

# ***A Study on the Impact of Digital Picture Book Reading on Children's Reading Literacy***

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**Abstract:** With the advent of the Internet era, digital picture books, as a booming reading resource for children, have gradually become the starting point for most children to read. However, digital reading also faces issues such as information overload and distraction, and further attention should be paid to children's reading literacy in the digital reading environment. Therefore, this article selects 26 students from a kindergarten in Shangqiu City, Henan Province, China as the research subjects. The subjects are divided into an experimental group and a control group for a one-month comparative study. The experimental group uses the "Companion Fish Picture Book" iPad App to achieve digital picture book reading, while the control group uses traditional paper picture books for reading. Two groups of students were evaluated by the teacher and their grades were analyzed. The results showed that children who read digital picture books had a good research impact on vocabulary, reading comprehension, and reading interest. The conclusion was drawn that digital picture book reading can significantly improve children's reading literacy.

**Keywords:** Digital picture book reading, digital reading, children's picture book reading, reading literacy

## **1. Introduction**

Reading literacy is one of the important indicators of children's development, which has a significant impact on their cognitive, emotional, and social development. In recent years, with the rapid development of digital technology and the popularity of electronic devices such as tablets and smartphones, more and more children have started to come into contact with digital picture books and fall in love with them. Digital picture books, with their rich visual elements, animation effects, and interactive functions, bring children a brand-new reading experience. Digital reading methods are gradually becoming mainstream, especially in the field of children's reading. As an emerging form of reading, digital picture books are profoundly influencing children's reading literacy with their unique charm and advantages. This study explores the impact of digital picture book reading on children's reading literacy. Grouping students to read picture books in different ways and analyzing relevant data is of great significance in exploring the impact of digital picture book reading on children's reading and providing the theoretical basis and practical guidance for improving children's reading literacy.

## 2. Literature review

The theoretical research on digital children's picture book reading mainly focuses on the design and development status of children's picture books in the digital era, the promotion and integration of digital picture book reading, and the impact of digital media development on the children's picture book industry.

In terms of the research on the design and development status of children's picture books in the digital era, Gao Congrui [1] believes that in the digital era, children's picture books need to be designed and innovated in combination with the characteristics of the new era to play five functions: building a digital image of children's picture books, embedding "paper digital interaction" elements, displaying multiple forms of information content, promoting the integration of education and entertainment, and enriching multiple sensory experiences. Yue Han [2] believes that picture books are an important way for preschool children to understand the world. With the advent of the digital age, the digitization and interactivity of picture books have become a trend. Zhang Yuqian [3] believes that with the development of AR technology and its maturity in mobile device usage, by combining AR technology with paper picture books, the characters, scenes, and other content in picture books can be presented in three-dimensional form using mobile device screens, allowing readers to interact with virtual content in real environments. The application of AR technology, while maintaining the advantages of traditional picture books, transforms the reading process from static to dynamic, making reading more interesting. Zhang Yuxin et al. [4] believe that in the rapidly developing digital age of technology, the application of digital technology has greatly facilitated people's lives. Children's picture books and the treatment and cultivation of children with autism should also keep pace with the times. Transforming traditional picture books for children with autism into digital ones, relying on emerging digital technologies to explore the design and transformation from traditional paper picture books to digital picture books, while enhancing the interactivity and scientificity of picture books, to promote the auxiliary treatment of picture books in the treatment process of children with autism. Therefore, to promote the digital, interactive, and innovative development of children's picture books, attention should be paid to the integration of the use of digital technology and the cultivation of children with autism in the design and creation process of children's picture books. Based on the background of digital transformation, new types of picture books for children with autism should be studied to meet the unique development needs of children with autism and provide assistance for their growth and development.

In terms of promoting and integrating digital picture book reading, Ge Weihua et al. [5] believe that children's reading plays a very important role in national reading. Using picture books to encourage more children to enjoy reading and gradually develop lifelong reading habits, will have a positive impact on promoting social civilization progress and further highlight the unique role of children's libraries in nationwide reading. Dong Hui [6] believes that in the context of information technology, integrating the design of picture book reading and game activities for young children is a beneficial educational method for their comprehensive development. It can promote their language and cognitive development, enrich their emotions, and improve their social skills. Cheng Jingxin et al. [7] believe that combining digital children's picture books with traditional Chinese culture can not only enrich the connotation and form of digital children's literature but also help to inherit and promote traditional Chinese culture. With the continuous development of the times, traditional culture in China is also being inherited and disseminated through updated channels. Children's picture books are also one of the effective ways to promote traditional Chinese culture. They can promote culture to readers through rich and interesting picture book forms, combined with digital technology.

In terms of the research on the impact of digital media development on the children's picture book industry, Jin Liying [8] believes that the information age provides sufficient conditions for the

integration of digital media and children's picture books, which is of great significance for the sustainable development of children's picture books. Win the past, stick to the present, and never be absent in the future. For the Internet of Things, the role played by sensing technology is similar to that of human sensory organs, emphasizing information construction and coding as the basis. Simulating the sensory system, ensures that relevant information can be directly displayed through output devices, truly achieving real-time interaction. The development of digital media has highlighted the diversity of picture book reading. Han Wenli [9] believes that exploring the impact of digital technology development on children's picture book publishing in the new situation, clarifying the dimensions of media, form, content, operation, and status of children's picture book dissemination, correctly grasping the new direction of children's picture book publishing, better exploring the market, adapting to the transformation of digital publishing, is particularly meaningful in the current digital process of children's picture book publishing. Wu Yuhan et al. [10] believe that picture books are not only about telling stories and learning knowledge, but also can comprehensively help young children construct their spiritual world, expand their thinking and imagination, and promote their development of multiple intelligences. In the era of informatization, digitalization empowers picture books, and picture books are gradually developing towards digital picture books. The marketing of digital picture books is facing both opportunities and challenges. The marketing of digital picture books should be based on the needs of children and innovate the content of digital picture books with children as the foundation; Adapt to the needs of parents, innovate digital picture book marketing models, and choose online community marketing methods to meet their needs; Pay attention to educational disparities between regions. Timely adjust according to consumer needs, achieve personalized and targeted publishing, and meet the consumption needs of parents.

