

# Study on picture books for preschool children from the perspective of pet science—Take *Meet New Friends* as an example

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**Abstract.** With the development of society and the advancement of education concepts, more and more families use picture book reading as an event that helps education and closer parent-child relationships. For many families, pets are not only playmates of children, but also cultivate children's sense of responsibility and love. Through picture books, children can better understand the living habits and emotional needs of pets, thereby promoting their interaction and communication with pets. This paper is based on the content of the picture book based on the theme of "Pet Science" as the research theme. This paper used the questionnaire, literature analysis and retrospective as the research method. The conclusion is that there is a demand for pet science picture books in the market, but the number of picture books is small and the publicity is not strong enough. The content and design of pet science picture books are discussed, and it is concluded that concise and clear text and pictures, rich colors and interactive designs that attract the interest of preschool children are needed, and the size and material should also be considered to be suitable for children.

**Keywords:** preschool children, picture books, pet science popularization

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## 1. Introduction

The proportion of families with preschool children keeping pets is increasing nowadays. Married families with children have an increasing proportion of pet owners at different stages of their children's growth, especially in the preschool stage where families may be more inclined to keep pets to accompany their children. It is well documented that families with pets have a positive impact on children's growth. For example, children from families with pets feel less lonely. According to the literature, 12.0% of children feel lonely at home alone, 80.2% do not feel lonely, and 38.7% and 52.2% of children do not own pets; Children who keep pet dogs have a stronger desire to share. And children who keep pet dogs are more willing to take care of young children. According to the literature, 40.1% are very willing to take care of others, while 49.7% are willing. 10.2% of children are unwilling to take care of others, while 3.7%, 47.4%, and 28.9% of children do not keep pets [1]. Obviously, pets have a great impact on children's growth. Children's picture books can serve as effective tools for educating parents and children on how to interact with pets. Firstly, safety is important, and parents should be aware of and learn about the dangers that pets may bring to their children, such as scratching and biting. Therefore, appropriate preventive measures and educational methods need to be taken to ensure the safety and health of both. Secondly, parents should also be aware of the positive impact of pets on children. For example, pets can bring happiness and companionship to children, and improve their mental health. Through interaction with pets, children can learn love and responsibility, and cultivate good emotional and social skills. As a medium of dissemination, it is worth exploring and researching how to popularize pet knowledge to parents and children through picture books.

This article aims to conduct research and analysis on pet science popularization and the related needs of preschool children. This article will explore effective methods for preschool children to interact with pets through specific practical content, such as *Meeting New Friends*, and how these methods can be demonstrated through picture books. The specific research methods of this paper include literature analysis and review, and questionnaire survey. This paper will analyze the theoretical basis of pet science popularization and study the needs of preschool children; Through a questionnaire survey, this study will collect public opinions and experiences on using picture books to educate preschool children about pets; Through picture book practice, present the conclusions drawn from the research.

The significance of this study is to use picture books to help preschool children learn how to properly interact with pets, and to stimulate children's empathy and curiosity. This study can cultivate preschool children's cognition of pet appearance and color in terms of color and drawing. For parents, using picture books as a tool that is easy for preschool children to understand can

promote communication between parents and preschool children, and bring parent-child relationships closer. In the future, researchers who focus on pet science popularization for preschool children can also refer to the relevant research in this article using picture books as an example.

## 2. The theory of pet science popularization and its research on preschool children

### 2.1. Theory of pet science popularization

The author searched for "pet science popularization" on CNKI and Wanfang, and also searched for "Pet Science Popularization" on Web of Science. The existing literature can be roughly divided into pet disease prevention and control, and pet domestication methods.

In research related to pet disease prevention and control, researchers believe that the first step is to clarify the direction of science popularization for families raising different types of pets. Secondly, it should be targeted and focus on introducing common diseases. The most important thing is that the form is concise, and the focus of science popularization should be on providing a concise introduction to the symptoms, causes, diagnosis, and treatment of pets after they become ill.

In the research on pet domestication methods, researchers have proposed that pet domestication needs to follow its basic principles: psychological principles, motivational principles, behavioral controllability principles, gradual training principles, and reasonable nutrition principles [2-3].

