

An Analysis of Immersive Communication in VR Documentary: A Case Study of “Planet Earth II”

Shiyu Li^{1,a,*}

¹Liaoning Normal University, College of Life Science A Level Center, Dalian, Liaoning, China

a. ShiyuL1552@163.com

*corresponding author

Abstract: The rapid development of Virtual Reality (VR) technology has brought significant changes to the field of cultural media. Among them, VR documentaries, as an emerging form of communication, provide viewers with a brand-new sensory experience through their powerful immersive capabilities. This article will analyze the immersive communication features of VR documentaries, using the classic VR documentary “Planet Earth II” as an example, and explore its impact on viewers based on existing literature and data. By using VR headsets and 360-degree video capture technology, documentary filmmakers are able to immerse viewers in wildlife habitats and interact with the natural environment. This immersive experience enhances the audience’s emotional empathy and engagement, giving them a deeper understanding and appreciation of the beauty and fragility of the natural world. In addition, as VR technology continues to evolve, it can be expected that future documentary productions will add elements of interactivity and personalization. Viewers may be able to choose what interests them, follow their favorite characters to explore, and interact with objects in the documentary. This personalized experience will make viewers more engaged and further drive innovation in documentary production.

Keywords: VR, Planet Earth II, immersive communication, emotional responses feeling, new form media

1. Introduction

Virtual reality (VR), as an advanced technology and experience, has attracted a wide range of academic research interests. In the current academic field, VR research and development cover many fields, including computer science, psychology, education, medicine, media, and communication. The continuous advancement of virtual reality technology provides researchers with more opportunities to explore and apply it. At present, there has been research on various topics in the field of virtual reality, including VR hardware and technology, virtual environment design, the application of virtual reality in healthcare, virtual reality games, the use of virtual reality in education, psychological and neuroscience research on virtual reality, and social interaction in virtual reality, encompassing studies on virtual social platforms and virtual meetings, along with their technological and psychological effects and [1][2]. However, currently, there has been limited progress in addressing ethical and privacy issues related to virtual reality, such as privacy concerns, data collection, and ethical dilemmas in virtual environments. Additionally, there has been relatively little research in areas like virtual reality and health, virtual reality in education and vocational training,

and the role of virtual reality in entertainment. This paper focuses on further analysing the role of VR in the context of entertainment. This article will take the classic VR documentary “Planet Earth II” as an example to analyse the characteristics of immersive communication in VR documentaries and explore its impact on audiences based on existing literature and data. The research in this article is conducive to a deeper understanding of the presentation forms of VR documentaries.

2. VR Documentaries under Immersive Communication

Immersive communication refers to a communication experience that fully engages the audience’s senses to create a realistic, immersive environment. It goes beyond traditional forms of communication, utilizing technologies such as virtual reality (VR) to move viewers to different places or times. In the context of VR documentary production, immersive communication brings a new dimension to storytelling. VR documentaries offer a uniquely immersive experience where viewers can step into the narrative to explore the subject matter in a more personal and immersive way.

In a VR documentary, viewers wear VR headsets that place them in a virtual environment [3]. They can look around, move their heads, and interact with their surroundings as if they were in the real world. This level of immersion allows the audience to feel a deeper connection to the subject, as if they were experiencing it firsthand. The use of VR in documentary filmmaking allows for a more empathetic and intimate understanding of the subject matter. It provides an opportunity for viewers to be immersed in a different reality and gain a deeper appreciation for various perspectives and experiences.

The production of VR documentaries involves shooting footage using a professional VR camera that can record 360-degree videos or photos. These cameras are strategically placed in the environment to capture all angles and provide an immersive viewing experience. The shots are then stitched together to create a seamless 360-degree view [4]. To enhance the immersive experience, additional elements like spatial audio, which mimics real-life sound, can be added. This further transports the audience into the documentary’s world and enhances the sense of realism.

3. The Introduction of “Planet Earth II”

“Planet Earth II” is a documentary series produced by the British Broadcasting Corporation (BBC) in 2016. It is the sequel to the first season of “Planet Earth.” This documentary showcases magnificent landscapes and the current state of various flora and fauna in different ecosystems on Earth with high production quality and vast visual content [5]. Virtual reality technology allows viewers to immerse themselves more deeply in the natural landscape presented by Planet Earth II. Viewers can put on VR headsets and feel like they are in the habitat of wild animals and feel their lives. Meanwhile, VR can provide an immersive nature experience: Planet Earth II already showcases beautiful natural landscapes on TV with high-quality images, but virtual reality can further enhance this experience. Through VR, viewers can look around 360 degrees and feel wildlife activity in all corners of the planet, as if they were in person. It brings education and awareness: combined with virtual reality, people can gain a deeper understanding of the wonders of the natural world, thereby raising awareness of environmental protection and wildlife conservation. Viewers can experience first-hand the fragility and importance of natural ecosystems in a virtual reality environment. As an innovative form of media: Transforming Planet Earth II’s footage into a virtual reality experience is not only an innovation in the form of media, but also a new way for viewers to appreciate and explore the beauty of the natural world.

