Landscape Society: A Study on the Communication Effects of Postprints

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Abstract

Virtual technology has been developing in recent years, and virtual hosts have appeared in major TV programs. In this paper, from the perspective of media evolution, taking Xiao Yang in Hello Saturday as an example, we use content analysis and questionnaire survey to explore the impact of the degree of interaction between virtual characters and hosts on user experience, and find that the degree of interaction is positively correlated with the degree of discussion, authenticity, satisfaction and virtual host evaluation. This paper is in order to promote the effective integration of virtual characters and real characters in one scene. It provides a reference for the rational allocation and utilization of virtual host resources in the TV industry.

Full Text

Preamble

Landscape Society: A Study on the Communication Effect of the "Humanization Trend" in Video Supported by Virtual Technology—A Case Study of Arts and Culture Programs

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Abstract: Virtual technology has developed rapidly in recent years, with virtual hosts appearing in major television programs. From the perspective of media evolution, and taking Xiao Yang in *Hello Saturday* as a case study, this paper employs content analysis and questionnaire surveys to explore how the degree of interaction between virtual characters and hosts influences user experience. The findings reveal that interaction frequency is positively correlated with discussion volume, perceived authenticity, satisfaction, and evaluation of virtual hosts. This study aims to promote the effective integration of virtual and

real characters within a single scene and provides a reference for the rational allocation and utilization of virtual host resources in the television industry.

Keywords: humanization trend, media technology, virtual host, program

1 Introduction

The popularity of cultural programs has remained high in recent years, with audiences engaging in endless discussions about various presentation formats. We have observed that from the viral success of *Chinese Poetry Conference* in 2016 and *The Reader* in 2017, to the emergence of *Tang Palace Night Banquet* and *Man Ting Fang - National Colors* in recent years, the focus of audience discussion has gradually shifted from program content to stage presentation. Supported by virtual technologies such as AR, XR, and AI-generated imagery, cultural programs can offer audiences novel viewing experiences and break traditional spatial limitations. However, we found that the on-screen presentation of virtual technology actually differs little from playing background animations. The primary reason for heightened audience interest is not the technology itself, but rather the interactive communication and control between virtual content and hosts/actors, which enables virtual characters to blend with real characters within the same scene. In this regard, we ask: can communication between virtual characters and hosts enhance user experience?

2.1 Literature Review of Landscape Society

The term “landscape society” was coined by Guy Debord, originally used in ecology and geography. With societal transformation, Debord introduced “landscape” into social sciences to describe and evaluate a mediated society organized by commodities, images, and certain events. Landscape is not an insignificant decoration or supplement attached to the real world, but rather constitutes the core of society’s non-reality. American scholar Kellner modernizes this concept, arguing that “landscape” has become a “media spectacle” that implicitly causes people to lose themselves. Kellner views media landscape as a cultural phenomenon, with human guidance determining its positive and negative effects.

Célia Ladeira-Mota employs mediascape theory to study corruption, encouraging people to take action against the corrupt landscape created by politicians. Steven Robins focuses on the political phenomenon of apartheid, examining how radicals used the politics of spectacle to mobilize the masses. Paul Alonso, using an atypical presidential campaign as a case study, details the “Bailey spectacle” constructed by campaigners through controversial behaviors to increase political appeal. Paul Mihailidis and Samantha Viotty examine the spectacle phenomenon before and after the 2016 U.S. presidential election, analyzing in detail how the dissemination of misinformation, appropriation of portraits, and involvement of mainstream media led to the polarization of public discourse and opinions and the proliferation of populist rhetoric.

Chinese scholars have primarily studied media events and phenomena through landscape theory, reflecting on landscape's impact on society and politics, and exploring the relationship between people and media technology. From a media landscape perspective, Dang Minghui conducted textual analysis on the news coverage landscape, technology landscape, and event dissolution landscape in domestic and international media coverage of the missing Malaysia Airlines incident, exploring how landscape hegemony alienates and empowers international political communication. Bin Zhang and Yanwen Wu argue that new media forms driven by communication technology advancement have intensified landscape diffusion and penetration. The impact of digital scene communication technology and subcultural forms also reconstructs real scenarios, realizing Debord's strategies of "heterogeneous track" and "drift" against the landscape. Zhu Xujia and Luo Zhendong (2018) use "landscape" to explore the study of internet-famous villages.

In summary, scholars both domestically and internationally have conducted comprehensive research on landscape, focusing on macroscopic examinations of phenomena and events in journalism and communication. However, no studies have applied landscape theory to virtual technology in video from a social perspective, making it impossible to answer whether interactive behaviors derived from virtual technology can enhance viewer user experience.

