# Exploring the Role of Verbal Encouragement on Narrative Expression in Chinese Preschool Children: An Experimental Study with a 10-Day Intervention

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## Abstract

This study examines the impact of verbal encouragement on narrative expression among Chinese preschool children, utilizing a 10-day intervention based on shared book reading. Narrative expression is crucial for children's overall language development, as well as their social and emotional growth. However, research on the role of encouragement in enhancing narrative expression, particularly within the Chinese context, remains limited. The study was conducted in Guizhou, an economically underdeveloped region of China, and involved 47 typically developing preschool children aged 5 to 6 years. Participants were randomly assigned to either an experimental group, which received verbal encouragement during shared reading sessions, or a control group that followed a standard reading routine. The Multilingual Assessment Instrument for Narratives (MAIN) was employed to evaluate the children's narrative expression, focusing on both macrostructural elements (e.g., setting, goal, attempt, outcome) and microstructural elements (e.g., lexical diversity, syntactic complexity).

Results indicated that while shared book reading significantly improved the overall narrative expression of Chinese preschool children, there were no statistically significant differences in the narrative scores between the experimental and control groups. This suggests that verbal encouragement alone may not lead to a measurable improvement in narrative expression over a short intervention period. Additionally, children in Guizhou generally exhibited lower scores in narrative expression compared to peers from more developed regions in China, highlighting potential disparities in early language development.

These findings contribute to the broader understanding of how shared book reading can enhance narrative skills in preschool children and suggest that while verbal encouragement has potential benefits, its impact may require more sustained or context-specific interventions. The study also underscores the need for further research to explore the long-term effects of encouragement and to address the educational inequalities in underdeveloped regions.

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# 1 Introduction

The role of verbal encouragement in early childhood education has garnered increasing attention in recent years. Various important discussions have emerged around the application of encouragement in real-world practices. For instance, some parents may worry whether consistently offering encouragement, as opposed to strictly enforcing rules, might hinder the development of discipline in young children (Baumrind, 2012). Moreover, some teachers consider the optimal timing and circumstances for providing encouragement to ensure that children remain motivated (Deci et al., 1991). In China, certain social workers from non-governmental organizations are actively promoting Positive Parenting workshops, where encouragement is emphasized as a means of protecting children's self-esteem (Save the Children, 2024). Meanwhile, policymakers are considering whether encouragement could serve as a viable strategy to reduce instances of emotional abuse (Altafim et al., 2024).

Building on these broader discussions, this study focuses on the role of verbal encouragement on narrative expression in preschool children. Narrative expression plays a crucial role not only in overall language development but also in the social and emotional growth of children, shaping their identity (Emde et al., 2003; Fivush et al., 2007; Hudson et al., 1992). Despite its importance, there is a noticeable research gap on this topic, especially within the Chinese context. To address this gap, the present study examines whether shared book reading—a common practice in China for enhancing narrative skills—is effective in improving the narrative expression of Chinese preschool children. Moreover, it investigates whether verbal encouragement can further enhance these skills. The study also seeks to compare the narrative expression of preschoolers in an economically underdeveloped region with that of their peers in more developed regions of China.

# 2 Literature review

## 2.1 Verbal encouragement

### 2.1.1 Definition of encouragement

Encouragement is a critical construct in positive psychology and counseling psychology. Within positive psychology, it is linked to enhancing self-efficacy (Schunk & DiBenedetto, 2022). According to Bandura (1997), a principal mechanism for building efficacy is social persuasion, which involves receiving positive feedback or encouragement from respected role models. From the perspective of counseling psychology, encouragement is integral to strength-based approaches used in psychotherapy (e.g., Wong, 2006) and supervision (e.g., Edwards, 2012). It is considered a psychotherapeutic common factor, primarily because it involves interpersonal communication that instills hope in clients, thereby fostering psychological resilience (Wong et al., 2019).

Empirical research also shows that encouragement effectively enhances motivation across the lifespan. For instance, in early childhood, using verbal encouragement in task instructions increases motivation and significantly improves academic performance in 3-5-year-olds (Guéguen et al., 2015). For primary-school children, second-grade students receiving either ability-focused or motivation-focused encouragement during a math task performed better compared to a control group (Miller et al., 1975). During adolescence, parental encouragement in home settings fosters achievement motivation (Chabra & Kumari, 2011). In adulthood, encouragement increases job satisfaction and productivity across various sectors, including insurance, engineering, finance, and education (Washakowski, 2015).

The definition of encouragement varies across different studies. Guéguen et al. (2015) describe encouragement as a type of reinforcement focused on personal traits, exemplified by statements like “you are good” or “you are clever.” However, encouragement includes more than merely using positive adjectives. Ducca (2014) defines encouragement as positive feedback consisting of multiple components: **1) a paralinguistic component**, which includes nonverbal cues such as head nodding, utterances like “uhh,” and laughter; **2) a linguistic component**, characterized as a dynamic of interpersonal communication involving both a speaker and a hearer, primarily through affirmation; and **3) a metalinguistic component** that involves evaluative feedback, marked by phrases like “good” and “excellent.” These multifaceted components align closely with Wong's (2015) definition, which describes encouragement as “the expression of affirmation through language or other symbolic

representations to instill courage, perseverance, confidence, inspiration, or hope in a person, particularly in the context of addressing a challenging situation or realizing potential" (p. 5).

Furthermore, Wong (2015) emphasizes that the core of encouragement is the expression of affirmation. This affirmation can communicate positive messages concerning the recipient's character strengths (e.g., "you are kind"), actions or outputs (e.g., "Your presentation was so inspiring"), or circumstances (e.g., "Your son will eventually realize how much you love him"). Meanwhile, affirmations can be either explicit (e.g., "I have confidence in you!") or implicit, such as when counselors engage clients in discussions about their strengths to build confidence. The above definition of encouragement commonly involves the use of positive adjectives such as 'kind', 'inspiring', 'good', and 'excellent'.

However, it is important to distinguish these encouragement markers from "praise," which can create "approval junkies," in contrast to encouragement that enhances children's self-esteem and risk-taking (Dweck, 1999). According to Dweck (1999), children praised for being smart tended to choose easier tasks in the future, while children encouraged for their efforts were more likely to choose challenging tasks. Table 1 further clarifies the difference between praise and encouragement.

**Table 1** *Differences Between Praise and Encouragement*

| Praise | | Encouragement |
|---|---|---|
| **Doer:** "Good girl," "You're the best big sister ever!" | Focus | **Deed:** "You were so patient with your sister," "Your classmates appreciated it when you shared your candies." |
| **Patronizing:** "I like the way Suzie is sitting." | Attitude | **Respectful:** "Who can show me how we should be sitting now?" |
| **Judgmental:** "You did a great job on this." | Message Type | **Self-directing:** "How do you feel about what you accomplished?" |
| **Perfect product:** "Your painting is the best." | Recognition | **Effort and improvement:** "All those hours practicing your left-footed shots are really paying off!" |
| **Feel worthwhile when others approve:** "I am so proud of you." | Effect on sense of worth | **Feel worthwhile without other's approval:** "You should feel proud of your hard work!" |
| **Dependence on others** | Long-term effect | **Self-confidence, self-reliance** |

Note. The character names and settings are based on Dweck (1999) and Nelsen et al. (2009, p. 5). The examples provided are primarily drawn from Nelsen et al. (2009, p. 5) and McCready

(2015, pp.182-183).

Overall, in this study, verbal encouragement is defined as the expression of affirmation through language to enhance self-efficacy, motivation, and instill hope and courage. The main features of verbal encouragement are: **1) it is personalized**, providing explicit reasons for the encouragement rather than just saying general positive adjectives (e.g., explaining that helping others is "kind" and "good" instead of simply saying "kind boy" or "good job"); and **2) it is self-directing**, aiming to build self-confidence and self-worth independently of others' approval (e.g., saying "you should feel proud of your hard work!" instead of always using I-messages such as "I am so proud of you" or "I like the way you are sitting.")

### 2.1.2 Theoretical frameworks on encouragement

Alfred Adler was among the first psychologists to theorize about encouragement, and the theorizing has been extended by Wong (2015). Adlerian encouragement includes three core aspects: 1) **Interpersonal Communication**: From the perspective of the encouraged, humans are inherently oriented toward social interest—a desire to belong and contribute to society. When social interest diminishes, encouragement becomes necessary (Adler, 1956). From the perspective of the encourager, Adlerian psychologist Dreikurs (1971) viewed the ability to encourage others as the single most crucial attribute for effective interpersonal relationships. 2) **Dimensions of Encouragement**: For adults, encouragement involves a positive view of oneself and others, openness to experiences, and a sense of belonging (Evans et al., 1997). For children, it includes a positive self-view, a sense of belonging, and the courage to be imperfect (Dagley et al., 1999). These dimensions help individuals become fully functioning persons (Adler, 1931, 1958; Evans et al., 1997). 3) **Self-Empowerment:** A key strength of Adlerian encouragement theory is its focus on cultivating individuals' inner resources and enhancing motivation, rather than merely modifying behavior (Sweeney, 2009).

However, a major issue with Adlerian encouragement is the lack of consistency in its definition and evaluation across studies (Wong, 2015). Therefore, based on Adlerian encouragement (Adler, 1956), the psychology of character strengths and virtues (e.g., Sandage & Hill, 2001), and Bandura's (1997) concept of verbal persuasion, Wong (2015) proposed the Tripartite Encouragement Model (TEM). TEM includes three facets: **1) Foci of Encouragement:** challenge-focused or potential-focused; **2) Features of Effective**

**Encouragement:** framing of the message, perceived trustworthiness of the encourager, and perceived credibility of the message; **3) Levels of Encouragement:** interpersonal communication, character strength, and group norm. The perceived credibility of the message in TEM was defined as "recipients are likely to perceive messages that are sincere and realistic as credible" (Wong, 2015, p. 14). This aligns with the definition of encouragement in this study, which emphasizes that verbal encouragement should be personalized and concrete. However, sometimes providing personalized encouragement to children can be challenging. For example, effectively encouraging a child whom you do not know well requires a deep understanding of their feelings and needs, which can be time-consuming and difficult (Atir et al., 2023).

In addition, TEM highlights that the third level of encouragement is group norm, indicating that "some organizations have a stronger culture of encouragement than others" (Wong, 2015). This perspective addresses the bias in previous psychological research that predominantly focuses on encouragement at the individual level (e.g. Reis et al., 2000, Gable & Haidt, 2005, Wong, 2011). In other words, the prevalence and effectiveness of encouragement vary across cultures. For instance, Junefelt & Tulviste (1997) videotaped American, Estonian, and Swedish mother-child interactions during puzzle-solving and mealtime, revealing that American mothers encouraged their children more frequently than mothers in the other two cultures. In contrast, studies on Asian parenting indicate lower levels of encouragement compared to European groups (Chao & Tseng, 2002). Japanese parents were more controlling and more likely to report scolding or speaking angrily to their children than German parents (Trommsdorff, 1985). Similarly, Vietnamese parents in Australia were found to be more intrusive and less encouraging than Australians of European descent (Herz & Gullone, 1999).

In summary, the takeaway from Adlerian encouragement is its recognition of the benefits to the encourager, particularly in establishing harmonious interpersonal relationships. Additionally, its focus on cultivating inner resources aligns with the current study's definition of verbal encouragement, which emphasizes self-direction. Wong's (2015) Tripartite Encouragement Model that further advances encouragement theory is particularly useful to note. One of its features aligns with this study's definition, that is verbal encouragement being

personalized and concrete. More importantly, the model acknowledges cultural differences in encouragement, which will be further examined in the context of Chinese culture in the next section, as it relates to the research focus of this study.

### 2.1.3 Encouragement in Chinese culture

The study of encouragement in Chinese families focusses on parenting style and children's academic performance. Compared to European and American cultures, Chinese culture lacks a strong atmosphere of encouragement in parenting (Ng & Wei, 2020) and teaching (Christine Wang et al., 2021). For instance, studies indicate that, compared to their counterparts in the U.S. and Australia, Mainland Chinese, Hong Kong Chinese, Singaporean Chinese, and Chinese Americans show higher levels of authoritarian parenting, which involves less encouragement (Chao, 2001; Leung et al., 1998; Ng & Wei, 2020; Pei et al., 2020). Even when children achieve success, their accomplishments are seldom acknowledged with praise or encouragement, the focus is instead on their failure. Additionally, in challenging situations, such as receiving a poor grade, Chinese parents typically respond with strong, negative reactions like scolding (Cheung & Pomerantz, 2011; Kim & Fong, 2013).

Despite the limited emphasis on encouragement in Chinese culture, the content of encouragement reflects local cultural values and shows significant differences compared to other cultural groups. In individualist cultures, such as the United States, individuals have an independent concept of self and maintain a pronounced social distance from others, including their immediate family (Bhawuk, 2017). In this context, encouragement might be: "Your success is a testament to your personal effort and determination, not dependent on family approval or support." Conversely, in collectivist cultures, such as China, individuals have an interdependent concept of self, shared with extended family and others (Bhawuk, 2017). Here, encouragement might be: "Your family's cohesion is strong, with filial children and caring parents, so you will surely overcome any difficulties." These differences illustrate how cultural contexts shape the way encouragement is delivered and received.

The less emphasis on verbal encouragement and the promotion of collectivism in Chinese culture can be traced to Confucianism. Central to the less encouraging environment are the concepts of "parental authority" and "filial piety," which are core elements of the

Confucian “Five Ethical Principles” (e.g., Chan et al., 2011). To establish and maintain this authority, parents often publicly scold and shame their children rather than offering encouragement (Ho, 1986; O’Brian et al., 1997). They fear that frequent encouragement and praise might undermine their authority by not “keeping children at a distance” (Cline, 2015, p. 49). Additionally, the deep-rooted cultural expectation of unquestioning obedience of parental authority leads parents to believe they have the right to control their children’s lives. Consequently, even if children excel in areas not aligned with parental expectations, they may still face punishment rather than encouragement (Chen-Bouck & Patterson, 2017).

Another factor for the less encouraging environment is Confucianism’s emphasis on modesty, regarded as a paramount virtue. Confucianism holds that modesty leads to success, while pride leads to failure. Consequently, parents and teachers worry that encouraging children may foster pride, contradicting the virtue of modesty and potentially causing problems for both the children and the family (Koh & Wang, 2014). Confucianism also influences the content of encouragement in Chinese collectivism. It shapes individuals from birth into group-oriented, relationship-oriented, and socially interdependent beings through the “Five Ethical Principles.” As a result, the encouragement content in Chinese culture is more group-oriented compared to individualistic cultures (Chan et al., 2011).

Overall, Chinese culture places less emphasis on encouragement in parenting and teaching compared to European and American cultures. The content of encouragement may reflect collectivist cultural values and show significant differences from individualism. These differences can be traced to Confucianism, with its emphasis on “parental authority,” “filial piety,” and modesty, creating a less encouraging environment. Confucianism also shapes Chinese individuals into group-oriented and relationship-oriented beings, which may be reflected in the content of encouragement.

### 2.1.4 The role of verbal encouragement in early childhood

Inconsistent findings have been reported regarding the influence of verbal encouragement on children’s cognitive development. This section focuses on four domains of child development: executive functions, language development, social development and academic achievement.

***Executive Functions.*** Schroeder & Kelley (2010) examined the associations between parenting practices and executive functions in typically developing children. The study involved 100 parents from diverse ethnic backgrounds, whose children aged 5 to 12 years, were assessed using the Behaviour Rating Inventory of Executive Functions (BRIEF) and the Parent-Child Relationship Inventory. Results indicated that parental support, including more encouragement, was positively associated with children's working memory and inhibition control. In contrast, Lauren P. (2017) explored whether maternal encouragement moderates the relationship between physical activity and executive function in very young children. The study involved 56 children aged 18 months during a one-time laboratory visit lasting approximately 65 minutes. Using video recordings from an archival dataset, eight measures of maternal encouragement were derived from mother-child free play sessions, such as unlabeled praise, labeled praise, and information question. The results showed that parental encouragement had no significant effect on moderating younger children's physical activity and executive function.

***Language Development.*** The role of encouragement in children's language development remains understudied. Rivero et al. (2023) investigated the relationship between positive parenting behaviour during play and child language development in early ages. The study included 90 Spanish-speaking children aged 15–31 months and their parents. Positive parenting behaviours were assessed using the Spanish version of the Parenting Interactions with Children (PICCOLO), and child language development was assessed with the Bayley-III scales. Controlling for sociodemographic variables, bivariate analysis showed significant positive relationships between parents' encouragement and children's language scores. Regression models further indicated that maternal and paternal encouraging behaviours predicted 18% of the variability in children's receptive language. This study highlights the importance of encouragement in enhancing children's linguistic development. The question of whether children's cognitive development influences parental encouraging behaviour has also been explored. Castagna et al. (2024) hypothesized that the severity of children's neurodevelopmental delays might impact parenting behaviour. The study involved 88 dyads with Italian children aged 12 to 47 months who participated in a 10-minute video-recorded interaction, subsequently coded using the PICCOLO. The findings revealed that mothers of

toddlers with neurodevelopmental delays were less responsive and exhibited reduced teaching behaviours compared to the control group. However, no significant differences were found in parental encouragement behaviours between the groups.

***Social Development.*** Research has also shown mixed results regarding the role of verbal encouragement in children's social development. For instance, Warneken & Tomasello (2013) studied parental encouragement on young children's prosocial behaviour. In their study, 25 children aged 24 months were given the opportunity to help an unfamiliar adult retrieve an out-of-reach object under five conditions: the guardian was 1) present but passive, 2) present and highlighted the problem, 3) present and actively encouraged the child to help, 4) present and ordered the child to help, or 5) absent. The results showed that parental encouragement did not enhance young children's helping behaviour. In contrast, Hammond & Carpendale (2015) assessed 60 mother–child dyads with toddlers aged 18 to 24 months during a cleanup chore and while reading an emotionally laden book together. Their findings suggested that early helping behaviours are associated with parental support and encouragement.

The impact of encouragement on early childhood social discipline is a subject of ongoing debate, particularly in the context of punishment and child abuse. Saputri & Widyasari's (2022) meta-analysis defined rewards as verbal (praise, encouragement, smiles) and non-verbal (stickers) forms. Their analysis, which included approximately 20 primary research articles focused on rewards and punishment in early learning. They found no significant difference between the effectiveness of rewards and punishments in improving children's initially poor disciplinary behaviours. In examining parental discipline strategies, Theunissen et al. (2015) analysed cross-sectional data from 1,630 Dutch children aged 5 to 6 years. Their results indicated that encouragement and compliments were more common in families with higher maternal educational levels, Dutch ethnicity, and smaller family sizes.

***Academic Achievement.*** Scholars have largely reached a consensus on the positive effect on encouragement in early childhood academic performance. Chen et al. (1997) examined the relationship between parenting styles and the academic performance of 304 Chinese children aged approximately 7 years and 11 months old. Parents provided data on child-rearing practices, and academic performance information was obtained from school records. The study found that an authoritative parenting style, characterized by more

encouragement compared to an authoritarian style, was positively related to children's academic achievement. Conversely, an authoritarian style was negatively related to academic outcomes. This finding is consistent with Guéguen et al. (2015) , who conducted experiments with 60 French children aged 3–5 years and 90 French children aged 8–9 years. In one experiment, children were asked to identify an image not included in a previously shown group. In another experiment, 8–9-year-old children performed an alphabetical order task with the names of seven well-known fruits. Half of the children were given verbal encouragement, while the other half received no such encouragement. These two experiments both reported a positive effect of verbal encouragement on children's academic performance.

