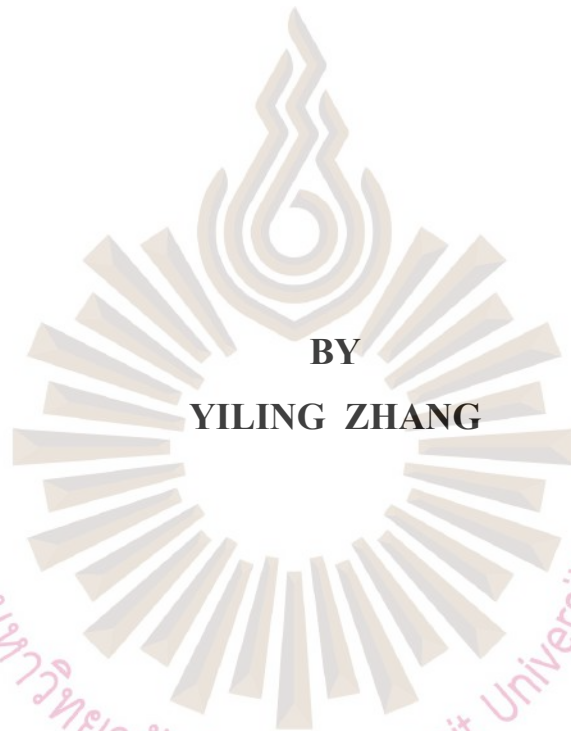




**THE APPLICATION OF BABY BUS APP WITH ROLE PLAYING
METHOD FOR IMPROVING KINDERGARTEN STUDENTS'
LANGUAGE EXPRESSION SKILLS IN CHINA**



**BY
YILING ZHANG**

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT
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Abstract

This study aimed to 1) compare the language expression skills of kindergarten students in China before and after using the Baby Bus App and the role-playing method and 2) to examine students' satisfaction with the application of these methods at a kindergarten in Shandong Province, China. The sample group consisted of 30 kindergarten students. Quantitative data were collected over four weeks through four lesson plans, a pre-test, a post-test, and a questionnaire survey. The data were analyzed using means, standard deviation, and a paired-sample t-test to assess the effectiveness of the interventions.

The mean pre-test score was 69.53 (SD = 3.67) while the mean post-test score increased to 78.88 (SD = 5.41), indicating a significant improvement in the language expression skills of kindergarten students after using the Baby Bus App and the role-playing method. Additionally, data from the questionnaire revealed that all items received high ratings, demonstrating a positive reception. The majority of students in the sample group expressed satisfaction with the implementation of the Baby Bus App and the role-playing method.

This study offers new insights for kindergarten teachers in designing language activities and supports the adoption of innovative teaching methods to enhance instruction. By integrating these approaches, teachers can create more engaging and dynamic learning experiences for young children.

(Total 111 pages)

Keywords: Language Expression Ability, Baby Bus APP, Role Playing Method, In Kindergarten Students, Student Satisfaction

Student's Signature Thesis Advisor's Signature

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CHAPTER 1

INTRODUCTION

This chapter explains the background and rationale behind the study, followed by elucidating the research objectives, posing research questions, and establishing research hypotheses. Furthermore, it will address the scope, conceptual framework, terminology definitions, and expected outcomes of the study.

1.1 Background and Rationale of the Study

Early childhood is a critical stage in a person's lifelong language development, and it is also a key period for language development. Early childhood is an important period for language development, particularly for oral language. The development of early childhood language has a significant impact on other major areas and is integral throughout all educational stages, affecting interpersonal communication, cognitive development, information acquisition, and other processes.

Berk (2013) points out that early childhood is a crucial stage for language development, with children aged 3 to 6 years being at the peak of language learning. Research shows that early language skills not only affect children's academic performance but also play a vital role in their social adaptation, emotional development, and self-expression abilities. The development of language skills helps young children build relationships in social interactions and enhances cognitive abilities.

In recent years, with the continuous updating of educational concepts, China has significantly increased its emphasis on early childhood language education. Li (2020) emphasizes the profound impact of early language skills development on children's cognition, social interaction, and academic performance. With the advancement of

technology, digital educational tools are increasingly used in early childhood education. Hsin, Li, and Tsai (2014) highlight that as technology develops, the use of digital educational tools in early childhood education has become more common.

The proliferation of smart devices allows children to engage with learning content in intuitive and interactive ways. Research shows that using digital tools can enhance young children's learning motivation and improve language learning outcomes. For example, many educational apps attract children's attention through gamified designs and rich visual effects, providing a more engaging learning experience compared to traditional teaching methods. Therefore, exploring how to effectively use these tools to promote early childhood language development is of great importance.

Bodrova and Leong (2007) explored the central role of role-playing in early childhood education, especially its key role in language development. Role playing is an effective teaching strategy that helps children learn language and improve their expressive skills by having them assume different roles and interact with peers or adults in simulated situations. Role-playing can not only help young children increase their vocabulary, but also promote their understanding of grammatical structures and the context of language use. Studies have also shown that role-playing boosts children's cognitive development and social skills, especially in terms of verbal expression and emotional communication. This article provides practical advice for teachers and educators on how to design and implement role-playing activities, especially strategies for promoting language development in young children.

Zhang (2021) emphasizes that specialized educational apps for young children, such as "Baby Bus," are becoming important choices for parents and educators. Johnson and Lee (2020) note that in countries like those in Europe and the U.S., educational apps are widely used in early childhood education. These apps effectively support the development of young children's language abilities through interactive learning methods. Baby Bus is a popular educational app in China specifically developed for young children, covering a wide range of learning content

and engaging interactive games. The Baby Bus App contains various modules and content, such as stories, songs, and games. By selecting content suitable for children's age and language level, and utilizing the interactive features of the app, you can enhance children's engagement and language expression abilities.

Miller and Brown (2018) indicate that educational apps can significantly improve young children's language expression abilities through language interactions and storytelling functions. Game-based teaching method are not only favored by young children but also align with their psychological development characteristics. Through engaging games, young children can express themselves in the most natural way, subtly improving their language expression abilities in a relaxed and natural environment.

Up this point, the application of Baby Bus App with a role playing method is likely to prove a lot of benefits and may be regarded as one of the effective ways, leading to the improvement of young children' language expression skills. Therefore, this study aims to utilize this application to help improve the young children; in other words, the kindergarten students' language expression skills as well as to enhance their learning satisfaction. The researcher is expecting that this study will shed some light on the more effective way of teaching and learning in the early childhood education in China and perhaps in other contexts.

Ginsburg (2007) emphasizes the importance of play and role playing in the healthy development of children, especially in language development. The research points out that role-playing is not only a part of the game, but also a key activity to promote the development of children's language ability. Through role play, young children are able to practice and master language in a relaxed environment and learn how to express themselves in different situations.

Bodrova and Leong (2007) proposed that role-playing provides children with an opportunity to use language in a simulated situation, helping them to enhance their language expression and communication skills. Through interaction with peers or

adults, young children are able to use language in emotional situations, expand their vocabulary, and learn how to use different sentence structures to express needs and emotions. Research points out that role playing is an indispensable part of early childhood education, especially in improving their language expression and social skills, with significant effects.

Early learning apps usually contain interactive game modules, so combining the two in language teaching can effectively enhance children's language skills. story modules in apps can be combined with role-playing activities, so that children can listen to the story and then act it out, which promotes their comprehension and use of the language. Zhang (2020) pointed out that using spelling games in apps, teachers can set up group competitions to encourage children to learn new vocabulary while having fun and promote memory through play.

Standley (2008) used the song function in the app, teachers can design song learning activities so that children can learn relevant vocabulary and sentence patterns while singing. This combination can enhance their perception of language.

Li and Zhang (2021) study of toddlers who used a comprehensive early learning app found that participants showed increases in vocabulary, oral fluency, and expressive self-confidence. The effectiveness of combining apps with play-based pedagogy was elucidated, suggesting that they can contribute to each other.