2.2 Literature Review of Media Evolution

Evolution is originally a biological concept. Paul Levinson applied it to media studies in communication, inheriting and exploring McLuhan's media development theory in the digital age context. In 1979, Levinson developed the Theory of Media Evolution, whose core elements include "media-remedial," "anthropotropic," and "three stages of media technology."

He Honghua and Huang Xuejian suggest that virtual reality technology can turn people's imagination of returning to nature into reality, and by extending human senses, people can obtain unprecedented "immersion," which is very similar to the microhabitat theory in media evolution. According to Luo, in such a competitive media environment, the only way for television media to fully leverage its advantages is to crossbreed and integrate with the Internet and actively undergo genetic transformation. Xu Lijun expresses a similar view, proposing five major directions for future television media development: userization, intelligence, datafication, openness, and co-bioscience.

Ma Shuojian points out that changes in how human art is received align with the humanization trend of media evolution, believing that the immersive experience people pursue in the future represents a sensory reversion to the pretechnological world—a new way for audiences to receive art and aesthetic experience.

Scholars' studies are based on the relationship between media evolution and technological forms, but they lack in-depth investigation of media factors influ-

encing film and television art forms. Some studies fail to identify problems in contemporary film and television art, which should be combined with media evolution theory to pinpoint issues and propose development strategies.

2.3 Literature Review of Virtual Technologies

A virtual host is a simulated human image created through digital technology processing and formed through broadcast, network, and other communication media to interact with audiences. Although it possesses the functions and roles of a host, it lacks the real-life experience of actual hosts—this is called a virtual host.

In the context of intelligent media, Yu Guoming predicts three directions for deep development in the media industry: integration of virtual and real penetration, product services replacing formal media, and media symbiosis creating nested platforms. According to Zhang Hongzhong, the development trend of the media industry has gradually shifted from "Internet+" to "artificial intelligence+." Wang Dan and Huang Chuxin's analysis of China's new media development status and trends suggests that under artificial intelligence technology influence, the media industry can improve and optimize its structure, the information content production process can gradually become automated and virtualized, content dissemination forms can diversify, and media industry business forms will undergo new transformations. Based on these findings, media communication styles are changing. However, no scholars have focused virtual technology specifically on programs, so this study aims to explain the connotation of virtual hosts from media evolution theory perspective and explore the association between virtual host interactive behavior and user experience.

3.1 Hypothesis

The application of virtual technology draws audience attention, and virtual characters provide audiences with immersive experiences compared to real people. During interaction between virtual persons and hosts, the eyeball effect gives virtual persons "innate traffic," which enhances interaction attention and generates more discussion. Therefore, the researcher proposes the following hypothesis:

H1: The more the virtual character interacts with the host, the more the audience discusses it.

Virtual technology brings unprecedented realism and immersion. With AI technology assistance, virtual characters can accurately present realistic external images, achieve more realistic language, voice, and details through natural language processing and voice animation synthesis, and present three-dimensional images through 3D holographic projection technology. With media technology assistance, virtual characters have evolved a "humanization trend," and such human-like interaction can enhance audience sense of reality. Therefore, the researcher proposes the following hypothesis:

H2: The more the virtual character interacts with the host, the more realistic the audience will feel.

With technology empowerment, their images and expressions are adjusted and optimized by technology, and their movements, expressions, and mouth patterns are patterned and adjusted to finally achieve personalized expression capability. Smooth interaction between virtual characters and hosts complements program content and effectively improves audience evaluation of virtual hosts and program satisfaction. Therefore, the researcher proposes the hypotheses:

H3: The more the virtual character interacts with the host, the higher the audience's evaluation of the virtual host.

H4: The more the virtual character interacts with the host, the higher the audience's satisfaction with the program.

3.2.1 Content Analysis Method

To demonstrate the association between virtual character interaction amount and discussion degree, this study used content analysis to sample the overall population and create a questionnaire.

The research object corresponding to this hypothesis is variety shows. First, we conducted representative sampling of this media type and selected Mango TV. It was chosen because of its high influence and the countable number of bullet screen comments on its online platform, making it highly representative. Second, the researcher conducted representative sampling of works based on the principle of having virtual hosts. A total of 56 episodes of *Hello Saturday* from January 1, 2021, to February 25, 2023, were finally selected, and the author used simple random sampling to select 20 episodes and compare segments containing virtual hosts.