Pinquart's (2016) meta-analysis integrates results from 308 empirical studies examining the associations between parenting dimensions and the academic achievement of children and adolescents. The studies included data on 362,155 young people with a mean age of 13.19 years (SD = 3.51). Results indicated that parental encouragement, responsiveness (warmth), behavioural control, and an authoritative parenting style were associated with better academic performance, both concurrently and longitudinally, although these associations were statistically small. Conversely, parental harsh control, psychological control, and neglectful, authoritarian, and permissive parenting styles were related to lower academic achievement, with small to very small effect sizes. Pinquart & Kauser's (2018) meta-analysis further examined whether this relationship varies by culture. They identified 428 studies with data on 347,051 children and adolescents with a mean age of 12.99 years (SD = 3.87). The findings suggest that authoritarian parenting with less encouragement is more tolerable in Asian contexts and has a smaller impact on children's academic performance compared to non-Hispanic White families. The study also revealed that authoritative parenting with more encouragement was associated with at least one positive child outcome, while authoritarian parenting was associated with at least one negative outcome globally. Thus, authoritative parenting is generally recommended worldwide.

In summary, inconsistent findings have been reported regarding the influence of verbal encouragement on children's executive function, helping behaviours, and discipline establishment. However, scholars largely agree on the positive effect of encouragement on

children's academic performance. Meta-analyses further indicate that authoritarian parenting with less encouragement is more tolerable in Asian children and has a smaller impact on academic performance compared to non-Hispanic White families. Regarding the role of encouragement in early childhood language development, existing literature reveals a research gap. While trends in the literature point to the potential benefits of encouragement for language acquisition, results are mixed for other related aspects, such as executive function. The current study focuses on examining one aspect of this research gap: the development of narrative expression within the language domain.

## 2.2 Narrative expression

### 2.2.1 Understanding narrative expression

Children's ability to tell stories and understand those of others typically develop in early childhood with the support of caregivers and educators (Pesco & Gagné, 2017). This ability, known as narrative expression, is considered as a culturally valid and authentic measure of communication, as it demonstrates the speaker's ability to integrate vocabulary, grammar, and pragmatic rules simultaneously (Burns et al., 2012; Sheng et al., 2020). In addition, from an early age, children use narratives to think, construct stories, and provide explanations, helping them understand and make sense of their world (Cremin & Flewitt, 2016). This form of symbolic activity significantly impacts not only their language development but also their social and emotional development, and shapes their identity (see Emde et al., 2003; Fivush et al., 2007; Hudson et al., 1992). Furthermore, narrative expression has long-term, universal value for children, linking to high-stakes outcomes such as academic achievement, social popularity, and success in business, legal, and political spheres (Justice et al., 2010; Sheng et al., 2020; F. Zhang et al., 2019).

Typically, narrative expression can be analysed through its macrostructure and microstructure. Macrostructure creates context by providing the *who, what, when, and where* details of the story (Kelly & Bailey, 2013). It includes key components: **1) Character:** Main and supporting characters in the story; **2) Setting:** Time and place; **3) Initiating Event:** An event that prompts the character to act; **4) Action:** The character's actions towards achieving a goal; **5) Consequence:** The positive or negative outcome of the action; **6) Internal Response:** The character's mental or physiological state, motivating actions or depicting

reactions (Sheng et al., 2020). These components form a framework to examine the underlying meaning and structure of the story at the level of connected discourse (Merritt & Liles, 1989; Roth, 2009).

While macrostructure takes a "more global approach" (Roth, 2009) and reflects cognitive abilities (Berman & Slobin, 2013), microstructure focuses on analysing narratives at the word, phrase, or sentence level, identifying surface features of texts (Roth, 2009). Key components of microstructure include: **1) Productivity**: Total number of utterances (TNU) and total number of words (TNW); **2**) **Lexical Diversity:** Number of different words (NDW); **3) Syntactic Complexity**: Mean length of utterance (MLU) and percentage of complex sentences; **4) Grammaticality:** Percentage of grammatically well-formed utterances (Rezzonico et al., 2016; Sheng et al., 2020). These components show that microstructure involves language-internal skills, utilizing lexical and syntactic devices to convey meaning (Sheng et al., 2020).

Research has demonstrated that children's narrative expression varies across cultures (Roth, 2009) and between those with or without specific language impairments (Altman et al., 2016; Epstein & Phillips, 2009; Vandewalle et al., 2012). For instance, Altman et al. (2016) investigated macrostructure (goals, attempts, outcomes), microstructure (e.g., length, lexis, morphosyntax), and mental state terms (MSTs) in the narratives of English-Hebrew bilingual preschool children with and without specific language impairment (SLI). Thirty-one preschool children (12 with SLI) retold stories using the Multilingual Assessment Instrument for Narratives (MAIN). The macrostructure results showed similar performance in both languages for children with typical language development (TLD) and those with SLI. However, microstructure analysis of verbal productivity, communication unit length, and lexical diversity distinguished children with TLD from those with SLI. The analysis of MSTs revealed a higher use of mental state verbs (e.g., 'believe' and 'understand'), particularly in the second language, with perceptual and motivational verbs (e.g., 'see' and 'want') being the most common across all narratives.

Overall, children's narrative expression develops in early childhood, significantly influencing their language, social, and emotional development, and shaping their identity with long-term effects. Narrative expression can be examined through macrostructure and

microstructure. Macrostructure details the *who, what, when, and where* of the story, while microstructure analyses narratives at the word, phrase, or sentence level. Research indicates that children's narrative expression varies across cultures and between those with and without specific language impairments (SLI). Specifically, Children with SLI particularly struggle with microstructure elements of narration. Thus, the next section will address the challenges in developing narrative skills.

### 2.2.2 Challenges in developing narrative skills

Developing early childhood narrative expression extends beyond teaching language knowledge; children's social and emotional development can pose significant challenges. Pelletier & Wilde Astington (2004) investigated the relationship between children's developing theory of mind and their understanding of characters' actions and consciousness in narratives. The study involved 66 children, consisting of 31 four-year-olds in junior kindergarten and 35 five-year-olds in senior kindergarten. After initial storytelling by an experimenter and a teacher, children were asked to retell the stories. The ability to coordinate characters' thoughts, beliefs, and intentions was measured by the frequency of references to characters' actions and the content of their thought bubbles. The findings indicated that younger children with less developed theory of mind often retold only the actions without referencing thoughts, or described the scenes in the thought bubbles without connecting them to the characters. This study demonstrated that children's developing theory of mind, a key aspect of social and emotional development, significantly influences their ability to understand and retell narratives, highlighting the challenges beyond language knowledge in early childhood narrative expression.

Another significant challenge in enhancing children's narrative skills is maintaining their interest during engagement. Without sustained interest, children may struggle to actively participate in narrative activities, which are crucial for developing narrative expression. Effective strategies for engaging children in these activities include shared reading of picture books (Devescovi & Baumgartner, 1993), pretend play (Nicolopoulou, 2015), and drawing (Duncum, 1993). However, using shared reading as an example, selecting content that captivates children can be challenging. Rinehart et al. (1998) observed that children display their emotions while reading books they find interesting, and a personal connection between

the story and their real-life experiences can boost their interests (Alexander et al., 2001). Research also indicates that children better comprehend and recall high-interest material compared to low-interest material (Kincade et al., 1993; Wolfson et al., 1984). Furthermore, children are more focused when they are interested in the story, which is crucial for learning, as focused attention facilitates more effective encoding of information into long-term memory (Kauffman, 2005).

In addition, vocabulary difficulty plays a crucial role in the development of children's narrative expression skills. Therefore, selecting age-appropriate content is essential. If a child encounters a passage and finds many words unreadable or outside their vocabulary level, they are likely to reject the story due to its difficulty. Similarly, if the words are too simple, they may lose interest. Thus, children seek a balance—they desire some challenge but want to avoid frustration while reading (Kauffman, 2005). Secondly, educators should use age-appropriate language when narrating stories to children. Gianvecchio & French's (2002) study examined the impact of story interruptions, age, and receptive vocabulary knowledge on the sustained attention of 32 children aged 45 to 67 months. The study found that children with limited receptive vocabulary were slower to focus at the beginning of stories and more likely to lose attention following irrelevant interruptions by teachers. Previous research has shown that receptive language positively correlates with children's age (Brookhouser & Grush, 1986; Hustad et al., 2018; Luu et al., 2009). This suggests that using age-appropriate language in storytelling is crucial for maintaining children's attention during stories, thereby aiding their narrative skills.

In summary, children's socioemotional development, sustained interest during engagement, and vocabulary difficulty may present significant challenges to their narrative development. Thus, educators are expected to implement the following strategies: **1) Support Socioemotional Development:** Foster socioemotional growth by incorporating stories that explore various emotions, extending beyond the mere teaching of language knowledge; **2) Maintain Interest During Engagement:** Enhance participation in narrative activities through engaging methods such as shared reading, pretend play, and drawing. Select stories that resonate with children's personal lives and cultures; **3) Consider Age-Appropriateness:** Choose content and language that is slightly challenging yet not overly

frustrating. Using age-appropriate language in storytelling is essential for maintaining children's attention

### 2.2.3 Effective interventions for enhancing narrative expression in China

Noble et al.'s (2019) meta-analysis reveals that shared book reading can improve children's language skills, though the effects are small ($g = 0.194$, $p = 0.002$). In China, this practice is common and effective in both urban (Wang et al., 2023; Xiao, 2016; Yang, 2016) and rural areas (Emmers et al., 2021). The Chinese government also advocates for the use of picture book reading as a method to enhance children's narrative expression (Ministry of Education of the People's Republic of China, 2012). For example, Li (2020) investigated the impact of a home-based dialogic reading (DR) intervention on the expressive vocabulary and narrative competence of Mandarin-speaking children, with narrative competence including expression (macrostructure, microstructure, and evaluation) and comprehension. Eighty-one four- and five-year-old children and their parents were recruited from a kindergarten in a medium-sized city in southwest China and assigned to one of two conditions: dialogic reading (DR) or customary reading. The DR group participated in three workshops and conducted at least 48 one-on-one shared-reading sessions at home over a 12-week intervention period. Children's narrative competence was reassessed immediately after and four months post-intervention. The study used Pearson's r to compute the correlation coefficients for 14 dependent variables from the pretest, revealing 37 of 91 statistically significant correlations, mostly weak to moderate in strength. This suggests that the DR intervention can enhance overall expressive vocabulary and narrative competence immediately post-intervention. However, further analysis indicates that the DR intervention had a more substantial effect on children's expressive vocabulary at the delayed post-test stage, with limited impact on narrative competence, except for an increase in adverb density within narrative microstructure.

In addition to shared reading, play is also frequently utilised to enhance Chinese children's narrative skills. For example, Cai et al. (2022) explored the impact of theme-based block play on the language development of Chinese preschoolers through a quasi-experimental design. Sixty-one young children were divided into an experimental group ($M_{age} = 5.83$, $SD = 0.25$) and a control group ($M_{age} = 5.87$, $SD = 0.28$). The experimental group participated in a 12-week theme-based block play intervention, while the control group

engaged in free block play during the same period without any structured intervention. Language Assessment for Preschool Children (LAPC) tests, consisting of Listening and Speaking, and Reading and Storytelling tasks, were administered to all children before and after the intervention. ANCOVA results showed significant improvement in the LAPC scores of the experimental group, whereas the control group showed no significant changes. While the benefits of thematic play in children's language development are well-documented, caution should be exercised in generalising these findings to certain disadvantaged groups. For example, Rescorla & Goossens (1992) suggested that the efficacy of thematic play may be limited for autistic children with language impairments. Their study revealed that structured thematic play did not diminish the disparity in expressive language between toddlers with specific language impairments and their typically developing peers. Nonetheless, prior research predominantly supports the overall benefits of playful elements in enhancing children's language development (Levy, 1984; Ogura, 1991; Orr & Geva, 2015; Wasik & Jacobi-Vessels, 2017).

With advancements in technology, innovative approaches have also been integrated into the development of children's narrative abilities. So et al. (2019) implemented a robot-based play-drama intervention to enhance the narrative skills of Chinese-speaking preschoolers with autism spectrum disorder (ASD). They noted that children with ASD frequently exhibit narrative skill deficits and that few intervention studies have addressed these challenges. Their study investigated whether children with ASD who participated in the robot-based drama intervention would demonstrate better narrative abilities compared to their peers who did not receive the intervention. Preschool children were randomly assigned to either the intervention group (N = 13) or a waitlist control group (N = 13). The intervention group engaged in watching three robot dramas and role-playing with robots and human experimenters. Both groups underwent pre-tests, immediate post-tests, and delayed post-tests two weeks later, where they narrated three stories. The intervention group demonstrated significant improvements in narrative length, syntactic complexity, narrative structure, and cognitive inferences. These improvements were maintained in the delayed post-test, unlike the waitlist control group, which showed no such enhancements. However, concerns regarding the effectiveness of using robots for children's narrative development have been

raised due to the robots' limited capacity to express emotions. This limitation stems from the lack of facial expressions and the use of synthesized voices (Conti et al., 2020; Costa et al., 2018). Therefore, while the robot-based intervention shows promise in enhancing narrative abilities in children, its limitations in emotional expression must be considered when evaluating its overall effectiveness.

Overall, shared book reading is a widely practiced and effective method in China. Play is highly valued for its role in language development, though its effectiveness may vary among different groups of children. Innovative approaches, such as utilizing robots, have been integrated into the development of children's narrative abilities. However, the impact of robot-based interventions can be limited by their lack of facial expressions and use of synthesized voices in real-life contexts. Thus, important lessons can be drawn" shared book reading effectively engages Chinese children in developing their narrative expression. However, factors such as children's neurodevelopmental state, as well as the facial expressions and voice of the storytellers, may influence the delivery and effectiveness.

### 2.2.4 Instruments for assessing narrative expression

The primary method for assessing children's narrative expression typically involves using picture books to elicit storytelling or story retelling (Ma, 2022). Among the various instruments available, the wordless picture book "Frog, Where Are You?" and the Edmonton Narrative Norms Instrument (ENNI) has been widely used in both Chinese and other countries' narrative studies (Akmeşe & Kanmaz, 2021; Z. Chen, 2023; Coughler et al., 2023; Guo et al., 2021). These tools are popular due to their appropriate difficulty level, which aligns well with children's cognitive abilities. Additionally, the wordless nature of the picture book used minimizes text interference, thereby reducing the memory load on children and eliminating language barriers (Ma, 2022). However, rather than employing these two instruments, this study utilizes the Multilingual Assessment Instrument for Narratives (MAIN), a tool developed by Gagarina et al. in 2012 and officially translated into Mandarin by Luo et al. in 2020.

MAIN was developed within the *Language Impairment Testing in Multilingual Settings* framework to evaluate narrative production and comprehension skills in children aged 3 to 10 years. It has since been expanded to include older children, adolescents, and adults (Lindgren

et al., 2023). MAIN was initially published in 2012, with a revised version in 2019, and is currently available in over 90 languages (Gagarina et al., 2019; Gagarina et al., 2012). Over the past decade, numerous studies have employed MAIN to explore various aspects of children's narratives (e.g., Tsimpli et al., 2016, for Greek; Altman et al., 2016, for English-Hebrew; Grøver et al., 2020, for Norwegian; Boerma & Blom, 2017 for Dutch). MAIN comprises four parallel picture-based stories—Cat, Dog, Baby Birds, and Baby Goats—each containing six pictures with accompanying scripts. These stories are designed to be equivalent in linguistic and cognitive demands, culturally appropriate, and uniform in terms of the number of characters, episodes, character actions and emotions, and overall conceptual and visual complexity (Lindgren et al., 2023; Sheng et al., 2020). Hence, it enables effective assessment through the four stories and facilitates comparisons across diverse linguistic and cultural backgrounds.

In terms of the quality of MAIN, Lautenschläger et al. (2023) conducted a psychometric evaluation of it, focusing on its objectivity, reliability, and validity, through using the Baby Birds and Baby Goats stories. The findings indicated enhanced interrater agreement was achieved with supplementary guidelines to the MAIN protocol, recording a very high interrater agreement (98.13%). Test-retest reliability exhibited an almost perfect correlation (r=.978) when the same story was repeated after approximately two weeks, revealing a potential training effect as evidenced by higher scores in the second testing. Reliability was lower when different stories were employed but remained substantial (r=.767), without significant differences between the two stories. The validity of the instrument was supported by a strong yet imperfect correlation (r=.648) between story structure scores and expressive vocabulary, indicating that story structure not only correlates with vocabulary but also measures additional linguistic aspects. Finally, Lautenschläger et al. (2023) advocate for further validation studies, thorough training for scorers to ensure objectivity, and caution in comparing scores from different stories, particularly in bilingual assessments.

MAIN is currently available in Mandarin; however, its application remains limited, with current studies primarily focusing on children with language disorders and in bilingual contexts. For example, Sheng et al. (2020) utilized MAIN to compare narrative production between Mandarin-speaking children at risk (AR) for developmental language disorder (DLD)

and typically developing (TD) controls. In their study, 21 AR children and 21 age- and nonverbal IQ–matched peers narrated two stories from MAIN: initially through story-retelling using Cat and Dog stories (following an adult model) and subsequently through story-telling using Bird and Goat stories (without a model). Results indicated that AR children performed less well than TD children on the more complex story-telling task, showing a decrease in scores from the retelling to the telling tasks, particularly in macrostructure and sentence complexity. The Mandarin version of MAIN has also been employed to study bilingual reference production in Mandarin-English bilingual preschoolers (Zhou et al., 2022). By employing two stories from MAIN, Zhou et al. analyzed character introduction and re-introduction in the oral narratives of 4- to 6-year-old bilingual children in Singapore acquiring both Mandarin Chinese and English (n = 21). Data collection was carried out remotely via a video-conferencing platform. The findings indicated that reference production is particularly challenging for early Mandarin-English bilinguals in a multilingual context.

In summary, various instruments are available for assessing children's narrative expression, such as "Frog, Where Are You?" and ENNI. In addition to these two tools, the MAIN has also been used as an effective and culturally appropriate instrument for assessing children's narrative expression. It demonstrates high objectivity with an interrater agreement of 98.13% and the validity of MAIN is supported by a moderate correlation (r = .648) between story structure scores and expressive vocabulary. In addition, MAIN is available in Mandarin and has been utilised in studies focusing on children with language disorders and bilingual contexts. However, its application remains limited, highlighting the need for further research on Chinese-speaking children's narrative abilities using MAIN to facilitate international comparisons.

## 3 The present study

This study seeks to address several important gaps in the literature given a) the limited research on the impact of verbal encouragement on children's language development and b) the lack of studies using a standardized tool to assess narrative expression in Chinese preschool children, especially within the Guizhou province.

First, the intervention is structured around shared book reading, so this study initially seeks to assess whether shared book reading is effective in enhancing an aspect of language development, the sub-domain of narrative expression. If it is effective, the study aims to evaluate the impact of verbal encouragement on children's narrative expression by comparing an intervention focused on verbal encouragement with a control group following a business-as-usual approach. To date, the effectiveness of such an encouragement-based intervention has not been examined within the context of Chinese preschools.

Second, this study aims to conduct an in-depth analysis of Chinese preschoolers' narrative expression by utilizing the MAIN assessment tool, with a particular emphasis on both narrative macrostructure and microstructure. This analysis seeks to contribute to the existing literature on Chinese children's narrative expression while also enhancing the broader cross-cultural understanding of narrative development. By applying the MAIN tool within the context of Chinese culture and language, the study seeks to provide valuable reflections into whether MAIN is effective to assess Chinese children's narrative expression.

Lastly, this study aims to contribute to the limited body of research on children's narrative expression in Guizhou, a typically underdeveloped province in southwestern China. According to Jiao et al. (2023), while Guizhou has historically been characterised by a lower economic level, it has experienced significant growth. This growth rate has even outpaced that of more developed coastal areas like Shanghai and Guangdong in recent years. With this rapid economic development, there has been an increasing emphasis on education. However, in comparison to this rise in economic and educational investment, research on preschool children's narrative expression and shared book reading in Guizhou remains quite limited. For example, a search on CNKI, China's largest academic database, using keywords like "Guizhou preschool, shared book reading/narrative expression" reveals only four relevant studies, such as Zhang's (2023) dissertation on children's portrayals in kindergarten picture books. Therefore, this study aims to enhance the understanding of preschool children's narrative expression in China, with a specific emphasis on Guizhou.

