



The Interpersonal Meaning Analysis of Children's Language-Learning-Focused Picture Books: From a Multimodal Discourse Analysis Perspective

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Abstract

Children's picture books are typical combinations of image modality and text modality. Reading well-illustrated picture books will help to develop children's early literacy skills, which will in turn impact their subsequent academic development and socialization. From the perspective of multimodal discourse analysis and based on the Systemic Functional Grammar and Visual Narrative Theory, the study took the language-learning-focused picture book set level 4 of Oxford Reading Tree as an example and analyzed how interpersonal meanings are constructed in it. Through the analysis of mood, modality, and person systems in the verbal mode, focalization, pathos, and ambience in the visual mode, and the two relations of elaboration and extension between pictures and words, the study deciphers the ways of constructing pictorial-text relations in picture books and provides insightful implications for parents and teachers to do picture book reading with children effectively while improving their language skills and especially the narrative macrostructure.

Subject Areas

Linguistics

Keywords

Multimodal Discourse Analysis, Interpersonal Meaning, Picture Books, Oxford Reading Tree

1. Introduction

As an excellent combination of image mode and text mode, picture books are very attractive to children because of their colorfulness, easy-to-understand lan-

guage, and rhythmic nature. It has been shown that picture book reading is effective in improving children's early oral expression [1], vocabulary [2], mathematical skills [3] [4], and social, emotional and cognitive mechanisms [5] [6]. Therefore, choosing good picture books for children can better help them develop reading habits, improve their language skills, and lay a foundation for future academic development and socialization.

The Oxford Reading Tree is a set of graded reading materials created specifically for English language learners to improve their language skills and develop their interest in reading. Each leveled book is written with limited vocabulary and grammar to ensure that the language is at the exact level of difficulty required. Many scholars have used this series of books as materials for critical discourse analysis [7], or as multimedia software to supplement instruction in providing early reading interventions for children [8]. Level 4 is for children of five who are about to face the entrance to elementary school. The ability to read, as a basic language skill, plays a crucial and fundamental role in subsequent academic development [9]. It is essential to build a good foundation of reading comprehension in the preschool years for school readiness [10]. Children at the age of five can already understand and tell the storyline [11]. By reading the picture stories in this series, which are closely related to daily life, children can effectively expand their vocabulary, learn basic sentence patterns, and grow in life experience.

This paper tried to analyze the graphic and textual modalities of this series of language-learning-oriented picture books in Oxford Reading Tree Level 4 based on systemic functional grammar and visual narrative theory. Theoretically, it expanded the research object in the field of multimodal discourse analysis as the materials are picture books aimed at language learning. Practically, it helped parents and teachers to deepen their understanding of the interactive role of graphic-textual relations by exploring the construction of interpersonal meanings in picture books, so as to better assist their children to read effectively and improve narrative ability.

Based on the background and purpose of the study, the following research questions are posed:

- 1) How does this series of picture books construct interpersonal meaning in the verbal mode?
- 2) How does this series of picture books construct interpersonal meaning in the visual mode?
- 3) What are the interactions between verbal and visual modes that allow the two to work together to construct interpersonal meaning in this series of picture books?

2. Literature Review

2.1. Multimodal Discourse Analysis of Interpersonal Meaning and Children's Picture Books

Existing studies focused on how multimodal elements in discourse foster inter-

personal relations between the text and readers, thus viewing the meaning of the text communication as interaction [12], which has extensive work in the area of language acquisition [13] [14] and social communication [15] [16]. Guided by metafunctions of Systemic Functional Linguistics, many studies did holistic analyses of multimodal discourse samples in terms of ideational meaning, interpersonal meaning, and textual meaning [17] [18]. There is a wealth of research on the interpersonal meaning of discourse in a variety of domains, including academic discourse, textbooks, social media discourse, courtroom trials, and so on [19] [20].

