Research on Editorial Innovation in Radio and Television Programs in the New Media Era: Postprint

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Abstract

In the new media era, radio and television program editors need to actively innovate in order to create high-quality programs. To this end, this paper first analyzes the necessity of innovation in radio and television program editing in the new media era, and secondly analyzes the methods and technologies for innovation in radio and television program editing in the new media era, aiming to provide reference ideas for innovation in radio and television program editing in the new media era, thereby improving the quality and efficiency of radio and television program editing, and further promoting the development of the radio and television industry.

Full Text

Preamble

Title: Research on Innovation in Radio and Television Program Editing in the New Media Era

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Abstract: In the new media era, radio and television program editing requires active innovation to create high-quality programs. This paper first analyzes the necessity of innovation in radio and television program editing in the new media era, and then examines the methods and technologies for such innovation. The aim is to provide reference ideas for editing innovation, thereby improving the quality and efficiency of radio and television program editing and promoting the development of the radio and television industry.

Keywords: Radio and television; Digital compression; Video processing; Multimedia; Non-linear editing technology; Video editing

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The application of new media technologies has transformed information transmission methods, improving the efficiency and quality of information acquisition while simultaneously creating challenges for the traditional radio and television industry. To appropriately respond to these challenges and seize the opportunities presented by new media technological development, radio and television program editing work must keep pace with the times, transform traditional editing concepts, innovate conventional editing methods, and apply advanced editing techniques to enhance program appeal and impact.

1.1 Pressure Faced by Radio and Television Programs

Currently, with the widespread promotion of new media, an increasing number of audiences are choosing to obtain information through new media platforms, which has diminished the market position of traditional media. Consequently, the ratings and audience share of radio and television programs have declined, along with advertising revenue. These changes indicate that radio and television programs face tremendous development pressure in the new media era. Therefore, the traditional radio and television media industry must actively confront challenges and strive to break through development limitations. Innovation in radio and television program editing can enhance the market competitiveness of programs, improve development trends, and enable the radio and television media industry to secure its place in the intense media market competition [1].

1.2 Growing Audience Information Demands

As the dominant position of audiences has significantly strengthened, their information demands have gradually increased. Audiences are no longer limited to passively listening to and watching programs; they now have more channels to choose from and can also evaluate programs. With enhanced audience autonomy, higher demands are naturally placed on program content and format. Therefore, in the new media era, radio and television programs must meet the growing information needs of audiences. Editing innovation can effectively increase the amount of information in programs and improve the quality and efficiency of information transmission, thereby preventing the original audience from being diverted by new media and avoiding competitive disadvantages for radio and television media [2].

1.3 Problems in Traditional Radio and Television Program Editing

Traditional radio and television programs enjoyed advantages such as low competitive pressure, relatively fixed audiences, stable advertising revenue, and high market share. These conditions led many editing professionals to lack a sense of crisis. This problem has become particularly prominent with the advent of the new media era, as the development advantages of radio and television programs gradually disappear. When combined with poor editing quality, this further impacts program development. Consequently, innovation in radio and television program editing is urgently needed, employing advanced editing technologies, equipment, and software to comprehensively improve editing quality and efficiency [2].

2.1.1 Enhancing Program Interest and Educational Value

Traditional radio and television programs failed to achieve balanced development between interest and educational value, resulting in extreme presentations. Some programs were educational but presented in dry formats that prevented audiences from effectively grasping content; others were overly entertaining while neglecting educational significance. This demonstrates that program content must maintain both interest and educational value. In the new media era, the collision of various ideas and cultures provides abundant materials for content innovation. Furthermore, editors can apply new media promotion models to strengthen program interest and educational value. For example, "Keep Running!" successfully achieved content innovation by incorporating educational topics while maintaining entertaining expression [3].