Therefore, the research questions guiding this study are as follows:

1. Is shared book reading effective in enhancing the narrative expression of Chinese preschool children?

2. If shared book reading is effective, does a verbal encouragement intervention lead to a significant improvement in narrative expression among Chinese preschool children compared to a control intervention? If so, which aspects of narrative macrostructure or microstructure are most impacted by the verbal encouragement?

3. How does the narrative expression of typically developing preschool children in Guizhou compare to that of their peers in other regions of China?

# 4 Methods

## 4.1 Ethics

This study was approved by the University of Oxford's Central University Research Ethics Committee (CUREC). The CUREC application, approval letter, guardian questionnaire on demographic and environmental background, information letters, consent forms, and recruitment text message are attached in Appendix A.

Several ethical considerations were carefully addressed throughout the study. For example, this study's focus on narrative expression aligns with the aims and activities of the Chinese national kindergarten curriculum, ensuring locally-valued outcomes. According to Ministry of Education of the People's Republic of China's (2012) Guidelines for the Learning and Development of Children Aged 3-6, kindergarten children are expected to engage in shared book reading activities. This includes practices such as withholding the book title to let children guess it after listening, encouraging them to explain their reasoning, and promoting independent reading and discussion of their discoveries, feelings, and thoughts. To design the intervention, the researcher incorporated these guidelines by including activities such as asking children to guess the main characters and connecting the reading content to their real-life experiences. Furthermore, the study considered the value of children's time spent in kindergarten regular activities. To ensure that children did not miss important activities, the researcher coordinated the scheduling of tests and interventions with the teachers.

Additionally, given the importance of maintaining children's interest during the intervention, the content was designed to be engaging and incorporated playful elements. For example, the researcher introduced a puppet named Da Zui (Big Mouth). During the

children's turn to retell the story, the researcher would animate the puppet, saying, "Oh my, I fell asleep! But now I'm awake! What did I miss? I cannot remember what happened. Can someone please tell me the story again?" This playful approach was effective in engaging the children in retelling the story. Moreover, the research was conducted in southwestern China, where chilies are popular food. To capitalize on this cultural aspect, the researcher selected pictures and developed a story titled "The King of Chilies." At the beginning of the lesson, the researcher asked the children to recall their experiences and feelings about eating chilies. This culturally relevant story theme was expected to captivate participating children's attention and enhance their focus while listening to the story.

### 4.2 Design

This study is an experimental intervention in which Chinese preschool participants were randomly assigned to either a receiving encouragement group or a business-as-usual control group. Both groups followed the same lesson structure which included an introductory activity, picture book reading by the researcher, asking story-related questions, children's story retelling, and a session wrap-up. The only difference was in the content of the instructional and concluding language, with word count controlled to ensure approximately equal language input. Table 2 provides examples of the differences in language use between the two groups (for details of the entire lesson, please refer to Appendix B).

**Table 2** *Language Use Comparison Between Groups*

| Situation | Experimental Group | Control Group |
|---|---|---|
| Showing children the cover of the story and asking them to guess the character. | "I know you can answer questions quickly and confidently. Who do you think 'me' refers to in the title 'What Makes Me Happy'? Is it the squirrel or Xiao Xi?" | "I have a question for you, and I'd like you to answer it. Who do you think 'me' refers to in the title 'What Makes Me Happy'? Is it the squirrel or Xiao Xi?" |
| Teaching a difficult word ("picturesque") | I would appreciate it if someone can tell me what "picturesque" means? | I want someone to tell me what "picturesque" means? |
| Asking children to imagine the character's inner thoughts | You have the potential to solve a difficult question based on the whole storyline. Why did the little squirrel weave a blue leaf hat for Xiao Xi? | The story is now finished, and I have a question for you to answer. Why did the little squirrel weave a blue leaf hat for Xiao Xi? |
| Commenting on children's | Pretend the puppet's voice: "you all did a great job listening to the story | Pretend the puppet's voice: "you helped me by retelling the whole |

| | | |
|---|---|---|
| performance | and answering questions. I also saw that you were polite and listened when others were speaking. You should feel proud! Keep up the good work!" | story to me. Even those who didn't retell the story were polite and listened when others were speaking. You all follow the rules and meet the requirements." |

Note. The underlined language in the table represents the differences of instructional phrases or wording used between two groups.

Both groups spent the same amount of time with the researcher in sub-groups, with consistent pupil-researcher ratios across both schools. Specifically, there were four subgroups with an 8:1 ratio in school A and two subgroups with an 11:1 ratio in school B. The children in both groups were exposed to the same stories, and the interventions for both groups were heavily language-based. These methodological consistencies between the two groups reduce the possibility of confounding variables, thereby enhancing the validity of between-group comparisons.

Both groups participated in pre-tests, the intervention (either receiving encouragement condition or the business as usual condition), and post-tests. The pre- and post-test was the Multilingual Assessment for Narratives Instrument (see Section 4.4). The researcher conducted the pre- and post-tests individually, lasting approximately 8-10 minutes with each child, in a room available at the kindergarten. Each testing period spanned approximately seven school days. The intervention started immediately after the pre-test period and was followed by the post-test period immediately after the intervention. The intervention consisted of ten 25-minute lessons, delivered over approximately two weeks with one lesson per day. All lessons were delivered by the researcher in subgroups of eight or eleven children, depending on the school. Figure 1 displays the timeline and structure of the lesson.

**Figure 1** *The Timeline and Structure of Pre-Tests, Interventions, and Post-Tests*

<table>
<tr><td>Day 1 - 8</td><td colspan="5">Day 9-18</td><td>Day 19-27</td></tr>
<tr><td>Pre-tests<br><br>Individually administered<br>Approximately 9-minutes</td><td colspan="5">Intervention<br><br>10 x 25 minutes Sessions<br><br>School A: Groups of 8 children; School B: Groups of 11 children</td><td>Post-tests<br><br>Individually administered<br>Approximately 9-minutes</td></tr>
<tr><td rowspan="6">MAIN<br><br>(Cat or Dog story)</td><td>Day 9-10<br><br>Story: “What Will Make Me Happy?”</td><td>Day 11-12<br><br>Story: “Where Is My Toy Car?”</td><td>Day 13-14<br><br>Story: “Little Elephant Pipi Learns to Dance”</td><td>Day 15-16<br><br>Story: “The King of Chillies”</td><td>Day 17-18<br><br>Review</td><td rowspan="6">MAIN<br><br>(Bird or Goat story)</td></tr>
<tr><td colspan="5">Introductory activity</td></tr>
<tr><td colspan="5">Picture book reading by the researcher</td></tr>
<tr><td colspan="5">Story-related questions</td></tr>
<tr><td colspan="5">Children’s story retelling</td></tr>
<tr><td colspan="5">Session wrap-up</td></tr>
</table>

Note. On the review days, Day 17 revisited the first two stories, while Day 18 reviewed the final two stories.

### 4.3 Participants

Participants were 47 typically developing 5- to 6-year-old children (Mage= 74.13 months, SD = 3.49) from two state kindergartens in Guizhou Province, an underdeveloped region in southwestern China. Parental consent was obtained for children in the Grade 3 group (ages 5 to 6) at both kindergartens. In School A, all 32 parents provided consent. However, one child did not participate in the pre-test and was on medical leave until the fifth intervention session, another child transferred to a different school mid-term and did not take part in the intervention or post-test, and four children were diagnosed with herpangina and were unable to complete the post-test within two weeks of the final session. In School B, 22 out of 28 parents consented; one child took a two-month personal leave and missed the last five intervention sessions and the post-test. In total, 47 children (24 males, 23 females) participated in all stages of the study.

Children were randomly assigned to either the experimental or control group. The experimental group consisted of 24 participants (11 males, 13 females) who completed all stages of the study, while the control group included 23 participants (13 males, 10 females) who also completed all stages. There were no significant differences in sex distribution between the groups, $X^2$ (1, N = 47) = .54, p = .41, nor in age (experimental group: M = 74.62 months, SD = 3.74; control group: M = 73.61 months, SD = 3.22; t(45) = 0.99, p = .32). Table 3 displays this information.

Due to illness or personal leave, some children missed certain intervention sessions. The number of absences did not differ significantly between the experimental group (Mdn = 1.00, Mean Rank = 25.54) and the control group (Mdn = 1.00, Mean Rank = 22.39), U = 239, z = -0.83, p = 0.40 (see Table 3).

**Table 3** *Children's Sex, Age and Absences by Intervention Group*

| | Experiment Group (N=24) | | | Control Group (N=23) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Chi-Square | | |
| | N (%) | | | N (%) | | | $X^2$ | df | p |
| Sex | | | | | | | .54 | 1 | .46 |
| Male | 11 (45.8%) | | | 13 (56.5%) | | | | | |
| Female | 13 (54.2%) | | | 10 (43.5%) | | | | | |
| | | | | | | | Independent t-Test | | |
| | M | SD | | M | SD | | t | df | p |
| Age | 74.62 | 3.74 | | 73.61 | 3.22 | | .99 | 45 | .32 |
| | | | | | | | Mann-Whitney U-test | | |
| | Mdn | Mean Rank | IQR | Mdn | Mean Rank | IQR | U | z | p |
| Absences | 1.00 | 25.54 | 2.00 | 1.00 | 22.39 | 2.00 | 239 | -.83 | .40 |

### 4.4 Materials

The Mandarin version of the Multilingual Assessment Instrument for Narratives (MAIN; Gagarina et al., 2012) was used to elicit stories from the children. The MAIN instrument comprises four parallel stories that are suitable for both pre-tests and post-tests, each consisting of six pictures. These stories are designed to be comparable in several aspects, including the number of utterances and words. For example, the standard Mandarin version of the Cat story can generate 17 utterances, 189 total words, and 91 different words. Similarly, the Mandarin version of the Dog story can generate 17 utterances, 196 total words, and 88 different words (Sheng et al., 2020). These stories are also comparable in terms of the number of episodes, the depiction of character actions and emotions, as well as overall conceptual and visual complexity. Featuring characters and plots that are familiar to young children across various cultures, these stories have been used in more than a dozen languages (Pesco & Bird, 2016). In this study, the Cat and Dog stories were utilized for pre-tests, while the Bird and Goat stories were used for post-tests.

Regarding the picture books used during the reading activity, four story scripts were written by the researcher based on Chinese culture and local customs. The pictures were sourced from the StoryWeaver website (https://storyweaver.org.in/en), which is free to use and develop. Table 4 shows the four stories used in the intervention.

**Table 4** *Overview of Stories Used in the Intervention*

| Story | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| **Title** | What Will Make Me Happy? | Where Is My Toy Car? | Little Elephant Pipi Learns to Dance | The King of Chillies |
| **Synopsis** | A girl helps a crying squirrel find happiness by visiting various beautiful places, such as a winding river, and a vast meadow. | A boy searches for his toy car by checking under the bed, behind the door, in the box, and on the shelf. | An elephant learns to dance, practicing lifting legs, doing splits, and maintaining balance. | A rabbit wins a chili-eating contest while other animals react differently to the spiciness. |
| **Main Teaching Objective** | Teach the emotion "happy" and the ambitious word "picturesque." | Teach positional words and the idiom "gōng fū bú fù yǒu xīn rén" (hard work pays off). | Help children notice and describe the character's actions | Help children understand and describe different characters' reactions to the same taste. |
| **Sample Story-Related Question** | "I describe the river as winding. How would you describe a river?" | "So far, where has the boy looked? First under the bed, and then where?" | "How does the character feel while learning to do splits?" | "Does this tiger find the chillies spicy? What does he look like?" |

The content was reviewed and discussed with a school headteacher to ensure its appropriateness, and that the language level was suitable for the children. Additionally, the story's logic was carefully considered, with attention to the use of transitional phrases for coherence. For example, in Story 1, phrases like "after crossing the river, the squirrel and the girl arrived at the meadow" were used. In Story 2, the changes in search locations were linked visually to the next scene. In Story 3, the headteacher suggested incorporating onomatopoeia to engage the children, such as revising the script from "the bird comforted the elephant" to "'chirp chirp,' the bird comforted the elephant." In Story 4, the headteacher raised the question, "Why does the rabbit, in particular, not find the chili spicy?" This led the researcher to consider the underlying logic: 1) Tigers and lions are carnivores, whereas rabbits, being herbivores, are more naturally associated with vegetables such as chili peppers. 2) Elephants prefer sweet fruits like bananas, while rabbits are more likely to eat vegetables. The researcher also found videos of a rabbit eating chili peppers, which supported this reasoning. Indeed, during the intervention session, two children raised this question.

To collect essential information on the child's demographic profile, socioeconomic status (SES), and language environment, this study also administered a parent/guardian questionnaire on demographic and environmental background. The questionnaire includes sections on the child's basic details, such as birth date and gender. It also collects data on the parents' average annual income and educational levels, providing insights into the family's socioeconomic background. Additionally, the questionnaire examines the family's engagement in shared reading activities and the child's exposure to Chinese dialects and ethnic language, which are crucial for understanding the language environment and its potential influence on the child's development.

### 4.5 Procedure

***Pre-test.*** The pre-tests started in May 2024 after obtaining parental consent for each child's participation. The researcher individually collected each child from their classroom to a designated room within the kindergarten. Both the researcher and the child sat across from each other at a table. Prior to administering the assessment, the researcher informed the children that their answers would be audio-recorded, displayed the recording device, and reassured them that only the research team would have access to their responses. The researcher then asked for the child's assent to participate, and upon receiving agreement, the assessments began. All children's responses were audio-recorded using an encrypted, password-protected device. Before starting the test, the researcher verbally stated the child's participant number, ensuring that no names were mentioned at any point during the testing.

The administration of tasks strictly followed the MAIN manual. Each participant was tested individually by an experimenter in a quiet room within their school.

After a brief conversation to establish rapport and gain assent, the testing commenced. The experimenter presented the child with three envelopes, each containing the same story. The child selected one envelope and previewed the pictures within the story. The experimenter then held up the pictures, two at a time, and asked the child to narrate the story. Throughout the story-telling task, the experimenter refrained from looking at the pictures to maintain the pretense that the story was unknown to them. The entire process, from collecting the child to completing the test, took approximately 8-10 minutes.

***Pilot study.*** Before commencing the formal intervention, the researcher, as a novice interventionist, conducted a three-day pilot study at a different kindergarten. This pilot was essential in refining the intervention process and building the researcher's confidence. On the first day, the researcher delivered the first lesson to eight children. The second day involved teaching the second lesson to the same group, focusing on practicing transitions and wrap-up activities. On the third day, the researcher implemented an improved version of the first lesson with a new group of children. Throughout the pilot study, a classroom teacher provided valuable comments and suggestions on the researcher's performance. The feedback received, which included suggestions such as incorporating a self-introduction, using finger exercises to manage classroom discipline, seating talkative children separately, and employing varied intonations during storytelling, greatly improved the researcher's preparation for the formal intervention.

***Interventions.*** The interventions for both groups across two schools were conducted over ten days, consisting of 10 researcher-led sessions, each lasting about 25 minutes. In School A, sessions were delivered to four subgroups of eight children each (two for the encouragement group and two for the control group). In School B, sessions were delivered to two subgroups of eleven children each (one for the encouragement group and one for the control group). For each session, the researcher entered the classroom, called the names of the children in the scheduled subgroup, and collected them to a designated quiet room within the kindergarten. The children sat in chairs arranged in a semi-circle around a large table facing the researcher. The researcher noted any absences, ensured the children were ready to begin, and started the lesson. During the sessions, the researcher ensured all children were engaged and actively involved. The children were allowed to use the toilet facilities as per kindergarten rules. After each session, the researcher walked the children back to their classroom and brought back the next group. If a child missed a lesson, it was not repeated for them. Each child remained in the same subgroup throughout the intervention period.

***Post-test.*** The exact same procedures as at pre-test were followed.

### 4.6 Transcription and coding

The researcher transcribed all narrative samples into Chinese characters using the Codes for the Human Analysis of Transcripts (CHAT) format. The macrostructure of the narratives was coded using the MAIN scoring rubric, with a focus on the story structure score (Gagarina et al., 2012). Each story was assessed for the inclusion of two setting elements (time and place) and three episodes, each comprising five elements: initiating event, character's goal, attempt, outcome of the attempt, and reaction. Each macrostructure element identified was given a score of 1, leading to a potential maximum score of 17 for each story.

To ensure the reliability of the macrostructure analysis of narrative samples, a second coder independently scored the macrostructure for 10 children's narrative files (20% of the total participants with 20 files in total). Both coders were native Mandarin speakers and were blinded to the socioeconomic background of the children to mitigate potential biases. Cohen's kappa (k), a statistic for measuring inter-rater reliability in qualitative data, was calculated to quantify the consistency between the two coders. The inter-rater agreement was evaluated by comparing the scores assigned by the two coders across the 17 macrostructure elements. Detailed reliability analyses were conducted for specific parts, including the Setting, Internal State Terms (IST) as initiating events, Goal, Attempt, Outcome, and IST as reaction.

Table 5 presents Cohen's kappa values calculated for overall score and each part across four narrative stories (Cat, Dog, Bird, and Goat). According to Landis & Koch (1977)'s standards, the overall inter-rater reliability was classified as "almost perfect" ($k = 0.85$, $p < 0.001$). The inter-rater reliability for Setting and IST as reaction part across the four stories were consistently perfect, with a kappa value of 1, indicating complete agreement. Any differences in scoring were addressed through discussion until agreement was reached, ensuring high accuracy and reliability in the analysis. However, moderate agreement was observed for the Outcome score in the Cat story and IST as an initiating event ($k < 0.6$) in the Goat story. To address these discrepancies, the two coders engaged in a focused discussion on these two parts.

**Table 5** *Inter-rater reliability Analysis for Macrostructure Scoring*

| | Cat story | | Dog story | | Bird story | | Goat story | | Overall | |
|---|---|---|---|---|---|---|---|---|---|---|
| | k | p | k | p | k | p | k | p | k | p |
| Overall | 0.85 | *** | 0.88 | *** | 0.83 | *** | 0.82 | *** | 0.85 | *** |
| Setting | 1 | * | 1 | * | 1 | * | 1 | * | | |
| IST initiating | 0.87 | *** | 0.82 | *** | 0.89 | *** | 0.50 | * | | |
| Goal | 0.84 | *** | 0.87 | *** | 0.66 | ** | 0.83 | ** | | |
| Attempt | 0.67 | ** | 0.72 | ** | 0.68 | ** | 0.83 | ** | | |
| Outcome | 0.58 | * | 0.87 | *** | 0.75 | *** | 0.82 | ** | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| IST reaction | 1 | *** | 1 | * | 1 | *** | 1 | *** |

Note. IST refers to internal state terms. p * < 0.05; ** < 0.01; *** < 0.001

For microstructure analysis, the MAIN transcription rule (Landis & Koch, 1977) recommends segmenting speech using utterances (MacWhinney, 2000), t-units (minimally terminable units, Hunt, 1965), and c-units (communication units, Loban, 1976). Among these, the C-unit, defined as "an independent clause with its modifier" (Loban, 1976), is commonly employed to segment narrative discourse in English. However, Mandarin has several distinctive features that differ from English, making the current approach to identifying C-units challenging. For example, Mandarin allows omission of arguments, including subject and object (J. Chen, 2016). Additionally, it does not require explicit connectives to link serial verb constructions, which are multi-predicate structures (Fan, 2017). These characteristics require language-specific definitions for clauses and tailored units of segmentation.

Utterance segmentation in Chinese lacks a standardized set of rules. Various approaches have been employed, including segmenting by syntax (e.g., F. Zhang et al., 2019), by syntax and prosody (e.g., Klee et al., 2004), or by prosody (e.g., Kit et al., 2010). To align more closely with the practice of using C-units in other languages, in this study it was decided to segment by syntax and use utterance as the unit of segmentation. An utterance is defined as a main or independent clause along with any dependent clauses. Clauses, in turn, are defined as "consisting of a verb and its arguments, corresponding roughly to a single event" (McCabe & Chang, 2013; see Appendix C for transcription examples).

