



Production Pathways of Television Programs Based on New Media Technology

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Abstract: In the context of the new media era, new media technology has become a key technology in the production of television programs. This technology transforms traditional television production methods and channels, making television programs more impactful, with superior picture quality, thereby truly achieving innovation in program production and increasing their attractiveness. This paper analyzes and studies the production pathways of television programs using new media technology. It first examines the advantages of new media technology in television program production and then explores its specific application pathways in television program production through a case study of a particular program. Additionally, it provides a forecast for the development of new media and television program production technology, aiming to promote the development of television program production.

Keywords: new media technology; television programs; production

1. Introduction

Television programs are an important module in the field of media communication, serving as one of the forms for disseminating news and entertaining the public. Currently, with the development of new media technology, the public's requirements for television program production have increased, demanding clearer pictures and richer information. To meet these requirements, institutions such as broadcast television stations have begun to focus on the research and development of new types of television program production, integrating new technologies to enhance the production effects of television programs. Research has shown that new media technology has become a critical technology applied in current television program production. It can be used in various aspects such as topic selection, creation, and program synthesis, overall improving the efficiency of television program production.

2. Advantages of Applying New Media Technology in Television Program Production

New media technology refers to media production and dissemination technologies that have emerged in the context of the new media era, including video production, information dissemination, and audio processing technologies. The evolution and development of new media technology have greatly promoted the growth of the television and broadcast media field, making it a key technology in television and broadcast program production. Compared to traditional techniques, new media technology enhances the efficiency of television program production.

2.1 Enhancing Audience Engagement

The application of new media technology in television program production can significantly enhance audience engagement. For example, interactive video and live broadcast technologies can be used during program production to enable viewers to participate in the program, thereby increasing their engagement. Additionally, features such as commenting, voting, and interactive Q&A can create real-time interactions between the audience and the program. Thus, new media technology has the advantage of promoting audience participation, enhancing the viewing experience, and fostering audience-program integration, which in turn improves the quality and entertainment appeal of television programs.

2.2 Integrating Rich Program Content and Formats

VR/AR technology is a type of new media technology that can also be applied in television program production to elevate the visual and auditory experiences of the audience. For instance, by incorporating VR technology, program content can be innovated, providing viewers with an immersive experience and optimizing the program scene. AR technology can present a rich and colorful three-dimensional visual effect, including the creation of virtual characters and special effects. The application of such technologies enriches the content and innovates the format of television programs.

2.3 Enhancing the Quality of Television Program Production

Applying new media technology in television program production leads to higher production quality and better audience feedback. With the integration of new media technology, program content can be adjusted promptly during and after production based on audience feedback. Audience feedback is a crucial reference for program production. By utilizing new media technology, production teams can accurately understand audience needs and preferences, thereby creating television programs that align with audience tastes and preferences.

2.4 Shortening Production Cycles and Reducing Production Costs

The application of new media technology in television program production, coupled with the development and application of digital media technology, shortens the production cycle. New media technology can be employed in various stages, including intelligent shooting, editing, and post-production, ensuring more efficient application of media production technology. Consequently, the shortened production cycle also leads to reduced production costs[1].

3. Study on the Specific Application of New Media Technology in Television Program Production

The application advantages of new media technology in television program production are evident. This study found that the integration of new media technology in television program production is indeed comprehensive, enhancing efficiency and facilitating better execution. The following sections explore the specific application of new media technology in television program production, using the TV program “Oriental Live Room” as an example.

3.1 Application of New Media Technology in the Topic Selection Stage

The topic selection for television program production is a critical prerequisite. Choosing themes with depth that provoke societal reflection is key to high-quality production. Traditional topic selection processes are relatively complex, involving data collection and topic refinement, which can be time-consuming and affect the timeliness of the program. However, the application of new media technology in topic selection speeds up the process and adds depth, making the themes distinct and more appealing.