2.1.2 Enhancing Program Artistic Quality

To improve radio and television program quality, editors must understand audience aesthetics and enhance their sensitivity in capturing relevant materials. On this basis, they can properly control program shots and sound to increase artistic quality, improve viewing effects, and generate more positive audience feedback [4]. Additionally, in the new media era, editors must apply professional techniques to process video and images, achieving perfect integration of technology and visuals. They can employ special effects processing or color 调配 methods to enhance picture clarity and content realism. Aesthetic visuals can better immerse audiences, satisfying not only their information and entertainment needs but also their aesthetic and visual demands, thereby stimulating continued viewing desire and increasing program ratings.

2.1.3 Increasing Program Social Influence

New media has increased information volume and expanded information sources, causing audiences to passively receive unwanted or poor-quality information

alongside desired content. Consequently, the state has increased emphasis on radio and television program editing to improve information quality. This means that content innovation must not only meet audience information needs but also possess certain connotations and values to elevate industry status and enhance social influence [5]. For instance, programs can integrate China' s excellent traditional culture, as "Chinese Poetry Conference" effectively demonstrates. This program not only innovated in format but also promoted Chinese poetry culture, allowing audiences to gain knowledge while being entertained, thereby contributing to social development and cultural construction.

2.2.1 Upholding Advanced Editing Concepts

Radio and television program editing innovation must align with development trends. In the new media era, radio and television media must strengthen connections with new media content and methods. Based on advanced editing concepts, active innovation should proceed as follows: First, media organizations must transform existing program editing mechanisms, encouraging editors to express their views and ensuring their active participation in editing innovation to inject new ideas and energy. Second, editors must transform traditional concepts and methods, maintain professional attitudes and continuous learning spirit, and actively study advanced new media concepts and successful experiences to keep pace with the times [6].

2.2.2 Improving Editing Technical Content

Radio and television program editing innovation relies on advanced technology and equipment. With scientific development, increasingly sophisticated technologies and equipment are being applied to editing work, improving not only quality and efficiency but also ensuring timeliness. In the new media era, audience demands for editing quality continue rising, requiring editors to substantially improve technical proficiency. Radio and television media must intensify efforts to introduce new editing equipment and technologies, promptly eliminating outdated or poorly performing systems. Additionally, organizations must provide technical training to ensure editors master advanced editing techniques and equipment operation skills, thereby maintaining application efficiency and continuously advancing innovation to achieve outstanding results [7].

2.2.3 Improving Team Editing Efficiency

In the new media era, editors must enhance program production efficiency through team collaboration. First, editing teams must properly divide responsibilities to ensure effective internal cooperation and rational integration of tasks, minimizing production time while maintaining quality. Second, editors must maintain professional, responsible work attitudes, actively completing their assignments while coordinating with others. Third, editors must conduct market research and innovate from the audience perspective to gain viewer recogni-

tion and advertiser favor, securing more funding for production. This creates a virtuous cycle that improves program effects, enhances economic benefits, and achieves sustainable development [8].

2.2.4 Enhancing Program Attractiveness

The quality of post-production editing directly affects final program outcomes. Editors must employ scientific and reasonable editing and 修饰 to decorate videos and enhance attractiveness through three specific approaches: First, editors can produce program trailers to give audiences preliminary understanding before broadcast while generating anticipation and increasing attention, laying the foundation for subsequent broadcast [9]. Second, editors must reasonably schedule different program types to ensure audience size. For example, elderly audiences generally wake early, so health programs can air before 8:00; 8:00-9:30 and 17:00-18:30 are peak commute times suitable for traffic updates. Third, radio and television media can use new media to promote programs, leveraging its advantages in 传播 efficiency, wide reach, and strong timeliness.

3.1 Video Processing Equipment

3.1.1 Multimedia Computers

Multimedia computers currently used in radio and television program editing feature high configurations, specifically including high-performance expansion devices, strong digital capabilities, non-linear editing functionality, and hard disk storage. This means high-configuration multimedia computers can maintain high operating and data processing speeds, ensuring stable and rapid operation of video editing systems.

