

The Practice of Interactive Digital Picture Book Design in the Context of Media Convergence

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Abstract. The rapid development of media technology has enabled new media and traditional media to realize a good integration, and people's entertainment is richer in the era of media convergence. Reading is the main way for people to learn independently and enrich their daily life. Under the influence of media convergence, there has been a shift from traditional paper books to e-books and cell phones and other in people's reading carriers. At the same time, people's reading methods have also changed, and interactive reading has gradually broken the limitations of traditional reading way. Nowadays, interactive digital picture books are developing rapidly, and designers can realize the reasonable design of interactive digital picture books and improve people's reading through language sound, contextual stories, digital vision, image interaction, mobile augmented reality design, etc..

Keywords: media convergence, interactive digital picture books, design practice.

1. Introduction

With the support of digital technology and media technology, the era of media convergence has quietly arrived, and the way people obtain information has changed drastically. Picture books have rich and vivid pictures, together with brief texts, which can effectively arouse people's desire to read. Nowadays, picture books have initially completed the three-dimensional development, such as the combination of interactive organs, paper sculpture and intellectual disability architecture to complete the picture book works, which can present readers with a stronger sense of space and a rich expression of the form, to enhance the reader's reading experience. With the development of science and technology, people's requirements for picture books are getting higher and higher, and after the integration of media, picture books also present new forms of interactive digital picture books, and they show great potential for development because of their convenience and interactivity.

2. The Impact of Media Convergence on the Design of Interactive Digital Picture Books

2.1. Technical support

With the popularization of smartphones, tablet computers and other electronic devices, people can use these devices to read interactive digital picture books anytime and anywhere. These devices not only have the function of displaying text and images, but also can play multimedia content such as audio and video, making interactive digital picture books more vivid and interesting. In addition, with the continuous progress of cloud computing, artificial intelligence and other technologies, interactive digital picture books can better interact with readers and provide a personalized reading experience [1].

2.2. Changing children's reading habits

While traditional paper picture books can only provide static text and images, interactive digital picture books can better attract children's attention and increase their interest in reading through the use of various media elements such as audio, video and animation. In addition, interactive digital picture books allow children to participate in the story through branching and selection of storylines, promoting the development of their thinking and creativity. This new reading experience makes children enjoy the process of reading more, thus developing a long-term reading habit.

2.3. Broadening the content format of interactive digital picture books

Traditional paper picture books are limited by space and material and cannot show more content. And interactive digital picture books can present rich and diverse forms of content through multimedia means, such as audio explanation, game interaction, virtual reality, etc. These multimedia elements can not only increase the fun of picture books, but also provide more in-depth knowledge learning. For example, children can better understand the plot of the story and the moral education behind it through audio explanation, exercise their reaction ability and thinking ability through game interaction and immerse themselves in the scenes and emotions of the story through virtual reality [2].

2.4. New opportunities for the production and dissemination of interactive digital picture books

Traditional paper picture books have difficult to popularize because of its high production cost and limitation of copyright and distribution channels. While the production cost of interactive digital picture books is relatively low, and it can make full use of the open platform and resources to lower the production threshold, so that more content creators can participate in the production of interactive picture books. At the same time, interactive digital picture books can be disseminated through channels such as the Internet and mobile applications, covering a wider range and reaching more people. This not only allows more people to enjoy the fun brought by interactive digital picture books, but also promotes the creators' enthusiasm and creative power, further promoting the development of interactive digital picture books.

3. Interactive Digital Picture Book Design Practice in the Context of Media Convergence

3.1. Text-sound design

In interactive digital picture books, text-sound design is crucial. Reasonable text-sound design can improve children's reading comprehension, increase the interest of the story, as well as provide more learning opportunities. A read-aloud function can be added to interactive digital picture books so that children can establish the correct pronunciation and intonation by hearing the story. For younger children, professional voice actors or parents can be selected to read aloud, and for older children, they can be guided to read aloud themselves. Meanwhile, sound effects are utilized to enhance the story atmosphere, such as background music, environmental sound effects and special sound effects. The design of sound effects should be consistent with the storyline and arouse children's interest, but should not be so cumbersome that affect read [3].

Designers can enhance sound interaction to increase interactivity and fun by triggering sounds through children's actions. For example, clicking on a character will make a corresponding sound, or touching an object on the screen will make the object make a sound. Designers can try to write scripts with storytelling for interactive digital picture books, adding dialogues and sound effects to transform the reading experience into a story-listening experience.

3.2. Digital Visual Design

Firstly, the use of color which is one of the most intuitive and eye-catching visual elements in digital picture book design. It can enhance the attraction and expression of the mood of the picture book through the reasonable use of color. In interactive digital picture book design, bright and vivid colors can be used to attract readers' attention, warm and cold tones can be used to express different moods and atmospheres, and color contrasts can be used to highlight key content. In addition, it can select different theme colors according to the age level and reading habits of different readers so that it can carry out cultural transmission and emotional connection [4].