For the multimodal discourse research on children's picture books, researchers have focused on the interpretation of single picture books [21], or comparative analysis of multiple picture books with the same theme, such as gender stereotype [22], emotions [23], and history [24]. The relationship between text and image modalities has been demonstrated [25]. It is also noteworthy that the heat of an emerging topic of visual metaphors in picture books has been rising in recent years. Moya-Guijarro (2021) [26] used picture books with male protagonists as material, he analyzes how metaphors shape the qualities of the characters and have an impact on readers' perceptions.

Multimodal discourse analysis of picture books has not only theoretical value but more importantly, significant educational implications. The multimodal interpretation of picture books has been incorporated into the curriculum standards of primary and secondary schools or become an important medium in classroom teaching and an effective way to improve literacy skills [27]. In multimodal discourse analysis studies of the interpersonal meaning of children's picture books, scholars have focused on how the pictures and texts interact with each other and convey the themes that the picture books want to express [21]. Or how the pictures and words establish a connection with the readers, so that the readers, especially children readers, feel involved [28].

However, whether the multimodal expression of language-enlightening picture books for language teaching and learning has its unique characteristics and whether it can play a greater role in enhancing children's language skills and inspiring subsequent academic and character development of children has not been addressed in the existing literature. This study tries to explore how pictures and texts in picture books construct interpersonal meanings from a multimodal perspective, taking the example of language-beginning graded reading picture books compiled for language learning, to enable teachers and parents to have a deeper understanding of the pattern of graphic-textual meaning construction in picture books, and to help children comprehend the content of the stories, improve their language skills, and master their social communication skills more efficiently in the process of guiding and reading with them.

2.2. Picture Books and Children's Narrative Ability

Narrative ability can be described in macrostructure and microstructure, which

means the structure of the whole story and the specific words and sentences within the story, respectively. Macrostructure elements include characters, plot setting, initiating events, development of the plot, actions, consequences, and so on [29]. Microstructure focuses on linguistic form and content measured within individual utterances [30]. Narrative ability is considered a key dimension of children's kindergarten readiness skills and is highlighted in readiness assessments at the preschool level [31]. The development of children's narrative skills, particularly the development of narrative macrostructures, contributes to their cognitive and behavioral skills, their social skills, and their academic performance.

Children's narrative skills are influenced by external influences from home [32], teachers [33], and peers [34] in addition to individual subjective factors such as spelling, writing skills [35], vocabulary, grammar, phonological awareness [36], and game experiences [37]. The language environment in which a child is located, the phonological exposure available to the child, and the quality of the language to which the child is exposed all have an impact on the child's narrative ability.

Children's early reading enlightenment is tied to their narrative skills. Therefore, it is necessary to choose a picture book that is suitable for children, whose illustrations and texts build up harmonious interpersonal meanings, and which serves as a language initiator. Wordless picture books are usually used as materials for narrative intervention and narrative assessment [38]. This is because it gives the child ample room for imagination and is not limited by the words in the picture book. Intervention methods such as repeated narrative retellings, focused stimulation, vertical structuring, and incidental teaching are frequently used to promote the development of children's narrative macrostructure and microstructure [39].

In reality, children are more likely to have access to picture books that are illustrated through texts and pictures in their daily lives. The colorful pictures are paired with concise, easy-to-understand text, which parents or teachers usually read orally with their children as well [40]. This multimodal presentation is very helpful for children's early acquisition of language and improvement of reading skills, especially narrative macrostructure. Therefore, how graphic relationships are constructed in children's picture books, especially those designed for language initiation, and how the interpersonal meanings embodied in the picture books promote children's language skills, especially narrative skills, are worth exploring, which is exactly what this study does.

