

With the advent of the new media era, television program production technologies have undergone further development, significantly enhancing visual effects. Visual elements constitute the fundamental building blocks of visual objects—the vocabulary and symbols of visual communication language—and their composition is both multifaceted and complex, exerting a profoundly important influence on television production quality. How to rationally employ visual elements to create outstanding visual effects has become a primary task in contemporary television program production. This paper takes visual elements as its research subject, briefly introducing their relevant content, analyzing the principles governing their application in television programs, and proposing corresponding improvement recommendations, hoping thereby to promote enhanced television program quality.

Keywords: television programs; visual elements; program positioning; lighting design; cinematography; subtitle design

1. Overview of Visual Elements

Visual elements are the basic units that constitute visual objects—the words and symbols of visual communication language—primarily comprising abstract and concrete visual elements. Generally speaking, abstract visual elements imply certain meanings through specific forms and generate particular significance within particular contexts, with their basic forms being abstract geometric shapes composed of points, lines, and surfaces. Concrete visual elements, by contrast, refer to things that exist in nature—such as mountains, people, and automobiles—that can be seen by the naked eye and perceived tangibly [1]. As new media technologies continue to develop, the visual elements in television programs have also continuously expanded. Modern television program visual elements are no longer limited to cinematography and subtitles; domains such as color and lighting design have also entered the production process. For television program production, the rational application of visual elements can distill the essence of program content, highlight program themes, enhance program appeal, and provide audiences with aesthetic and ideological elevation.

2. Principles of Visual Element Application in Television Programs

Compared with newspapers and radio news, television programs offer a more three-dimensional mode of communication. While watching television programs, audiences can not only experience sound and images, appreciate program authenticity, and deepen their impression of programs, but also achieve physical and mental relaxation and spiritual pleasure. However, problems such as the unreasonable application of visual elements also exist in television program production. In response, television programs should adhere to the following principles when utilizing visual elements to ensure steady improvement in production quality and prevent audience aesthetic fatigue [2].

2.1 Principle of Authenticity and Objectivity

When selecting television program material resources, it is essential to guarantee the authenticity of program content, particularly for news programs. After journalists conduct in-depth investigations to ensure the authenticity of news information, the news can then be released to inform the public of the truth. When conducting television program production work, it is necessary to clearly recognize audience needs and integrate them with trends in new media technology development to achieve the fusion of technology and images, truly revealing television program themes and providing audiences with an immersive experience. Since program production aims to convey the maximum amount of information in the shortest time while ensuring event authenticity, it is neces-

sary to maintain image continuity during television program production—that is, the fluency of visual language. Attention must be paid to image details and to ensuring the relative completeness and clarity of synchronous sound, thereby guaranteeing the authenticity, integrity, and conciseness of television program production. However, failure to control details in program production can easily create a sense of falseness.

2.2 Principle of Alignment with Program Positioning

In the application of visual elements in television programs, attention must be paid to alignment with program positioning and style. Generally speaking, television programs include several major types: news, finance, sports, military, education, and cultural entertainment. Different television programs differ in content and theme, and their requirements for visual element application also vary. For example, for CCTV's news channel, visual element design must emphasize dignity and grandeur; for regional news channels, visual element design can appropriately incorporate local geographical characteristics for localized image production; for cultural entertainment programs, visual element design should highlight program themes as much as possible, emphasize color coordination, and be as lively and interesting as possible to ensure rational visual element application, thereby achieving the goal of enhancing program appeal and improving television program production quality [3].

2.3 Principle of Innovation

Under new historical conditions, innovation is indispensable for development in any industry, and television program production is no exception. If television programs remain confined to traditional models, they will not only affect program content and quality but also lead to the loss of existing audiences and even program cancellation. Therefore, for television programs to establish themselves and achieve long-term development in the industry, they must continuously innovate their methods of visual element application, actively explore paths suitable for long-term program development, improve the flexibility of television program production, and innovate program expression forms, thereby enhancing television program production effects and promoting sustainable development [4]. Currently, in television program production, some directors adopt visual element design schemes that do not meet market development requirements in order to enhance program novelty, resulting in unsatisfactory program ratings. In response, to better improve television program production effects, the feasibility principle should be followed, researching visual element design schemes based on comprehensive market investigation, promptly identifying and modifying unreasonable aspects of design schemes, ensuring the smooth implementation of visual element design schemes, and thereby improving program quality.

2.4 Principle of Coordination and Consistency

Generally speaking, the visual elements that constitute television programs are numerous and complex. If a particular segment or shot contains too many or uncoordinated visual elements, it will create a poor visual experience for audiences, affecting the overall program presentation effect, hindering the shaping of program brand image, and ultimately affecting program ratings. Therefore, during television program production, the principle of coordination and consistency should be adhered to, fully grasping program themes and ensuring that all visual elements of the entire program revolve around a core element. Care should be taken to avoid excessive or chaotic visual element application, thereby maintaining the overall sense and unity of television programs and ensuring steady improvement in television program quality [5].

