

Research on the Creation and Dissemination of Children's Bilingual Picture Books Themed on Rural Culture Based on AI Technology

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ABSTRACT

This study explores the creation of children's bilingual picture books themed on rural culture based on AI technology, aiming to integrate rural culture with modern technology and develop picture books with profound educational significance. Through literature research and interview methods, the core elements of rural culture are systematically organized, and an interdisciplinary team collaboration process for picture book creation is designed, covering topic planning, text creation, image drawing, editing and typesetting, as well as proofreading and review. The research findings indicate that AI technology can enhance the efficiency and quality of creation, accurately present rural cultural elements, and multi-channel dissemination strategies effectively strengthen the influence of picture books. Children's bilingual picture books themed on rural culture demonstrate significant educational value in cultural inheritance, language learning, and the cultivation of emotional values. However, the research has limitations, such as a small sample size, and AI technology still needs improvement in terms of artistry and accuracy. In the future, further exploration of the connotation of rural culture and the application of more advanced AI algorithms in picture book creation can be conducted to promote the inheritance of rural culture and the diversified development of children's education.

Keywords: AI technology, Rural culture, Children's bilingual picture books, Children's education.

1. INTRODUCTION

1.1 Research Background

With the in-depth development of globalization and the rapid rise of the digital economy, traditional rural culture is facing unprecedented challenges and opportunities (Wang Wei, Li Guangrong, 2023). As an important component of Chinese traditional culture, rural culture embodies rich concepts of nature, folk traditions, and life wisdom, which plays a crucial role in helping children develop correct values and cultural identity. However, the dissemination and inheritance of rural culture in children's education still encounter numerous challenges. How to integrate rural culture with modern technology to create children's picture books that are both educationally meaningful and culturally connotative has become an urgent issue to be addressed.

At present, rural culture refers to a cultural system formed over a long period in rural societies, encompassing local languages, customs, festivals, folk arts, and other cultural forms. It carries the local historical and cultural memories, serves as a continuation of traditional culture, and acts as a significant symbol of regional identity. Rural culture not only reflects the lifestyle, values, and social norms of rural societies but also embodies China's rich history, traditions, and cultural practices with profound connotations. The rapid development of AI technology has brought unprecedented opportunities for the dissemination of rural culture, while also posing certain challenges, such as the fragmentation and superficialization of cultural dissemination, and the impact of foreign cultures. These crises and difficulties make the inheritance and dissemination of rural culture among children even more arduous. Therefore, we should utilize AI technology effectively and rationally, leveraging its advantages

of efficiency, convenience, and technological innovation to create bilingual picture books with rich content and diverse forms.

1.2 Research Objectives and Significance

In the current digital era, the rapid development of AI technology has brought unprecedented changes to various fields, and the education sector is no exception. As an important educational medium, children's picture books play an indispensable role in children's cognitive development, language learning, and cultural inheritance. This study focuses on the creation of children's bilingual picture books themed on rural culture based on AI technology, aiming to explore how to present rural culture—an important part of Chinese traditional culture—to children in a vivid, interesting, and educationally meaningful manner. By systematically organizing the core elements of rural culture, such as concepts of nature, folk traditions, and life wisdom, and analyzing their potential value in children's education, this study provides rich materials and profound cultural connotations for picture book creation.

Meanwhile, the study will deeply explore various application methods of AI technology in picture book creation, including image generation, text creation, and multimodal interaction, to improve the efficiency and artistic expression of picture book creation and provide children with a more personalized and interactive reading experience. In the creation of bilingual picture books, this study will also ensure the accuracy and fluency of language expression and the precise transmission of cultural connotations, thereby promoting the organic integration of language learning and cultural inheritance.

Furthermore, this study is committed to constructing a sustainable creation and dissemination mechanism to promote the wide application of AI-based children's bilingual picture books themed on rural culture, thereby contributing to the inheritance and development of rural culture and providing new cultural impetus for rural revitalization. The inheritance of rural culture is of great significance for maintaining cultural diversity and enhancing cultural confidence. As inheritors of culture and future builders of society, children can develop correct values and cultural identity from an early age by exposing themselves to and understanding rural culture. Therefore, this study not only holds far-reaching theoretical significance for the inheritance of rural culture and the

development of children's education but also provides new practical cases and theoretical support for the application of AI technology in the cultural and creative industries, promoting innovation and development in the education sector and contributing to the implementation of the rural revitalization strategy.