The segmentation of Chinese words adhered to the conventions outlined in the Taiwan Corpus of Child Mandarin (Cheung, 2011). Following segmentation, Computerized Language Analysis (CLAN) software (MacWhinney, 2014) was employed to generate measures of productivity, lexical diversity, and sentence length. Specifically, the metrics included: **1) Productivity**: Total number of utterances (TNU); **2) Lexical Diversity**: Total number of words (TNW) and number of different words (NDW); **3) Syntactic Complexity**: Mean length of utterance (MLU).

## 5 Results

### 5.1 Analytic plan

All statistical analyses were done using SPSS Version 29 and EXCEL Version 16.

**Research Question 1:** To determine whether shared book reading is effective in enhancing the narrative expression of Chinese preschool children, the analysis first examined the normal distribution of pre-test and post-test scores for both microstructure and macrostructure elements. Following Hair (2009), we considered data to be approximately

normally distributed if the skewness was less than |2.0| and the kurtosis was less than |7.0|. As indicated in Table 6, all data met these criteria for normality. Subsequently, a paired t-test was conducted within each group (intervention and control) to determine whether there was a significant improvement in narrative expression from pre-test to post-test.

**Table 6** *Skewness and Kurtosis of Macrostructure and Microstructure Score*

| Variable | Skewness | Kurtosis |
|---|---|---|
| | Pre-test | |
| Macro | 0.22 | -0.26 |
| Micro_TNW | 0.02 | -0.06 |
| Micro_NDW | 0.25 | 0.20 |
| Micro_TNU | 0.36 | 0.67 |
| Micro_MLU | 0.90 | 3.02 |
| | Post-test | |
| Macro | -0.19 | -0.44 |
| Micro_TNW | 1.02 | 1.64 |
| Micro_NDW | 0.37 | -0.96 |
| Micro_TNU | 1.72 | 4.27 |
| Micro_MLU | 0.66 | 0.56 |

**Research Question 2:** If shared book reading is effective, the study further investigated whether a verbal encouragement intervention leads to a significant improvement in narrative expression among Chinese preschool children compared to a control intervention. Additionally, the study aimed to identify which aspects of narrative macrostructure or microstructure were most impacted by the verbal encouragement. To address this question, a one-way ANOVA was conducted with the following specifications: **1) Dependent Variable (DV):** Post-test scores of narrative expressions (focusing on both macrostructure and microstructure aspects). **2) Independent Variable (IV):** Group (Intervention: Verbal Encouragement vs. Control: Business as usual). Covariates, including pre-test scores, individual SES, and language environment factors, were initially considered for inclusion in the analysis. However, they were subsequently excluded due to specific reasons, such as the lack of significant baseline differences between the groups.

For the consideration of covariates, the initial questionnaire included individual SES (income and parental education level) and language environment factors (home shared reading frequency and exposure to other Chinese languages). The coding for SES scores and language environment factors was structured as follows: For socioeconomic status, the average annual income per parent was coded as ordinal variables, with values ranging from 1 for incomes below 40,000 Yuan to 5 for incomes above 160,000 Yuan, while “prefer not to say” was treated as missing data. Parental education level, for both the mother and father, was also coded as ordinal variables ranging from 1 (less than high school) to 5 (master’s degree and above). Language environment factors included shared reading frequency, coded

ordinally from 4 (daily) to 1 (rarely or never), and exposure to other Chinese dialects, which was coded nominally from 1 (Mandarin only) to 4 (dialect only).

However, since 20 out of 47 parents selected "prefer not to say" for income, resulting in substantial missing data, this variable was excluded to avoid reducing statistical power and introducing bias. Furthermore, considering that Guizhou has the most multicultural population in China, with ethnic minorities comprising 35.7% of the population (Wu, 2015), children's exposure to different languages was initially considered as a potential covariate in this study. However, parental reports indicated that 41 out of 47 children communicated exclusively or predominantly in Mandarin, with no child using only a dialect or an ethnic minority language as their primary means of communication. Given the limited variability in language exposure, this variable was also excluded from the analysis.

In addition, Spearman correlation analyses were conducted to assess the relationships between other potential covariate (parental education and shared reading frequency) and the dependent variables (post-test narrative scores). As shown in Table 7, none of these covariates demonstrated significant correlations with the post-test scores. Since covariates are typically included in analyses to control for variables that might confound the relationship between the independent and dependent variables, the lack of significant correlations suggests that these factors do not meaningfully influence the outcomes. Consequently, parental education and shared reading frequency were excluded from further analysis.

**Table 7** *Spearman Correlations Between Covariates and Post-Test Scores*

| | Mother's education | Father's education | Reading Frequency |
|---|---|---|---|
| PostMacro | 0.05 (p = 0.75) | 0.04 (p = 0.77) | -0.24 (p = 0.10) |
| PostTNW | -0.01 (p = 0.94) | 0.08 (p = 0.59) | -0.06 (p = 0.68) |
| PostNDW | -0.003 (p = 0.99) | 0.10 (p = 0.49) | -0.05 (p = 0.74) |
| PostTNU | 0.16 (p = 0.28) | 0.26 (p = 0.08) | -0.05 (p =0.73) |
| PostMLU | -0.25 (p = 0.09) | -0.20 (p = 0.17) | 0.02 (p = 0.91) |

Pre-test scores were also excluded as a covariate. As shown in Table 8, there was no significant difference in pre-test scores between the experimental and control groups, indicating successful randomization.

**Table 8** *Comparison of Pre-Test Scores Between Experimental and Control Groups*

| Variable | Group | n | M | SD | t | df | p |
|---|---|---|---|---|---|---|---|
| PreMacro | Experiment | 24 | 6.92 | 1.93 | -1.06 | 45 | 0.29 |
| | Control | 23 | 7.52 | 1.97 | | | |
| PreTNW | Experiment | 24 | 81.88 | 22.42 | -0.03 | 45 | 0.98 |
| | Control | 23 | 82.09 | 25.04 | | | |
| PreNDW | Experiment | 24 | 43.46 | 8.08 | -0.09 | 45 | 0.93 |
| | Control | 23 | 43.70 | 10.64 | | | |
| PreTNU | Experiment | 24 | 10.96 | 2.87 | 0.75 | 45 | 0.46 |
| | Control | 23 | 10.35 | 2.72 | | | |
| PreMLU | Experiment | 24 | 7.53 | 1.52 | -1.09 | 45 | 0.28 |

| | | | |
|---|---|---|---|
| Control | 23 | 8.08 | 1.92 |

Before proceeding with the analyses, the assumptions of ANOVA were evaluated. First, the approximate normal distribution of the dependent variable within each group was confirmed for all variables. Second, the assumption of homogeneity of variances was tested using Levene's Test. This assumption was violated for NDW, $F(1, 45) = 4.51$, $p = .04$, and MLU, $F(1, 45) = 8.02$, $p = .01$. To address this violation, Welch's ANOVA was employed for these variables as an appropriate alternative (Garson, 2012).

**Research Question 3:** To examine how the narrative expression of typically developing preschool children in Guizhou compares to that of their peers in other regions of China, relevant summary statistics (means, standard deviations, sample sizes) for macrostructure and microstructure scores will be extracted from existing literature that has assessed narrative expression using comparable methods and tools (i.e., MAIN). For example, studies such as Sheng et al. (2020) from Jiangsu Province, a more economically developed region, are included. Since all included studies adhere to the official rubrics, these summary statistics will be directly compared using independent samples t-tests to identify significant regional differences in narrative expression.

## 5.2 Results

### 5.2.1 Is shared book reading effective in enhancing the narrative expression of Chinese preschool children?

The results are summarised in Tables 7, 8, and 9, which present the changes in children's narrative expression before and after the intervention across all participants, as well as separately for the experimental and control groups.

Table 9 provides an overview of the changes across the entire sample, highlighting significant improvements in most variables following the intervention. The macrostructure score notably increased from 7.21 to 9.57, with a mean change of 2.36 ($t(46) = 6.07$, $p < .001$). Similarly, the total number of words (TNW) showed a significant rise, with a mean change of 14.51 ($t(46) = 3.65$, $p < .001$). The number of different words (NDW) also improved significantly, with a mean change of 7.23 ($t(46) = 4.96$, $p < .001$). Additionally, the total number of utterances (TNU) exhibited a significant increase, with a mean change of 1.92 ($t(46) = 4.03$, $p < .001$). In contrast, the mean length of utterance (MLU) remained stable, with a negligible mean difference of 0.03 ($t(46) = 0.11$, $p = 0.92$), indicating no significant change.

**Table 9** *Changes in All Children's Narrative Expression Before and After the Intervention*

| Variable | n | M | SD | t | df | p |
|---|---|---|---|---|---|---|
| PostMacro | 47 | 9.57 | 1.95 | | | |
| PreMacro | 47 | 7.21 | 1.96 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Change | 47 | 2.36 | 2.66 | 6.07 | 46 | *** |
| PostTNW | 47 | 96.49 | 31.91 | | | |
| PreTNW | 47 | 81.98 | 23.48 | | | |
| Change | 47 | 14.51 | 27.28 | 3.65 | 46 | *** |
| PostNDW | 47 | 50.81 | 12.32 | | | |
| PreNDW | 47 | 43.57 | 9.31 | | | |
| Change | 47 | 7.23 | 10.00 | 4.96 | 46 | *** |
| PostTNU | 47 | 12.57 | 4.13 | | | |
| PreTNU | 47 | 10.66 | 2.78 | | | |
| Change | 47 | 1.92 | 3.26 | 4.03 | 46 | *** |
| PostMLU | 47 | 7.83 | 1.36 | | | |
| PreMLU | 47 | 7.80 | 1.73 | | | |
| Change | 47 | 0.03 | 1.72 | 0.11 | 46 | 0.92 |

Note. p * < 0.05; ** < 0.01; *** < 0.001

Table 10 focuses on the experimental group, where significant improvements were observed across several key variables. The macrostructure score saw a substantial increase from 6.92 to 9.79, with a mean change of 2.85 ($t(23) = 6.07$, $p < .001$). The TNW also showed a marked increase, with a mean change of 18.79 ($t(23) = 2.93$, $p < .01$). Similarly, the NDW increased significantly, with a mean change of 7.23 ($t(23) = 3.46$, $p < .01$), and the TNU followed suit, with a mean change of 1.92 ($t(23) = 2.86$, $p < .01$). However, the MLU exhibited minimal change, with a non-significant mean difference of 0.03 ($t(23) = 0.94$, $p = 0.36$).

**Table 10** *Changes in Children's Narrative Expression in the Experiment Group Before and After the Intervention*

| Variable | n | M | SD | t | df | p |
|---|---|---|---|---|---|---|
| PostMacro | 24 | 9.79 | 2.15 | | | |
| PreMacro | 24 | 6.92 | 1.93 | | | |
| Change | 24 | 2.85 | 2.95 | 6.07 | 23 | *** |
| PostTNW | 24 | 100.67 | 31.85 | | | |
| PreTNW | 24 | 81.88 | 22.42 | | | |
| Change | 24 | 18.79 | 31.45 | 2.93 | 23 | ** |
| PostNDW | 24 | 51.58 | 10.46 | | | |
| PreNDW | 24 | 43.46 | 8.08 | | | |
| Change | 24 | 7.23 | 10.00 | 3.46 | 23 | ** |
| PostTNU | 24 | 13.04 | 4.43 | | | |
| PreTNU | 24 | 10.96 | 2.87 | | | |
| Change | 24 | 1.92 | 3.26 | 2.86 | 23 | ** |
| PostMLU | 24 | 7.83 | 0.98 | | | |
| PreMLU | 24 | 7.53 | 1.52 | | | |
| Change | 24 | 0.03 | 1.72 | 0.94 | 23 | 0.36 |

NOTE. p * < 0.05; ** < 0.01; *** < 0.001

Table 11 indicates a significant improvement in the control group's narrative expression for most variables. Specifically, the macrostructure score increased from 7.52 to 9.35, with a significant mean change of 1.83 ($t(22) = 3.86$, $p < .001$). Similar positive changes are observed in TNW (mean change = 10.04, $t(22) = 2.20$, $p < .05$) and NDW (mean change = 6.30, $t(22) = 3.63$, $p < .01$). The TNU also showed a significant increase (mean change = 1.74,

t(22) = 2.82, p < .05). However, the MLU did not show a significant change, with a slight decrease (mean change = -0.31, t(22) = -0.94, p = 0.36).

**Table 11** *Changes in Children's Narrative Expression in the Control Group Before and After the Intervention*

| Variable | n | M | SD | t | df | p |
|---|---|---|---|---|---|---|
| PostMacro | 23 | 9.35 | 1.75 | | | |
| PreMacro | 23 | 7.52 | 1.97 | | | |
| Change | 23 | 1.83 | 2.27 | 3.86 | 22 | *** |
| PostTNW | 23 | 92.13 | 32.08 | | | |
| PreTNW | 23 | 82.09 | 25.04 | | | |
| Change | 23 | 10.04 | 21.93 | 2.20 | 22 | * |
| PostNDW | 23 | 50.00 | 14.19 | | | |
| PreNDW | 23 | 43.70 | 10.64 | | | |
| Change | 23 | 6.30 | 8.32 | 3.63 | 22 | ** |
| PostTNU | 23 | 12.09 | 3.83 | | | |
| PreTNU | 23 | 10.35 | 2.72 | | | |
| Change | 23 | 1.74 | 2.96 | 2.82 | 22 | * |
| PostMLU | 23 | 7.77 | 1.69 | | | |
| PreMLU | 23 | 8.08 | 1.92 | | | |
| Change | 23 | -0.31 | 1.57 | -0.94 | 22 | 0.36 |

NOTE. p * < 0.05; ** < 0.01; *** < 0.001

Overall, both the experimental and control groups demonstrated significant improvements in macrostructure scores, total number of words (TNW), number of different words (NDW), and total number of utterances (TNU). However, no significant changes were observed in the mean length of utterance (MLU) across either group. These findings suggest that the shared book reading intervention employed in this study was effective in enhancing the narrative expression of Chinese preschool children.

### 5.2.2 Does a verbal encouragement intervention lead to a significant improvement in narrative expression among Chinese preschool children compared to a control intervention?

Table 12 presents the results of one-way ANOVA and Welch's ANOVA comparing the post-test narrative expression scores between the experimental and control groups. For Macro, TNW, and TNU, one-way ANOVA was applied, with the results indicating no significant differences between the experimental and control groups. The F-values for these variables were low ($F(1, 45) = 0.60$ for Macro, $F(1, 45) = 0.84$ for TNW, and $F(1, 45) = 0.62$ for TNU), with p-values of 0.44, 0.37, and 0.43, respectively, and small effect sizes ($\eta^2$ ranging from 0.01 to 0.02). Due to violations of homogeneity of variances, Welch's ANOVA was used for NDW and MLU. The results similarly indicated no significant differences between the groups, with Welch-F values of 0.19 (p = 0.67) for NDW and 0.07 (p = 0.79) for MLU. The effect sizes were also very small ($\eta^2 = 0.004$ for NDW and $\eta^2 = 0.002$ for MLU).

**Table 12** *Comparison of Post-Test Narrative Expression Scores Between Experimental and Control Groups*

| | Experiment group (N = 24) | | Control group (N = 23) | | One-way ANOVA | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | M | SD | M | SD | *F* | df (Num) | df (Den) | p | η2 |
| Macro | 9.79 | 2.15 | 9.35 | 1.75 | 0.60 | 1 | 45 | 0.44 | 0.01 |
| TNW | 100.67 | 31.85 | 92.13 | 32.08 | 0.84 | 1 | 45 | 0.37 | 0.02 |
| TNU | 13.04 | 4.43 | 12.09 | 3.83 | 0.62 | 1 | 45 | 0.43 | 0.02 |
| | | | | | Welch's ANOVA | | | | |
| | M | SD | M | SD | Welch-*F* | df (Num) | df (Den) | p | η2 |
| NDW | 51.58 | 10.46 | 50.00 | 14.20 | 0.19 | 1 | 40.39 | 0.67 | 0.004 |
| MLU | 7.88 | 0.98 | 7.77 | 1.69 | 0.07 | 1 | 34.99 | 0.79 | 0.002 |

Overall, there were no statistically significant differences between the experimental and control groups across all post-test measures of narrative expression. This suggests that the verbal encouragement intervention did not result in a significant improvement in narrative expression among Chinese preschool children compared to the control intervention.

### 5.2.3 How does the narrative expression of typically developing preschool children in Guizhou compare to that of their peers in other regions of China?

Table 13 presents a summary of narrative expression measures from four studies identified using MAIN conducted across different sites in China, including Jiangsu, Sichuan, and Gansu provinces. These studies provide relevant summary statistics for key narrative expression measure. To compare the narrative expression of typically developing preschool children in Guizhou with their peers from these regions, pre-test scores were selected for analysis. This choice was made to reduce the potential influence of a training effect, which could arise if children become more familiar with the test through repeated exposure, potentially skewing the results (Fong & Nisbett, 1991). Additionally, using pre-test scores ensures that comparisons across regions reflect the children's natural developmental levels, free from the effects of subsequent educational or environmental interventions. This approach provides a more accurate assessment of regional differences in narrative expression among preschool children in China.

**Table 13** *Summary of Narrative Expression Measures Across Different Sites in China*

| Research | Site | Sample size | Measures | M | SD |
|---|---|---|---|---|---|
| Sheng et al. (2020) | Jiangsu1 | 21 (Mage = 67.5, SD = 9.2) | Macro | 9.43 | 2.60 |
| | | | TNW | 114.29 | 30.35 |
| | | | NDW | 56.76 | 10.34 |
| | | | TNU | 15.86 | 4.80 |
| | | | MLU | 7.38 | 1.09 |
| Ma (2022) | Jiangsu2 | 92 (Mage = 70, SD = 3.53) | Macro | 8.96 | 2.12 |
| | | | TNW | 97.51 | 30.92 |
| | | | NDW | 48.55 | 11.03 |
| | | | TNU | 12.66 | 4.01 |
| | | | MLU | 7.81 | 1.37 |

| | | | | | |
|---|---|---|---|---|---|
| Lei (2018) | Sichuan | 31 (Mage = 73.2, SD = 1.6) | Macro | 8.94 | 2.03 |
| Zhai (2023) | Gansu | 28 (Ages 5 to 6 years) | Macro | 8.86 | 2.04 |

Table 14 compares narrative expression scores between preschool children in Guizhou and their peers in other regions of China, including Jiangsu, Sichuan, and Gansu. For the comparison between Guizhou and Jiangsu (Jiangsu1 and Jiangsu2), significant differences were observed in most narrative measures. For instance, children in Jiangsu scored significantly higher on Macro ($t = 3.49$, $p < .01$), TNW ($t = 4.33$, $p < .001$), NDW ($t = 5.01$, $p < .001$), and TNU ($t = 4.63$, $p < .001$) compared to children in Guizhou, based on the first dataset (Jiangsu1). Similar significant differences were noted in the second dataset (Jiangsu2) for Macro, TNW, NDW, and TNU. However, no significant difference was found in MLU between Jiangsu and Guizhou in either dataset.

Comparisons with Sichuan and Gansu also revealed significant differences in Macro scores, with children in Sichuan ($t = 3.73$, $p < .001$) and Gansu ($t = 3.44$, $p < .01$) scoring higher than those in Guizhou. These results indicate that preschool children in Guizhou generally score lower in several key aspects of narrative expression compared to their peers in more economically developed regions of China.