In summary, the integration of the Baby Bus App and the role playing method will provide new possibilities for language education in kindergartens. This approach is supported by a wide range of studies showing that traditional language teaching method is unable to adequately motivate young children's language learning and promote the development of their language skills. In terms of improving young children's language expression, the Baby Bus App and the role playing method will play a key role in improving students' perceptual and language expression skills by stimulating their motivation, initiative and creativity.

1.2 Research Objectives

1.2.1 To compare the kindergarten students' expression skills before and after applying Baby Bus App with role playing method in China.

1.2.2 To investigate the kindergarten students' learning satisfaction towards applying Baby Bus App with role playing method in China.

1.3 Research Questions

1.3.1 Did the kindergarten students' expression skills improve after applying the Baby Bus App with the role-playing method in China?

1.3.2 How high was the kindergarten students' learning satisfaction towards applying the Baby Bus App with the role-playing method in China?

1.4. Research Hypotheses

1.4.1 The kindergarten students' expression skills were significantly improved after applying the Baby Bus App with the role-playing method in China.

1.4.2 The kindergarten students were satisfied with improving their language skills through the Baby Bus App and role-playing in China.

1.5 Scope of the Study

This study was conducted in a specific context; in other words, in a kindergarten in China that was described in this paper; therefore, caution had to be exercised in generalizing the results of the study, especially at different levels of education and using different research tools.

Firstly, the context of this study focused on a kindergarten in Shandong Province. In addition, data were collected through the administering of questionnaires and class observations by a class teacher and a researcher with the participants, who were 4-5 years old students studying in this school. These young children were at a

critical stage in their language development, and a study of their expression skills at this age was conducted. It was expected that this study would provide insight into the specific effects of the Baby Bus App and the game-based teaching method on their expression language skills.

1.5.1 Location of the study

This study was conducted at Kindergarten A, located in Shandong Province, China. Qingdao was an important city in Shandong Province, with a unique geographical location and economic development advantages. Below was a detailed description of Qingdao's address and location advantages, economic development, and early childhood education.

Location Advantages

Geographic location: Qingdao is located on the eastern coast of China, bordered by the Yellow Sea in the east and Yantai in the south, making it an important hub connecting Northeast and East China.

Port Advantage: Qingdao Port is one of the most important deep-water ports in China, with excellent shipping conditions, which promotes the development of international trade and logistics.



Figure 1.1 Shows the location of the study

Source: Travel China Guide, 2023

1.5.2 Population and Sample

Population: The study population consisted of 240 kindergarten cohort students in eight middle classes. They are around 4-5 years old with mixed genders and studying in a research kindergarten in Shandong Province, China.

Sample: The clustered random sampling method is utilized to select a class of 30 kindergarten students from the population at the kindergarten. They are 4- 5 years old with mixed genders and mixed expression skills

1.5.3 Time Frame

The study was conducted in the second semester of the 2024 academic year. It lasted for 4 weeks (once a week/two sessions). Thus, the entire research took about 8 weeks. The research program followed the timetable displayed below.

Table 1.1 Shows the Timeline of this study

Activity	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Literature										
Research Proposal										
Data Collection										
Data Analysis										
Report										
Final Defense										

1.5.4 Content of Lesson plans

The course plan is implemented for a total of four weeks, two classes per week, a total of eight classes. The study consists of eight sessions of 30 minutes each, spread over four weeks.

The lesson plan was shown in the table 1.2.

Table 1.2 The lesson plan

Week	Time	Topics	Application of Baby Bus App and Role paying method
1	1st class (30min)	The pen was repaired after the sheep died (亡羊补牢)	Use the Baby Bus App to play the story animation, and let children practice listening, speaking and reading through the baby bus app, and master the correct pronunciation and sentence context. Then the teacher explains how to use the words. (羊、个、大、支/Sheep, one, big, branch)
	2nd class (30min)		Review the story content and vocabulary of the last lesson. Role-play the characters in the story in groups and simulate the dialogue. After students' active interaction, the teacher introduced the knowledge points of the text
2	3rd class (30min)	Little things add up to big things. (积少成多)	Use the Baby Bus App to play the story animation, and let children practice listening, speaking and reading through the baby bus app, and master the correct pronunciation and sentence context. Then the teacher explains how to use the words. (少、多、石、山/Little, much, stone, mountain)

Table 1.2 The lesson plan (Cont.)

Week	Time	Topics	Application of Baby Bus App and Role paying method
	4th class (30min)		Review the story content and vocabulary of the last lesson. Role-play the characters in the story in groups and simulate the dialogue.
3	5th class (30min)	Slow birds fly first (笨鸟先飞)	Use the Baby Bus App to play the story animation, and let children practice listening, speaking and reading through the Baby Bus App, and master the correct pronunciation and sentence context. Then the teacher explains how to use the words. (飞、太、早、鸟/Fly, too, early, bird)
	6th class (30min)		Review the story content and vocabulary of the last lesson. Role-play the characters in the story in groups and simulate the dialogue.
4	7th class (30min)	Sit in the well and watch the sky (坐井观天)	Use the Baby Bus App to play the story animation, and let children practice listening, speaking and reading through the Baby Bus App, and master the correct pronunciation and sentence context. Then the teacher explains how to use the

Table 1.2 The lesson plan (Cont.)

Week	Time	Topics	Application of Baby Bus App and Role paying method
			words. (坐、井、天、水/Sit, well, sky, water)
	8th class (30min)		Review the story content and vocabulary of the last lesson. Role-play the characters in the story in groups and simulate the dialogue.

1.6 Conceptual Framework

According to the framework of the study, the independent variables of this study included the application of Baby Bus App with Role playing method whereas the dependent variables consisted of the Chinese kindergarten students' language expression skills and their learning satisfaction with the application of Baby Bus App and the role playing method skills. The conceptual framework of the study is shown below.

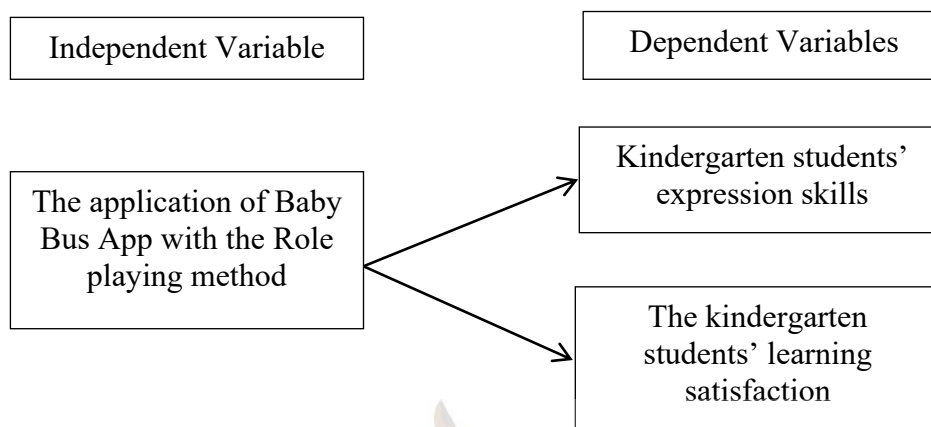


Figure 1.2 Conceptual framework of this study

1.7 Research Terminology

This section explains key terms in this study. They are outlined as follows.

Baby Bus App refers to a multi-purpose educational app designed for children aged 3 to 6 years old, offering a wealth of interactive learning content. In class, the teacher uses the Baby Bus App to show the students the whole story through the pictures, animations and sounds in the App, and allows kindergarten students to consolidate their language knowledge through the practice games in the Baby Bus App.

Role-playing refers to in kindergarten is play-based teaching method designed to allow children to take on different roles by simulating real-life situations, and to experience and express emotions, understand social rules, and improve verbal skills in interactions. In this study, kindergarten students improved their language expression ability by playing the role in the story and imitating the dialogues of the characters.