3. Research Methods

This paper conducted a multimodal discourse analysis of the visual and verbal modes of the seven stories in the fourth level of the Oxford Reading Tree. Systemic functional multimodal discourse analysis is one of the most important theoretical approaches in the field of discourse analysis research. Halliday's Sys-

temic Functional Grammar is a linguistic theory with a functional view that sees language as a means of meaningful activities and doing things between people in a society, and that it necessarily reflects the relationships between people. Therefore, it is very suitable for linguistic text analysis based on this theory. At the level of verbal mode, this paper analysed three subsystems of the interpersonal function, one of the language metafunctions, namely the mood, modality and person systems, based on the classification of language metafunctions by Systemic Functional Grammar. At the level of visual mode, this paper analysed three subsystems of the Visual Narrative Image Analysis proposed by Painter *et al.* (2013) [41] and Van Leeuwen (2005)[42], which is a novel theory of multimodal discourse analysis based on an extension of the theory of Systemic Functional Grammar.

The text and pictures are rich and varied in type, making them suitable for multimodal analysis. Multimodal analysis discusses the representational, interactive and textual meanings achieved by different modes and addresses how they work together to create a unified text [43]. Seven stories were randomly selected to represent the difficulty and style of the Level 4 materials. The seven stories were titled *The Flying Elephant*, *The Scarf*, *Stuck in the Mud*, *The Den*, *Look Smart*, *Tug of War*, and *An Important Case*. There were 219 English sentences in the seven stories. There were 85 drawings including the cover picture. Quantitative methods were used to show the frequency of each kind of sub-system and how the several systems construct interpersonal meaning, and typical examples were given for further interpretation.

4. Results and Discussion

4.1. Interpersonal Meaning of Verbal Mode

In the field of Systemic Functional Linguistics, language has three meta-functions: the ideational function, the interpersonal function, and the textual function. The interpersonal function means that language has the function of expressing the speaker's identity, status, attitude motives, and inferences. The interpersonal meaning can be realized through mood, modality, and personal systems.

The mood is composed of the Subject and the Finite. The combination of subject and finite can realize different mood structures, such as declarative, interrogative, imperative, and exclamatory moods. As can be seen in **Table 1**, the largest number of sentences with a declarative mood is found in the picture books. Of the 219 sentences in these seven stories, there are 167 sentences in the declarative mood. This reflects the fact that the most basic function that picture books can fulfill is narrative. The sentence structure of declarative sentences is the earliest form that children are exposed to in the process of learning English, so the use of a large number of simple declarative sentences can clearly tell the storyline in a way that is accessible and easy for children to understand.

The second most numerous mood structure is the imperative mood, which accounted for 11.87% of the total number of sentences. The most common

Table 1. The distribution of mood structures in the sentences of the picture books.

Mood Structure	Number of Sentences	Frequency of Total Sentences
Declarative mood	167	76.26%
Interrogative mood	10	4.57%
Imperative mood	26	11.87%
Exclamatory mood	16	7.30%

imperative sentences in this series of picture books express a commanding tone. For example, in the story *Look Smart*, the mom buys her children new clothes specially bought for a party. The imperative “Put it on.” and “Put on this shirt.” is used several times in the picture book to convey that the mother is forcing the children to wear new clothes in order to look smart at the party. Imperative sentences are short and strong, reflecting both the urgency and the majesty of the speaker. For children, they may often hear their parents or teachers use imperative sentences to tell, advise, forbid, request, or order them to do something in their daily lives. Therefore, the use of imperative sentences in picture books gives children a sense of immersion and thus a better understanding of the story.

The mood structures used in smaller numbers in this series of picture books are exclamations and interrogatives. In Level 4, all the exclamatory sentences that appear are led by “what”, such as “What a long scarf!”, “What a cold day!” and “What a muddy path!”. Exclamatory sentences express strong feelings in short words. Reading exclamatory sentences with emotion allows children to visualize the strong emotions expressed by the characters in picture books. At the same time, using the same exclamatory sentence pattern in different story situations can help children learn by example so that they can take the initiative to try to apply it in their spoken life and turn the knowledge in books into their speaking ability. Interrogative sentences in picture books are few, and most of them serve to move the storyline forward. For example, in the story *Stuck in the Mud*, the interrogative “What is that?” is used several times, allowing children to follow the story step by step as the main character discovers what is screaming in the distance.