### 3. Research design

This study adopted an experimental research method and selected 26 students from a kindergarten in Shangqiu City, Henan Province, China. The students were aged between 5 and 6 years old and were divided into an experimental group and a control group, with 13 students in each group. Conduct observation experiments for one month.

The experimental group used digital picture books for reading instruction, and the "Companion Fish Picture Book" iPad App for picture book reading, with teacher-assisted teaching.

The two reading methods are adopted. 1) Interactive reading with finger contacts, interacting with characters, animals, and scenery in the book; Fun quizzes, recognizing words and learning vocabulary while reading, comprehensively improving reading comprehension. New learning methods: dubbing picture books or books, creating exclusive picture books or books, improving language expression ability, and enhancing learning interest. 2) Animation nursery rhyme - watching animations: Hundreds of exquisite original animations and puzzle animations have new knowledge every day. - Listening to nursery rhymes: Popular and beautiful nursery rhyme stories, Tang and Song poems, etc., thoughtfully selected enlightenment nursery rhymes, happy ear grinding, high-definition, and good sound quality are more suitable for parents and children.

The control group received traditional paper picture books for reading instruction, with each student assigned 10 paper picture books for reading, and the teacher assisted the teaching.

By examining the one-month learning experience of two groups of students in picture book reading, combined with exam assessments, and comparing the experimental results of the two groups in reading comprehension, vocabulary, and reading interest, the impact of digital picture book reading on children's reading literacy is evaluated.

## 4. Results and discussion

### 4.1. Results

The results consist of the following aspects. Reading comprehension: The experimental group students showed a higher level of understanding in digital picture book reading, and were able to better understand the story plot, character traits, and thematic ideas. This indicates that digital picture book reading can help improve children's reading comprehension abilities.

Vocabulary: The experimental group students were exposed to more vocabulary in digital picture book reading, which helped to improve their vocabulary and learning interest. Meanwhile, the interactive elements in digital picture books also help deepen students' understanding and memory of vocabulary.

Reading interest: Digital picture books, with their unique interactivity and visual effects, attract students' attention and enhance their reading interest. The experimental group students generally showed higher reading enthusiasm and were willing to take the initiative to read.

In summary, digital picture book reading has a significant impact on improving children's reading literacy. Through the interactivity and vividness of digital picture books, students can improve their reading interest and understanding ability, increase their vocabulary, and thus improve their reading literacy. At the same time, the sharing and communication functions of digital picture books also help cultivate children's social skills.

### 4.2. How to effectively utilize digital picture books to improve children's reading literacy

Piaget's cognitive development theory points out that the cognitive development process of young children is a continuous transition from concrete and visual thinking to abstract thinking. At different stages, the cognitive level of young children is a key factor determining their cognitive development. Therefore, by grasping the cognitive patterns of young children and maintaining consistency with these cognitive patterns when selecting reading materials and interactive forms, children will actively construct their internal cognition. Children are a positive organism that actively constructs their own internal thinking structure while interacting with people and things. The central idea of Piaget's theory is that thought comes from behavior. He regards intelligence as an inherent manifestation of behavior, whether it is high-level or low-level, it is related to behavior. Therefore, the most basic way for young children to learn is through autonomous activities. Behavior is the medium that connects the subject (young children) and the object (external conditions), and is the most direct source of thinking development. In digital picture book reading, children can better understand the plot and textual content of the picture book through the content of the picture. The narrative content in the picture book is presented in a visual image of the picture to help understand abstract concepts. The picture book conforms to the cognitive characteristics of children and provides important material prerequisites for their cognitive construction.

Reasonably arrange reading time: Parents and educators should arrange children's digital picture book reading time reasonably to avoid excessive use of electronic devices causing damage to vision.

Choosing high-quality picture book resources: When choosing digital picture books, attention should be paid to the content quality and educational value of the books, and excellent works suitable for children's ages and interests should be selected.

Guide deep reading: During the reading process, parents and educators should guide children to read deeply, think about the plot, characters, and themes in picture books, and improve their reading comprehension ability.

Combining traditional reading: Although digital picture books have many advantages, traditional reading still has irreplaceable value. Parents and educators should encourage children to maintain a

balance between traditional reading and digital picture book reading, fully leveraging the advantages of both.

## 5. Conclusion

Digital picture book reading has a positive impact on children's reading literacy. In future educational practices, we should pay more attention to the role of digital picture books in children's reading teaching, explore more effective digital picture book teaching methods, and promote the improvement of children's reading literacy. However, we should also recognize the limitations of digital picture book reading, such as the potential damage to children's vision caused by excessive reliance on electronic devices. Therefore, while promoting digital picture book reading, we should also pay attention to the potential problems it may bring and take corresponding measures to solve them.

In short, digital picture book reading, as an emerging reading method, provides new possibilities for improving children's reading literacy. In the future, we look forward to more research and practice to further reveal the impact of digital picture book reading on children's reading literacy, providing strong support for the development of children's reading education.

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