

# *Literature Study on the Impact of Interactive Parent-Child Shared Reading on Preschool Children's Vocabulary Development*

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**Abstract.** This study systematically reviews empirical literature from 2014 to 2024 on interactive parent-child shared reading and vocabulary development in preschool children, both domestically and internationally, employing a combination of quantitative and qualitative analysis to explore the mechanisms through which such reading influences vocabulary acquisition among children aged 3–6. The findings indicate a significantly positive correlation between interaction frequency and vocabulary development (effect size  $d = 0.82$ ). Among various interaction strategies, open-ended questions were shown to increase new vocabulary acquisition by 12%–18%, and the "questioning + role-playing" model resulted in significantly higher vocabulary retention compared to silent shared reading. From a linguistic perspective, interaction mechanisms such as "scaffolded input" and "comprehensible output" align with Vygotsky's Sociocultural Theory and Krashen's Input Hypothesis. By integrating age-specific interaction strategies, this study offers a theoretical foundation and practical guidance for family-based vocabulary education.

**Keywords:** Interactive Parent-Child Shared Reading, Preschool Children, Vocabulary Development, Literature Study, Linguistic Theories

## 1. Introduction

### 1.1. Research question raised

Early childhood (3-6 years old) is a critical period for children's language development. As a core element of language ability, vocabulary accumulation directly affects their subsequent reading comprehension, logical thinking, and academic performance [1]. Parent-child shared reading is a major way of family language input, and the quality of such reading has been widely proven to influence the efficiency of vocabulary acquisition. However, there are still obvious problems in practice.

The 2023's Survey on the Current Situation of Chinese Family Parent-Child Reading shows that more than 60% of parents adopt the "one-way reading aloud" mode of silent shared reading, and only 15% take the initiative to guide children to participate through interactive methods such as questioning and discussion [2].

Existing studies have two limitations: First, most focus on the macro conclusion of "whether shared reading is effective" and lack systematic integration of detailed issues such as "which interaction strategy is more effective" and "what are the effect differences between different frequencies". Second, the explanation of the linguistic mechanism by which interaction promotes vocabulary development is insufficient, and it fails to fully combine language acquisition theories to reveal the underlying logic. Therefore, by sorting out the literature of the past decade, this study aims to fill the above gaps and provide accurate guidance for family practice.

## 1.2. Research objectives

- Systematically sort out domestic and foreign literature from 2014 to 2024, and clarify the impact of interactive parent-child shared reading (frequency, methods) on preschool children's vocabulary development (vocabulary size, vocabulary depth, retention rate);
  - Based on linguistic frameworks such as the Sociocultural Theory and the Input Hypothesis, analyze the internal mechanism by which interactive shared reading promotes vocabulary acquisition;
  - Integrate effective interaction strategies for different age groups (3-4 years old, 4-5 years old) and propose practical family practice plans.

## 1.3. Comprehensive version

**Research Significance** By conducting a meta-analysis of the literature, this study constructs a correlation model of "interaction strategy - vocabulary development - linguistic mechanism", enriches the localized research on children's language acquisition theories, and verifies the applicability of the Sociocultural Theory in early vocabulary education.

At the same time, it extracts age-specific interaction strategies and frequency suggestions based on literature data, providing scientific references for parents. This helps narrow the vocabulary development gap caused by differences in family interaction quality and promotes preschool education equity.

## 2. Research methods

### 2.1. Literature screening criteria

- Time range: January 2014 - June 2024, to ensure the timeliness and cutting-edge nature of the research;
  - Databases: Chinese databases include CNKI (China National Knowledge Infrastructure), Wanfang, and VIP; English databases include ERIC, PsycINFO, and Web of Science, covering core research results at home and abroad;
  - Search terms: Chinese search terms are "互动式亲子共读" (interactive parent-child shared reading), "学前儿童词汇" (preschool children's vocabulary), "亲子阅读策略" (parent-child reading strategies); English search terms are "joint book reading", "interactive reading", "preschool vocabulary acquisition", etc., using "topic + keyword" combined search;
  - Inclusion criteria: The research objects are healthy children aged 3-6; the literature contains quantitative data on specific interaction strategies (such as questioning, role-playing) and vocabulary development results (such as vocabulary size, retention rate); empirical studies (including experimental studies, follow-up studies, and survey studies) are included, while pure theoretical reviews, case studies, and studies on special children groups are excluded;

- Exclusion criteria: Duplicated published literature, literature with incomplete data, and literature with a quality score (based on the JBI scale) lower than 6 points.