Modality means the request or the judgment of the speaker. According to Halliday (1994) [44], the value system can be categorized into three levels, *i.e.* high, medium, and low. In this series of picture books, however, only low modality values appear. For example, “couldn’t” in “He couldn’t open it.”, “Wilf couldn’t get the ball.”, etc. belong to a low degree of modality. This reflects the fact that modal verbs are still among the difficult elements for children around the age of five to master. This arrangement is in line with the developmental pattern of children’s language acquisition.

The person system refers to the use of different person pronouns in the language of picture books to narrate. The use of person pronouns is shown in **Table 2.**

Table 2. The distribution of person pronouns in the sentences of the picture books.

Person Pronoun	Number of Sentences	Frequency of Total Sentences
First person	24	25%
Second person	1	1.04%
Third person	71	73.96%

As can be seen from **Table 2**, the third person (73.96%) is used most frequently in this series of picture books, followed by the first person (25%), and the second person is used least frequently (1.04%). This reflects the important function of picture books to narrate and educate children. Third-person narration is more objective and impartial, introducing readers to what happens to the various characters in stories as a bystander. First- and second-person narratives in picture books are mainly found in direct quotes from the characters in the books. The characters convey their thoughts to each other in the form of dialogues, which makes children feel like they are in the real world, brings the distance between the picture book and children closer, and enhances children's interest in reading.

In conclusion, in terms of the verbal mode, children can learn micro-level language knowledge such as vocabulary and sentence patterns through the text in picture books [45], and they can also learn discourse expressions and have a macro-structural grasp of the story content. The different mood structures help children to understand the emotional state of the characters as they express themselves in the story. Different personal pronouns to help children understand character relationships in the story. The relationship between characters reflected in the text can also enhance children's pragmatic or communication skills.

After understanding the construction of these interpersonal meanings in the text, parents or teachers can consciously guide children to imitate the different mood structures and person pronouns of the sentences in the picture book and reproduce the plot of the picture book in a lively and interesting role-play. This can make children both interested in reading and practicing oral narrative skills.

4.2. Interpersonal Meaning of Visual Mode

Under the influence of Systemic Functional Linguistics, the book *Reading Image* [46] provides a powerful theoretical tool for the systematic interpretation of meaning construction in graphic discourse [47]. With the continuous deepening of multimodal research, many scholars have found that the theoretical framework has many shortcomings. Painter *et al.* (2013) [41] accomplished the work of *Reading Visual Narratives* to propose the theory of visual narrative image analysis. We can analyze the interpersonal meaning of visual mode in terms of three systems: focalization, pathos, and ambience.

4.2.1. Focalization

Contact and observation are realized by eye contact. They also distinguished between mediated and unmediated images. The former means that the reader reads through the perspective of the character in the image, while the latter means that the reader's perspective does not coincide with that of the character in the image.

As can be seen from **Table 3**, the largest number of pictures belong to [observation unmediated] (55.3%), which is the most widely used focalization system in picture book pictures. It indicates that in this series of picture books, readers look at more than half of the pictures from an objective perspective as a spectator, as opposed to the perspective of the characters in the book.

The [direct contact unmediated] ranks second in the distribution (29.41%). This means that the represented participants stare at the reader and make direct eye contact with him. Using this point of view in a picture book can make the characters in the book more vivid, as if they are talking directly to the reader, bringing the picture book closer to the reader. For example, **Figure 1** and **Figure 2** are both [direct contact unmediated] pictures. In **Figure 1**, the boy on the ice makes direct eye contact with the reader and shows the reader his skating skills. In **Figure 2**, the ice breaks up and the boy dancing on the ice accidentally falls into the water, and his eyes look directly at the reader as if he is asking for help. This makes it easy for child readers to substitute into the storyline and their emotions fluctuate as the storyline develops.