Expression skills refer to kindergarten students' ability to express themselves in Chinese. In Early Childhood Expressive Language Skills, the teachers evaluate the students on vocabulary, sentence structure, pronunciation, and expression. By understanding the content of the story, learn the right way to say it. Kindergarten

students can further understand the meaning of words and sentences and express their ideas through role-playing, simulating the dialogue of characters in stories.

Kindergarten students refer to Kindergarten students refer to students of an early childhood school in Shandong Province, China, and one of the eight yearly classes from the middle class (4-5 year olds) will be selected as a sample for this study.

Student satisfaction refers to the interest, motivation, participation and effectiveness of Chinese kindergarten middle class students in participating in language teaching activities after organizing language teaching activities with Baby Bus App and Role playing method. Therefore, students' satisfaction will be measured by questionnaire. In addition, since kindergarten students cannot recognize many Chinese characters at present, teachers will be used to coordinate and help recite the questions on the questionnaire, and children will choose grades according to their own feelings.

1.8 Limitations of the Study

This study was expected to examine the application of the Baby Bus App role playing method to improve language expression skills of middle-class level kindergarten students in Shandong Province, China. As other research and studies, this study possessed some limitations and this can be considered as follows.

1.8.1 This study was limited to only 30 students in a kindergarten in Shandong Province, China; therefore, it was not possible to generalize the results to all Chinese kindergartens in other contexts.

1.8.2 This study lasted only four weeks. Therefore, the results might have differed from studies conducted over a longer period of time.

1.9 Significance of the Study

1.9.1 The application of the Baby Bus App with the Role-playing method helped to improve the language expression skills of the kindergarten students in the middle-class level in Shandong Province, China.

1.9.2 It was hoped that students would be highly satisfied with the application of the Baby Bus App with the Role-playing method to learn language expression skills.

1.9.3 This study provided kindergarten teachers with new ideas for language skill teaching. The application of the Baby Bus App with the Role-playing method became an alternative way of teaching to improve young children's language expression skills.



CHAPTER 2

LITERATURE REVIEW

This chapter briefly summarizes the key concepts and related literature, and introduces the development of early childhood language education in China from two aspects of development background and development status. This paper expounds the application of Baby us APP and role playing methods to improve the language expression ability of kindergarten students, summarizes the benefits of Babybus APP in early childhood language education, and the importance of role playing methods to improve the language expression ability of Chinese kindergarten students.

2.1 Early Childhood Language Education in China

2.1.1 Importance of the development of Chinese kindergarten students' language expressive skills

Berk (2013) points out that the development of kindergarten students' language skills is fundamental to their cognitive, social and emotional development, especially during the critical period between the ages of 4 and 5. Learning during this period has a profound impact on future academic performance and interpersonal skills. During this stage, children interact with their surroundings through language and gradually build up an understanding of the world. Language is not only a tool for communication, but also an important vehicle for thinking and cognition, and Snow (2010) illustrates that early.

Language enhancement not only strengthens children's self-confidence, but also promotes good social interactions and stimulates their interest in learning.

For example, in everyday life, mastering basic language skills enables young children to accurately communicate their needs and feelings, thereby reducing frustration and anxiety. Improved language skills also help children to better relate to their peers in social activities and participate in group activities. As noted in Hart and Risley (1995) study, language input in the home environment plays a critical role in the language development of young children, and children who have a language-rich environment early in life usually achieve higher levels of academic success.

In addition, Fisher, Golinkoff, and Hirsh-Pasek (2011) suggests that the acquisition of basic language skills lays the foundation for children's subsequent reading and writing skills. Language skills are closely related to cognitive development and can influence preschoolers' readiness to learn. In the process of learning language, children are not only accumulating vocabulary, but also exercising their logical and creative thinking skills, laying a solid foundation for subsequent schooling and life.

In short, the emphasis on language education for young children in China is not only to improve their language skills, but also to lay the foundation for their all-round development, good social skills and future learning.

2.1.2 Development status of language education in Chinese kindergartens

Central Government of China (2018) emphasises that in recent years, language education in Chinese kindergartens has gradually received attention, especially in the context of national policy support for preschool education. According to the Several Opinions of the State Council on the Current Development of Pre-school Education Central Government of China (2018), the government explicitly put forward the need to improve the pre-school education system, focusing on improving the cultivation of kindergarten students' language skills. The implementation of this policy has provided a strong guarantee for the development of early childhood education, prompting many regions to begin implementing more systematic language

education programmes, with the goal of providing young children with rich language input and communicative opportunities.

As the education sector pays more attention, the content and methods of language education in kindergartens are also being innovated. For example, many kindergartens have introduced advanced international educational concepts and methods, such as ‘theme-based learning’ and ‘game-based learning’, which aim to stimulate children's interest in language learning through diversified activities. These innovative teaching modes emphasise the interactive and practical nature of language learning, allowing children to actively absorb and use language in an enjoyable environment.

Wang (2019) points out that there are still significant differences in teaching resources, teacher strength and students' access to education between different regions. For example, in the more economically developed cities (e.g., Beijing, Shanghai), kindergartens are generally equipped with rich educational resources and professional teachers, and these kindergartens are able to provide highly targeted language programmes and rich extracurricular activities to help children make significant progress in their language expression. These kindergartens are able to provide targeted language programmes and rich extracurricular activities to help children make significant progress in their language expression. In contrast, in some remote areas, due to a lack of funding and resources, many kindergartens face challenges in teacher training and the use of teaching materials, which results in some children lagging behind in the development of their expressive language skills, affecting their future learning and development.

In addition, although the importance of language education for young children has increased at the policy level, there are still many obstacles in practice. For example, teachers' varying levels of English literacy and professional training, as well as parents' lack of awareness of language education for young children, may constrain the effectiveness of language education. Therefore, there is an urgent need for more in-depth discussion and improvement in policy implementation, teacher training and

family co-operation to ensure that all children are given equal opportunities in language learning.

2.1.3 New Trends in Early Childhood Language Education in China

With the rapid development of educational technology, digital tools and game-based pedagogy have begun to gradually penetrate the field of early childhood language education in China. These emerging tools and methods not only enrich the form of teaching, but also provide children with more learning opportunities and experiences and promote their active participation in language learning. In the future, the following trends are likely to emerge in early childhood language education in China.

1) Introduction of digital tools

Digital tools, such as tablets, smartphones and interactive whiteboards, have become an important part of modern kindergarten teaching. Many apps are designed specifically for young children, with vivid graphical interfaces and interesting interactive features. Zhang (2020) elucidated that the Baby Bus App uses gamification to allow children to learn language while having fun, with the help of modules such as animated stories, songs, and pinyin exercises, which are effective in attracting kindergarten students' attention. Research shows that this form of learning can greatly improve kindergarten students' language expression and vocabulary.

2) Widespread use of the role playing method

Role playing method has attracted widespread attention in early childhood education. Neuman and Roskos (2005) pointed out that in terms of language learning, role playing can enhance children's practical language skills through role-playing, simulated dialogues and interactive games, etc. For example, through phonics spelling games, children can learn to read, write and write in the same language. For example, through phonics spelling games, children not only learn new ways of pronouncing words, but also practise these sounds during the games.

3) Enhancement of interactive learning

Hsin et al. (2014) point out that both digital tools and game-based pedagogy emphasise the importance of interactive learning. Young children not only

get real-time feedback on their language during interactions with peers and teachers, but also enhance their social skills through co-operative learning. By creating an interactive learning environment, teachers encourage young children to take the initiative to express themselves, thus enhancing their self-confidence and language skills.

4) Personalised Learning Pathways

Zhang (2020) states that digital tools also provide opportunities for children to personalise their learning pathways. Teachers can target and adapt learning materials according to each child's interests and abilities. For example, some apps allow children to choose what they are interested in for in-depth learning, and this personalised approach to learning can help to improve learning outcomes and language acquisition.

5) Changing roles of teachers

With the introduction of these new approaches, the role of the teacher has changed. It has shifted from the traditional knowledge transmitter to a guide and supporter of learning. Teachers need to acquire skills in the use of digital tools and play-based pedagogy, and be able to flexibly apply a variety of methods to meet the learning needs of different children. This shift not only improves teachers' professionalism, but also creates richer learning experiences for children.