## 2.2. Literature analysis methods

- Quantitative analysis: Extract effect sizes (such as correlation coefficient  $r$ , increase percentage, effect size  $d$ ) of interaction strategies and vocabulary development from the literature, use Excel for frequency statistics and mean calculation, and clarify the effect differences of different interaction methods;

- Qualitative analysis: Use the thematic analysis method to code the theoretical explanations of interaction mechanisms in the literature, and summarize the application scenarios of core linguistic theories (such as the Sociocultural Theory, the Input Hypothesis);

- Quality control: Two linguistics researchers independently conducted literature screening and coding. The consistency was tested by Kappa coefficient (Kappa=0.86,  $P < 0.01$ ), and differences were resolved through group discussions.

## 2.3. Literature screening results

The initial search obtained 3,268 documents. After preliminary screening of titles (excluding obviously irrelevant documents), secondary screening of abstracts (excluding documents that do not meet the inclusion criteria), and in-depth screening of full texts (excluding documents with incomplete data and substandard quality), 68 valid documents were finally included, including 31 Chinese documents and 37 English documents. These cover 42 experimental studies, 18 follow-up studies, and 8 survey studies.

## 3. Literature review

### 3.1. Beyond passive listening: the core elements of interactive shared reading

Core Elements of Interactive Parent-Child Shared Reading Interactive parent-child shared reading refers to a dynamic learning process constructed through language interaction between parents and children during shared reading. Different from the silent shared reading mode of "parent reads aloud - child listens passively", its core elements include:

- Two-way language interaction: Parents trigger children's active expression through questioning, feedback, and other methods, forming a cycle of "input - response - re-input". For example, when reading \*The Very Hungry Caterpillar\*, parents ask "What fruits did the caterpillar eat?" and after the child responds, further ask "Were the fruits we ate yesterday the same as the ones it ate?" [3];

- Scaffolded guidance: Parents adjust the difficulty of interaction according to the child's language level. For example, for 3-year-old children, "pointing + naming" is used ("This is a puppy"); for 5-year-old children, "association + expansion" is used ("Besides barking 'wangwang', what else can a puppy do?"). This is consistent with Vygotsky's "zone of proximal development" theory [4];

- Situation connection: Connect the vocabulary in the book with the child's life experience to enhance the comprehensibility of the vocabulary. For example, when reading \*Little Bear's Sweater\*, parents say "Little Bear's sweater is blue, and your coat is also blue, right?" This helps children link vocabulary such as "blue" and "sweater" with specific experiences.

### 3.2. Linguistic evaluation dimensions for preschoolers' vocabulary development

- **Vocabulary size:** Refers to the total number of words that children can understand or use. The commonly used evaluation tool is the PPVT (Peabody Picture Vocabulary Test), which measures receptive vocabulary size through children's ability to match pictures with words; expressive vocabulary size is evaluated through natural corpus collection (such as recording new words actively used by children) [5];
  - **Vocabulary depth:** Includes the degree of word meaning understanding (such as distinguishing the subtle differences between "happy" and "excited") and the flexibility of vocabulary use (such as using verbs like "run" and "jump" in different contexts). It is evaluated through interviews or situational tasks (such as "Make a sentence with 'apple'");
  - **Vocabulary retention rate:** Refers to children's ability to recognize or reproduce new vocabulary after a period of time (usually 2 weeks). It is calculated by the correct rate of delayed tests (such as showing a picture and asking "What is this?" after 2 weeks), which is a key indicator to measure the effect of vocabulary internalization [6].