2. RESEARCH METHODS

2.1 Literature Research Method

By reviewing a large number of relevant academic literatures in fields such as education, child psychology, rural culture research, and AI technology application, the previous research results are systematically organized to provide a theoretical basis and research ideas for this study. For example, Liu Dandan's (2025) research on the dilemmas and innovative development strategies of rural cultural inheritance from the perspective of the digital economy helps to gain an in-depth understanding of the importance of digital technology for rural cultural dissemination; meanwhile, by drawing on Ma Xiaotong's (2024) research on the creation of children's three-dimensional picture books combined with animation under the condition of new media technology, this study explores how AI technology can improve the efficiency and quality of picture book creation and the feasibility of enriching children's picture books. Through literature research, the research entry points and innovations can be clarified, duplicate work can be avoided, and the scientificity and prospectiveness of the research can be ensured.

2.2 Interview Method

Interviews were conducted with children of different age groups, rural culture research scholars, and children's parents to collect their opinions, suggestions, and needs regarding the creation of children's bilingual picture books themed on rural culture. Through communication with children, their understanding of rural culture and their expectations for the application of AI technology were explored; interviews with rural culture research scholars helped to obtain professional guidance on the educational value of picture books and the excavation of cultural connotations; and communication with children's parents enabled an understanding of parents' attitudes and expectations towards their children's reading of rural culture-themed picture books, as well as their acceptance of

bilingual picture books. These opinions and suggestions from different groups provide rich first-hand data for this study, making the research more in line with actual needs and enhancing its practicality and pertinence.

3. DESIGN OF PICTURE BOOK CREATION PROCESS BASED ON AI TECHNOLOGY

3.1 Formation and Division of Labor of the Creation Team

3.1.1 Establishing an Interdisciplinary Creation Team

To achieve high-quality creation of picture books based on AI technology, it is necessary to conduct interviews and consultations with children's literature writers, illustrators, AI technology experts, language education experts, rural culture researchers, and other professionals. By interviewing children's literature writers, an understanding of children's psychology and reading preferences can be gained, thereby creating attractive story content; learning professional painting techniques from illustrators to endow picture books with vivid and vivid visual presentation; consulting AI technology experts to integrate AI technology into all links of picture book creation; seeking advice from language education experts to ensure that the language expression of picture books conforms to the laws of language learning and children's cognitive level; and working with rural culture researchers to excavate rich rural cultural elements, injecting unique cultural connotations into picture books and making them more distinctive and in-depth.

3.1.2 Clarifying the Responsibilities and Division of Labor of Each Member

Due to the limited number of team members, one member is mainly responsible for the conception, creation, and revision of the story. Based on the story outline and first draft generated by AI-assisted writing tools, in-depth polishing is conducted to make it more in line with children's reading habits and language learning needs; the member responsible for illustrations uses AI image generation technology and AI style transfer technology to create picture book illustrations, and is responsible for improving the details of the illustrations and controlling the overall style; one

member is responsible for providing technical support for the team, adjusting and optimizing the AI technology application plan according to the creation needs, ensuring the stable operation of AI technology in the creation process, and reviewing and guiding the language content of the picture books to ensure the accuracy, standardization, and educational nature of the language expression. Each member has a clear responsibility and collaborates with each other to ensure the coordinated and efficient progress of the creation process.

3.2 Links and Tasks of the Creation Process

3.2.1 Topic Planning Stage

In terms of the topic selection of children's picture books, the team needs to determine key elements such as the theme, style, and target audience of the picture books. Topic selection refers to the process in which editors of publishing houses and other book publishing practitioners formulate the title, theme, and main content of the books, magazines, or articles to be published, and conduct overall planning for them (Li Haoyu et al., 2024).

With rural cultural elements and bilingual creation requirements as the core, the team conducts topic selection demonstration. Through market research, the needs and popular trends of the children's reading market are understood, and combined with the characteristics of rural culture, themes with attractiveness and educational significance are excavated. At the same time, according to the age, language level, and reading ability of the target audience, the style and language difficulty of the picture books are determined. By using methods such as brainstorming and leveraging the professional advantages of each team member, the topics are analyzed and evaluated from multiple perspectives to ensure that the selected topics are not only innovative and unique but also in line with market needs and creation requirements.