2.2 Role Playing Method

2.2.1 Introduction to Role Playing Method

Role-playing is a teaching method to promote children's language expression ability by simulating and playing different roles. In this approach, young children improve their language skills by taking on roles in a variety of situations and using language to communicate, express and interact. Role-playing is not only an interesting form of play, but also a powerful educational tool, which can effectively promote the development of children's language expression ability.

2.2.2 Application of Role Playing Method in Activities to Improve Kindergarten Students' Language Expression Skills

1) Role-playing

Role-playing, as a common role playing method, allows children to use language in simulated social situations. For example, in a 'restaurant' or 'shop' scenario, children can play the roles of a customer and a waiter, and practice everyday language through dialogue.

1.1) Enhance language understanding and application

Role-playing involves creating real or virtual situations in which children assume different roles and use language through dialogue and interaction. By simulating and experiencing dialogue situations in daily life, children can actually use the vocabulary, sentence patterns and grammatical structures they have learned. This kind of interactive language practice helps to improve children's language understanding and language expression ability.

Bodrova and Leong (2007) point out that role-playing enables children to learn how to use language in situations, rather than just memorizing vocabulary or sentence patterns. Through this interactive learning, children can relate language to specific situations, thereby deepening their understanding and application of language.

1.2) Improve language fluency and oral expression

Role playing promotes children's language output in interaction. In different role plays, children need to communicate with others in complete sentences, which not only improves their language fluency, but also helps them understand the context and usage of language. For example, when children play shop assistants and customers, they practice daily conversations such as greetings, inquiries and responses, gradually improving their verbal fluency.

Smith (2013) emphasized that role-playing not only contributes to cognitive language learning, but also greatly improves children's language fluency. In the process of role play, children can use language more freely and improve their oral expression ability through continuous language communication.

1.3) Expand vocabulary and grammar structure

During role-playing, children need to use specific words and sentence patterns associated with roles and situations. These situations can cover a variety of everyday situations such as home, school, and stores, helping children to be exposed to diverse forms of language. For example, when playing doctor and patient, children not only use medical-related vocabulary, but also practice different grammatical structures through dialogue.

Hughes (2010) believes that role playing is an effective way to improve language learning. It helps children expand their vocabulary and master more complex grammatical structures through language practice in various contexts. Through continuous participation in role play, children are able to use language flexibly in different situations and improve their grammatical skills.

1.4) Stimulate creativity and flexible use of language

In role play, children not only learn the basic usage of the language, but are also encouraged to use their language abilities through creativity. In the absence of a set script, children are able to creatively change the storyline or the content of the dialogue, which promotes the flexibility of their language. Through this creative use of language, children's language expression skills are enhanced, and their innovative thinking and problem-solving skills are also cultivated.

Bodrova and Leong (2007) point out that role-playing not only helps children learn language, but also stimulates their creativity and imagination. Through role play, children can not only use language to express the existing plot, but also through innovation and modification of the plot to express their ideas, so as to enhance the flexibility and creativity of language.

The method of role-playing in the role playing method will be adopted in the research. Gonzalez (2018) clarifies that this approach not only strengthens children's expressive language skills, but also improves their self-confidence and social skills. improve their self-confidence and social skills.

2.3 The Baby Bus App

2.3.1 Introduction to Baby Bus App

Baby Bus App is an educational app designed for children aged 3 to 6 years old, aiming to promote language skills through interactive learning. Zhang (2020) clarifies that the app covers multiple language learning modules, including stories, songs and games, to help toddlers learn in a relaxing and enjoyable environment. Its core tenet is to attract kindergarten students' attention through vivid animations, rich audio and interesting game scenes so that they can naturally acquire language through entertainment. Baby Bus App is rich in content, and the main content sections include these below:

- 1) Story Module: Provides diversified children's stories, allowing children to improve their language comprehension skills in the process of listening to stories through illustrated forms.
- 2) Songs Module: Contains a rich variety of children's songs to help children feel the rhythm of language in music and enhance their memory of vocabulary.
- 3) Game Module: A variety of interactive games are designed to allow children to learn pinyin and vocabulary through hands-on practice.
- 4) These modules encourage toddlers to participate actively through an interactive learning approach, thus enhancing their language expression and confidence.
- 5) With the advancement of technology, educational apps are gradually becoming an important tool for early childhood language education.

2.3.2 Advantages of the Baby Bus App

Compared with the traditional teaching methods, the use of apps in teaching is also a new challenge, and the Baby Bus App can play some favourable roles in teaching language to young children.

1) Interactive learning:

Baby Bus allows children to actively use language through participation through rich interactive game design (e.g., role-playing, quiz games, etc.) Li (2021) points out that interactive learning is effective in enhancing children's expressive language skills and self-confidence. These features not only increase children's engagement, but also promote their social skills, as children need to interact with virtual characters or co-operate with other children during games.

2) Multi-sensory teaching method:

Baby Bus uses vivid visual effects (e.g. animation, colourful images) and sound effects (e.g. children's songs, sound effects) to help children assimilate language knowledge. Zhang's (2020) study shows that multi-sensory experiences promote children's concentration, enhance learning fun and memory. In addition, through the stimulation of different senses, children can better understand the meaning and context of vocabulary and improve the effectiveness of language learning.

3) Integration of cultural content:

Baby Bus allows children to learn the language while receiving cultural enrichment by introducing traditional Chinese cultural elements (e.g., folk stories, classic nursery rhymes). Chen (2019) points out that combining culture with language education helps to enhance children's interest in and understanding of the language, and that this cultural context enables them to better understand the meaning and the usage scenarios of new vocabulary when they use it, which deepens their retention.

4) Personalised learning:

Using big data and artificial intelligence technology, BabyBus is able to analyse each child's learning progress and preferences and provide them with personalised learning suggestions and content. This personalised learning approach enables children to learn at their own pace, with children of different ability levels having access to learning materials suited to them. Wang (2022) specifies that personalised learning can significantly improve learning outcomes and help children make greater progress in language learning.

5) Context creation and role play:

Baby Bus designs many life situations (e.g., supermarket shopping, family gatherings) for children to manipulate and learn language in real contexts. This

kind of context creation can stimulate children's imagination and improve their practical ability to use language. According to relevant research, contextual learning can enhance the practical use of language and make children more comfortable in future communication.

2.3.3 The application of Baby Bus App in Chinese early childhood language education.

The Ministry of Education (2020) points out that with the rapid development of technology and the popularisation of the Internet, early education apps are gradually taking an important role in Chinese kindergarten education. These apps help young children acquire knowledge in a variety of areas, including language, maths and science, in a relaxed and enjoyable environment through interactive learning. According to China's Ministry of Education, more and more kindergartens are beginning to integrate digital tools into their daily teaching to improve teaching effectiveness and students' interest in learning. Baby Bus App has conducted research on the application of short videos, animations, interactive games, subject knowledge, knowledge starters, puzzles, English content and other teaching areas.

Beneville and Li (2018) pointed out that early education apps have a significant positive impact on the language development of young children. Young children using these early education apps showed significant progress in language skills, especially in vocabulary and pronunciation accuracy. Interactivity and multi-sensory stimulation are key factors in enhancing language learning, and Rich and Cavanaugh (2009) suggest that digital storytelling can significantly improve kindergarten students' language skills and interest in reading. It is recommended that storytelling be enhanced in early education apps to promote language development in young children. For example, Baby Bus App is a comprehensive early education platform that provides rich learning content through gamification and interaction. It is designed to allow children to learn through play and promote their language, cognitive, life and social skills development.

For Chinese early childhood language teaching, the Baby Bus App can be applied in the following three areas:

1) Use the language board in the Baby Bus App to select course content. For example, to learn the Chinese characters ‘上’ and ‘下’ in today's Superstar Big Dinosaur, kindergarten students can watch the animated text video, listen to the story and read the story when the lesson is official. This can help kindergarten students better understand the content of the curriculum and increase their interest. Compared with the traditional way of just reading the story aloud through the teacher, using the Baby Bus App presents kindergarten students with vivid animations and pictures as well as the changing voices of various story characters, which increases the fun of language learning.