Figure 1. A direct contact unmediated picture from *The Scarf*.

Table 3. The distribution of focalization in the pictures of the picture books.

Type	Number of Pictures	Frequency of Total Pictures
Direct contact unmediated	25	29.41%
Invited contact unmediated	2	2.35%
Observe unmediated	47	55.30%
Observe mediated	11	12.94%

The [observe mediated] covers 12.94%. This means that the reader is in the same point of view as the character in the book. The reader seems to be able to see the scene in front of him or her through the eyes of the character in the book. As shown in **Figure 3**, the reader and the book characters are looking at the sheep in the distance together. They are curiously observing what is happening to the sheep together.

The [invite contact unmediated] is the least choice in the picture books, which covers 2.35%. This means that the character in the book makes eye contact with the reader from the side as if inviting the reader to look toward where he is looking. As shown in **Figure 4**, multiple characters on the left share a look at the car on the right, and the characters have at least half of their faces locked with the reader, suggesting that the reader also notices the car on the right. As shown in **Figure 5**, the two characters on the left are looking sideways to the right, imploring the reader to look to the right where the water pipe suddenly explodes and splashes the children.



Figure 2. A direct contact unmediated picture from *The Scarf*.

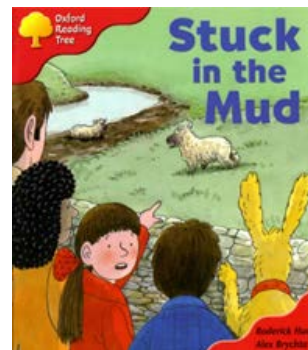


Figure 3. An observed mediated picture from *Stuck in the Mud*.



Figure 4. An invite unmediated picture from *An Important Case*.



Figure 5. An invite unmediated picture from *Everyone Got Wet*.

4.2.2. Pathos

Pathos refers to the drawing style of pictures. It can be categorized into three styles. Minimalist style is when the characters in a picture book are represented by dots and lines. Generic style is where details are added to the minimalist style. Naturalistic style means that the characters are portrayed just like the real ones. The drawing style of the picture book in this study belongs to the generic style. The illustrator replaces the five senses of the characters with simple lines, but different characters have their own unique image features, such as different hairstyles, skin colors, and clothes. Such a drawing style is cartoonish and helps child readers to distinguish between different characters, and better understand the storyline.

4.2.3. Ambience

Ambience refers to the way picture books express feelings through the use of different types of colors. According to how saturated the colors are, they can be classified as [vibrant] and [muted]. The distribution of different types of ambience is shown in **Table 4**. More than 70% of the pictures in the picture books of this study belong to [vibrant] with high color saturation. As shown in **Figure 6**, the mother drove her children to the supermarket for shopping, the characters in the picture wore different colors of clothes, and there were cars parked in front of the supermarket, such as red and blue, which expressed the children's joyful mood of shopping through the vibrant colors. Also, nearly 30% of the pictures in the picture book are less saturated and are [muted]. **Figure 7** shows an elephant balloon being blown into the air during a violent storm. Most of the pictures use less saturated gray, reflecting the gloomy weather and suggesting the children's sadness at not being able to go out to play because of the heavy rain.

According to the warm and cold color of the picture, it can be divided into two categories, [warm] and [cool]. The number of warm and cool color pictures in this series of picture books is basically 50/50. The choice of colors is related to the theme of the story. As shown in **Figure 8**, the story is about a character who makes a very long scarf. The scarf makes the cold winter day warm, so the illustrator uses large areas of warm colors such as yellow to convey that wearing a scarf makes people feel warm. As shown in **Figure 9**, the story is about children who build a den in the woods. The illustrator uses a large area of green, a cool color, to point out the place where the story takes place.



Figure 6. A vibrant picture from *The Flying Elephant*.