**Table 14** *Comparison of Narrative Expression Scores Between Preschool Children in Guizhou and Other Sites of China*

| Site | Variable | n | M | SD | t | df | p |
|---|---|---|---|---|---|---|---|
| Jiangsu1 vs. Guizhou | Macro_Jiangsu1 | 21 | 9.43 | 2.60 | 3.49 | 18.40 | ** |
| | Macro_Guizhou | 47 | 7.21 | 1.96 | | | |
| | TNW_Jiangsu1 | 21 | 114.29 | 30.35 | 4.33 | 18.40 | *** |
| | TNW_Guizhou | 47 | 81.98 | 23.48 | | | |
| | NDW_Jiangsu1 | 21 | 56.76 | 10.34 | 5.01 | 18.35 | *** |
| | NDW_Guizhou | 47 | 43.57 | 9.31 | | | |
| | TNU_Jiangsu1 | 21 | 15.86 | 4.80 | 4.63 | 18.57 | *** |
| | TNU_Guizhou | 47 | 10.66 | 2.78 | | | |
| | MLU_Jiangsu1 | 21 | 7.38 | 1.09 | -1.21 | 18.73 | 0.24 |
| | MLU_Guizhou | 47 | 7.8 | 1.72 | | | |
| Jiangsu2 vs. Guizhou | Macro_Jiangsu2 | 92 | 8.96 | 2.12 | 4.84 | 41.08 | *** |
| | Macro_Guizhou | 47 | 7.21 | 1.96 | | | |
| | TNW_Jiangsu2 | 92 | 97.51 | 30.92 | 3.30 | 41.37 | ** |
| | TNW_Guizhou | 47 | 81.98 | 23.48 | | | |
| | NDW_Jiangsu2 | 92 | 56.76 | 10.34 | 2.80 | 41.17 | ** |
| | NDW_Guizhou | 47 | 43.57 | 9.31 | | | |
| | TNU_Jiangsu2 | 92 | 12.66 | 4.01 | 3.43 | 41.63 | ** |
| | TNU_Guizhou | 47 | 10.66 | 2.78 | | | |
| | MLU_Jiangsu2 | 92 | 7.81 | 1.37 | 0.03 | 41.19 | 0.97 |
| | MLU_Guizhou | 47 | 7.8 | 1.72 | | | |
| Sichuan vs. Guizhou | Macro Sichuan | 31 | 8.94 | 2.03 | 3.73 | 25.12 | *** |
| | Macro_Guizhou | 47 | 7.21 | 1.96 | | | |
| Gansu vs. Guizhou | Macro Gansu | 28 | 8.86 | 2.04 | 3.44 | 23.29 | ** |
| | Macro_Guizhou | 47 | 7.21 | 1.96 | | | |

NOTE. p * < 0.05; ** < 0.01; *** < 0.001

Overall, preschool children in Guizhou score lower in key aspects of narrative expression, including Macrostructure, TNW, NDW, and TNU, compared to their peers in more economically developed regions like Jiangsu, Sichuan, and Gansu. The exception is MLU, where no significant differences were found.

# 6 Results

## 6.1 Interpretation of findings and specific implications

### 6.1.1 The impact of shared book reading on narrative expression in preschool children

The significant improvements observed in macrostructure scores, TNW, NDW, and TNU following the intervention are consistent with previous research that highlights the effectiveness of shared book reading in promoting various dimensions of preschool children's narrative expression. For instance, studies have consistently shown that shared book reading is associated with enhance lexical diversity in preschool children (Gonzalez et al., 2014; Noble et al., 2019; Zucker et al., 2021). The context provided by stories aids in the understanding and retention of new words, as children can relate them to characters, actions, and emotions, facilitating deeper language acquisition and usage (Duranti, 2009, p. 297). In addition, shared book reading often includes discussions about the content, where children are expected to ask questions, make predictions, and describe events, further promoting the use of diverse language (Blewitt et al., 2009). Therefore, shared book reading can be a powerful tool for enhancing lexical diversity in preschool children.

Shared book reading is also positively related to preschool children's narrative productivity due to its inherent emphasis on conversation and turn-taking (Milburn et al., 2014). During these sessions, children are not merely passive listeners; they are actively encouraged to engage with the story through dialogue with the adult reader and peers (Hargrave & Sénéchal, 2000). The back-and-forth nature of these conversations prompts children to pay attention to details they might have previously overlooked, deepening their comprehension and enhancing their ability to contribute meaningfully to the narrative (Schegloff, 2000). As a result, shared book reading serves as a valuable practice ground for practicing and developing productive narrative utterances.

However, the lack of significant improvement in MLU indicates that, although shared book reading could enhance preschool children's lexical diversity and narrative productivity over a short intervention period, it may not significantly influence the syntactic complexity of their speech. One possible explanation for this is that syntactic structures in preschool-aged children are more deeply ingrained and therefore more challenging to modify within a limited

timeframe (Bandura & Harris, 1966; Kroch, 2001). For instance, Bornstein et al. (2014) conducted a four-wave prospective longitudinal study that assessed the stability of language development in 324 children from early childhood through adolescence. Their analysis, using a Pairwise Variance–Covariance Matrix, indicates that the stability of core language skills is stronger from 4 years to 10 years and then to 14 years, compared to the earlier period from 20 months to 4 years. For instance, the diagonal values for MLU show a variance of 1.01 at 20 months, which decreases to 0.10 by 4 years, suggesting that MLU is more variable at 20 months but becomes more stable as children reach 4 years of age. This finding implies that syntactic structures become increasingly stable as children grow older, which may again explain why such structures are more challenging to modify within the limited timeframe of the current study.

### 6.1.2 The role of encouragement in early learning and language development

The lack of statistically significant differences between the experimental and control groups in narrative expression suggests that the verbal encouragement intervention may not have been effective in enhancing narrative skills among Chinese preschool children. This finding stands in contrast to some previous research that has highlighted the potential benefits of verbal encouragement in facilitating language development in young children (Bird et al., 2024; Cole et al., 1996).

One possible explanation for the absence of significant differences in narrative expression could be related to the specific design and timing of the intervention. In this study, verbal encouragement was provided only during a short two-week intervention period, which may not have been sufficient to produce lasting changes in the children's narrative skills by the time they were tested. Research by Guéguen et al. (2015) suggests that verbal encouragement can significantly enhance preschool children's academic performance when it is integrated directly into the instruction before testing, as this timing allows for an immediate impact on their performance. However, when it comes to more gradual, long-term influences, the duration and timing necessary to ensure the effectiveness of encouragement remain uncertain. It is possible that the children in this study did not retain the effects of the encouragement by the time of testing, or that the impact of encouragement requires a more sustained application to yield measurable improvements in narrative expression.

Another possible explanation for the lack of significant impact observed in this study is that the positive influence of encouragement in children's language development may not be as substantial as initially hypothesized. For instance, in the longitudinal cohort study "Growing Up in New Zealand," Bird et al. (2024) investigated whether parent behavior during a 4-year-old child's observed writing interaction was associated with early learning

outcomes. They proposed a model that included maternal factors, child factors, bilingualism, and parent behavior during the interaction task. Their exploratory factor analysis revealed that this model explained 15.1% of the variance in early literacy and numeracy skills. Within this model, maternal factors accounted for 10.1% of the variance, child factors for 3.2%, and only 2.0% was attributed to parent behavior during the interaction task, which included behaviors such as open-ended questions, print talk, and praise or encouragement. Similarly, this model explained 23.0% of the variance in early oral language and regulation skills, with parent behavior during the interaction task contributing just 2.7%. These findings suggest that while parental behaviors, including encouragement, do play a role in children's development, their influence may be relatively modest compared to other factors, such as maternal influences. Therefore, the impact of encouragement on children's literacy and language development may not be as significant as previously assumed.

### 6.1.3 Challenges and progress in early childhood reading practices in Guizhou

Preschool children in Guizhou generally exhibit lower scores in narrative expression compared to their peers in more economically developed regions of China. A potential reason may be related to parents' reading practices and children's interest in shared reading. Although the questionnaire from this study revealed that 100% of parents read to their children at least once or twice a week, Zhang's (2015) interviews and surveys with a group of parents in Guizhou might provide deeper insights into the underlying factors. Firstly, most reading activities were parent-initiated rather than motivated by the children's own interest in reading. Many parents still hold the belief that the child's role is primarily to passively listen to the story, with little emphasis placed on encouraging children to retell, imagine, or creatively adapt the narratives they hear.

Secondly, influenced by media promotion of "child prodigies in literacy," some parents equated early childhood reading with teaching children to learn Chinese characters. Consequently, these parents spent a considerable amount of time teaching Chinese characters, even though children felt struggling with this. Thirdly, a perspective held by parents is that early childhood reading is primarily a means of developing intellectual knowledge. This belief led parents to favor educational or knowledge-based materials when selecting books for their children and to involve their children in simple arithmetic or general knowledge exercises. This approach, however, is not based on children's intrinsic interests and may hinder the development of their imagination and creativity (W. Zhang, 2015).

In addition, the relatively weaker narrative expression skills observed among children in Guizhou may be attributed to a lack of systematic expert guidance in the region. Guizhou has fewer higher education institutions offering programs in early childhood education and

developmental psychology compared to more economically developed regions, leading to a shortage of qualified professionals and limited opportunities for specialized training in this field. For instance, the head teacher who reviewed and discussed the storybooks used in this research had previously attended early childhood reading training sessions in Sichuan, one of the economically stronger provinces included in the comparison. She noted that it was time-consuming for her to travel to another province to access these training opportunities and mentioned to the governments and higher education institutions in Guizhou is still in the process of developing such support for kindergarten teachers. This presents the challenges faced by educators in Guizhou in accessing professional development, which may impact the quality of early childhood reading in the region.

However, in recent years, both kindergartens and the Guizhou Provincial Government have increasingly emphasized early childhood reading activities. Currently, most kindergartens in Guizhou regularly incorporate early reading as a key component of their educational activities (Xia, 2022). Moreover, in 2023, the Guizhou government invited experts from Shanghai to deliver lectures on the design and organization of early reading activities (Tianyan News, 2023). Additionally, Guizhou has allocated funding to support programs such as “Little Orange Lamp,” organized by the Guizhou Provincial Women’s Federation, which conducts open reading classes across the province’s nine cities to help parents gain a deeper understanding of reading practices (Guizhou Provincial Women’s Federation, 2024). The effectiveness of these practices, however, will require time to fully assess.

### 6.2 The use of the MAIN instrument in a Chinese context

The Mandarin version of the MAIN was officially translated and adapted by Luo et al. in 2020). Prior to this, MAIN had already been utilized in Chinese research, such as in the study by Lei (2018). In terms of the scoring of MAIN in Chinese context, Sheng et al. (2020) have recommended that future studies should consider the specific language characteristics of Chinese children. They suggest the development of a scoring rubric tailored to these characteristics, focusing on vulnerable areas such as story grammar elements, lexical diversity, and syntactic complexity.

This study also identified two points for future discussion. The first relates to the scoring of the first episode of the goat story in MAIN. According to the official scoring rubric, the expected interpretation is that the baby goat cannot swim/ is in danger and that the mother goat observed this and wanted to rescue the baby goat. To compare with other studies using MAIN, this study adhered to the official rubric. While most children in the study followed this interpretation and 4 out of 24 children interpreted the episode differently. These children

viewed the baby goat as swimming and panicked, with the mother goat appearing angry or worried upon discovering this in the first picture. In the second picture, they interpreted the goats to be happily swimming together under the mother's supervision.

This interpretation is understandable within the context of Chinese culture, where engaging in risky activities such as swimming without permission can result in severe parental punishment. Additionally, in the second picture, the mother goat's upwardly curved eyebrows and the somewhat ambiguous facial expression of the baby goat might have led the children to perceive the goats as happy. Thus, this point is noteworthy for discussion, given that the comprehension questions in the goat story consider swimming to be an incorrect answer.


Furthermore, a practical recommendation was proposed regarding the optimal paper size for administering the MAIN assessment. The official guidelines suggest printing each set of pictures on A4 paper (Luo et al., 2020, p. 2). However, given that each set consists of six pictures, the use of A4 paper may be insufficiently large. This may potentially affect children's ability to discern the details and facial expressions of the characters, which in turn could influence their use of internal state terms (Özdemir et al., 2019). In fact, two children reported difficulty in distinguishing whether a character was a goat or a cow. When the researcher prompted them to look more carefully, the children observed for a moment and then noted, "There are horns on its head and they are white; it's a goat." This observation indicates that using larger paper sizes could enhance the visibility of character details and facial expressions, thereby making the assessment more child-friendly.

### 6.3 Overall limitations and suggestions for future research

Although Section 6.1 and Section 6.2 have addressed particular limitations and proposed directions for future research, this section outlines the broader limitations of this study and offers additional suggestions for future research. An important limitation of our study is that the sample is not representative of either the broader Chinese population or the local population of Guiyang, which complicates the generalisation of our findings. While this research is pioneering in considering socioeconomic status (SES) and focusing on public kindergartens, the family background questionnaire revealed that 77.7% of the parents in this study hold a bachelor's degree or higher. This percentage is significantly higher than the national and local average for bachelor's degrees or above. According to the *China Statistical Yearbook 2023* published by the National Bureau of Statistics of China (2023), as of 2022, the percentage of the population aged six and above holding a bachelor's degree or higher is 9.6% nationwide, while in Guizhou, this rate drops to just 4%. Additionally, the seventh national population census, published by the Central People's Government of the People's Republic of China (2021), reveals that in 2020, the average years of education among the population aged 15 and above was 9.91 years nationwide. However, Guizhou ranked second to last among the 31 provinces, with an average of only 8.75 years. Furthermore, this study did not fully capture the cultural diversity of Guizhou's population, as 87.2% of the children in this study primarily or exclusively used Mandarin rather than their ethnic languages or the dialects. This is noteworthy given that Guizhou is the most multicultural province in China, with ethnic minorities constituting 35.7% of the population (Wu, 2015).

Future research should therefore test these findings with Chinese children from diverse socioeconomic and ethnic backgrounds across various regions of the country. Literature from other countries indicates that children from different socioeconomic backgrounds may respond differently to encouragement (e.g., Alcott, 2017), and that cultural differences can influence perceptions and effectiveness of encouragement (e.g., Wong, 2015). Another potential limitation is that the researcher was a novice interventionist, which may have impacted the quality of delivery and influenced the outcomes. However, the researcher conducted pilot studies and sought feedback from a teacher to reflect on the intervention process and content.

In terms of the assessments, researcher who delivered the interventions also conducted the assessments, resulting in a non-blind design, which could introduce bias into the findings (e.g., Hróbjartsson et al., 2013). But the researcher carefully adhered to the testing protocol to minimize any potential bias. moreover, another limitation of this study is the lack of a delayed post-test measure, which hinders the assessment of the long-term effects of the intervention on the children. For these interventions to be effective and valuable for

implementation, their effects should be long-lasting. Future research could therefore investigate how durable the effects of the interventions are.,

Furthermore, it remains uncertain whether the effectiveness of these interventions, particularly the findings regarding the role of encouragement, would be maintained if implemented by teachers, social workers, or psychologists. This is a common concern with interventions traditionally administered by researchers (e.g., Pico et al., 2021). The intervention was conducted outside the classroom in small groups of eight to eleven children, which may not be practical in the typical Chinese kindergarten setting, where classrooms often have 30-40 children with only one or two teachers (Hu et al., 2016). Therefore, future research should explore the effectiveness of these interventions when delivered by teachers, social workers, or psychologists in settings that more closely resemble the actual preschool environment.

Despite these limitations, this study is pioneering in its exploration of the role of encouragement in enhancing narrative skills among Chinese kindergarten children. Moreover, this study is among the first to compare children's narrative expression using the MAIN across different regions in China, filling a gap in the existing literature. The CHAT files of the narrative data revealed that this data holds potential for archiving purposes, offering a valuable resource for future research. The findings provide valuable insights for Chinese educators and curriculum developers, particularly in Guizhou province, as they consider strategies for implementing shared book reading interventions. Future research can build on these initial findings to further explore their potential.

## 7 Conclusion

This study investigated the role of verbal encouragement on the narrative expression of Chinese preschool children through a 10-day intervention centered around shared book reading. The findings revealed that shared book reading significantly improved the narrative expression of children in both the experimental and control groups. However, there were no statistically significant differences between the groups across all post-test measures of narrative expression, suggesting that the verbal encouragement intervention did not result in a notable improvement compared to the control interventions. Additionally, preschool children in Guizhou scored lower in key aspects of narrative expression, including macrostructure, TNW, NDW, and TNU, compared to their peers in more economically developed regions such as Jiangsu, Sichuan, and Gansu. The exception was MLU, where no significant differences were found.

These findings contribute to the broader literature by building on previous research that links shared book reading with enhanced lexical diversity and productivity in preschool children. The absence of significant improvement in MLU may be attributed to the fact that syntactic structures in preschool-aged children are challenging to modify within a limited timeframe, as these structures tend to become increasingly stable as children grow older. The lack of statistically significant differences between the experimental and control groups in narrative expression suggests that the design and timing of the verbal encouragement intervention may not have been optimal. It is possible that the impact of encouragement was not retained by the children by the time of testing, or that a more sustained application of encouragement is required to yield measurable improvements in narrative expression. Another possible explanation is that the positive influence of encouragement on children's language development may not be as substantial as initially hypothesized.

Additionally, the use of the MAIN instrument in a Chinese context highlighted several considerations for future discussion, including the scoring of the first episode of the goat story and using larger paper sizes to make the assessment more child-friendly. Furthermore, the CHAT files of the narrative data revealed that this data holds potential for archiving purposes, offering a valuable resource for future research. Moreover, this study is among the first to compare narrative expression using MAIN across different regions in China, offering valuable insights for educators and curriculum developers, particularly in Guizhou province.

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# 9 Appendices

## 9.1 Appendix A

### 9.1.1 CUREC application

| SECTION A: Filter for CUREC 2 application | | |
|---|---|---|
| This section determines whether the application for ethics review should be made using this form (CUREC 1A) or the CUREC 2 form (for research with more complex ethical issues). | | |
| **Please indicate with an 'X'.** | **Yes** | **No** |
| 1. Does the research involve the deception of participants? | ☐ | ☒ |
| 2. Are the research participants vulnerable in the context of the research, or classed as people whose ability to give free and informed consent is in question? For example,<br>• Participants aged 16 or under (also answer question A5);<br>• Participants aged 16 – 18 who can neither be considered competent youths nor recruited under Approved Procedure 25<br>• adults at risk;<br>Note the University's Safeguarding Guidance and Code of Practice and its implications for researchers involving young people or adults at risk. | ☒ | ☐ |
| 3. By taking part in the research, will participants be at risk of criminal prosecution or significant harm? | ☐ | ☒ |
| 4. Does your research raise issues relevant to the Counter-Terrorism and Security Act (the Prevent Duty), which seeks to prevent people from being drawn into terrorism? Best Practice Guidance 07 on the Prevent Duty provides further guidance. | ☐ | ☒ |
| If you answered **'No'** to all the questions above, go to Section B. If you answered **'Yes'** to any question above, continue to question 5 below. | | |
| 5. Is your project covered by a CUREC Approved Procedure? | ☒ | ☐ |
| If yes, list the CUREC Approved Procedure(s) you will follow | AP25 | |
| If you have answered '**No**' to all questions 1-4, go on to **Section B**. If you answered '**Yes**' to ANY of questions 1-4, and answered '**No**' to question 5, **stop** completing this form and do not submit it for ethical review. You will instead need to submit a CUREC 2 application form. If you answered '**Yes**' to **any** of questions 1-4, and your project is covered by an Approved Procedure, **go on to Section B**. If more than one Approved Procedure applies, contact the SSH IDREC or your DREC for advice on whether a CUREC 2 form should be submitted instead. | | |

| **SECTION B: Researchers** | | |
|---|---|---|
| 1. Name of Principal Investigator or student's supervisor | | |
| 2. Department or Institute | | |
| 3. University of Oxford email address | | |
| Copy and paste the following six rows as necessary to complete for each additional researcher who will be involved in this study, including student(s) and those external to the University. | | |
| 4. Name of researcher or student | | |
| 5. Department or Institute | | |
| 6. University of Oxford email address | | |
| 7. Role in research | | |
| 8. Degree programme, if student research | | |
| **The whole research team** | | |
| 9. Have the researchers undertaken research ethics and integrity training? | **Yes ☒** | **No ☐** |
| 10. Please provide details of any research ethics and integrity training undertaken, including the dates of the training. Alternatively state relevant research experience. | The student researcher has fulfilled all prerequisites of the core course of the University research integrity training on 21 Feb 2024, achieving scores exceeding 80% in all assessed quizzes. Additionally, as part of the Master of Science in Education degree, the student has completed the "Foundations of Educational Research 1" course, including a class focusing on research ethics. | |
| 11. State any conflicts of interest and explain how these will be addressed. | None | |

## SECTION C: The research project

1. Title of the research project

Exploring the Role of Verbal Encouragement on Narrative Expression in Chinese Preschool Children: An Experimental Study with a 10-Day Preschool Intervention.