4. VR Documentary Immersive Communication Analysis with Audience as the Core

4.1. Physiological Immersion

The physiological immersion of VR documentaries refers to an immersive experience created through virtual reality technology that can directly affect the audience's physical reactions and physiological feelings. Through the proper use of virtual reality technology and stimulation, VR documentaries can bring more realistic and immersive experiences to the senses of sight, sound, and touch. The application of physiological immersion technology in VR documentaries is mainly reflected in:

1. Visual stimulation: VR documentaries use a head-mounted display (HMD) to place viewers in a virtual environment and provide a realistic visual experience through panoramic video and 3D images. The audience is free to look around and feel the feeling of being there.

2. Auditory stimulation: Ambient sound effects and 3D audio technology in virtual reality scenes can simulate real-world sounds, making the audience feel like they are in a virtual environment. For example, with stereo technology and spatial sound positioning, viewers can hear sounds from different directions, enhancing the feeling of immersion.

3. Haptic feedback: Some advanced VR systems can provide haptic feedback, allowing viewers to touch and feel objects or feedback forces in the virtual environment through special handles, gloves, or experience equipment. This haptic feedback enhances the audience's immersion in the virtual environment, further enhancing the authenticity of the experience.

4. Physiological data monitoring: Some studies incorporate biosensors into VR documentaries to monitor viewers' physiological responses. For example, physiological data such as heart rate, breathing, and galvanic skin response can be used to assess an audience's emotional state and physical responses to adjust the stimuli and content of the virtual environment [6].

Through the application of these physiological immersion techniques and methods, VR documentaries can provide an immersive experience that allows viewers to feel and understand the themes and scenarios presented. This immersive experience not only engages viewers more in the story of the documentary, but also strengthens the audience's emotional empathy and engagement with the content presented.

Compared with traditional documentaries, the immersion, deep immersion experience, multi-sensory stimulation, independent exploration, and interaction of VR documentaries all make VR documentaries have stronger capabilities in physiological immersion and can create a more immersive and deeply immersive viewing experience. Viewers can feel the themes and scenes presented more realistically, which is more intuitive, personal and interesting than traditional documentaries. As a VR documentary, from the perspective of storytelling and emotion, traditional documentaries usually use narration to introduce facts and information, while "Planet Earth II" pays more attention to emotion and story in terms of narrative. Through vivid images and music, it creates dramatic moments in the ecosystem that allow viewers to emotionally resonate with the lives of wildlife [7]. Not only that, "Planet Earth II" also uses a series of technological innovations, such as drone shooting, covert photography, etc., so that the audience can see natural scenes that are difficult to capture up close, thus showing visual effects that traditional documentaries do not have.

4.2. Psychological Immersion

VR documentaries provide a new narrative approach. Traditional documentaries typically rely on voice-overs and camera cuts to convey information, while VR documentaries present an immersive narrative experience through environment construction and character settings. "Planet Earth II" employs animals' perspectives and actions to help viewers better understand their living conditions and behavior. Viewers are no longer passive recipients of information but actively experience life's

joys and sorrows alongside the animals in a lifelike manner. This narrative approach makes the documentary more vivid and interesting, and it is easier to resonate with viewers. This profound shift in perspective is akin to a symphony of sensations where the audience is no longer separated by a screen, but rather transported into the heart of nature's vibrant tapestry [8]. The documentary's lifelike portrayal, accomplished through cutting-edge filming techniques and technology, opens up a gateway for viewers to traverse breathtaking landscapes teeming with creatures that exhibit a myriad of emotions and behaviors. As a result, the connection between the audience and the animal kingdom deepens, allowing for an empathetic exchange that was previously unattainable through traditional storytelling.

4.3. Emotional Identification

VR documentaries have emerged as a powerful medium to provoke strong emotional responses and evoke empathy among viewers. By immersing ourselves in virtual reality experiences, people are able to witness and understand the struggles, joys, and triumphs of others in a deeply personal way.

One of the key aspects of VR documentaries is their ability to stimulate a profound emotional response. We no longer passively observe a story unfold on a screen; instead, we become active participants in the narrative. The immersive nature of virtual reality technology enables us to experience firsthand the sights, sounds, and emotions of the individuals captured on film. Whether it is witnessing the devastation of a natural disaster, the daily challenges faced by marginalized communities, or the remarkable resilience of individuals overcoming adversity, VR documentaries transport us into the heart of the story, making us more emotionally invested.

Moreover, these documentaries have the power to challenge our preconceived notions, promoting understanding and acceptance. By immersing ourselves in the lives of people from different cultures, backgrounds, or circumstances, we are exposed to their realities, which can be vastly different from our own. This exposure can lead to a heightened sense of empathy as we realize that despite our differences, we share common experiences, hopes, and dreams. VR documentaries thus have the potential to bridge gaps in understanding, fostering a greater sense of compassion and respect for our fellow human beings.