Secondly, the typographic layout strategy is an important means of determining the overall structure of the page and the way of presenting information in digital picture book design. In

interactive digital picture book design, it is important to ensure that the structure of the page is clear and the layout is reasonable so that readers can easily access the information. This can be achieved through a reasonable combination of text and images, as well as appropriate spacing and alignment. At the same time, layout techniques such as columns and levels can also be used so that readers can gradually understand and explore the content during the reading process and increase the interactive experience.

Finally, we should pay attention to interaction design strategy. Interaction is one of the important features of digital picture book design. Designers can enhance user participation and desire for exploration through interaction design. In the interactive digital picture book design, click, slide, drag and other interaction methods can be used to guide readers to interact with the picture book. For example, setting click-triggered animation effects in the picture book can let readers actively participate in the unfolding of the storyline; adding slidable scene switching in the picture book can let readers freely explore different story details. At the same time, interactive design can also be utilized to add educational and game elements to improve the educational and interesting nature of picture books [5].

3.3. Contextual story design

In the practice of interactive digital picture book design under the background of media convergence, contextual storytelling design strategy plays an important role. Contextual storytelling refers to a series of coherent scenes and plots to show readers the story emotion and theme content in a vivid way. In interactive digital picture book design, contextual storytelling design strategies can help enhance readers' engagement, immersion and emotional experience.

On the one hand, designers can adopt visual narrative strategy. The designer creates a visual narrative through the judicious use of visual elements and storyline, using images as the primary means of expression. The contextual storytelling in interactive digital picture book design relies on the presentation of visual elements, such as illustrations, scene design, character design, etc., which can be used to show readers emotions and themes through expressive visual effects by displaying different scenes and plots one by one. In addition, techniques such as motion parallax and transition effects can be used to increase the smoothness and hierarchy of scene switching and enhance readers' immersion and participation [6].

On the other hand, designers can adopt audio narrative strategy. In interactive digital picture book design, audio narrative refers to the expression of the storyline through sound elements such as music, voice-over and sound effects. Reasonable use of audio narrative strategy can enhance readers' emotional experience and engagement. For example, adding background music in appropriate contexts can enhance the atmosphere and emotional expression; expressing the language and emotions of the characters through voice-overs can make the story more vivid and engaging; and using sound effects to simulate ambient sounds or character movements can increase the sense of realism and interactivity.

In addition, designers can also try to adopt interactive narrative strategy. Interaction is one of the important features of digital picture book design, which can enhance readers' active participation and desire for exploration. Readers can be guided to interact with the contextual story through clicking, dragging, sliding and other interactive methods. For example, readers can explore and discover hidden details by setting click-triggered animation effects in the storyline; readers can change the direction of the story by dragging and dropping characters or objects; readers can switch between different plot displays by sliding the scene. Interactive narrative strategies can bring readers more participation and the fun of independent exploration [7].

3.4. Mobile Augmented Reality design

In the practice of interactive digital picture book design under the background of media convergence, mobile augmented reality (AR) design strategy can bring readers a new reading experience. Mobile augmented reality refers to the superimposition of virtual information on the real

world through mobile devices, allowing readers to interact with and experience virtual content. For example, designers can integrate mobile augmented reality technology to allow readers to embed characters or objects from picture books into real-world scenes in a virtual form. Readers can observe and interact with the virtual image of the character or object through the camera of the mobile device. This design strategy can enhance the reader's cognitive and emotional connection to the character or object, increasing the fun and engagement of reading. For example, when children read a picture book, if there is an animal character in the picture book, it can be presented as a three-dimensional, dynamic image through AR technology to make readers feel that it really exists in the real world. Readers can observe the character's movements and expressions in different scenes through mobile devices and interact with it, such as feeding and petting. This character embedding strategy can enhance readers' experience and emotional communication with the characters of the picture book [8].

At the same time, the designer can also introduce virtual elements into the real scene to extend the scene described in the picture book by integrating mobile augmented reality technology and. Readers can observe and interact with the virtual objects or scenery newly appearing in the real scene through the camera of the mobile device. For example, a picture book may describe a garden scene, and through AR technology it is possible to display this garden in the reader's realistic indoor scene and place virtual flowers in it. Readers can observe these virtual flowers through their mobile devices and can also perform interactive operations such as picking and planting. This scene extension strategy can increase the immersion and interactivity of the picture book and make the reader more immersive.

4. Conclusion

To sum up, under the background of media convergence, designers need to adopt diversified interactive digital picture book design strategies to give readers a more diversified and immersive interactive experience. The development of interactive digital picture books represents the continuous progress of media convergence. Designers need to design reasonably and strengthen the use of advanced digital technology and media technology. However, at the same time of design, designers need to fully consider the feelings of different readers, and can't let the function be too complicated to deviate from the value of the picture book itself.

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