### 2.2. Research on pet science popularization for preschool children

#### 2.2.1. Pet science popularization needs for preschool children

This study conducted a questionnaire survey to gain a deeper understanding of parents' attention, needs, and educational significance towards picture books related to "pet science popularization" for preschool children. Researchers hope to reveal the needs of parents of preschool children when choosing picture books, as well as their views on pet science education. The target audience of this questionnaire is parents with preschool children, as shown in Table 1. The expansion of the problem revolves around children's preferences and parents' choices. A total of 109 valid samples were obtained. The data extraction, processing, and analysis tool is Wenjuanxing.

**Table 1.** Display of questionnaire questions

1. Does your child enjoy reading picture books?	Yes No
2. What types of picture books do you usually choose for your children?	Fairy tales Adventures Science popularization Animals Others:
3. Is your child interested in pets?	Yes No
4. Do you guide and educate children to interact with pets in their daily lives?	Yes No
5. How do you think your child understands pets?	Very well A little Completely unfamiliar
6. What do you think is the educational significance of pet science popularization picture books for children?	Important Average Unimportant
7. Would you be willing to pay for pet science popularization picture books?	Yes No
8. What are your expectations and suggestions for pet science popularization picture books?	

According to the survey results, most parents believe that pet science popularization picture books are of great significance in their children's education and are willing to pay for them. This indicates a strong demand for pet science popularization picture books in the market, and also reflects that parents hope to use picture books to let their children understand pets and how they interact with them.

Firstly, 98.15% of the surveyed children enjoy reading picture books. Among them, science popularization picture books account for 69.44%. This indicates that popular science picture books have a wide audience. And 90.74% of preschool children showed an interest in pets, while 80.56% of respondents indicated that they would guide and educate children to interact with pets in their daily lives. However, 67.59% of parents believe that their children have little knowledge about pets, 28.7% of parents believe that their children have a good understanding of pets, and only 3.7% of respondents say they have "no knowledge at all" about pets. This proves that most parents have educational awareness but have not achieved ideal results. And 62.04% of the respondents believe that pet science popularization picture books have important educational significance for children, 37.04% of the respondents think it is "average", and only 0.93% of the respondents choose "unimportant". This indicates that most people have a positive attitude towards the role of pet science popularization picture books in preschool education, and pet science popularization picture books are in line with market demand. In the results of market related issues, 78.7% of respondents expressed willingness to pay for pet science popularization picture books, while 21.3% of respondents were unwilling to pay. This indicates that the theme has a high acceptance and potential consumption willingness in the market.

According to the survey results, the following conclusion can be drawn: most respondents would choose science popularization picture books. Picture books are attractive to preschool children. And most preschool children are interested in pets. Most parents also provide guidance and education, but a significant proportion of respondents believe that they have insufficient knowledge about pets. The educational significance of pet science popularization picture books has been affirmed by most respondents, and they are willing to pay for picture books on their themes. In summary, pet science popularization picture books have wide recognition and demand among parents and children, and are not only worthy of further research but also need to be developed and promoted.

### 2.2.2. Research on designing picture books for preschool children

For picture books with the theme of "Pet Science Popularization", parents' expectations and suggestions mainly focus on increasing interest, being close to life, paying attention to children's preferences, including scientific knowledge, and having educational significance. At the same time, they also mention content such as pets' habits, personality traits, behavioral habits, and hope that picture books can be presented in an anthropomorphic way and interpreted from different perspectives to convey positive values.

Researchers searched for "popular science picture books" and "children's picture book design" as keywords on CNKI and Wanfang. The existing literature can be roughly divided into: the current situation of popular science picture books, and the design and creation of popular science picture books.

In the study of the current situation of science popularization picture books, it can be found that the proportion of science popularization is seriously insufficient. Researchers have found that cultural traditions and moral education picture books dominate the original children's picture book market in China, while the proportion of popular science knowledge and teaching aids picture books is relatively small [4].

In the research on the design and creation of popular science picture books, researchers point out that the following aspects should be considered when designing picture books: designers should pay attention to content selection. To fit the cognitive level of children, choose simple and easy-to-understand content. Add vivid and interesting characters while making the scene more lifelike. Designers should also pay attention to formal design, with a concise page layout and clear emphasis on key points. At the same time, emotional guidance, durable materials, and appropriate sizes are also key. Emotional guidance can enhance children's understanding and memory of knowledge, materials can avoid children's destruction, and appropriate sizes can facilitate the presentation of content in children's eyes [5].