In conclusion, VR documentaries have revolutionized the way we connect with and understand the human experience. They allow us to explore the emotional depths of others' lives, fostering empathy and understanding. By experiencing stories in an immersive virtual reality environment, we are more likely to develop a deep emotional connection with the subjects, leading to a greater appreciation of the diverse range of human experiences. As this technology continues to advance, VR documentaries have the potential to transform our understanding of the world and our place within it. Emotional identification refers to the ability of viewers to emotionally relate to the theme, character, or storyline in the documentary when watching it. In *Planet Earth II*, the resonance of life experience is embodied. Through the fascinating pictures, the audience can deeply feel the survival challenges, joys of life, and entanglement of life and death in animals and plants. This resonance allows the viewer to empathize, as if they are in the natural landscape and experiencing various emotions with the animals. Viewers may have a strong resonance when they see scenes of animals chasing, fighting, and raising offspring because these episodes have something in common with human emotions and experiences. There is also emotional storytelling in documentaries through clever narratives, presenting the life of wildlife as a series of emotional stories. This narrative method not only highlights the animal's survival strategy but also integrates emotional elements such as friendship, family affection, loneliness, etc. The viewer is not only learning the facts but also feeling emotions and thus sympathizing with the animals in the documentary. With emotional sound effects and music, "*Planet Earth II*" enhances the audience's emotional experience through careful sound effects and music. Authentic animal sounds, ambient sounds, and music that match the picture make the audience

more immersive. These sound effects and music help set the mood, evoke emotional resonance, and immerse viewers more deeply in the world depicted in the documentary.

5. Discussion

VR documentaries enhance the effectiveness of information transmission through interaction with viewers. With VR documentaries, viewers can control their perspective changes by rotating their heads and focusing their gaze, allowing them to autonomously choose what to focus on. In “Planet Earth II,” viewers can choose to follow the flight of birds or track the footsteps of lions. This interactivity not only increases the enjoyment of watching, but also enables viewers to actively acquire information based on their interests and needs. Through interaction, VR documentaries are better able to capture viewers’ attention, improving the absorption and retention of information.

VR documentaries also face challenges and issues. Firstly, the widespread adoption of VR devices is still limited, constraining the potential audience size for VR documentaries. Although the prices of VR devices are gradually decreasing, they still require a certain level of economic capability. Secondly, some people may experience dizziness and discomfort while wearing VR headsets, which affects the viewing experience. Additionally, current VR technology is unable to fully replicate the senses of touch and smell, limiting the expressive power of VR documentaries [9].

In a new context, media convergence provides more technologies and platforms that allow documentary filmmakers to experiment with more innovative storytelling. The introduction of VR technology has given documentary creators a whole new way to present real-world stories. By combining virtual reality, augmented reality, interactivity, and multimedia elements, you can create a more immersive, interactive and personalized viewing experience. VR documentaries in the context of media convergence need to solve some technical challenges. The development and maturity of virtual reality technology, as well as the emergence of higher quality and more convenient content creation tools, will be key factors driving the development of VR documentaries. In addition, VR-related comfort and user experience issues need to be addressed to improve audience engagement and satisfaction. In the context of media convergence, VR documentaries can be combined with other media forms, such as music, images, text, etc. This combination can make the expression of documentaries more rich and diverse, stimulate the interaction and linkage effect between different media, and provide more innovative and artistic works. VR documentaries can enhance viewers’ sense of engagement through interactivity. Viewers are free to explore the virtual environment, interact with the content in the documentary, and even participate in the evolution of the story. This kind of audience participation and interaction will greatly enhance the viewing experience and change the role and participation of traditional documentary audiences. In general, media convergence brings new opportunities and challenges to the development of VR documentaries [10]. Through innovative storytelling, solving technical problems, combining other media formats, and enhancing audience participation and interaction, VR documentaries can exert greater influence in the era of media convergence and provide audiences with a richer and more immersive viewing experience.

6. Conclusion

In conclusion, “Planet Earth II,” as a classic VR documentary, demonstrates the enormous potential of VR technology in the documentary field. Through immersion, interactivity, and a novel narrative approach, it provides viewers with a unique experience. However, the development of VR documentaries still faces challenges and limitations, such as Hardware cost: The price of high-end VR equipment is still relatively expensive, limiting the popularity of VR technology for the masses. User experience: Some users may experience problems such as dizziness, headache or eye strain when using VR equipment, which limits the long-term use and widespread adoption of VR

applications. With the continuous development and improvement of technology, these difficulties are expected to be gradually overcome, and VR technology will be able to be more widely used in different fields, such as education, medical care, industry, etc. As VR technology continues to advance and become more accessible, VR documentaries are expected to play an increasingly important role in providing viewers with rich and diverse cultural experiences in the future. There are still many shortcomings in this paper, such as the lack of specific data to support it. In future research, the author will analyze the differences in audience psychological feelings of different VR documentaries from a data perspective

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