Title for school-, child- and parent-facing materials: **Storytime Sparks: Lighting Up Preschoolers' Narrative Expression**

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|---|---|
| 2. Anticipated start date of the aspect of the research project involving human participants and/ or personal data (**dd/mm/yy**). | 01/04/2024 |
| 3. Anticipated research end date (**dd/mm/yy**). | 12/08/2024 |

4. Provide a brief lay summary of the aims and objectives of the research. This should cover the questions it will answer and any potential benefits. (max 300 words)

This research aims to explore the role of verbal encouragement on narrative expression in Chinese preschool children. Previous literature indicates that encouragement positively affects children's physical, cognitive, motor, and academic performances (Guéguen et al., 2015; Nelsen, 2016). Based on this premise, it is hypothesized that children from both experiment group and control group will develop narrative expression following the intervention. However, those who receive verbal encouragement are expected to show greater progress compared to those who do not receive such encouragement. The theoretical basis for the encouragement strategy draws primarily from Nelsen (2011), emphasizing the differences between praise and encouragement.

The research is structured as a 10-day experimental intervention within a preschool environment. The design includes an experimental group, which receives verbal encouragement, and a control group, which is exposed to neutral language. The intervention spans over two weeks, consisting of 10 daily sessions. These intervention is bookended by an introductory session and a summary session, with the intermediate sessions involving a process where the researcher narrates stories and the children subsequently retell them. The storybook scripts are original, scripted by the student researcher and the PI, and are supplemented with pictures sourced from open-access digital libraries.

Narrative expression is a critical component of early childhood development, playing a key role in language acquisition, cognitive development, and social skills. By exploring this area of child development, the study hopes to uncover effective strategies that educators and parents can use to support children's narrative development, potentially leading to improvements in their overall language and social development. Furthermore, the findings may offer insights into the cultural aspects of narrative expression and how they can be nurtured in early childhood education settings, particularly within the Chinese context.

5. Please indicate the methods to be used (indicate with an '**X**'):

| | |
|---|---|
| Analysis of existing records | ☐ |
| Snowball sampling (recruiting through contacts of existing participants) | ☐ |
| Use of casual or local workers e.g. interpreters (refer to guidance in BPG 01: Researcher safety) | ☐ |
| Participant observation | ☐ |
| Covert observation | ☐ |
| Observation of specific organisational practices | ☐ |
| Participant completes questionnaire in hard copy<br><br>[parents/guardians complete a questionnaire] | ☒ |
| Participant completes online questionnaire or other online task (refer to guidance in BPG 06: Internet-mediated research) | ☐ |
| Using social media to recruit or interact with participants (refer to guidance in BPG 06: Internet-mediated research) | ☐ |
| Participant performs paper and pencil task | ☐ |
| Participant performs verbal or aural task (e.g. for linguistic study)<br><br>[children perform a narrative expression task] | ☒ |
| Focus group | ☐ |
| Interview (refer to guidance in BPG 10: Conducting research interviews) | ☐ |
| Audio recording of participant<br>(you will generally need specific consent from participants for this)<br><br>[audio-recordings of children's responses] | ☒ |
| Video recording of participant<br>(you will generally need specific consent from participants for this) | ☐ |
| Photography of participant<br>(you will generally need specific consent from participants for this) | ☐ |

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| Others (please specify below) | ☐ |

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| 6. Provide a brief summary of the research design and methods. What will research participants be asked to do? (max 300 words)<br>Please also submit a copy of the questions participants will be asked, if applicable, or some information about the sorts of topics that will be covered. |
| This study is designed as a small scale randomized controlled trial. Participants will be randomly assigned to either the intervention group or the control group. For each group, a similar distribution across age and gender will be attempted. The power analysis conducted via G*Power considering four co-variates (gender, SES, book reading at home and level of exposure to Chinese Mandarin) indicates a requisite total sample size of 34 participants or more. Taking into account the typical class size of 15 to 20 children in local preschools and aiming to mitigate research bias by not restricting data collection to a single institution, the intervention will be implemented across two kindergarten environments. Consequently, the anticipated total sample is projected to include 60 to 70 children. To ensure that intervention time does not detract from essential academic learning, sessions will be organized in collaboration with teachers, consisting of five 30-minute sessions weekly over a two-week period, totalling ten sessions.<br><br>For the assessment, participants from both groups will narrate two stories from the Multilingual Assessment Instrument for Narratives (MAIN ) at pre-test and another two equivalent stories at post-test. Each assessment session is anticipated to last about ten to fifteen minutes (see Appendix A). The test will be individually administered by the student researcher in a quiet space in the kindergarten before the intervention (in the two weeks prior to the start of the intervention/control activities), and post intervention (in the two week after the activities end).<br><br>Additionally, Sheng et al. (2018) demonstrate the significance of demographic and environmental backgrounds in the narrative development of Chinese children. Therefore, parents or guardians of children in both groups will be asked to fill out a brief questionnaire about their child's demographic and environmental background, including birth date, gender, family income, parental education, family shared reading activities, the level of exposure to Chinese Mandarin (see Appendix B). This paper questionnaire is expected to take approximately three to five minutes to finish and will be completed by parents or guardians at their homes, and returned to the student researcher within kindergartens. |

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| 7. List the location(s) where the research will be conducted, including any other countries. | Guiyang City, Guizhou Province, China: All research will be conducted within the premises of participating kindergartens. |
| 8. Clarify which parts of the research will be conducted in-person and which will take place remotely, e.g. online. | All parts of the research will be conducted in-person. |

| | | |
|---|---|---|
| 9. If your research involves fieldwork or travel and your department requires | Yes | ☒ |

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| a travel risk assessment, will you have completed and returned a risk assessment form beforehand? Please indicate with an '**X**'.<br><br>(This must be approved by your department before you travel. If you are travelling overseas, you are advised to take out University travel insurance.) Refer to guidance available from your Department, the Safety Office, the Social Sciences Division, and the Humanities Division, and on travel for University business. | No | ☐ |
| | Not required in this instance | ☐ |

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| 10. In the case of international or collaborative research, explain how you will address any ethical issues specific to the local context. Please provide details of the local review, approval or permission obtained or required. Refer to the BPG 16: Social science research conducted outside the UK and the Code of Conduct for Ethical Fieldwork. If there will be no local review, explain why not.<br><br>Please mention any stakeholder or community engagement that has been/ will be undertaken in relation to the research.<br>Please also address any physical or psychological risks for Oxford researchers and local fieldworkers in Section G. |
| The research will be conducted in Guiyang City, Guizhou Province, China, adhering to local protocols by submitting the research introduction and approval to local schools after receiving approval from the CUREC. This research does not require obtaining local official reviews and permissions for each school involved. Instead, headmasters will require the student researcher to provide comprehensive details about the research objectives, design, and materials used. This information, along with the CUREC approval, will be sent to the headmasters before the study starts. |

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| 11. Name of departmental/ peer reviewer (if applicable) | N/A |
| 12. External organisation funding the research and grant reference (if applicable) | N/A |
| 13. Please refer to the CUREC Best Practice Guidance and list any that have been used to develop your research. | BPG 05; BPG 09; BPG 16 |

| **SECTION D: Recruitment of research participants** | |
|---|---|
| 1. Number of participants | 60-70 children<br><br>60-70 parents/guardians |
| 2. How was the number of participants | Previous research on the narrative expression |

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| decided? | of Chinese children has employed varied sample sizes, including studies with 16 participants (Chang, 2004),142 participants (Sheng et al., 2019), and 80 participants (Zhang et al., 2018). For this study, the power analysis indicates a sample size exceeding 34 participants but the aim is to have a total sample of 60 to 70 children. | |
| 3. Age range of participants | Participant children: 4.1 to 6.11 years old<br><br>Participant parents/guardians: 18 years<br><br>old and older | |
| 4. Inclusion criteria | The inclusion criteria for participating children are as follows: (a) the child must be aged 4.1 to 6.11 years; (b) the child must be enrolled in a classroom where the kindergarten headteacher has given informed consent; (c) the child's parent or guardian must not have opted out their child from the study.<br><br>For participating parents or guardians, the criteria include: (a) their child is enrolled in this study; (b) the parent or guardian is aged 18 years or older. | |
| 5. Exclusion criteria | The child has a known intellectual and language disability | |
| 6. Indicate with an '**X**' all intended recruitment methods<br><br>**Please submit copies of the recruitment material that will be used, e.g. advertisement text, introductory email text.** | Poster advert | ☐ |
| | Flyer | ☐ |
| | Email circulation<br><br>[at the school and classroom level] | ☒ |
| | Social media (e.g. Twitter, Facebook) | ☐ |
| | Website | ☐ |
| | In-person approach<br><br>[at the school and classroom level] | ☒ |

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| | Snowball sampling | ☐ |
| | Recruitment sites (e.g. Mechanical Turk) | ☐ |
| | Existing contacts or volunteer database | ☐ |
| | Other (please specify):<br><br>Text messages will be sent through WeChat by the headteacher via existing class group chats. The student researcher will forward the messages to the headteacher for posting. | ☒ |
| 7. How will potential participants be identified and approached? | Initially, an officer from the Guiyang City Education Bureau will be approached to understand the design and meaning of this study, as well as to suggest two Guiyang's kindergarten headmasters. Following this, two headmasters will be approached through in-person meetings or email to discuss the study, providing them with information sheets and details about the random allocation of children to either the intervention or control group, seeking their consent to participate.<br><br>Upon agreement from the headmasters, potential students for the intervention study will be identified based on parental consent. Parents/guardians will be notified about the study via text messages by the headmasters/teachers (see Appendix F). They will receive information sheets outlining two participation levels: (a) for their child's involvement, including opt-out forms, and (b) for their own participation. Children eligible for the study will be those whose parents/guardians have not opted them out, with the headmaster/teacher compiling a list of these children for the researcher. Parent/guardian participation will be confirmed through the return of opt-in consent forms. | |
| 8. Will informed consent be obtained from the research participants or their parents/ guardians? If not, please explain why not. | **Child Participation Opt-Out**<br><br>Parents/guardians will receive information sheets and opt-out forms for their children's | |

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| | participation. Children will be asked for verbal assent at the start of each session. Children are not permanently excluded based on a single day's absence; rather, they are permitted to miss the session for that specific day without being compelled to discontinue participation in the study entirely. Subsequently, it may be decided on a post-hoc basis to omit the data pertaining to the child from the final analysis. The opt-out option is deemed appropriate for this study as it aligns with the goals of the Chinese national kindergarten curriculum, which emphasizes language development and narrative skills, areas targeted by our study's conversational intervention (see Appendix H). Furthermore, our approach, which involves shared book reading followed by discussions and retelling, is consistent with existing curriculum practices that encourage active listening, comprehension, and engagement in conversations, mirroring the intervention's methodologies.<br><br>**Parent Participation Opt-In**<br><br>For the parent/guardian questionnaire, participation will be based on informed consent, requiring the return of opt-in consent forms. |
| 9. For each activity or group of participants, explain how informed consent will be obtained from the participants themselves and/ or their parents/ guardians, if applicable. How will their consent be recorded?<br><br>**Please submit copies of all participant-facing materials for review.** E.g.:<br><br>• Recruitment material (e.g. emails, posters)<br>• Information for participants to read (or hear) before they agree to take part (e.g. written information or, if applicable, an outline oral information | **Child Participation**<br><br>Parents/guardians will receive an information sheet and an opt-out form for their child's participation, which teachers will help distribute by placing them in the children's backpacks. To ensure delivery, teachers will send text messages to parents/guardians about the information sheet and opt-out form. Parents/guardians have one week to return the opt-out forms, with reminders sent via text and mentioned during child drop-off or pick-up. Teachers will collect the forms and inform the researcher of children who have not been opted out. Before the pre-test, children will receive a simple explanation of the study and will be asked for their verbal assent. |

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| script).<br>• A document to record informed consent.<br><br>Further guidance and templates. | **Parent Participation**<br><br>Parents'/guardians' participation will require an opt-in consent form, distributed similarly to the children's opt-out form. Returned forms should be submitted to teachers or the researcher at the kindergarten.<br><br>All materials can be found:<br><br>1. Opt-in: Appendix D<br>2. Opt-out: Appendix E<br>3. Text message: Appendix F<br>4. Information sheet: Appendix G |
| 10. Provide details of any payments and incentives and the rationale for providing these. Further guidance in Best Practice Guidance: 05 Payments and incentives in research. | Children will be offered small gifts, like stickers, after each round of testing as a way to thank for their time and cooperation. To promote voluntary participation and avoid any sense of coercion or penalty for opting out, all children, including those who do not participate in any part of the study or intervention, will also receive these tokens, guaranteeing fair treatment for every child in the class. |
| 11. Describe how participants<br><br>• may withdraw from the study<br><br>• may withdraw any personal information they have provided from the study<br><br>State any limits to withdrawal, for example once the data has been anonymised or at some other specified stage prior to publication. Make sure participants are aware of any withdrawal limits. | **Child Participant's Withdrawal:**<br><br>Children can withdraw from the study at any time through the following means: (1) not verbally assenting to participate; (2) their teachers notifying the researchers that either the child's parent/guardian wishes to discontinue their child's participation, or the child has expressed a desire not to participate to their teacher.<br><br>**Parents/Guardians' Withdrawal:**<br><br>Parents/guardians have the right to withdraw their questionnaire data during the data collection phase (up until the completion of the children's post-test) by directly contacting the researcher or by informing the teacher of their wish to withdraw their data.<br><br>Participants are not required to provide reasons for their withdrawal. Once the data collection phase concludes, all data will be anonymized, rendering withdrawal from the study no longer possible. Participants will be thoroughly |

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| | briefed on the withdrawal procedures and restrictions through their information sheets. |

## SECTION E: Research data

All information provided by participants is considered research data for the purpose of this form. Any research data from which participants can be identified is known as personal data; any personal data which is sensitive is considered special category data. Management of personal data, either directly or via a third party, must comply with the requirements of the UK General Data Protection Regulation (UK GDPR) and the Data Protection Act 2018, as set out in the University's Guidance on Data Protection and Research.

In answering the questions below, please also consider the points raised in the Data Protection Checklist and Data Protection Screening Assessment and whether, for higher-risk data processing, a separate Data Protection Impact Assessment may also be required for the research. Advice on research data management and security is available from Research Data Oxford and your local IT department. Advice on data protection is available from the Information Compliance team.

For guidance on conducting internet-mediated research, refer to CUREC's Best Practice Guidance 06: Internet-mediated research.

1. What data will be collected? (Indicate with an '**X**')

| | | | |
|---|---|---|---|
| Screening documents | ☐ | Task results (e.g. questionnaires, diaries) | ☒ |
| Consent records ( e.g., written consent forms, audio-recorded consent, assent forms) | ☒ | IP addresses (refer to Best Practice Guidance 09: Data collection, protection and management for guidance) | ☐ |
| Contact details for the purpose of this research only | ☐ | Field notes | ☐ |
| Contact details for future use (guidance) | ☐ | Photographs | ☐ |
| Opt-out forms<br><br>[For children's participation] | ☒ | Information about the health of the participant (including mental health) | ☐ |
| Audio recordings | ☒ | Previously collected (secondary) data | ☐ |
| Video recordings | ☐ | Data already in the public domain. | ☐ |

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| | | Specify the source of the data: | |
| Transcript of audio/ video recordings | ☒ | Other, please specify: | ☐ |

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| 2. During the course of the research, where will **each type of** research data be stored? | **Children's responses to the Multilingual Assessment Instrument for Narratives (MAIN)** will be audio recorded using a password-protected voice recorder, ensuring confidentiality by initiating each recording with the child's unique participant number and task name, omitting personal identifiers. Recordings will be transferred to the student researcher's university Nexus365 account directly after collection and deleted from the recording device. The file names will use the anonymised child IDs. Transcribed data will be stored digitally, with original audio recordings deleted to maintain privacy. Following this, transcripts will be made by the student researcher and a thorough check will be conducted to ensure that the transcripts accurate with personal or locational identifiers masked. Transcripts will be stored in the student researcher's university Nexus365 account.<br><br>**Parent/guardian questionnaire responses** will be collected in paper form by the student researcher at the kindergartens. These documents will be securely stored in the designated folder of the student researcher and subsequently secured in a locked cupboard at the researcher's residence until the completion of digitization. To ensure confidentiality and secure data handling, the student researcher will transport these documents directly from the kindergarten to researcher's home, avoiding any unnecessary stops. Then the student researcher will digitize the questionnaires by scanning and uploading them to student researcher's university Nexus365 account for secure storage. Following the digitization process, the original paper questionnaires will be immediately destroyed to maintain the privacy of the respondents.<br><br>**Opt-in consent forms for parent or guardian participation** will initially be collected in paper format either directly from the kindergarten teachers or the parents/guardians themselves. To ensure confidentiality and secure data handling, the student researcher will transport these documents directly from the kindergarten to researcher's home, avoiding any unnecessary stops. Then the student researcher will digitize the questionnaires by scanning and uploading them to researcher's university Nexus365 account for secure storage. Following the digitization process, the original paper questionnaires will be destroyed to maintain the privacy of the respondents. Additionally, the researcher will develop a pseudonymization linkage list, correlating each participant with a unique identifier. This list will |

<table>
<tr><td></td><td colspan="3">be securely stored within the student researcher's university Nexus365 account, ensuring that the identity of parent participants remains confidential throughout the research process.<br><br>Opt-out consent forms for children's participation will follow guidance from Approved Procedure 25 and be managed as paper records. These forms, once collected, will be returned to the kindergarten teachers, who will then provide the researcher with a compiled list of students eligible for inclusion in the study. It is the kindergarten's responsibility to securely store these opt-out forms and determine their retention period. Upon receipt of the list from the teachers, the student researcher will secure it in their personal folder for direct transportation to the home, ensuring no unnecessary stops. The list will be secured in a locked cupboard at the researcher's residence. Additionally, the researcher will develop a pseudonymization linkage list, correlating each participant with a unique identifier. This list will be securely stored within the student researcher's university Nexus365 account, ensuring that the identity of parent participants remains confidential throughout the research process.</td></tr>
<tr><td>3. Who will have access to the research data during the project?</td><td colspan="3">The student researcher and the PI will have access to the research data. Each participant will be assigned a unique participant number, ensuring their anonymity. A pseudonymization linkage list, correlating these numbers with participant identities, will be maintained solely by the student researcher to further safeguard participant confidentiality.<br><br>The audio recordings utilized in the study will not contain the names of the children; instead, they will reference the assigned participant numbers, significantly reducing the likelihood of participant identifiability. Despite these precautions, to address potential concerns regarding the identifiability of children's voices, access to the audio recordings will be restricted to the student researcher. Following the creation of fully anonymized transcriptions of these recordings, the original audio data will be destroyed after careful checking to ensure the utmost privacy and confidentiality of the research subjects.</td></tr>
<tr><td rowspan="4">4. Please complete this section if your research involves the use of secondary (i.e. previously collected) data.</td><td>Please indicated with an 'X'.</td><td>Yes</td><td>No</td></tr>
<tr><td>Are data access agreements in place for access to and use of this secondary data? (If so, please attach these.)</td><td>☐</td><td>☐</td></tr>
<tr><td>Did the individuals agree that their data could be used for this purpose?</td><td>☐</td><td>☐</td></tr>
<tr><td>Could anyone (including members of the research team) link the data back to an individual or individuals? If this is</td><td>☐</td><td>☐</td></tr>
</table>

| | | |
|---|---|---|
| | a possibility, please explain how the associated ethical issues will be addressed:<br><br> | |
| 5. How do you intend to share the research data at the end of the project? | Depositing in a specialist data centre or archive | ☒ |
| | Submitting to a journal to support a publication | ☒ |
| | Depositing in an institutional repository | ☐ |
| | Dissemination via a project or institutional website | ☐ |
| | No plans to share the data | ☐ |
| | Other (please specify):<br><br> | ☐ |
| 6. How do you intend to report and disseminate the results of the research? (Indicate with an 'X') | Thesis publication | ☒ |
| | Publication in a peer reviewed journal | ☒ |
| | Publicly available report | ☐ |
| | Conference presentation | ☒ |
| | Publication on a website | ☐ |
| | Pre-registration | ☐ |
| | Report to a research funder | ☐ |
| | Providing participants with a lay summary of the results | ☒ |
| | Submission for academic assessment | ☒ |
| | Other (please specify):<br><br>Academic Blog | ☐ |
| 7. Explain what will happen to the data at the end of the research project.<br>This question must be answered for each type of data, including completed consent forms. | | |

The list of participant names against numbers (pseudonymisation via a linkage list) will be destroyed following the completion of the study.