## 4. Research results and analysis

### 4.1. Quantitative correlation between interaction frequency and vocabulary

Development Short-term effects (within 3 months): 18 included follow-up studies show that the frequency of interaction has a positive correlation with vocabulary size growth. Children who interacted  $\geq 4$  times a week had an average vocabulary size increase of 28.6 words, which was significantly higher than that of the group with  $\leq 2$  interactions a week (9.8 words), with an effect size  $d=0.82$  (medium effect); among them, the vocabulary depth score (such as the degree of word meaning understanding) of the group with more than 5 interactions a week was 27% higher than that of the group with 1-2 interactions a week [7].

Long-term effects (more than 1 year): 6 long-term follow-up studies (with a follow-up period of 1-3 years) found that the vocabulary development advantage of the high-frequency interaction group (more than 5 times a week) was sustainable: after 1 year, their expressive vocabulary size was 31% higher than that of the low-frequency group, and they also performed better in reading comprehension tasks. This result confirms the "cumulative effect" - continuous interactive input can promote the stable construction of vocabulary networks.

### 4.2. Differential impact of interaction methods on vocabulary acquisition

Table 1. The impact of interaction methods on vocabulary development

Interaction Method	Vocabulary Size Increase	Vocabulary Retention Rate	Linguistic Explanation
Open-ended questions	12%-18%	65%-72%	Promote language production practice in the "Output Hypothesis" and strengthen vocabulary retrieval ability
Closed-ended questions	5%-8%	40%-45%	Low input complexity, only activating surface memory, making it difficult to form in-depth understanding (Whitehurst, 2018)

Table 1. (continued)

Role-playing	22%-25%	78%-83%	Situational learning is consistent with the "Embodied Cognition Theory", and strengthens memory through the linkage of actions and language (Lakoff, 2019)
Plot discussion	15%-19%	68%-75%	Promote meaning negotiation in the "Sociocultural Theory" and facilitate flexible use of vocabulary in context (Vygotsky, 2016)

It can be seen from the table that "role-playing" and "open-ended questions" have the best effects, which is related to their ability to activate language input, output, and situation connection at the same time. For example, when role-playing "Little Bear Buying Things", children need to use vocabulary such as "how much money" and "thank you", and parents correct their expressions through feedback, forming a positive cycle of vocabulary use.

### 4.3. Mechanism from the perspective of linguistic theories

Vygotsky's Sociocultural Theory holds that children's language development originates from social interaction, and parents' interactive guidance builds a "zone of proximal development" for them. For example, when a child says "little wangwang" (the onomatopoeia for a dog's bark in Chinese), the parent responds "You mean 'puppy', right? Puppies bark 'wangwang'". Through "correction + expansion", the child is helped to convert dialect vocabulary into standard vocabulary, realizing the leap from "potential level" to "actual level". 23 included documents mentioned similar mechanisms, confirming that scaffolded interaction is the core path of vocabulary internalization.

Krashen's (2019) Input Hypothesis points out that the key to language acquisition is "i+1" input. In interactive shared reading, parents provide "i+1" input by adjusting vocabulary difficulty (such as introducing "fruit" when the child already knows "apple"), and its comprehensibility is significantly higher than that of silent shared reading. Studies show that such input can increase the efficiency of vocabulary acquisition by 40% [8].

Tomasello's (2017) Interactive Alignment Model points out that "feedback and correction" in parent-child interaction can help children establish an accurate connection between vocabulary and concepts. For example, when a child mistakenly calls a "rabbit" a "little mouse", the parent says "This is a rabbit. Look, it has long ears" to correct the deviation by comparing features [9]. Literature data shows that such feedback can reduce the vocabulary confusion rate by 35%.

### 4.4. Literature evidence on interaction effects by age group

#### 4.4.1. 3-4 years old (period of dominant concrete thinking)

Children in this stage are dominated by concrete thinking and are more sensitive to the naming and pointing of specific objects. The literature shows that the "pointing + repetition" strategy is the most effective: when reading Little Bear Picture Books, parents point to the picture and say "The sweater Little Bear is wearing is blue, blue—", which can increase the acquisition of nouns by 27% and the acquisition rate of verbs by 22% [10]. This is because repeated input can strengthen the connection between vocabulary and concrete images, which is in line with the cognitive characteristic of "image memory priority" in children at this stage.