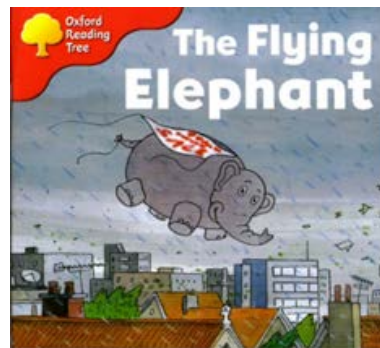


Figure 7. A muted picture from *The Flying Elephant*.

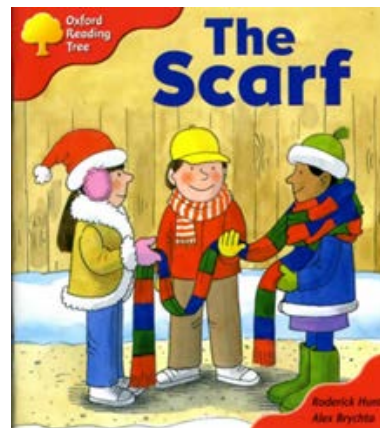


Figure 8. A warm picture from *The Scarf*.

Table 4. The Distribution of ambience in the pictures of the picture books.

Type		Number of Pictures	Frequency of Total Pictures
Vibrancy	Vibrant	60	70.59%
	Muted	25	29.41%
Warmth	Warm	40	47.06%
	Cool	45	52.94%
Familiarity	Familiar	76	89.41%
	Removed	9	10.59%

Based on the color differences in the pictures, they can be classified as [familiar] and [removed]. The strong difference in color has a huge impact and highlights what the story wants the reader to focus on. **Figure 10** belongs to [familiar], with a strong color difference. The background color of the picture is green grass, and the case held in the character's hand is red as opposed to green. The large color difference between the two highlights the theme of the story, that the children have found a case that looks important. **Figure 11** belongs to [removed] and has a small color difference. The colors of the bushes and grass almost blend together, reflecting the fact that Kipper had a hard time burrowing into the grass to find the football.

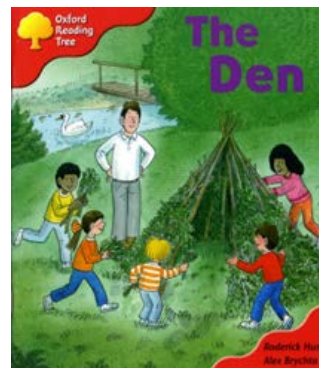


Figure 9. A cool picture from *The Den*.



Figure 10. A familiar picture from *An Important Case*.



Figure 11. A removed picture from *An Important Case*.

In short, in the visual mode, the colors of the pictures will give children different emotional experiences and allow them to understand the background atmosphere in which the story takes place. As the children read, they surmise the relationships of the characters through the pictures, and the shifting perspectives of the characters in the pictures interact with the child and contribute to their understanding of the text. This enlightens parents and teachers that when guiding children to read picture books, they can guide them to infer the emotions of the characters through the colors of the pictures and appreciate the background of the story. Children can also be trained to look at pictures and speak, so that they can describe what is happening in the pictures according to what they see, thus honing their oral narrative skills.

4.3. Interaction between Verbal Mode and Visual Mode

Picture books' images and texts are complementary and closely linked. This essay used the framework for the relations between image and text. There were two relations between image and text: elaboration and extension.

As can be seen from **Table 5**, elaboration has a larger share than extension. Specification and explanation are two subtypes of elaboration. Specification means that the picture makes the text more specific, or the text makes the picture more specific. As shown in **Figure 12**, Biff, the girl on the far left of the picture, is holding some logs in her hands. The text, in addition to describing the picture objectively, further specifies it by explaining that Biff is holding these logs so that everyone can sit in the den. Explanation is similar to paraphrase in that the picture and the text express essentially the same meaning. For example, in **Figure 13**, the picture shows Biff and Chip running, and they are wearing thick clothes and hats. The text explains that they are out playing and it is cold. The picture and the text convey the same meaning.