Following guidance from Approved Procedure 25, the responsibility for determining the appropriate timing for the destruction of children's opt-out consent forms resides with the kindergarten administration.

Non-identifiable data from the study, along with the opt-in consent forms provided by parents or guardians for their participation, will be securely stored for a duration of three years following the study's completion on the PI's university Nexus365 account. This measure ensures the safekeeping of data in compliance with university guidelines and research ethics.

Key items scheduled for destruction before the project's end include:

1. Audio Recordings: The audio recordings capturing children's responses during the MAIN (Multilingual Assessment Instrument for Narratives) assessment will be temporarily stored in the student researcher's university Nexus365 account. These recordings will be retained only until they have been transcribed and fully anonymised. Subsequent to these processes, the recordings will be irrevocably deleted to protect participant privacy.
2. List of Participants: The list containing names of children who have not opted out, furnished by teachers to the student researchers, will be disposed of immediately after the creation of a pseudonymization linkage list. This step is crucial for maintaining the confidentiality of participant identities, ensuring that personal information is handled in accordance with ethical standards and data protection regulations.

| **SECTION F: Protection of research participants and their personal data** | | |
|---|---|---|
| 1. How identifiable will the participants be from the research outputs? (Indicate with an 'X') | Directly identifiable from the information included | ☐ |
| | Pseudonymised/ indirectly identifiable | ☒ |
| | Not identifiable – data is anonymous | ☒ |
| | Other, please specify: | ☐ |
| 2. To what extent will the **data** be de-identified? How identifiable will any individuals be from the research data? Describe any measures you will take towards assuring | **Confidentiality Protocols for Children's Audio Recordings on Narrative Expression**<br><br>To safeguard the anonymity of child participants, this study has instituted stringent confidentiality measures for handling audio recordings intended to assess narrative expression. Each child will be assigned a unique participant number, which will be the only identifier used at the start of each recording session. This procedure reduces the inclusion of personal identifiers, such as the children's names. | |

| | |
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| confidentiality, potential risks to confidentiality. | Considering the potential for voice recognition to compromise anonymity, additional protective measures have been adopted. Access to these recordings will be restricted to the principal investigator and the student researcher and the recordings will be deleted as soon as the transcription is completed. The transcriptions will reference only the child's unique participant number, ensuring that the data remains devoid of identifiable personal information.<br><br>**Confidentiality in Parent/Guardian Questionnaire Responses on Children's Demographics**<br><br>In parallel with the audio recordings, parent or guardian questionnaires will be processed under strict anonymity guidelines. These questionnaires will identify respondents solely by their unique participant numbers, without incorporating any personal identifiers. |
| 3. How will you ensure that third parties (e.g., interpreters and transcribers) are aware of and adhere to the measures described in this form? | No third parties will be involved in this study. |

| **SECTION G: Risks and benefits of the research** |
|---|
| 1. Will the research involve topics that could be considered sensitive? If so:<br>a. Please provide more detail or supporting information (such as the interview questions) to show the range of questions;<br>b. Explain what steps will be taken to reduce risk of distress;<br>c. Consider seeking advice from within your Department or from the ethics committee including whether the application might benefit from additional ethics review (e.g., via a CUREC 2 application). |
| The research topic, "Exploring the Role of Verbal Encouragement on Narrative Expression in Chinese Preschool Children: An Experimental Study with a 10-Day Preschool Intervention," does not inherently involve sensitive topics. The range of activities will be designed to be age-appropriate and engaging, focusing on improving children's narrative skills. For example, children are asked to retell animal stories with exploration and daily events as plotlines. These activities are aligned with the educational goals of preschool education in China (see Appendix H) |

and are not expected to delve into sensitive areas.

2. Describe any additional burden or risks to the participants or others, including the potential for any indirect negative consequences. Explain the steps you will take to address these.

Participants are expected to face no risk. The scheduling of pre- and post-tests and intervention activities will be coordinated with teachers by the student researcher to minimize disruption, ensuring children do not miss key classroom activities. Additionally, the sessions are designed to be brief (approximately 10 minutes for researcher storytelling, 15 minutes for children's story retelling, and 5 minutes for feedback, including encouragement or neutral language).

Furthermore, the burden on parents/guardians is anticipated to be minimal, as the questionnaire is designed to be completed within about 5 minutes.

3. Describe any physical or psychological risks to the researcher(s) (including local fieldworkers or research assistants) and the steps you will take to address these.

The physical risk is associated with the prevalence of a recent infectious flu within local communities, potentially impacting the efficiency of the researcher and possibly prohibiting her access to educational facilities to prevent transmission to students. In such instances, the research will be suspended temporarily, aligning with local health protocols. Because of this, but also other unexpected disruptions, the student researcher might experience stress. Furthermore, the student researcher may face complaints from parents within the control group (stories with neutral instruction) . To address these concerns, researchers are committed to explaining the objectivity of the research to parents. Moreover, regular discussions with PI are planned to facilitate the identification of viable solutions and support mechanisms to navigate challenges encountered during the research process.

4. Describe any benefits of the research, both to participants and to others.
Outline the processes put in place to enable equitable research (see BPG 16 Social science research conducted outside the UK for further guidance).

**For Participants:** The primary benefit for participating children is the potential improvement of their narrative expression abilities. Engaging in shared reading may positively influence their storytelling skills, a key component of early language development and social interaction.

**For Others:** Educators and parents may gain insights into the effectiveness of verbal encouragement as a tool to support children's narrative development. If the results show that verbal encouragement works, this knowledge can inform teaching strategies and parental practices to better support children's language and social development. Furthermore, the research contributes to the academic field by providing empirical data on the role of verbal encouragement in narrative expression among preschool children. This can guide future research and practices in educational psychology and early childhood education.

**Processes for Equitable Research**

Adherence to Best Practice Guidelines (BPG 16): Efforts will be made to ensure equitable access to participation in the study, with no child being excluded on the basis of socio-economic status, or other potentially discriminatory factors. Special attention will be given to the ethical handling of data, especially considering the sensitivity of working with children. Data collection and storage will comply with both local and international data protection regulations, ensuring participants' privacy and confidentiality. Findings will be shared with the participating schools, parents, and the wider educational community in a manner that is accessible and beneficial.

5. Comment on the societal impact.

The research design incorporates cultural considerations relevant to the Chinese preschool context, ensuring that the intervention and data collection methods are appropriate and respectful of local norms and values. It can provide valuable cross-cultural insights into the role of verbal encouragement in different educational and cultural contexts. This could foster a more global understanding of child development and education, encouraging the adoption of better practices across borders.

Enhancing narrative expression from a young age can have long-lasting benefits, including improved academic performance, better interpersonal relationships, and more effective communication skills. These benefits can contribute to the cultivation of competent individuals, positively impacting society at large.

6. Give details of any other ethical issues or relevant information.

None.

## SECTION H: Professional guidelines

Please indicate with an '**X**' at least one set of professional guidelines you will follow.

| **Research specialism/ methodology** | **Association and guidance** | |
|---|---|---|
| Anthropology | Association of Social Anthropologists of the UK | ☐ |
| Computer Science | ACM Code of Ethics and Professional Conduct | ☐ |
| Criminology | British Society of Criminology Statement of Ethics | ☐ |

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|---|---|---|
| Education | British Educational Research Association Ethical Guidelines for Educational Research | ☒ |
| Geography | American Association of Geographers Statement on Professional Ethics | ☐ |
| History | Oral History Society of the UK Ethical Guidelines | ☐ |
| Internet-mediated research | Association of Internet Researchers Ethical Guidelines<br><br>British Psychological Society: Ethics Guidelines for internet-mediated research<br><br>Association for Computing Machinery Code of Ethics and Professional Conduct | ☐ |
| Management | Academy of Management Code of Ethics | ☐ |
| Political Science | American Political Science Association (APSA) Guide to Professional Ethics in Political Science | ☐ |
| Politics | Political Studies Association. Guidelines for Good Professional Conduct | ☐ |
| Psychology | British Psychological Society Code of Ethics and Conduct | ☒ |
| Social research | Social Research Association: Ethical Guidelines | ☐ |
| Socio-legal studies | Socio-Legal Studies Association: Statement of Principles of Ethical Research Practice | ☐ |
| Sociology | The British Sociological Association: Statement of Ethical Practice | ☐ |
| Visual research | ESRC National Centre for Research Methods Review Paper: Visual Ethics: Ethical Issues in Visual Research | ☐ |
| Other professional guidelines | -- | ☐ |

## SECTION I: Endorsements and signatures

Please ensure this form is endorsed by the Principal Investigator (or student's supervisor), the Head of Department (or nominee) and, if student research, by the student themselves.

**The SSH IDREC Secretariat accepts either option below. If you have a DREC, check which signature option it prefers.**

- **Option 1: direct email endorsements**

  Each of the signatories should submit an email from a University of Oxford email address, indicating their acceptance of the responsibilities listed below.

- **Option 2: signatures**

  Please scan the signed form and email it to us as a PDF. Pasted images of signatures cannot be accepted.

**Endorsement by the Principal Investigator/ student supervisor and student, if applicable**

I/ we the researchers understand my/ our responsibilities as Principal Investigator (and student, if applicable) as outlined in the guidance on the CUREC website. I/ we declare that the answers above accurately describe the research as presently designed, and that the ethics committee will be informed of any changes to the project which affect the answers to this form.

I/ we will inform the relevant IDREC if the Principal Investigator changes.

| | |
|---|---|
| Name of Principal Investigator | |
| Principal Investigator's signature | |
| Date | |
| Name of student (if applicable) | |
| Student's signature | |
| Date | |

**Departmental endorsement** – from the Head of Department or nominee

(Another senior member of the department may sign where the head of department is the Principal Investigator, or where the Head of Department has appointed a nominee. Example nominees include Deputy Head of Department, Director of Research, or Director of Graduate/ Undergraduate Studies.)

| | |
|---|---|
| On the basis of the information available to me, I confirm that:<br><br>• I am aware of the research proposed and have read this application;<br>• To the best of my knowledge, the proposed design and scientific methodology do not raise ethical concerns;<br>• I support this research in principle, subject to ethical and other necessary reviews. | |
| Signature | Instead of a signature, endorsement may be provided by an email confirming the points above. |
| Name | |
| Role | |
| Date | |

### 9.1.2 CUREC approval letter

**Research ethics approval**

**Research title:** Exploring the Role of Verbal Encouragement on Narrative Expression in Chinese Preschool Children: An Experimental Study with a 10-Day Preschool Intervention.

**Research ethics reference:** EDUC_C1A_24_101

The above application has been considered on behalf of the Education Departmental Research Ethics Committee (DREC) in accordance with the University's procedures for ethical approval of all research involving human participants.

I am pleased to confirm that, on the basis of the information provided to the DREC, ethics approval has now been granted for this study.

Please note the following:

**Personal data**: It is the responsibility of the PI to ensure that all personal data collected during the project is managed in accordance with the University's guidance and legal requirements.

**In-person activities**: Any data collection involving in-person interactions with participants must have an up-to-date fieldwork risk assessment in place; further guidance is available from the Safety Office's website.

**Amendments**: Please notify the committee if you intend to make any amendments to the information in your ethics application as submitted at date of this approval, as all changes must receive ethical approval prior to implementation. The amendment form is available on the SSH IDREC webpage.

We welcome feedback on your experience of the ethical review process and suggestions for improvement. Please email any comments to staff.curec@education.ox.ac.uk / student.curec@education.ox.ac.uk or ethics@socsci.ox.ac.uk.

Yours sincerely

Robert Klassen

### 9.1.3 Parent/Guardian questionnaire: demographic and environmental background

1. Child's Information

1.1. Child's Participation Number: (researcher will write this up in advance)

1.2. Child's Birth Date: _____ (DD/MM/YYYY)

1.3. Child's Gender: Male/Female

2. SES

2.1. Family Annual Income:

Below 40,000 Yuan

40,000 - 80,000 Yuan

80,001 - 120,000 Yuan

120,001 - 160,000 Yuan

Above 160,000 Yuan

Prefer not to say

2.2. Parental Education Level

What is the highest level of education completed by the child's mother?

Less than high school

High school graduate

Associate degree

Bachelor's degree

Master's degree and above

What is the highest level of education completed by the child's father?

Less than high school

High school graduate

Associate degree

Bachelor's degree

Master's degree and above

3. How often does your family engage in shared reading activities?

Daily

Several times a week

Once a week

Rarely or never

4. Exposure to Other Chinese Dialects

Please indicate the frequency and context of your child's exposure to Chinese Mandarin:

Chinese Mandarin is the only language used in communication with the child.

Chinese Mandarin is the primary language for communication with the child, with occasional use of a Chinese dialect.

A Chinese dialect is the primary language for communication with the child, with occasional use of Chinese Mandarin.

A Chinese dialect is the only language used in communication with the child.

End of Questionnaire.

Thank you for your participation. Your responses are invaluable to our research.

### 9.1.4 Text message for recruitment

Dear Parents/Guardians,

Subj: a preschool research project titled Story Sparks: Lighting Up Preschoolers' Narrative Expression

We are pleased to announce an upcoming research initiative at our preschool, conducted by a Graduate student from the University of Oxford (UK). This study is dedicated to examining the influence of verbal encouragement on children's narrative expression. Scheduled over a two-week period, your child will engage in a series of narrative sessions designed to not only cultivate an appreciation for narrative expression but also evaluate how encouragement can enhance their expressive capabilities. These activities have been thoughtfully integrated to complement our existing educational curriculum.

To facilitate your understanding and decision-making regarding your child's participation, we have distributed an information sheet alongside opt-in and opt-out forms. The information sheet outlines the study's objectives, methodology, and ethical approval details. Should you prefer that your child does not participate, please complete the opt-out form and return it to either the teacher or the researcher. Conversely, if you consent to your child's involvement, we kindly request you to fill out the opt-in form, which includes a brief questionnaire, and return it accordingly.

Please be assured that your privacy will be strictly maintained throughout the process, with no disclosure of personal information. Should you have any inquiries or require further clarification, we encourage you to contact us without hesitation.

We value your support immensely and are available to address any questions or concerns you may have regarding this study.

Warm regards,

xxx

### 9.1.5 Guidelines for the Learning and Development of Children Aged 3-6

Ministry of Education of the People's Republic of China

September 2012

1. Frequently read with young children, guiding them to understand the content of books based on their own experiences. For example:

1.1. Guide the child to carefully observe the illustrations and discuss the content of the story in relation to the illustrations, learning to establish a connection between the images and the story.

1.2. Discuss or recall the story plot with the child, guiding them to retell the main content of the story in an organized manner.

1.3. When reading a book or telling a story to a child, you might initially withhold the title, allowing the child to name it after listening and to explain their reasoning for the chosen name.

1.4. Encourage the child to read independently and to discuss their discoveries, feelings, and thoughts about the reading with others.

2. Develop the child's imagination and creativity through reading. For example:

2.1. Encourage the child to narrate a story based on visual clues, boldly speculate and imagine the development of the story plot, and adapt or continue the story's ending.

2.2. Encourage the child to express their understanding of the books and stories through different forms such as storytelling, performance, drawing, etc.

2.3. Encourage and support the child to create their own stories and accompany them with illustrations to make a picture book.

3. Guide the child to appreciate the beauty of literary works. For example:

3.1. Consciously guide children to appreciate or imitate the rhythm of the language in literary works.

3.2. When reading to children, convey the emotions of the book through facial expressions, gestures, and the cadence of voice, allowing the child to experience the expressiveness of the work.

## 9.2 Appendix B

### 9.2.1 Lesson plan

**Intervention Session 1**

**Intervention Level Details**
**Intervention Target: Narrative Expression**
**Target age/grade of children:** Kindergarten
**Delivery:** Researcher
**Number of Sessions**: 10
**Lesson Level Details**

| **Lesson Title:** ***Happy happy!*** | **Date: May 23rd, 2024** |
|---|---|
| **Lesson No.: 1** | **Duration: 26 minutes** |

| **Instructional Strategies:** | **Instructional Materials:** |
|---|---|
| ☐ Lecture ☐ Demonstration<br>☐ Video ☐ Direct Experience<br>☐ Role Play ☐ Group Discussion<br>☐ **Story Reading** ☐ Other: _____ | ○ **Book**<br>○ Paper<br>○ Colours<br>○ Board<br>○ **Puppets**<br>○ Other: _____ |

| **[Minutes]** | **Procedure:** | **Researcher will:** | **Students will:** |
|---|---|---|---|
| **3** | Greetings, introduction to the monkey puppet, and establishing | **For both groups:** | Learn about 1) what will be done in the |

| | | | |
|---|---|---|---|
| | session rules<br>The figure originally presented here cannot be made freely available via ORA because of copyright. | Hello, children of Class Three! Welcome to storytelling time! My name is xxx, and you can call me xxx. Thanks for coming to read with us. For the next two weeks, we'll read four fun stories together.<br><br>Meet our new friend, Little Monkey Da Zui. Da Zui will be with us when we read stories together. He will be with us every day for the next two weeks. Let's all say hi to Da Zui.<br><br>(Say hi to the puppet with children). In puppet's voice: "Hi, children of class three. It's very nice to meet you. Today, we're going to listen to the first story together. Please find your chair to sit down nicely. We're about to start our story time very soon." | sessions – read stories together; 2) how many days we will meet – two weeks; 3) who else will join the session – Da Zui. |
| **2** | Introduction to the title of the story, the book cover picture<br>The figure originally presented here cannot be made freely available via ORA because of copyright. | **For both groups:**<br><br>Alright, everyone! Today's story is called *what will make me happy*.<br><br>(show the book cover picture)<br><br>Now, let us use our little eyes to see the cover of our new story (make eye contact with children to gain joint attention to see the cover of the book together)<br><br>The girl in this story is called Xiao Xi. And here is a little squirrel.<br><br>**For experiment group:**<br><br>I know you can answer questions quickly and bravely. Who do you think "me" is in "what makes me happy"? Is it the squirrel or Xiao Xi? (nod and make the gesture of listening carefully) | Listen to the story introduction and answer a question about the title. |

| | | | |
|---|---|---|---|
| | | **For control group:**<br><br>I have a question for you, and I'd like you to answer it. Who do you think "me" is in "what will make me happy"? Is it the squirrel or Xiao Xi? (nod and make the gesture of listening carefully.) | |
| **2** | Reading of page 1 (picture 1).<br><br>The figure originally presented here cannot be made freely available via ORA because of copyright. | **For both groups:**<br><br>You are right, it is hard to tell who is 'me' without reading the story. But I can share with you that the 'me' here is the squirrel! In this story 'me' is the squirrel. I wonder what will make the squirrel? Do you also want to know what will make the squirrel happy? (wait for children to respond) Shall we read further to find out? (wait for children to respond)<br><br>(wait for children to answer)<br><br>One day, Xiao Xi was walking in the meadow when she saw a little squirrel sitting all alone.<br><br>Do we agree that the squirrel looks very sad? (point to the squirrel)<br><br>(wait for the whole class to answer YES/NO. If some say No then ask them to listen to the next part of the story)<br><br>The squirrel looked very sad, with tears running down his cheeks. "I am so sad! Nothing will make me happy," the squirrel cried.<br><br>Do we now agree that the squirrel is very sad? (again point to the squirrel with eye contact for children who had earlier said No) | Listen to the story and answer a quick question about the squirrel's feeling. |