2) Let students practice through the Baby Bus App. Entering the practice stage, the children choose the correct answer through the game of rescuing the princess, the game of fishing, and many other games in the app, which every child can get practice, and when the answer is correct, the screen will have one more star. Getting rid of the boring way of the teacher asking questions and the kindergarten students answering in the past practice stage, the teacher's energy can't be allocated to each child, using the Baby Bus App teacher can visualise each kindergarten student's answer and give guidance and rewards. To a certain extent, so that each child can get the teacher's attention.

Let kindergarten students create stories through the Baby Bus App. Through the picture materials provided in the Baby Bus App, choose the place, characters and main events of the story. Kindergarten students choose their own materials, create characters through a game of colouring the story characters, and create a story.

2.3.4 How to apply the Baby Bus App

According to Hsin et al. (2014) and the characteristics of the Baby Bus App, the steps of applying the Baby Bus App for teaching in this study are as follows.

2.3.4.1 Step 1 of using Baby Bus App



Figure 2.1 Register or Login Baby Bus App

Source: Researcher

In order to use Baby Bus App, users need to complete the registration or login steps. The following are the specific step-by-step instructions for registration and login:

When users use the Baby Bus App, the first step is to log in or register. Users can get their account through QQ, WeChat, Weibo or mobile phone number, which can be used for all the free functions of Baby Bus App. After logging in Baby Bus App, users can set their information in 'My' page, and select the age of the child in the homepage, the app will automatically recommend the learning content which is suitable for this age.

2.3.4.2 Step 2 of using Baby Bus App



Figure 2.2 Choose course of study

Source: Researcher

When you open the Baby Bus App, the [Knowledge Enlightenment] area on the homepage will display the current free daily language knowledge courses, and the available courses include swimming, drawing, reading, online courses, songs, animation and other sections. Teachers and parents can choose the courses according to children's interests to learn Chinese characters and language.

2.3.4.3 Step 3 of using Baby Bus App



Figure 2.3 Use Read, Practice, Speak, Word, Four Functions

Source: Researcher

In this step, after choosing the learning module, children will learn according to four steps: reading, practicing, speaking and writing. In the first stage-reading, the app reads a story material and highlights the Chinese characters that are the focus of today's learning. In Stage 2-Practice, the main focus is on the combination of pictures and text, and the pictures are selected according to the story content, e.g., whether to go to Grandpa Rabbit or Grandma Rabbit's birthday today as mentioned in the story. In Stage 3-Speak, pupils are asked to answer questions in words, e.g. What would you do if the forest was on fire? At this stage, children can create stories and expand their thinking to use a variety of expressions to express their language. In this stage Parenting Stage 4 - Characters, toddlers say the correct pronunciation of the character through speech. In the first four stages, through the toddler's answer, the AI gives intelligent evaluation, when the question is answered correctly, the star progress bar at the top will advance by one frame. Finally, a learning report is generated.

2.3.4.4 Step 4 of using Baby Bus App



Figure 2.4 Setting up times for young children to use Use

Source: Researcher

The Baby Bus App, also has an adult supervision function, in this step, parents and teachers can limit the time of toddlers using the app. Setting up the anti-addiction settings.

2.4 Language Expression Skills of Middle Kindergarten Students

The expressive language skills of middle childhood students (usually referred to as 4-5 year olds) are their ability to use language to communicate, including vocabulary, use of sentence structure, oral fluency, and the ability to express themselves in appropriate contexts. At this stage of development, early childhood students are expected to have the following skills:

Vocabulary Application: the ability to understand and use approximately 1,000 to 1,500 basic vocabulary words.

Sentence Construction: Can express themselves in simple and compound sentences, gradually learning complex grammatical structures.

Oral Fluency: Demonstrate a high level of fluency in communication and be able to express your ideas and needs clearly.

Social Language Use: Ability to use language flexibly according to different communicative situations.

2.5 Students' Learning Satisfaction

2.5.1 Definition of Student Learning Satisfaction

Student learning satisfaction refers to students' subjective feelings and evaluations of the learning process, reflecting their overall satisfaction with their educational experience. This concept involves a number of aspects, including the attractiveness of course content, the effectiveness of teaching methods, the comfort of the learning environment, and the level of teacher support (Pendergast & O'Connor, 2018). Learning satisfaction not only affects students' psychological state, but also directly correlates with their motivation and academic performance.

Research has shown that learning satisfaction can be regarded as an evaluation of students' perception of learning resources and self-efficacy. When students are satisfied with the education they receive, they are more likely to exhibit positive attitudes towards learning and greater motivation to learn, thus improving their overall learning outcomes (Richardson, Maier, & McCune, 2017). Conversely, low learning satisfaction tends to be associated with decreased interest in learning, reduced engagement, and unsatisfactory academic performance (Häfner & Witte, 2016).

Furthermore, learning satisfaction is particularly important in language learning. Young children who are satisfied with the language learning process are not only more willing to speak, but also more open to exploring and practising newly learnt language structures and vocabulary, which helps them to improve their language skills overall (Tsai, 2016).

2.5.2 kindergarten students' satisfaction with language learning

To study kindergarten students' satisfaction in the process of learning language using the Baby Bus App and through the role playing pedagogy, and to analyse how it affects their motivation to learn and the development of their language skills.

The questionnaire on learning language skills of young children involves their satisfaction with the learning content, teaching methods, teacher quality and learning resources. The following is a questionnaire that may affect the satisfaction of kindergarten students' learning of expressive language skills:

1) Programme content and setting: Kindergarten students may pay attention to whether the programme is designed with rich language learning modules, such as pinyin practice, vocabulary games and story reading. The practicality and fun of these contents are crucial to stimulate children's interest in learning.

2) Teaching quality: Kindergarten students need to pay attention to the teachers' teaching ability, the variety of teaching methods, and whether the teachers can motivate them to learn through lively interactions and guidance in the classroom. Teachers' approachability and encouragement can also enhance kindergarten students' sense of engagement.

3) Teacher-student interactions: Kindergarten students can pay attention to the ways in which teachers interact with them, including whether teachers encourage young children to speak during language activities, whether they listen to their ideas, and the degree of rapport between teachers and students. Such interactions have a direct impact on children's self-confidence and language expression.

4) Resources and facilities: Kindergarten students should be aware of the richness and ease of use of digital tools (e.g. the Baby Bus App) and other learning resources used in learning. For example, whether rich image, audio and video resources can provide good conditions for language learning.

5) Opportunities for practice: Kindergarten students can pay attention to the arrangement of practical activities in the programme, especially whether games and interactive sessions can help them consolidate what they have

learnt and enhance their ability to use the language in practice. The frequency and quality of practical activities are crucial to the enhancement of language skills.

Through regular questionnaires, parental feedback and classroom observations, we can collect and analyse data to assess children's satisfaction in learning expressive language skills. These data will help educators to better understand the needs of young children and to improve teaching methods and quality, thus enhancing children's learning satisfaction and overall educational effectiveness.

2.6 Related Research

2.6.1 Application of Role playing method

Based on Vygotsky's theory, Bodrova and Leong (2007) emphasized the important role of role-playing in children's language and cognitive development. Role-playing can promote young children's language development by providing rich social interaction and situational imitation. Especially in the early stages of language development, role playing provides an opportunity for children to relate language to specific situations, help them understand and use new vocabulary, master grammatical structures, and improve verbal fluency.

Vygotsky (1978) emphasized the importance of language in social interaction, especially in the process of young children's language development. Role-playing is considered an important form of social interaction that encourages children to learn how to use language through play by providing a cooperative, socially interactive environment. By interacting with peers and adults, children not only make progress in grammar and vocabulary use, but also improve in emotional expression and social interaction.