In this study, variable X (virtual character) is divided into three intervals according to interaction frequency with the host, corresponding to X1 high interaction, X2 medium interaction, and X3 low interaction. Discussion degree is equated to the number of bullet screen comments or comments. Data for relevant variety shows on video sites were obtained using Python techniques.

3.2.2 Questionnaire Method

Questionnaires are the main method used in this survey to explore the association between virtual technology interaction and audience satisfaction and authenticity. Based on content analysis, we divided interaction into different levels and used questionnaires to measure audience satisfaction and authenticity. The researcher designed the questionnaire by combining prior exploratory research and literature, and modified the final questionnaire based on pre-survey results.

Since the measured variables have no special sample requirements, the researcher used convenience sampling. Collected questionnaires underwent strict quality control, cleaning, and organization, and final data were imported into SPSS for analysis.

This paper combines specific characteristics of cultural programs and sets evaluation of virtual hosts, authenticity, and program satisfaction as variables, primarily measuring audience satisfaction through content, format, personnel, and production, and measuring audience authenticity through appearance, performance, and interaction.

4.1 Sample Characterization

In this study, questionnaires were returned and data organized to obtain a total sample of 279, of which more than 70% were female and 24.73% were male. The majority of the sample had previous exposure to virtual technology, with 217 people accounting for 77.78%. In terms of exposure channels, most learned about virtual technology from online platforms such as TikTok and Weibo and related media reports. From a viewing experience perspective, only 108 people had previously watched programs with "virtual hosts," accounting for 38.71%, and 60% of them were exposed through online variety shows.

4.2 The Interaction of "Virtual Host" Is Directly Proportional to Audience Discussion

The relationship between virtual character-host interaction degree and audience discussion degree was studied using correlation analysis, with Pearson correlation coefficient indicating relationship strength, which was dominantly positive with a correlation coefficient of 0.512. The more virtual characters interacted with the host, the higher the audience discussion degree, and hypothesis H1 was supported.

This study used content analysis to examine *Hello Saturday* clips containing virtual hosts, comparing physical interaction, verbal interaction, interaction frequency with discussion degree, etc. Higher scores indicated higher interaction degree, with research data as follows: physical interaction average score was 1.85, verbal interaction average score was 1.90, interaction frequency average score was 3.35, and discussion degree average score was 113.91. The average discussion degree was 113.91 times.

Combined with the above tests, virtual character-host interaction degree is positively correlated with audience discussion. The more virtual characters interact with presenters, the more audiences discuss. Especially at the physical interaction level, discussion frequency is relatively higher when virtual hosts look at, touch, or dance with hosts on stage, indicating that the "humanization trend" in the visual dimension is not limited to appearance similarity but also relates to identity triggered by dynamic behavior.

4.3 The Degree of Interaction of Virtual Hosts Is Positively Correlated with Program Satisfaction

The reliability of scales used in this study was analyzed using Cronbach's alpha reliability coefficient, measuring KMO values, and performing Bartlett's sphericity test, obtaining the following results. The program experience scale reliability coefficient was 0.927, KMO=0.909, chi-squared value 739.339, p-value less than 0.05. The virtual moderator authenticity scale's three subscales (image anthropomorphism, persona credibility, and behavioral motivation) had a reliability coefficient of 0.666, KMO=0.807, chi-squared value 328.985, and p-value less than 0.05. The persona credibility scale reliability coefficient was 0.837, KMO=0.820, chi-squared value 312.574, p-value less than 0.05. The behavioral motivation scale reliability coefficient was 0.862, KMO=0.780, chi-squared value 420.871, p-value less than 0.05. The audience evaluation of virtual host scale reliability coefficient was 0.898, KMO=0.809, chi-squared value 606.086, p-value less than 0.05. Therefore, all scales demonstrated good reliability and validity.

Correlation analysis examined relationships between virtual character-host interaction degree and three items: authenticity, virtual host evaluation, and program satisfaction, using Pearson correlation coefficient to indicate relationship strength.

Regression analysis showed that three independent variables had significant linear relationships with dependent variables, with regression coefficients of 1.247, 0.399, and 668 respectively; significance was 0.000, and research hypotheses H2, H3, and H4 were supported.

Nowadays, media landscape is regarded as a cultural phenomenon, and deeper virtual host interaction is more conducive to enhancing audience program satisfaction. The above study illustrates that virtual character-host interaction degree is a necessary element for program satisfaction and virtual host effectiveness. For related programs, virtual host emergence has attracted significant attention. Interaction between virtual hosts and real hosts brings audiences more satisfying experiences and retains this attention group.