3.2.2 Text Creation Stage

In this stage, AI-assisted writing tools are used to quickly generate story outlines and first drafts. AI-assisted writing tools can automatically generate story frameworks and basic plots according to the set theme, style, target audience, and other parameters. On this basis, relevant professionals are

consulted to polish and revise the first draft. From the perspective of children, the plot structure, language expression, and emotional transmission of the story are optimized to make the story more vivid, interesting, logical, and appealing. Li Haoyu (2024) believes that children's picture books are a type of book that mainly consists of pictures and is supplemented by a small amount of simple and easy-to-understand text, mainly for children aged 0-12 to read. They can not only tell stories and impart knowledge but also help to comprehensively construct children's spiritual world and stimulate multiple intelligences.

At the same time, it is ensured that the text content conforms to the laws and needs of children's language learning, and appropriate vocabulary, sentence patterns, and grammatical knowledge are integrated to achieve the organic combination of language learning and story reading.

3.2.3 Image Drawing Stage

AI image generation technology is used to assist illustrators in creating picture book illustrations. AI image generation technology can quickly generate preliminary illustration schemes according to the text content and set style parameters, providing creative inspiration and basic materials for the team. On this basis, team members leverage their own advantages to depict and improve the details of the illustrations. Meanwhile, AI style transfer technology is used to realize the transformation and integration of different painting styles, striving to break through the limitations of traditional painting styles and create novel and unique artistic effects. Through careful design and adjustment of elements such as color, lines, and composition, the illustrations are closely combined with the text content, vividly presenting the story scenes and character images, and improving the visual appeal and artistic innovation of the picture books.

3.2.4 Editing and Typesetting Stage

AI typesetting software is used for the page design and typesetting of the picture books. AI typesetting software can automatically generate multiple typesetting schemes for selection according to the content and style characteristics of the picture books. Editors can optimize and adjust the layout of text and images according to actual needs, and reasonably arrange elements such as page margins, fonts, font sizes, and line spacing to ensure the overall aesthetics and reading comfort of

the picture books. At the same time, considering the characteristics of bilingual creation, the text typesetting of the two languages is carefully designed to ensure that they correspond to each other and are harmoniously unified on the page, facilitating readers to conduct bilingual comparison reading.

3.2.5 Proofreading and Review Stage

Multiple rounds of proofreading and review are conducted on the content of the picture books to ensure that the quality of the picture books meets the standards. In terms of text proofreading, checks are made on the correctness of spelling, grammar, punctuation, etc., and the fluency and accuracy of language expression; in terms of image review, checks are made on the clarity of illustrations, color restoration, and the matching degree with the text content; in terms of bilingual translation accuracy review, members of the team who are proficient in translation conduct word-by-word proofreading of the bilingual content.

4. EDUCATIONAL VALUE AND DISSEMINATION STRATEGIES OF CHILDREN'S BILINGUAL PICTURE BOOKS THEMED ON RURAL CULTURE

4.1 Educational Value

4.1.1 Cultural Inheritance and Identity

Children's bilingual picture books themed on rural culture can organically integrate moral education content with subject teaching content, which is an effective way to implement the fundamental educational task of "fostering virtue through education" and a reliable approach to broaden student' cultural horizons and promote the integration of diverse cultures. Rural culture-themed picture books can vividly present the natural landscapes, traditional architecture, agricultural life, and folk arts of rural areas. For example, picture books can depict the seasonal changes, harvest scenes, and traditional festivals in rural areas, allowing children to intuitively feel the richness of rural culture in a way they enjoy. This vivid presentation method is more attractive to children's attention than simple text descriptions and stimulates their interest in rural culture. Children are the reserve force for the dissemination of rural culture. Bilingual picture books provide

children with the opportunity to express rural culture in two languages. In the process of learning English or other foreign languages, children can integrate rural culture into it and introduce the characteristics of their hometown to others in an international language. For instance, they can describe rural agricultural tools and traditional handicrafts in English, which not only facilitates language learning but also enhances their sense of pride and confidence in local culture, and contributes to the dissemination of Chinese rural culture and telling Chinese stories well.

4.1.2 Language Learning and Thinking Development

Children's bilingual picture books themed on rural culture provide rich language learning resources for children. During the reading process, children can be exposed to the expression methods of two languages at the same time, and compare and learn the vocabulary, grammar, and sentence structures of the two languages. For example, picture books may describe the natural landscapes of rural areas in both Chinese and English, allowing children to better understand the differences and connections between the two languages through comparison. In addition, rural culture-themed picture books contain many word lists related to rural life, such as the names of crops, farm tools, and rural animals. These word lists are rarely used in daily life, but through reading picture books, children can accumulate a rich vocabulary. At the same time, this method is more interesting and does not burden children. Moreover, the language expression in picture books is often vivid and vivid, which can help children improve their language expression ability.