Smith (2013) research focuses on the relationship between games and language development. Especially in the early childhood, games play a positive role in the improvement of language skills. Role-playing is an important form of play. By

imitating and simulating real-world situations, children can learn how to use effective language. Especially through role-playing, children learn how to use complete sentences in conversation, developing grammatical structures and sentence patterns.

Hughes (2010) explored the relationship between social understanding and language development, pointing out that young children learn how to understand others and express their emotions in interactions. Role playing is not only a part of language learning, but also an important way to promote emotional understanding and social skills development. Through simulating different roles and situations in role play, children learn how to express their emotions through language, thus enhancing their emotional language expression ability.

Zigler and Bishops-Josef (2006) explored the role of play and role-playing in early childhood education, highlighting the unique role of role-playing in language learning. By taking on different roles, young children are able to understand and use new vocabulary and become familiar with grammatical structures, while also strengthening their social skills and emotional understanding.

2.6.2 Application of the Baby Bus App

The Baby Bus App is an early education app developed for young children, and the following studies are related to the Baby Bus App and early education app.

Yang and Wang (2020) stated that toddlers using an early education app showed significant gains in vocabulary, accuracy of speech sounds, and expressive language skills. The study also emphasised the facilitating effect of interactivity and multi-sensory stimulation on language learning, suggesting that these apps can provide toddlers with richer language input and help them acquire language skills more quickly.

Liu and Zhang (2019) Through questionnaires and in-depth interviews with kindergarten teachers, the study explored the current stRole playing methodvatus and

challenges of teachers in using early education apps. It was clarified that most teachers believed that apps could enrich classroom content and improve teaching effectiveness, but faced problems such as insufficient technical support, difficulties in content selection, and student distraction during implementation. The study recommends more technology training and support to help teachers use these tools more effectively.

Chen and Zhao (2021) elucidated parents' perceptions and use behaviours of early education apps, with the majority of parents believing that apps help their children's learning and are willing to use these tools in home education. It was also found that parents had high expectations for the content and educational effectiveness of the apps, but there were also concerns about too much screen time for their children. It is recommended that a parental guidance feature be added to the app to promote effective family interactions.

Zhang and Li (2022) in a study focusing on the effects of early education apps on kindergarten students' health, particularly the effects of screen time on vision, attention and physical health. It was found that while apps can provide effective educational content, overuse may lead to health problems. It is recommended to set reasonable time limits for use and incorporate other educational methods to protect the health of young children.

Zosh, Hopkins, Tamis-LeMonda, and Hirsh-Pasek (2018) collected evidence through the use of games for learning, including early education apps. The study summarises how play and interactive technology can enhance kindergarten students' cognitive and social skills. It is argued that the combination of games and technology can provide a personalised learning experience that promotes the holistic development of young children and suggests that more game elements should be incorporated into educational apps.

Calvert and Jordan (2017) pointed out the role of technology in early education, especially the use of early education apps. Research suggests that technology can provide rich learning resources for young children, but effectiveness

depends on how the technology is designed and implemented. The article suggests that policymakers and educators should work together to ensure that technology tools support educational goals and are aligned with kindergarten students' learning needs.

Hirsh-Pasek and Golinkoff (2008) explored the critical role of play in kindergarten students' learning and emphasised the need for the application of highly interactive technological tools (e.g. educational apps) in early education. Research has shown that creative play and interactive activities promote the development of language, cognitive and social skills. The authors suggest combining technology with games and utilizing early education apps to enhance learning.

2.6.3 Summary

According to the relevant literature research studies, the research on the application of Baby Bus App in kindergarten language education is not very rich, but in the research on the application of early education apps in early childhood education, it involves a large scope and for the refinement of the research on the application in early childhood language education. There is also a gap in the research on the combination of app role playing method.

In fact, through the interactive features of the Baby Bus App, fully engaging the five senses of kindergarten students made the kindergarten language education level higher. This study combined the Baby Bus App with role-playing techniques to improve the linguistic Chinese expression abilities of kindergarten students, while also increasing their satisfaction with language teaching activities. By leveraging these tools, this approach aimed to create a more dynamic, immersive learning environment that fostered greater language development and enthusiasm among young learners.

CHAPTER 3

RESEARCH METHODOLOGY

The purpose of this study was to compare the kindergarten students' expression skills before and after applying Baby Bus App with role playing method in China and to investigate the kindergarten students' learning satisfaction towards applying Baby Bus App with role playing method in China., including research design, participant selection, data collection instruments, assessment of research instrument validity and reliability, and data analysis.

3.1 Research Design

This study was conducted through quantitative methods. The researcher obtained the experimental data through pre-test and post-test, as well as questionnaire administered to the students.

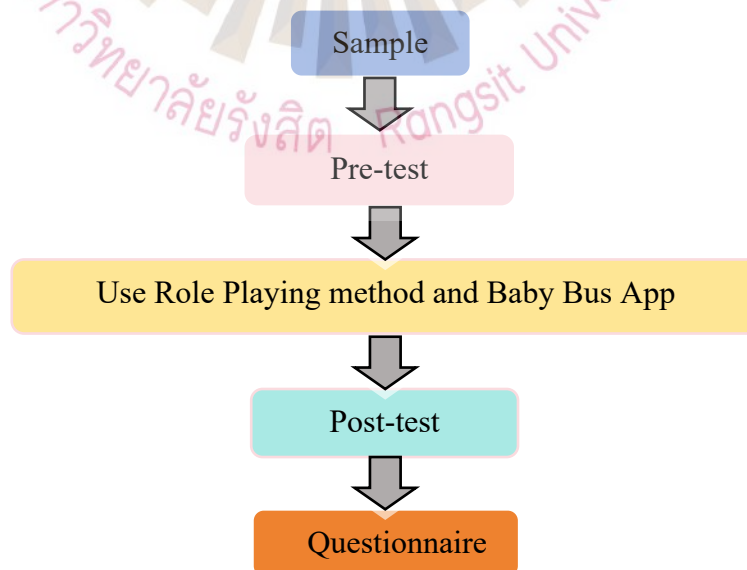


Figure 3.1 Research Design of the Study

This study used the role-playing method and the Baby Bus App to conduct language teaching for kindergarten students in the middle class, with the aim of improving their language expression skills and increasing their learning satisfaction. Pre-tests and post-tests were used to compare the language expression ability of Chinese kindergarten students in the middle class before and after using the role-playing method and Baby Bus App. Additionally, a questionnaire survey was conducted to investigate students' learning satisfaction.

3.2 Population and Sample

3.2.1 Population

The population of the study included 8 classes of middle-class level students, There are a total of 30 students per class who were around 4-5 years old, with mixed genders, and studied in a research kindergarten in Shandong Province, China.

3.2.2 Sample

The clustered random sampling method was utilized to select a class of 30 kindergarten students from the population at the kindergarten. They were 4-5 years old, with mixed genders and mixed expression skills.

3.2.3 Location

The school included 720 students and consisted of three grades: small class (3-4 years old), middle class (4-5 years old), and large class (5-6 years old).

3.3 Research Instruments

According to the purpose of the study, three quantitative data collection tools were used in this study: four lesson plans, language proficiency tests (pre-test and post-test), and a questionnaire survey.

3.3.1 Quantitative Data Collection Instrument

3.3.1.1 Lesson plans

The researcher developed four lesson plans based on the Ministry of Education (2012) Guide to Learning and Development for Children Aged 3-6. There were a total of two achievement tests (Pre-test & Post-test) and four lesson plans, with two sessions in each plan. Each lesson lasted 30 minutes, making a total of eight lessons. The lesson plans were based on the curriculum standards. The researcher used the role-playing method and the Baby Bus App to improve kindergarten students' expression skills. The teaching materials used in the lesson plans were selected from the Baby Bus App sequence, ensuring that the language expression teaching was suitable for Chinese middle-class kindergarten students, with topics that were consistent with the lessons. The teaching plan are shown in Table 3.1

Table 3.1 List of Lesson Plans

Week	Lesson Plans	Time	Topics	Teaching method
	Test		Pre-test	
1	Lesson plan1	1st class (30min)	The pen was repaired after the sheep died (亡羊补牢)	Use the Baby Bus App to play the story animation, and let children practice listening, speaking and reading through the Baby Bus App, and master the correct pronunciation and sentence context. Then the teacher explains how to use the words. (羊、个、大、支 /Sheep, one, big, branch)
		2nd class (30min)		Review the story content and vocabulary of the last lesson. Role-play the characters in the story in groups and simulate the dialogue. After students' active interaction, the teacher introduced the knowledge points of the text

Table 3.1 List of lesson plans (Cont.)