3.1 Lighting Design

A good television program is typically composed of numerous visual elements, among which lighting effects can directly influence audience evaluation of program quality. In television program production, attention should be paid to designing lighting rationally within limited space to create different visual sensations for audiences [6]. For example, in Jiangsu Satellite TV's lifestyle program *You Are the One*, blue and pink lighting tones are primarily used to create a relaxed, soothing romantic atmosphere that effectively alleviates tension among guests and audiences and enhances audience experience. In interview programs such as *Very Quiet Distance* and *A Date with Luyu*, lighting is generally required to be bright and soft, avoiding strong light stimulation to create a warm and harmonious program atmosphere that feels relaxed. Attention must be paid to aligning lighting with program themes. Since different objects present different visual effects under different lighting, different television programs also have different requirements for stage lighting design. In television program production, service objects should be clearly identified, the overall program tone should be well grasped, program themes and character highlights should be emphasized, and harmonious program atmospheres and good visual effects should be created. Overall stage scenery and space should be considered to coordinate with camera requirements, designing corresponding lighting to present programs more perfectly before audiences. Additionally, advanced technologies such as LED stage screens, cloud ladders, and lifting stages can be used to design lighting, bringing audiences entirely new visual experiences and thereby improving television program ratings.

3.2 Color Coordination

Color is a visual effect on light produced through the eyes, brain, and life experience, playing an important role in rendering atmosphere, enriching emotion, and expressing specific themes. Good color coordination can attract attention, create aesthetic and atmospheric feelings in space, and significantly influence

visual effects. Only when color is applied rationally and appropriately in television programs can program themes be conveyed with greater impact. Therefore, during television program production, appropriate color tones should be selected, environmental colors should be applied properly, and image colors and compositional relationships should be altered to enhance television program expressiveness through fluid, changing color, vividly and distinctly expressing program ideas and thereby improving television program visual effects [7]. Color is an important component of television program visual elements and plays a decisive role in television program visual effects. Therefore, during television program production, attention should be paid to color coordination, selecting different background colors according to program themes to make visual presentation more three-dimensional and vivid and create program atmosphere. For example, in the documentary *Masters in the Forbidden City*, the colors primarily used are vermilion and gold, which can bring audiences a sense of historical sedimentation while reflecting the documentary's theme. The documentary also features green multiple times, 暗示 ing that conservators in the Forbidden City bring the palace back to life. Alternatively, when the documentary *Beautiful China* introduces Yunnan's rice transplanting scenes, the overall image tone is primarily green, reflecting the theme of spring. After the rice harvest, the overall image tone shifts to golden yellow, reflecting farmers' joy in harvest.

3.3 Cinematography and Framing

As a component of visual elements, cinematography is not only the basic unit that constitutes television programs but also the most important carrier of image information, playing an important role in recreating news events and improving program quality. Therefore, during television program production, rational application of cinematography can enhance the persuasiveness and impact of news information, alleviate audience aesthetic fatigue, and improve program visual effects. Meanwhile, different shot changes play different roles in television program visual presentation [8]. For example, empty shots, push-pull shots, slow motion, and panoramic shots can all enrich program visual language and provide audiences with aesthetic experiences. Taking *Masters in the Forbidden City* as an example, numerous close-up shots are used to express conservators' carefulness during the restoration process, demonstrating their dedication and professionalism. Meanwhile, the use of empty shots such as lush ancient trees, mottled palace walls, and magnificent palaces all perfectly showcase the program theme, providing audiences with beautiful visual experiences and promoting television program quality improvement.

Attention must be paid to camera shooting angles. During television program production, the final presentation effect of program images can be influenced by adjusting the shooting angle to change the perspective between the camera and the subject. Shooting angles can include eye-level, low-angle, and high-angle shots. Specifically, if the subject and camera are at equal height, eye-level shooting should be adopted, keeping the camera horizontal to achieve a

calm and stable image effect. If the subject is higher than the camera position, methods such as elevation should be used to achieve eye-level effects, or high-angle shooting can be directly adopted, though this method is mostly used for large scenes such as street views and competitions, effectively enhancing image carrying capacity. If the subject is lower than the camera position, methods such as lowering should be used to achieve eye-level effects, or low-angle shooting can be directly adopted, which can highlight the tallness of the subject, but excessive use will make audiences feel oppressed, hindering image effect presentation.

Shooting distance should be adjusted appropriately. During television program production, different image effects should be presented by changing shooting distance to adjust shot sizes reasonably. According to different shooting distances, shot sizes can include long shots, medium shots, close-ups, and extreme close-ups. In response, appropriate shooting distances should be selected according to different television program content. For example, in the production of nature documentaries, long shots are typically used to create atmosphere. Meanwhile, attention should be paid to the application of moving shots. By changing the image space within the shot to produce rich visual effects, audiences can be given an immersive feeling and image expressiveness can be enhanced. For example, in the production of most outdoor variety shows, moving shots are extensively used to bring audiences strong creator subjective signals, thereby enhancing program expressive effects and strengthening audience sense of presence.

3.4 Subtitle Design

Subtitles are a component of television program theme expression and image presentation. Compared with images, subtitles are an important method for carrying and disseminating information with clearer ideographic functions. Due to various factors, audiences sometimes experience problems such as inaudibility or incomprehensibility. Subtitles can effectively compensate for the shortcomings of images and sound, improving program quality; subtitles can attract audience attention and enhance image expressiveness. In most variety shows, subtitles of different colors are frequently used to improve image effects and enhance program interest.

Note: Figure translations are in progress. See original paper for figures.

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