4.1.3 Emotional and Value Cultivation

Rural culture-themed picture books often contain many positive values, such as diligence, kindness, and respect for nature. Through vivid stories and pictures, these values can subtly influence children. For example, a picture book may depict a scene where a hardworking farmer reaps a harvest through hard work, allowing children to feel the value of diligence. At the same time, rural culture-themed picture books can arouse children's emotional resonance. Many children may live in cities, but through reading rural culture-themed picture books, they can feel the beauty and warmth of rural life. This emotional resonance helps to cultivate children's empathy and emotional

richness. Furthermore, rural culture-themed picture books usually depict the natural landscapes and ecological environment of rural areas, allowing children to feel the tranquility and beauty of rural areas. Through reading picture books, children can better understand the relationship between humans and nature and cultivate a sense of awe for rural areas and nature.

4.2 Dissemination Strategies of Children's Bilingual Picture Books Themed on Rural Culture

4.2.1 Multi-Channel Dissemination

4.2.1.1 Online Platforms

Social media platforms such as WeChat Official Accounts, Douyin, and Xiaohongshu are used for promotion. For example, exciting clips of picture books, story interpretations, and parent-child reading suggestions can be regularly released to attract the attention of parents and children. Through short videos, the pictures and stories of the picture books are displayed, allowing children to develop an interest in the picture books in a short time. Meanwhile, cooperation can be carried out with online reading platforms such as Ximalaya to produce the picture books into audio books or video books, facilitating children's online reading. At the same time, the recommendation systems of these platforms can be used to recommend the picture books to more potential readers.

4.2.1.2 Offline Activities

Cooperation with traditional bookstores and libraries is conducted to hold picture book sharing sessions, story-telling sessions, and other activities. Special picture book display areas are set up in bookstores or libraries to attract children and parents to come for reading experience. By holding activities, the exposure of the picture books can be increased, and a platform for interactive communication can be provided for children. The picture books can also be incorporated into the curriculum system of schools and kindergartens as teaching auxiliary materials. For example, teachers can use the picture books for teaching in the classroom, and help children better understand the content of the picture books through story-telling and discussions. Meanwhile, picture book reading activities are held in communities, inviting children and parents in the community to participate together. Cooperation can be carried out with

community neighborhood committees, and activities can be held in community activity rooms or outdoor venues. Through community activities, the picture books can be promoted to a wider group, and the cultural atmosphere of the community can be enhanced.

4.2.2 Multimedia Integration

AR technology is used to provide children with an immersive reading experience. For example, AR markers are set in the picture books, and when children scan them with mobile phones or tablets, they can see relevant animations, videos, or 3D models. For instance, by scanning a picture of a rural harvest, children can see the growth process of crops or the scene of farmers harvesting. This interactive experience can enhance children's understanding of and interest in the content of the picture books. VR picture book applications should also be developed to allow children to enter the rural world in the picture books through virtual reality devices. For example, children can experience the seasonal changes in rural areas and the lively atmosphere of traditional festivals in an immersive way. VR technology can provide children with a more realistic and shocking reading experience, stimulating their imagination and creativity.

5. CONCLUSION

AI technology significantly enhances the creative process and dissemination of bilingual rural culture picture books. AI-based tools support rapid story and image generation, improve artistic expression, and accurately extract and visualize rural cultural elements. The resulting works are both pedagogically effective and culturally rich, advancing children's bilingual learning and cultural identity formation.

This study pioneers an interdisciplinary framework integrating AI technology with rural cultural storytelling for children. It offers a digital model for cultural inheritance and creative education. As for the limitations in the paper, sample size was limited, potentially affecting generalizability. Current AI systems still face challenges in artistic sophistication and semantic accuracy. Future studies should conduct long-term evaluations and expand datasets to validate findings. Further research should explore deeper layers of rural culture, including intangible heritage and folklore, and apply advanced AI models—such as

Generative Adversarial Networks (GANs) and natural language processing—to enhance quality and creativity. By combining AI innovation with cultural authenticity, future bilingual picture books can better serve both rural revitalization and global cultural education.

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