#### 4.4.2. 4-5 years old (period of emerging logical thinking)

With the development of logical thinking, children begin to understand the abstract meaning and connection of vocabulary. The "comparative questioning + vocabulary replacement" strategy is more effective: when reading *The Very Hungry Caterpillar*, parents ask "The caterpillar ate strawberries (red). What other red fruits did it eat?" to guide children to think of vocabulary such as "cherry" and "tomato", which can increase the vocabulary diversity score by 35%. Such interaction can activate the connection nodes of the vocabulary network and promote the development of vocabulary from "single individual" to "category system".

### 5. Practical suggestions

#### 5.1. Age-specific interaction strategies based on literature

##### 5.1.1. Interaction plan for children aged 3-4

Pointing and naming + action imitation. When reading *\*Jump!\**, point to the frog picture and say "The frog is jumping, jump—", and at the same time lead the child to imitate the jumping action to connect "jump" with the action; 15-20 minutes each time, 4 times a week, to avoid cognitive fatigue. The literature shows that this strategy can increase the retention rate of animal and action vocabulary to 68%.

##### 5.1.2. Interaction plan for children aged 4-5

Open-ended questions + vocabulary association. When reading *My Dad*, ask "Dad can run. What other sports can he do?" to guide children to say vocabulary such as "swim" and "play ball", and discuss the common characteristics of "sports"; - Advanced activity: Conduct vocabulary replacement during role-playing, such as "Dad made a cake (replaced with 'bread'), it's really delicious". The vocabulary transfer rate (application from books to daily life) of open-ended questions is 40% higher than that of closed-ended questions.

#### 5.2. Key points for parents' operation

Avoid frequent correction. The literature shows that when the correction rate >30%, children's willingness to use vocabulary will decrease by 52% [11]. It is recommended to use "supplementary feedback". For example, when a child says "little wangwang", respond "Yes, this is a puppy. Puppies bark 'wangwang'" instead of directly denying "No, it's a puppy".

Control the frequency and duration of interaction. The optimal range is 4-5 times a week, 20 minutes each time. At this frequency, the vocabulary retention rate reaches 75% (peak), and the marginal effect decreases after more than 5 times [12].

Choose suitable reading materials. For children aged 3-4, picture books with simple pictures and repeated vocabulary such as *Little Bear Picture Books* and *<Jump!>* are recommended; for children aged 4-5, picture books with coherent plots and rich vocabulary such as *The Very Hungry Caterpillar* and *My Dad* are recommended, which are in line with their cognitive development needs.

## 6. Research conclusions and prospects

### 6.1. Research conclusions

By systematically sorting out the literature from 2014 to 2024, this study draws the following conclusions:

- Interactive parent-child shared reading has a significant promoting effect on preschool children's vocabulary development. An interaction frequency of 4-5 times a week is the most effective, and the growth of vocabulary size and the development of vocabulary depth are significantly better than those of the low-frequency interaction group;
- Among different interaction methods, "open-ended questions" and "role-playing" have the best effects, which can increase the acquisition of new vocabulary by 12%-25% and the vocabulary retention rate to 65%-83%;
- Its mechanism is consistent with linguistic theories such as the Sociocultural Theory (scaffolded input) and the Input Hypothesis (i+1 input), and promotes vocabulary internalization and flexible use through two-way interaction;
- Age-specific strategies are scientific: "pointing + repetition" is suitable for children aged 3-4, and "open-ended questions + association" is suitable for children aged 4-5, which matches the cognitive development stage of children.

### 6.2. Research prospects

- Most existing studies focus on urban families. In the future, the sample can be expanded to rural areas to compare the differences in interaction strategies between urban and rural areas;
- Combine methods such as eye-tracking experiments and EEG technology to analyze the real-time cognitive mechanism of children's vocabulary processing in interactive shared reading;
- Explore the unique impact of fathers' participation in interactive shared reading on vocabulary development, making up for the one-sidedness of current studies dominated by mothers.

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