Week	Lesson Plans	Time	Topics	Teaching method
2	Lesson plan2	3rd class (30min)	Little things add up to big things. (积少成多)	Use the Baby Bus App to play the story animation, and let children practice listening, speaking and reading through the Baby Bus App, and master the correct pronunciation and sentence context. Then the teacher explains how to use the words. (少、多、石、山 /Little, much, stone, mountain)
		4th class (30min)		Review the story content and vocabulary of the last lesson. Role-play the characters in the story in groups and simulate the dialogue.
3	Lesson plan3	5th class (30min)	Slow birds fly first (笨鸟先飞)	Use the Baby Bus App to play the story animation, and let children practice listening, speaking and reading through the Baby Bus App, and master the correct pronunciation and sentence context. Then the teacher explains how to use the words. (飞、太、早、鸟/Fly, too, early, bird)
		6th class (30min)		Review the story content and vocabulary of the last lesson. Role-play the characters in the story in groups and simulate the dialogue.
4	Lesson plan4	7th class (30min)	Sit in the well and watch the sky (坐井观天)	Use the Baby Bus App to play the story animation, and let children practice listening, speaking and reading through the Baby Bus App, and master the correct pronunciation and sentence context. Then the teacher explains how

Table 3.1 List of lesson plans (Cont.)

Week	Lesson Plans	Time	Topics	Teaching method
				to use the words. (坐、井、天、水/Sit, well, sky, water)
		8th class (30min)		Review the story content and vocabulary of the last lesson. Role-play the characters in the story in groups and simulate the dialogue.
	Test		Post-test	

Source: Ministry of Education, 2012

3.3.1.2 Language Skills Tests (Pre-test and Post-test)

The researcher conducted pre-test and post-test on the sample group to assess the children's language expression skills. The test questions strictly followed the course outline and teaching syllabus, and the test content included vocabulary, pronunciation, sentence formation, expression, and other aspects. In vocabulary, ten multiple-choice questions were asked to test students' vocabulary base. In terms of pronunciation, sixteen words were given to test children's vocabulary pronunciation ability. In the aspect of sentence formation, the students' practical application of words was tested using ten commonly used words. In terms of expression, five questions were included, four about the content of the story, and one open-ended question.

To ensure fairness and make the results more convincing, each participant's score was evaluated by three teachers, including the researcher, and the two teachers were early childhood educators from the same school. At the end of the assessment, the scores given by the three teachers were added together to calculate the average score. There were 35 questions, including 10 multiple-choice questions, 10 pronunciation questions, 10 sentence-making questions, and 5 writing questions. The total test score for this study was 100 points. Since children could not understand all the words on the pre-test and post-test paper at the time, kindergarten students needed teachers to assist them during the pre-test and post-test.

3.3.1.3 Questionnaire

In order to understand students' satisfaction after using, using, and using the Baby Bus App and games pedagogy, the researchers designed a questionnaire to measure students' feedback. The questionnaire is divided into two parts. The questionnaire consisted of 15 statements divided into 5 levels, each of which will be assessed using a 5-point Likert scale system: representing different levels of agreement: (5) strongly agree, (4) agree, (3) neutral, (2) disagree, (1) strongly disagree (Likert, 1932) The statements are divided into 3 main areas: The effectiveness of interest and motivation, participation, and Baby Bus Approle playing methods in improving kindergarten students' language expression ability. Before rating each statement in the survey, participants will be fully informed that they will receive a personal explanation and explanation for each statement. Since children cannot understand all the words on the questionnaire, kindergarten students need the teacher to help them read the words on the questionnaire when writing the questionnaire.

3.4 Validity and Reliability of Research Instruments

3.4.1 Validity

Content validity refers to how well the items or tests represent the behavior being studied (Roebianto, Savitri, Sriyanto, & Syaiful, 2023). It serves as a tool in the testing preparation process, particularly during the item generation phase to assess content validity. This index is particularly useful for evaluating one-dimensional items or those intended to measure predefined skill combinations. Three experts will be enlisted to evaluate the content validity. The IOC score ranges from -1 to +1, with the following interpretations:

- +1: Item clearly aligns with the stated objectives;
- 0: Item's alignment with objectives is unclear;
- 1: Item does not align with the objectives.

The effective score range ranges from 0.67 to +1. If the value of the item was between 0.67 1.00, the item would be used as part of the bill. However, if the value was below 0.67, it is considered unclear and should be reworded or deleted.

In this study, all instruments were validated with an average score of +1. This showed that all instruments were qualified for a further use in the study.

3.4.2 Reliability

Cronbach's Alpha method is used in this study to test the reliability of the student' Satisfaction questionnaire. The internal consistency was shown below:

Table 3.2 Cronbach's Alpha Rule of Thumb

Cronbach's Alpha Rule of Thumb	Internal Consistency
$\alpha \geq 0.90$	Excellent
$0.80 \leq \alpha < 0.90$	Good
$0.70 \leq \alpha < 0.80$	Acceptable
$0.60 \leq \alpha < 0.70$	Questionable
$0.50 \leq \alpha < 0.60$	Poor
$\alpha < 0.50$	Unacceptable

Source: Taber, 2018

In this study, the result of the reliability test of the questionnaire was 0.79. This showed that the questionnaire items were reliable for the further use.

3.5 Data Collection Procedures

3.5.1 Ethical Approval

In order to conduct research at Eaton Kindergarten, the researcher obtained official authorization from the school. Considering that the participants were between

4 and 5 years old, the researcher also obtained the consent of the school authorities and the parents or guardians of the students.

3.5.2 Confidentiality

This study guaranteed that the personal data and questionnaires of all kindergarten students would be kept confidential throughout the study. In addition, once the study was completed, all data would be completely deleted, in strict compliance with research ethics.

3.6 Data Analysis

3.6.1 Expression skills

In this study, the researchers tested the language expression ability of kindergarten students through pre- and post-test data. Data from the questionnaire were used to analyze students' satisfaction after using the Baby Bus App and the role-playing method.

3.6.2 Questionnaire

In order to assess the impact of students' satisfaction with using the Baby Bus App and game pedagogy, the researcher conducted a questionnaire survey on 30 kindergarten students after using the Baby Bus App and game pedagogy. The collected data were analyzed using SPSS, and the responses were analyzed statistically in detail, including frequency, mean, and standard deviation. The results were interpreted according to the specified average score range.

Table 3.3 The Range of Mean Score Interpretation

Mean Score Range	Students' Satisfaction Level
4.51 - 5.00	Highest
3.51 - 4.50	High
2.51 - 3.50	Moderate
1.51 - 2.50	Low
1.00 - 1.50	Lowest

Source: Srisaat, 2002



CHAPTER 4

RESULTS

This paper used a quasi-experimental design to study the application of the Baby Bus App and role play method in Chinese kindergartens, and to investigate kindergarten students' satisfaction with the application of the Baby Bus App and role-play method. Data were collected through pre-tests, post-tests and questionnaires.

The results are detailed below:

4.1 Analysis the pre-test and post-test of kindergarten students' expression skills scores

4.2 Analysis of Questionnaires

4.1 Analysis The Pre-Test and Post-Test of Kindergarten Students' Expression Skills Scores

This section presents the results of the first research question, which investigated how Chinese kindergarten students improved their expression skills through the use of the Baby Bus App and the role-play method. The study tested the expression skills of intermediate kindergarten students twice: once at the beginning of the study as a pre-test and the other at the end of the study as a post-test. Paired sample t-test was used to compare the results of the pre-test and post-test for the sample groups.