New media technology has the advantage of data processing, enabling the acquisition and selection of vast amounts of data based on specific characteristics. This advantage can be fully utilized in topic selection. In the process of selecting topics for television programs, vast data resources from the internet can be used to identify hot topics, thereby capturing key current affairs and making the topic selection more refined and attractive. For example, in the topic selection process of the “Oriental Live Room” program, it is essential to create a robust topic selection model. Under the new media technology application, a new network media topic selection technology should be developed. During the topic selection process, “Oriental Live Room” creates online media platforms such as social forums, Weibo accounts, and WeChat public accounts. Before the program production, the production team collects relevant hot topics from these platforms, such as people’s livelihood, politics, and society. This allows the production team to obtain vast amounts of data from online new media platforms and select from the abundance of information. During the process of selecting massive data, vertical aspects of television program selection can be utilized. New media big data analysis technology can analyze posted Weibo and hot topics, including comments, likes, shares, and replies. Analyzing public opinions helps confirm the preferred reading content, and comments and likes can be used to understand public needs from a different perspective. This ultimately ensures effective topic selection and smooth execution.

The application of new media technology in the topic selection stage should make the program more targeted, topical, and focused. This method speeds up the selection process, making it more precise and aligned with public demands and aesthetics. Superior topic selection leads to better program effects and can provoke certain societal reactions and reflections[2].

3.2 Application of New Media Technology in Material Creation and Editing

After the topic selection in the television program production process, it is necessary to collect relevant materials and accumulate and create content to form the basic content of the television program. Traditional television program production techniques often result in poor material creation and editing, with materials being insufficiently comprehensive, rich, and diverse, mostly relying on text, and video and audio materials being poorly utilized, affecting the creation and editing of the program. However, the application of new media technology can fully expand the channels for material collection and creation, thereby making television program production more refined. Research on the creation and editing of materials using new media technology has found that under the application of new media technology, television programs can collect materials through audience online submissions, hotline surveys, online interviews, app data analysis, and live interactions.

These methods allow for faster and broader collection of materials from society through new media platforms.

The above research demonstrates the application of new media technology in material collection for television programs. In the production process, after collecting materials, it is essential to process them and integrate them into program modules. Traditional television program production involves tasks such as splicing, cutting, and integrating materials, which are relatively inefficient and slow. However, with the application of new media technology, the efficiency of material editing and creation is significantly improved. For example, new media graphic design platforms can utilize new technologies to edit and clip materials, including functions such as filling materials and beautifying images, leading to better material processing results. Additionally, in terms of audio processing, new media technology can set sound effects backgrounds, control sound rhythms, and ensure they match the visual structure.

In the case of the television program “Oriental Live Room,” the establishment of an official website with a material collection section, primarily for collecting current affairs news and other materials, enhances efficiency and optimizes the program’s impact, making practical applications more effective. During the implementation of new media technology in program production, the “Oriental Live Room” should focus on the processing of text labels and video signals to ensure superior television program production suitable for comprehensive application in television programs. Finally, when using new media technology in the material creation and editing stage, editors must adhere to principles and boundaries, understanding the ideas contained in viewers’ opinions and case materials. They should avoid editing lowbrow, ingratiating, or overly unconventional content merely for attention, as this is detrimental to the healthy and sustainable development of the program[3].

3.3 Application of New Media Technology in the Synthesis and Dissemination Stages

The synthesis and dissemination stages are the final and crucial phases of television program production. Under the application of new media technology, these stages can achieve higher efficiency, making them suitable for new media dissemination. By implementing new media technology in synthesis and dissemination, the audiovisual experience of the program can be enhanced to better match public aesthetics and deeply engage the audience’s emotions. For instance, advanced technologies such as digital synthesis, digital dissemination, and new media networks can be used in these stages to efficiently carry out various tasks.

(1) Application of Digital Synthesis Technology. Television program digital synthesis technology is a development direction in the digital age and plays a crucial role in the application of digital technology. Using digital new media technology in the synthesis process can enhance the efficiency of synthesis technology and improve the program’s quality. For example, in program synthesis, virtual studio technology can simulate program effects in advance, allowing for optimization and management of deficiencies in the synthesis process, identifying and addressing issues. Additionally, the application of camera tracking technology, blue background technology, deep key technology, color fill technology, and three-dimensional virtual scene production technology continuously improves the quality of television program production, offering excellent visual impact and enhancing the program’s realism[4].