| | | | |
|---|---|---|---|
| | | [repeat read sentence] The squirrel looked very sad, with tears running down his cheeks. “I am so sad! Nothing will make me happy,” the squirrel cried.<br><br>Xiao Xi really wanted to help. So she said to the squirrel “Don’t worry, seeing beautiful places will make you happy.” | |
| 1 | Reading of page 2 (picture 2)<br>  <br> | **For both groups:**<br><br>Holding the weeping squirrel in her arms, Xiao Xi set off towards the warm sun. She promised to show the little squirrel picturesque places.<br><br>**For experiment group:**<br><br>I would appreciate it if someone can tell me what “picturesque” means?<br><br>**For control group:**<br><br>I want someone to tell me what “picturesque” means?<br><br>“Picturesque” describes a place that is strikingly beautiful and visually charming, much like a picture. | Listen to the story and answer the question. |
| 1 | Read of page 3 (picture 3).<br>  <br> | **For both groups:**<br><br>Shall we now see what happens?<br><br>The first place they arrived at was a school. Sitting on Xiao Xi’s head, the little squirrel felt a bit surprised because he thought it resembled every other school. Xiao Xi explained to him that the beauty of this school came from the kindness and enthusiasm of both the animals and people here. | Listen to the story. |

| | | | |
|---|---|---|---|
| 1 | Read of page 4 (picture 4).<br>The figure originally presented here cannot be made freely available via ORA because of copyright. | **For both groups:**<br>Following the path, Xiao Xi and the little squirrel came to a river. The river was roaring as it flowed down the hillside. The little squirrel felt scared listening to the roaring, so he hid behind Xiao Xi. But Xiao Xi encouraged him to appreciate the winding riverway and the sparkling waves. | Listen to the story. |
| 1 | Read of page 5 (picture 5)<br>The figure originally presented here cannot be made freely available via ORA because of copyright. | **(For both groups)**<br>Xiao Xi and the little squirrel then crossed the river and reached a vast meadow. Xiao Xi pointed up to the dazzling sun and said to the little squirrel, "The warm sun brightens everyone and everything in the earth. It helps flowers to bloom, and it can make you happy too." | Listen to the story. |
| 1 | Read the story (picture 6).<br>The figure originally presented here cannot be made freely available via ORA because of copyright. | **For both groups:**<br>In the sunshine, the little squirrel sat on Xiao Xi's head and started to smile. They sniffed the smell of the earth and the sweet flowers around them. They sat there in that vast meadow for a long time. As they soaked in the beauty of this beautiful picturesque vast meadow, the sun slowly went down. | Listen to the story. |
| 1 | Read the story (picture 7) . | **For both groups:**<br>The little squirrel felt very happy and wasn't sad anymore. He realized that friendly animals and people, a winding river, and a vast meadow could all make him smile. He wove a blue leaf hat for Xiao Xi to show she is now his friend. | Listen to the story. |

| | | | |
|---|---|---|---|
| |  | Xiao Xi also clapped, happy to have now have a squirrel friend! | |
| 5 | Ask children questions while showing them the corresponding pictures.<br><br>Picture 1<br><br>  <br><br>Picture 2<br><br>  <br><br>Picture 4 | **For experiment group:**<br><br>You know this story much better now because you've been paying close attention! You have the potential to solve difficult questions based on the whole storyline.<br><br>**For control group:**<br><br>The story is now finished, and so far, we've known that this story much better. In order to check whether you listened to me carefully, I have questions for you to answer.<br><br>**Picture 1:**<br><br>How is the little squirrel feeling right now, and why do you think so?<br><br>(wait time for gathering several answers) Yes, the little squirrel is feeling sad, with tears running down his cheeks. He said "I am so sad! Nothing will make me happy."<br><br>**Picture 2:**<br><br>Do you still remember what "picturesque" means?<br><br>(wait for several answers) Yes, "picturesque" describes a place that is strikingly beautiful and | Answer 6 questions. |

| | | | |
|---|---|---|---|
| | The figure originally presented here cannot be made freely available via ORA because of copyright.<br><br>Picture 6<br><br>The figure originally presented here cannot be made freely available via ORA because of copyright.<br><br>Picture 7<br><br>The figure originally presented here cannot be made freely available via ORA because of copyright. | visually charming, much like a picture.<br><br>**Picture 4:**<br><br>I describe the river as winding. How would you describe a river?<br><br>(wait time for gathering several answers and then closing with a summary sentence) Yes, you may describe the river's color, sound, its surrounding environment.<br><br>**Picture 6:**<br><br>Can you please guess the current time? What makes you say that?<br><br>(wait time for gathering several answers and then closing with a summary sentence) Yes, it may be late afternoon, because the sun is about to set.<br><br>**Picture 6:**<br><br>Can someone tell me where Xiao Xi and the little squirrel have been so far?<br><br>(wait time for gathering several answers and then closing with a summary sentence) Xiao Xi and the little squirrel have been to three picturesque places: a beautiful school, a winding river, and are now in a vast meadow.<br><br>**Picture 7:**<br><br>Why did the little squirrel weave a blue leaf hat for Xiao Xi?<br><br>(wait time for gathering several answers and then closing with a summary sentence) Everything you said is correct. The little squirrel made a blue leaf hat because he was very happy and | |

| | | | |
|---|---|---|---|
| | | wanted to show that Xiao Xi is now his friend. | |
| 1 | Re-introduce puppet Da Zui in preparation for story retelling phase.<br><br>The figure originally presented here cannot be made freely available via ORA because of copyright. | **For both groups:**<br><br>Pretend the puppet's voice: "Oh my, I feel asleep! But I am now awake! What did I miss??! I cannot remember what happened. Please help me! Someone, please tell me the story again?" | 1) Some children may be likely become engaged and excited, eager to participate; 2) some children may attempt to run up and gran the puppet. |
| 10 | Retell the story. | **For both groups:**<br><br>I notice that you are willing to help Da Zui. Next, you are expected to take a turn to retell the story to Da Zui. The last child will help us finish by summarizing the whole story. Are you all ready to start?<br><br>(nod when children retell accepting all answers unless factually wrong. Complete incomplete sentences or narration that is through a single word, clause or phrase. Use story script to complete incomplete utterances.)<br><br>**For experiment group:**<br><br>I know you will be able to remember the story characters, the places, and what happened there. Da Zui would also appreciate it. Think about the words and sentences we heard in the story. Now let's retell the story to Da Zui. | 1) Understand that they need to take turns retelling the story and the last child summarising the entire story; 2) determine the sequence in which they will participate. |

| | | | |
|---|---|---|---|
| | | **For control group:**<br><br>Before you tell the story again, you should first think of what I told you about the story characters, the places, and what happened there. Think about the words and sentences we heard in the story. Now let's retell the story to Da Zui. | |
| 2 | Comment on children's performance. | **For experiment group:**<br><br>Pretend Da Zui's voice: "you all did a great job listening to the story and answering questions. I also saw that you were polite and listened when others were speaking. You should feel proud! Keep up the good work!"<br><br>**For control group:**<br><br>Pretend Da Zui's voice: "you helped me by retelling the whole story to me. Even those who didn't retell the story were polite and listened when others were speaking. You all follow the rules and meet the requirements." | 1) Some children may feel encouraged and smile; 2) some children may prepare to leave the classroom. |
| 1 | Session closure | That's it for today's class. Hope to see you all again tomorrow. | 1) Some children may begin to gather their belongings, stand up, and leave the classroom; 2) some children may also respond to say "goodbye" or "see you tomorrow." |

Note. The text highlighted in blue represents the story script, while the text marked in red indicates the differences in language used between the two groups.

## 9.3 Appendix C

### 9.3.1 Segmentation rubric and transcription examples

**Table 15** *Segmentation Rubric*

| Type | Utterances without conjunctions |
|---|---|
| This study employs utterance as the unit of segmentation. An utterance is defined as a main or independent clause along with any dependent clauses and each clause containing at least one main verb. A main verb may include an action verb, an existential verb (e.g., "有" [have]), or an adjectival verb (e.g., "很馋" [very greedy]). One distinctive feature of the Chinese language is that a large majority of Mandarin adjectives can function as verbs, serving as the heads of verb phrases (Li & Thompson, 1989, p. 142). | |
| **Segmented** | 1. 小 狗 要 看 老鼠.<br>很 开心.<br>想 逗 老鼠 玩.<br>the little dog wants to see the mouse.<br>(it is) very happy.<br>(it) wants to tease the mouse.<br>2. 他 的 气球 飞 走 了.<br>挂 到 树 上 了.<br>his balloon flew away.<br>(it) got stuck on a tree.<br>3. 另外 一 只 小 绵羊 在 吃 草.<br>它 没 注意 到 狐狸 来 了.<br>another little sheep is eating grass.<br>it didn't notice the fox approaching.<br>4. 小 鸟 妈妈 生 了 一 群 孩子<br>猫咪 看 到 了<br>一直 流 口水<br>the mother bird gave birth to a group of babies.<br>the cat saw them.<br>(it) kept drooling.<br>5. 那 个 小 男孩 看见 小 猫 了.<br>小 猫 没 有 抓 到 蝴蝶.<br>the little boy saw the kitten.<br>the kitten didn't catch the butterfly. |
| **Type** | **Utterances that contain coordinating conjunctions** |
| Common coordinating conjunctions include "而且" [and], "然后" [then/and], "但是" [but], "所以" [so]. | |
| **Segmented** | 1. 小 猫 想 抓 那 个 蝴蝶.<br>**而且** 还 抓 不 到 那 个 蝴蝶<br>the kitten tried to catch that butterfly. |

| | |
|---|---|
| | and (it) couldn't catch it.<br>2. 它 阻止 了 这 个 狐狸.<br>**然后** 小 羊 看见 了.<br>it stopped the fox.<br>then the little sheep saw it.<br>3. 妈妈 飞 到 了 外面.<br>**但是** 有 一 个 小 猫 看 到 小 鸟.<br>the mother bird flew outside.<br>but a kitten saw the little bird.<br>4. 这 只 小 狗 想 要 抓 到 老鼠.<br>**所以** 这 只 狗 去 追 老鼠.<br>the little dog wanted to catch the mouse.<br>so it chased the mouse. |
| **Type** | **Utterances that contain "就"** |
| "就" is a polysemous morpheme with multiple meanings. In the provided examples, it can be interpreted in contexts that translate to "then," "and," or "so." | |
| Segmented | 1. 羊 妈妈 告诉 它们 已经 可以 自己 生活 了.<br>它们 **就** 找 到 了 一 个 地方.<br>**就** 生活 在 了 这里.<br>the mother sheep told them they could live on their own now.<br>they **then** found a place.<br>**and** (they) settled there.<br>2. 一 只 狐狸 看见 了.<br>**就** 猛 地 扑 过去.<br>a fox saw it.<br>**then** (it) suddenly pounced.<br>3. 狗 **就** 看 到 了 他 的 香肠.<br>之后 呢 它 **就** 拿 了 出来.<br>**so** the dog saw his sausage.<br>**then** it took (the sausage) out.<br>4. 小 猫 看见 有 鱼.<br>它 **就** 想 去 吃.<br>the kitten saw there was a fish.<br>**then** it wanted to eat (fish). |

| Type | Utterances that contain “的时候” |
|---|---|
| “的时候” functions similarly to “when” or “while” in English and is categorized as a subordinating conjunction. In these examples, “的时候” is not segmented during analysis. | |
| **Not segmented** | 1. 小 猫 趁 小 鸟 妈妈 不 注意 **的 时候** 爬 上 了 树.<br>the kitten climbed the tree while the mother bird wasn't paying attention.<br>2. 他 取 下 气球 **的 时候** 狗 已经 把 他 的 香肠 吃 得 光光 了.<br>when he retrieved the balloon, the dog had already eaten his sausage.<br>3. 它 快 抓 着 老鼠 **的 时候** 有 个 人 来 了.<br>when it was about to catch the mouse, someone came.<br>4. 今天 **的 时候** 羊 爸爸 看见 它 的 一 个 宝宝 掉 进 水 里.<br>today the father sheep saw one of his babies fall into the water. |
| **Type** | **Utterances with reformulations, retracing, and self-corrections** |
| Special Note: For utterances involving reformulations, retracing, and self-corrections, the original file is retained to capture the children's thought processes. However, for analytical purposes, the focus will be on the final utterance produced, with consideration given to lexical diversity. | |
| Segmented | 1. (它 很 想.)<br>它 很 喜欢.<br>就 想 去 追.<br>(the dog really wants.)<br>it really likes (the rat).<br>so it wants to chase (the rat).<br>Note. In this example, the child begins by expressing the dog's desire to chase the rat but then shifts to emphasize the dog's liking before returning to the initial thought. For the final analysis, the first utterance will be excluded.<br>2. (有 三 只.)<br>有 两 只 小 羊 和 一 只 它们 的 羊 爸爸.<br>(there are three.)<br>there are two little sheep and their father sheep.<br>Note. In this example, the child initially starts to mention the total number of sheep but suddenly changes to provide more specific information. For the final analysis, the first utterance will be excluded.<br>3. (然后 小 男孩 就 在.)<br>小 猫咪 在 他 后面.<br>(then the little boy was.)<br>the kitten was behind him. |

| | |
|---|---|
| | 4. (一 个 小 男孩 的 气球.)<br>他 走 过来.<br>小 男孩 的 气球 飞 走 了.<br>(a little boy's balloon.)<br>he walked over.<br>the little boy's balloon flew away. |
| **Type** | **Utterances that contain repeated words** |
| Special Note: For utterances that contain repeated words, the original file is retained to capture the children's natural speech patterns. However, for analytical purposes, only a single instance of each repeated word will be retained. | |
| **Not segmented** | 1. **(没 专) 没 专心** 钓 鱼.<br>(the boy is) **(not focused,) not focused** on fishing.<br>Note. In this example, the child intended to convey that the boy was not focused on fishing. In the final analysis, the initial repetition of "not focused" will be excluded.<br>2. 然后 **跳 跳 跳** 起来.<br>then it **(jumped, jumped,) jumped** up.<br>3. 这 小 猫 在 小 树 里面 **抓 抓** 蝴蝶.<br>the kitten is in the small tree **(catching) catching** butterflies<br>4. **然后 然后 然后** 呢 这 个 大 绵羊 又 来 带 另 一 个 小 绵羊.<br>**(then, then,) then** the big sheep came again to lead another little sheep. |

### 9.3.2 CHAT analysis examples

@Begin

@Languages: zho

@Participants: CHI Target_Child

@ID: zho|CHI|5;11.|female||Asian|Target_Child|||

@Birth of CHI: 26-MAY-2018

@Date: 13-MAY-2024

@Activities: MAIN pre-test narrative task

@Situation: CHI narrates the MAIN DOG story

@Comment: Child ID: 030; School: A; Filename is DOG030APRE

*CHI: 这里 有 只 小 狗 .

%mor: post|zhe4li3=here v|you3=have cl|zhi1 adj|xiao3=small n|gou3=dog .

%gra: 1|2|JCT 2|0|ROOT 3|5|CLASS 4|5|MOD 5|2|OBJ 6|2|PUNCT

*CHI: 看 到 一 个 小 老鼠 .

%mor: v|kan4=look v:resc|dao4=arrive num|yi1=one cl|ge4 adj|xiao3=small n|lao3shu3=mouse .

%gra: 1|0|ROOT 2|1|VR 3|4|QUANT 4|6|CLASS 5|6|MOD 6|1|OBJ 7|1|PUNCT

*CHI: 小 老鼠 它 跑 在 树 洞 里 .

%mor: adj|xiao3=small n|lao3shu3=mouse pro:per|ta1=it v|pao3=run prep|zai4=at n|shu4=tree n|dong4=hole post|li3=inside .

%gra: 1|2|MOD 2|4|SUBJ 3|2|APP 4|0|ROOT 5|4|JCT 6|7|MOD 7|8|POSTO 8|5|PREPO 9|4|PUNCT

*CHI: 然后 小 老鼠 跑 出去 了 .

%mor: conj|ran2hou4=thereupon adj|xiao3=small n|lao3shu3=mouse v|pao3=run v:dirc|chu1qu4=go_out asp|le .

%gra: 1|4|LINK 2|3|MOD 3|4|SUBJ 4|0|ROOT 5|4|VD 6|4|ASP 7|4|PUNCT

*CHI: 小 狗 进 不 去 .

%mor: adj|xiao3=small n|gou3=dog v:dirc|jin4=enter adv|bu4=not v:dirc|qu4=go .

%gra: 1|2|MOD 2|3|SUBJ 3|0|ROOT 4|5|JCT 5|3|VD 6|3|PUNCT

*CHI: 它 就 撞 到 脑袋 啦 .

%mor: pro:per|ta1=it adv|jiu4=just v|zhuang4=run_into v:resc|dao4=arrive n|nao3dai4=head sfp|la1 .

%gra: 1|3|SUBJ 2|3|JCT 3|0|ROOT 4|3|VR 5|3|OBJ 6|3|SFP 7|3|PUNCT

*CHI: 它 主人 看 到 了 .

%mor: pro:per|ta1=it n|zhu3ren2=host v|kan4=look v:resc|dao4=arrive asp|le .

%gra: 1|2|MOD 2|3|SUBJ 3|0|ROOT 4|3|VR 5|3|ASP 6|3|PUNCT

*CHI: 就 笑 它 .

%mor: adv|jiu4=just v|xiao4=smile pro:per|ta1=it .

%gra: 1|2|JCT 2|0|ROOT 3|2|OBJ 4|2|PUNCT

*CHI: 但是 呢 他 气球 挂 在 树 上 了 .

%mor: conj|dan4shi4=but sfp|ne pro:per|ta1=he n|qi4qiu2=balloon v|gua4=hang prep|zai4=at n|shu4=tree post|shang4=above asp|le .

%gra: 1|5|LINK 2|1|SFP 3|4|MOD 4|5|SUBJ 5|0|ROOT 6|5|JCT 7|8|POSTO 8|6|JCT 9|5|JCT 10|5|PUNCT

*CHI: 他 怎么 拿 都 拿 不 下来 .

%mor: pro:per|ta1=he adv:wh|zen3me=how prep|na2=with adv|dou1=all v|na2=hold adv|bu4=not v:dirc|xia4lai2=down .

%gra: 1|5|SUBJ 2|5|JCT 3|5|JCT 4|5|JCT 5|0|ROOT 6|7|JCT 7|5|VD 8|5|PUNCT
*CHI: 然后 最后 他 拿 下来 了 .
%mor: conj|ran2hou4=thereupon adv|zui4hou4=finally pro:per|ta1=he
v|na2=hold v:dirc|xia4lai2=down asp|le .
%gra: 1|4|LINK 2|4|JCT 3|4|SUBJ 4|0|ROOT 5|4|VD 6|4|ASP 7|4|PUNCT
*CHI: 他 还 没 注意 狗 已经 把 他 的 香肠 给 吃 了 .
%mor: pro:per|ta1=he adv|hai2=still adv|mei2=not
v|zhu4yi4=pay_attention_to n|gou3&DIM=dog adv|yi3jing1=already
prep|ba3=object_marker pro:per|ta1=he poss|de n|xiang1chang2=sausage
prep|gei3=for v|chi1=eat asp|le .
%gra: 1|4|SUBJ 2|4|JCT 3|4|JCT 4|0|ROOT 5|4|OBJ 6|12|JCT 7|12|JCT 8|10|MOD
9|8|POSS 10|7|PREPO 11|12|JCT 12|4|SRL 13|12|ASP 14|4|PUNCT
@End