## 3. Practice of preschool children's picture books from the perspective of pet science popularization—Taking *Meet New Friends* as an example

This paper mainly explores the issue of pet science popularization of picture books for preschool children. The following text will take *Meet New Friend* as an example to focus on how to design the plot, set roles, and demonstrate the practical application of pet science popularization picture books.

### 3.1. Design concept

*Meet New Friends* achieves the educational goal of pet science popularization through storytelling, helping preschool children understand the lifestyle of pets and ways to interact with them. It also helps to stimulate children's curiosity about pets, enlighten their exploration of life, and cultivate their sense of responsibility and love.

### 3.2. Character design



**Figure 1.** Character design diagram for the character "Bella"

As shown in Figure 1, this is Bella's character design draft and finished product, showing front and side sitting postures, as well as a dynamic image. A young teddy dog named Bella, with brown curly fur and black eyes, appears in the story as a good friend of the "little friend".

### 3.3. Story design

The story design of *Meet New Friends* is also very clear and complete. It tells the story of a child's parents bringing back a little dog named Bella. As a new friend, Bella will tell the child what things to do and what things can harm herself or the child during their interactions. For example, when children become curious and want to touch, Bella will tell them "You can gently stroke my head" and "My fur is very soft, don't pull hard". In the picture book, she will use simulation materials in the purple marked areas to imitate dog fur and toys, allowing children to feel and learn through touch (see Figure 2).

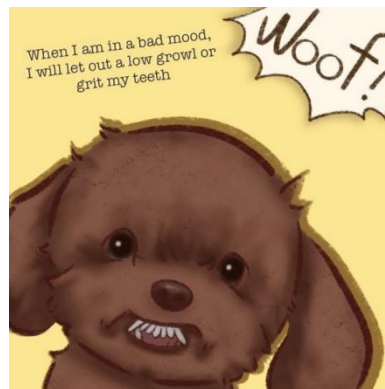


**Figure 2.** *Meet New Friends* story board

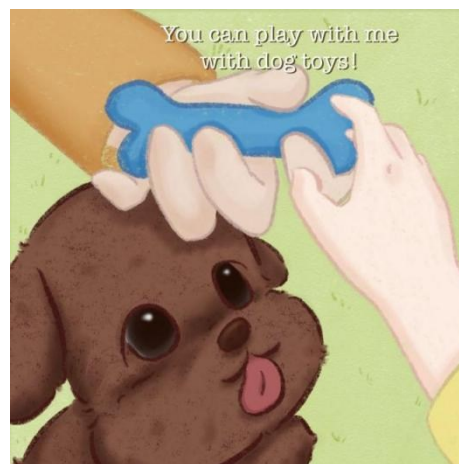
### 3.4. Picture book display



**Figure 3.** Bella's First talk with the Child



**Figure 4.** Bella's scene explaining her anger to the child



**Figure 5.** Bella tells children how to play

As shown in Figure 2, this storyboard displays the specific content of each image, presenting the story of a child and Bella from getting to know each other to learning how to get along.

As shown in Figure 3, this picture shows a child hearing Bella's invitation to play together.

As shown in Figure 4, this picture shows Bella's behavior when telling her child that it is angry.

As shown in Figure 5, this picture shows Bella teaches children how to use dog toys.

Picture book stories consist of simple visual elements and textual introductions, making them easy for children to read and understand. The color composition is rich and vivid, and the characters are drawn using cute cartoon images, which can arouse children's interest in reading.

#### 4. Conclusion

This study explored the role of pet science popularization picture books in promoting children's cognitive development and emotional cultivation through questionnaire surveys and literature review. Research has found that vivid pictures and concise text can effectively enhance children's understanding of pets. Through the storyline, preschool children can not only learn interactive methods and pet knowledge, but also cultivate empathy and have a positive effect on positive emotions. In addition, the study also found that parental involvement is crucial in the selection of picture books and is a key factor in improving science education. This paper did not conduct in-depth research on specific issues related to different preschool children, and only explored them from a public perspective.

This study can provide a reference for pet science popularization to preschool children's picture book creators. It is hoped that more libraries and educational institutions can increase the number of pet science popularization picture books and hold related themed activities. Parents can actively participate in their children's reading process and deepen their understanding of pet knowledge through discussions.

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