Interaction degree has significant impact on program satisfaction. The positive correlation between virtual host interaction level and program satisfaction occurs because virtual hosts create immersive experiences for audiences through interaction, which in turn strengthens audience recognition.

Virtual host interactive behavior also improves audience evaluation of virtual technology. Virtual hosts in more interactive segments are more likely to be accepted by audiences. Interaction level is significantly correlated with virtual host evaluation. However, while 62.37% of total respondents can accept virtual host presence in programs, only 20.43% want virtual hosts in programs, and only 21.50% believe virtual hosts themselves improve program experience. Therefore, virtual hosts are only at the "being accepted" stage, with a long way to go before being recognized by the public.

4.4 The Authenticity of Virtual Hosts Is Closely Related to Their Level of Interaction

Virtual host authenticity is also closely related to interaction level. In this study, authenticity is divided into three aspects: image anthropomorphism, persona credibility, and behavioral dynamics. Through interactive behaviors with hosts, virtual digital persons reinforce their identity degree through external similarity. Through interaction, they build unique personas and shape personality traits and behavioral characteristics. Through interactive behavior itself, virtual hosts revalidate their ability to interact and communicate, act, and express emotions comfortably. According to this study's findings, virtual host interaction degree is positively correlated with authenticity sense. In recent years, virtual hosts have been introduced into variety shows, attracting widespread attention during broadcast. These virtual hosts can embody the main characteristics of aforementioned virtual digital persons through interactive behaviors and accomplish different scene functions in programs. Through motion capture systems and AR real-time rendering, they can simultaneously participate in more recording segments. For example, Xiaoying shapes a lively, outgoing, and mischievous persona by playing with memes, singing off-key, and dancing with guests, conveying emotional values to people through subtle expression changes, which greatly enhances authenticity sense and achieves the program's traffic attraction purpose, aligning with the program team's target trend of seeking innovation and change.

4.5 Landscape Society: From "Human Form" to "Human Inner" Interaction

Virtual hosts interact with real people through modeling and real-time rendering technologies, moving technology from the appearance level to the perception and cognition level in the "humanization trend" stage. Human-like characteristics are important factors triggering spontaneous, unconscious social responses, including not only external characteristics such as appearance, voice, and behavior, but also internal characteristics such as emotion and personality. "People have always wanted to make machines human, and the idea itself hasn't changed much; what has changed is the technology behind the idea." But "making machines human" merely makes technology function in more acceptable ways. With modeling and real-time rendering technology improvements, through intelligent synthesis and motion capture, hyper-realistic virtual digital human appearance, speech, and action can achieve high simulation degrees. As a virtual host that has been "personified and cultivated," Xiaoyang is significantly superior to previous virtual hosts in anthropomorphizing external features. However, realistic appearance is not its ultimate goal. The purpose of infinitely approaching real person texture is to "restore as much as possible the emotional expression of real persons," and through continuous learning to upgrade stage skills, gradually form unique hosting characteristics. The effect of hiding "human form" and highlighting "humanity" is even more extreme in the virtual image of "TV Chicken" in another variety show *2060*. Among all virtual

anime characters, “TV Chicken” is the only contestant with a “non-human” appearance, yet it gained the highest popularity because of its lying-flat, amusing, and optimistic “worker” persona.

5 Conclusion

This study investigates virtual technology application in variety shows through questionnaires and content analysis, referencing the “humanization trend” theory, attempting to answer whether interactive communication and control between virtual content and hosts/actors enables virtual characters and real characters to blend in the same scene. The study found that higher interaction levels correlate with higher discussion levels, satisfaction, realism, and virtual host evaluation. This is mainly because Xiaoyang’s “humanization trend” lies not only in appearance but also in stable persona and this persona’s fit with program style. Xiaoyang has fuller interaction with other hosts and guests in the program, and through motion capture systems and AR real-time rendering, can simultaneously participate in more recording segments.

However, virtual hosts are still not fully accepted by audiences. Interaction has only increased recognition to a certain extent. In answers to questionnaire open-ended questions, some people still hold negative attitudes toward virtual hosts and believe they should not appear. What role virtual hosts should play in variety shows and what relationship should be established with other hosts and guests are questions deserving in-depth consideration.

Currently, China’s virtual digital persons are in a development boom, and widespread virtual host use in the media field has become inevitable. Language, action, and emotional interaction represent future development trends. Policy encouragement, technological innovation, and industry promotion are external driving forces for virtual hosts moving forward, while audience viewing experience, emotional connection, and acceptance are internal driving forces. Only by merging these two forces can the TV industry finally achieve rational allocation and optimal use of virtual host resources, as well as development and deep cultivation of more scenarios.

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