Extension means adding new information. Similarity, contrast, and complement are three subtypes of extension. Similarity means that the picture and the text express similar content. As in **Figure 14**, the text expresses the idea that it has been raining. The picture expresses that it was raining the children were rushing home and someone's hat was blown into the air by the gale. The picture expresses more information than the text, but both express very similar meanings, meaning that it rains heavily. **Figure 15** belongs to the [complement]. Children are smiling and looking at an elephant. The text adds a new message expressing how much the children love the elephant and want it to stay in school. This is information that cannot be conveyed by the picture and is added through the text. [Contrast] has the smallest percentage. It implies that the picture expresses the opposite meaning of the text. In **Figure 16**, the picture shows the mom looking down at the bag instead of looking up at the elephant. The mom does not believe the children's words that there is an elephant on the roof of the supermarket and thinks the children are "silly". In fact, the children are not lying and it is the mom herself who is really "silly".



Figure 12. An example of a specification from *The Den*.



Figure 13. An example of an explanation from *The Scarf*.



Figure 14. An example of an extension from *The Flying Elephant*.

Table 5. The Distribution of relations between image and text.

	Type	Number	Frequency
Elaboration	Specification	31	36.47%
	Explanation	20	23.53%
Extension	Similarity	4	4.71%
	Complement	29	34.12%
	Contrast	1	1.17%



The children liked the fat elephant. They wanted it to stay.

Figure 15. An example of a compliment from *The Flying Elephant*.



"An elephant?" said Mum. "Don't be silly."

Figure 16. An example of a contrast from *The Flying Elephant*.

By understanding the interaction between pictures and text in picture books, parents and teachers can set up questions for children to answer as they guide them through the process of reading, so that they can find out which things appear in the pictures but not in the text, and which things appear in the text but cannot be directly observed in the pictures. This will not only exercise the child's observation skills and imagination, but also deepen the child's understanding of the meaning of the vocabulary.

5. Conclusions

The verbal mode and the visual mode build interpersonal meaning at Level 4 of the Oxford Reading Tree, respectively. At the same time, pictures and texts interact with each other and together enrich and refine the interpersonal meaning of the picture book. The understanding of the relationship between pictures and texts can provide parents and teachers with more effective reading instruction for their children and help them improve their language skills.

In verbal mode, the declarative mood is the most common mood structure in picture books, reflecting the function of picture book narratives. At the same time, there are also some imperative, exclamatory, and interrogative mood structures in picture books, which make the picture book narrative more vivid and interesting. This series of picture books has fewer sentences involving modality due to the younger age of the audience, and all of them have a low degree of modality value. In terms of the person system, picture books mainly use third-person narration, supplemented by a few first- and second-person narration. This reflects the objective educational function of picture books.

In the visual mode, multiple focus modes coexist, providing a rich perspective for reading the story, with more than half of the number of [observe unmediated] modes. The drawing style of the picture books is generic style, which can help children quickly recognize different character images. The picture books are characterized by high color saturation and large color differences, which are in line with children's aesthetics. The use of cold and warm colors in picture books is more balanced, reflecting the theme or background of the corresponding story.

As for the relationship between pictures and text in picture books, more than half of the picture-text relationships are shown as elaboration. In the subcategory of extension, similarity, and complement are relatively high in number and contrast is very low. This reflects that pictures and text in picture books are interpreting or supplementing each other and that one is indispensable to the other.

The analysis of the interpersonal meaning construction of the Oxford Reading Tree Level 4 picture books from a multimodal perspective can better help parents and teachers lead their children to make fuller use of this excellent set of picture book resources. This enables children to improve their language skills in the fun-filled reading of picture books, laying a solid foundation for later academic and personality development.

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Conflicts of Interest

The authors declare no conflicts of interest.

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