3.1.2 Video Capture Cards

Video capture refers to the technology of collecting and processing analog signals from video sources. Video capture cards are essential equipment for this process, primarily functioning to digitally process analog information signals in multimedia computers and convert them into signal formats that computers can process, transmit, store, and display. Video capture cards used in radio and television program editing generally feature good compression and decompression functions and non-linear editing capabilities [10].

3.1.3 Video Compression and Decompression Cards

The primary functions of video compression and decompression cards are real-time compression and playback of video images. The smaller the compression ratio, the higher the decompression quality and the larger the storage space required. Therefore, editors must select appropriate compression and decompression cards based on program production requirements and editing system storage performance to ensure program quality.

3.1.4 Analog Video Recording Equipment

Analog video recording equipment primarily outputs video signals, but these signals are in non-digital formats requiring basic analog-to-digital conversion before they can be recognized and processed by multimedia computers. Well-configured analog equipment can achieve lossless data transmission with editing systems, meaning acquired data can be effectively transmitted without conversion or processing.

3.2 Video Compression Technology

During video signal processing, to reduce storage space occupation and improve data storage and retrieval speeds, editors must reduce video signal quantity through video compression technology. The primary methods of frame-by-frame compression include spectral redundancy, psycho-visual redundancy, spatial redundancy, and temporal redundancy [11].

3.3 Digital Compression Technology

After digital processing, video signals often generate large data volumes. For example, component-encoded video signals can reach data rates of 216 Mbit/s, meaning a one-hour program occupies approximately 80 GB of storage space. High data-rate video signals also impose higher transmission requirements, typically needing 108-206 MHz bandwidth for long-distance transmission. Lower-frequency bandwidth causes transmission and storage issues, while higher-frequency bandwidth increases costs. Therefore, to maximize broadband channel utilization and ensure efficient transmission of more video signals, editors must apply digital compression technology for effective signal compression [12].

3.4 Video Editing Technology

With the development of computer technology and digital video technology, non-linear editing technology is now widely applied in radio and television program editing. Based on multimedia computers and digital technology, non-linear editing enables 随时 access to editing materials stored at various times. Unlike traditional storage methods, non-linear editing digitally stores materials on computer hard drives, and computers can effectively interact with various editing devices, allowing editors to repeatedly search for, apply, store, and update materials.

Specifically, the non-linear editing workflow involves: establishing an editing platform and transferring video data; configuring video data through frame-by-second or frame-by-frame methods; and conducting subsequent editing through software, including material editing, shot assembly, subtitle addition, and sound effect addition.

Material Editing: Editors can quickly browse video materials and play them at variable speeds, improving editing efficiency. Editing software enables precise and simple video timing adjustments. Position editing facilitates rapid repair of damaged materials and accurate replacement of segments, with the same materials reusable without occupying additional storage space.

Shot Assembly: Editors can use timeline functions to adjust shot sequences, simultaneously delete or add shots, insert new shots, and ensure smooth transitions, maintaining video logic while preserving good shot effects [13].

Subtitle Addition: Editors can add various subtitle types to videos through non-linear editing technology and store created subtitles for future use. Methods include software-based subtitle addition using special effects keying, which improves integration and facilitates resource expansion but is unsuitable for programs with numerous subtitles; and hardware-based methods using video hardware for faster production and easier preview of subtitle-video fusion effects, making it more commonly used.

Sound Effect Addition: Editors can apply multi-track audio synthesis technology to add sound effects and music, enhancing program atmosphere and improving viewer experience.

Conclusion

In the new media era, problems with traditional radio and television program editing concepts and methods have gradually emerged, potentially impacting industry development. Therefore, radio and television enterprises must actively pursue editing innovation, recognize its necessity, learn from advanced new media concepts and technologies, increase audience attention, enhance core market competitiveness, and avoid major impacts from new media development.

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