(2) Application of Digital Dissemination Technology. The application of new media technology in television program dissemination is extensive, broadening dissemination channels and improving dissemination effects. For example, digital technology and network communication technology can enhance the innovative dissemination effects of television programs in the new media field. Set-top boxes, mobile phones, and digital cinema have started to use new dissemination technologies, making dissemination channels more diverse and widespread. Digital technology has been applied in the development of broadcasting and television, becoming a major content of technology. During its research and application, dissemination technology ensures that the content remains accurate during dissemination, making television programs richer and more varied.

(3) Superspatial Network Technology. The application of new media technology in television program production can utilize communication satellites and globally interconnected networks for data transmission, breaking the limitations of cable networks and administrative and geographical boundaries, connecting with any corner of the world. This significantly broadens the dissemination scope of television programs.

For example, “Oriental Live Room” uses camera tracking technology to better present the expressions, actions, and demeanor of debaters to the audience. By showcasing body language, the program enhances the penetration and impact of viewpoints, creating an atmosphere of confidence, tension, excitement, and poignancy, thereby increasing audience immersion. Using computer virtual scene design technology, the program can visualize the content of a debater’s viewpoint, presenting the corresponding real or future scenarios, which allows the audience to understand the characteristics, implications, real situations, and consequences of specific issues more deeply. In the synthesis and dissemination stages of television programs, many practical new media technologies can be utilized. Program editors must continuously enhance their awareness of new media and information literacy, adeptly and boldly applying new media technology at every stage of television

program production.

4. Prospects for the Application of New Media Technology in Television Program Production

The application of new media technology in television program production has become a critical aspect, playing a significant role in the production and innovation of television programs. As a result, there is an increasing emphasis on integrating new secure technologies in television program production. In addition to the application of digital and new media technologies, the current societal development trend is moving towards AI-driven television program production. During the implementation of television program production, it is essential to innovate and develop AI technology, fully integrating it into the field of television program production and innovation. Under the development of new media technology, the application of AI technology can complete television program synthesis, creating a new approach to television synthesis technology. For example, AI intelligent technology can be used to “face swap” characters in television programs, aiding in the restoration and processing of past works and providing innovative methods for current film and television production.

For instance, during the 70th anniversary of the founding of the People’s Republic of China in 2019, the Central Television Station (CCTV) utilized intelligent editing to quickly complete on-demand clips on new media platforms. In 2020, CCTV took the opportunity of the Chinese New Year Gala to apply voice synthesis and transcription subtitles in the rebroadcast production of the Gala. In 2021, CCTV launched the voice synthesis news program “Good Morning! News Is Coming.” By 2022, the “CCTV Algorithm” began to be used for content recommendation on the CCTV video client. Relying on the “CCTV Media Large Model,” CCTV created China’s first AI-generated video animation series “Eternal Poetry” ... According to Xu Jin, from a practical perspective, introducing artificial intelligence technology into CCTV’s audio and video content production is feasible and indeed improves efficiency in character recognition, voice synthesis, and multilingual translation. These examples illustrate that the application of AI technology is gradually developing and has become an indispensable critical technology in television program production. It has significant implications for the development of television program production [5].

5. Conclusion

Through the study of the application of new media technology, it is evident that various new media technologies, including digital technology, network technology, and AI technology, can be applied in television program production. These technologies enhance production speed, reduce costs, and improve outcomes, underscoring the significant impact of new media technology on television program production. This study concludes that the comprehensive integration and application of new media technology in television program production can promote its overall development.

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References

- [1] Zhang Kunhao. Research on the Path of Television Program Production Based on New Media Technology [J]. *Digital Users*, 2020(51): 0106-0108.
- [2] Chen Jiannan. Discussion on the Path of Television Program Reform in the New Media Environment [J]. *East, West, North, South*, 2023(18): 0042-0044.
- [3] Zheng Chao. Research on the Application Path of New Media Technology in Graphic Creativity [J]. *New Aesthetic Domain*, 2022(9): 115-117.
- [4] Ni Zhao. Path Analysis of Strengthening Post-Production and Packaging of Television News Programs [J]. *Journal of News Research*, 2022, 13(12): 151-153.
- [5] Wan Jiaojiao. Research on the Cultural Innovation and Development Path of Television Programs in the New Media Era — A Case Study of Henan TV [J]. *Art and Technology*, 2022, 35(22): 146-148.