4.1.1 Comparison of Pre-test and Post-test Scores of the Sample Group

Table 4.1 offers a comprehensive overview of the pre-test and post-test scores for the sample group. The highest pre-test score recorded was 76 out of 100, while the lowest was 60. In contrast, post-test scores showed a marked improvement. Particularly

noteworthy was one participant who achieved the highest score of 86 out of 100, reflecting a remarkable 20-point increase compared to their pre-test performance. This individual demonstrated the most significant improvement among the participants. Conversely, one participant scored the lowest on the post-test, achieving a score of 70 out of 100. Overall, all 30 students displayed either significant or slight improvement on the post-test, with score differences ranging from 2 to 20 points. The detailed data presented in Table 4.1 includes the scores, score increases, and percentage differences between the pre-test and post-test for each participant.

Table 4.1 Pre-test & Post-test scores of the sample group

Student ID	Pre-test Scores (Full Score=100)	Post-test Scores (Full Score=100)	Score Difference	% of Score Difference
1	67	75	8	8%
3	72	82	10	10%
4	69	81	12	12%
5	70	78	8	8%
6	72	76	4	4%
7	73	75	2	2%
8	68	74	6	6%
9	71	83	12	12%
10	76	86	10	10%
11	66	86	20	20%
12	67	70	3	3%
13	70	76	6	6%
14	73	79	6	6%
15	66	70	4	4%
16	65	73	8	8%
17	72	87	15	15%
18	69	82	13	13%
19	75	79	4	4%
20	64	76	12	12%

Table 4.1 Pre-test & Post-test scores of the sample group

Student ID	Pre-test Scores (Full Score=100)	Post-test Scores (Full Score=100)	Score Difference	% of Score Difference
21	60	69	9	9%
22	63	69	6	6%
23	69	85	16	16%
24	71	83	12	12%
25	68	79	11	11%
26	73	86	13	13%
27	73	86	13	13%
27	72	77	5	5%
28	69	81	12	12%
29	70	82	12	12%
30	72	86	14	14%
Mean	69.53	78.8	9.27	9.27%

Analyzing the raw scores from the pre-test and post-test revealed that across all thirty participants, the post-test scores surpassed those of the pre-test. The comparison between the pre-test and post-test scores was conducted as follow:

4.1.2 Pretest and Post-test Comparison

Figure 4.1, presented below, provides a visual representation of the participants' pre-test and post-test scores. In the figure, the orange line corresponds to the pre-test scores, whereas the green line corresponds to the post-test scores. A clear observation from the figure is that each of the 30 students exhibited an improvement in their post- test scores. This outcome suggested that the application of the Baby Bus App with role playing teaching method proved to be effective in improving the language expression skills of kindergarten students.

Language expression skills pre-test and post-test performance test

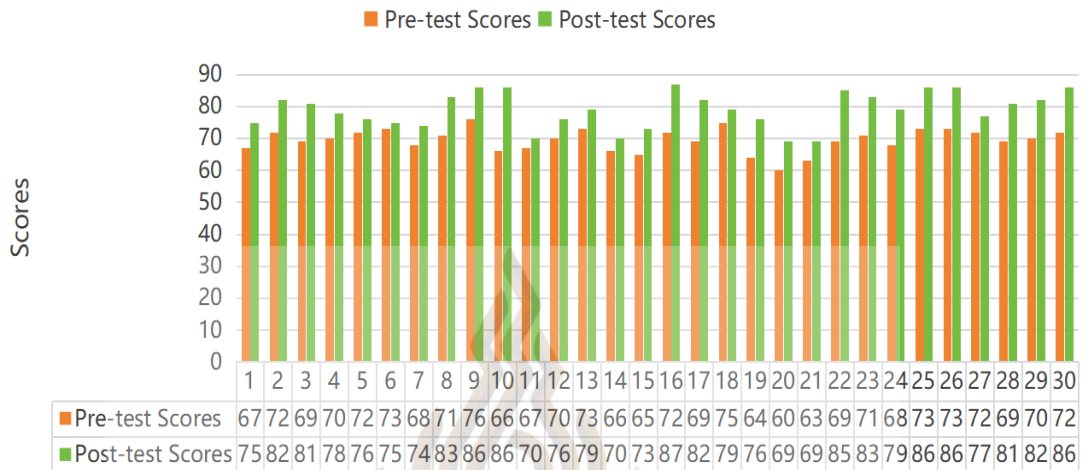


Figure 4.1 Language expression skills pre-test and post-test performance test

Additionally, the mean scores for the pre-test and post-test, 69.53 and 78.88 respectively, are depicted in Figure 4.2. The post-test mean score was higher than that of the pre-test. Comparing the pink bar representing the pre-test results to the blue bar representing the post-test scores, there was an increase of 9.27 points. This indicates a significant improvement in language expression skills. It can be inferred that each individual demonstrated growth in the post-test, resulting in higher total scores. Thus all participants showed improvement in the post-test, receiving higher scores, which highlights the effectiveness of applying the Baby Bus App and the role playing method to improve kindergarten students' language expression skills.

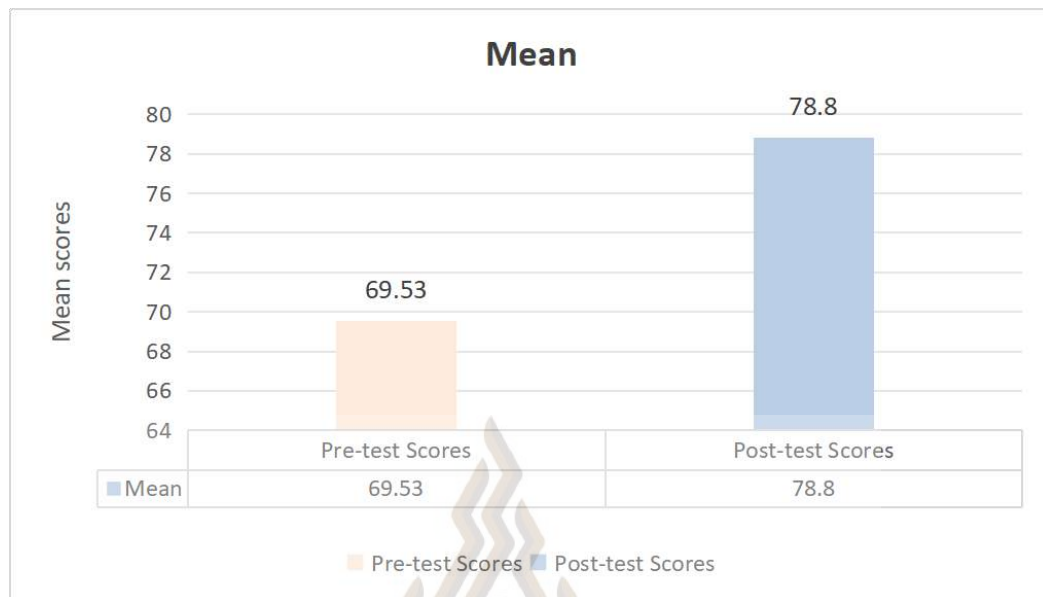


Figure 4.2 Comparison of pre-test and post-test mean of performance in language expression skills

4.1.3 Analysis of Paired Sample T-test

The paired sample statistics for the pre-test and post-test were presented in Table 4.2. The pre-test resulted in a mean of 69.53 (SD = 3.67) with a sample size of 30, while the post-test resulted in a mean of 78.88 (SD = 5.41). The mean score increased from 69.53 in the pre-test to 78.88 in the post-test after applying the Baby Bus App and role playing method, indicating a significant improvement in language expression skills.

The paired samples t-test results revealed a significant difference between the pre-test and post-test scores [$t(29) = -11.64$, $p < .001$], as depicted in Table 4.3. The mean difference was -9.27 [$-10.90, -7.64$], with a standard error of $.80$. For the sample group, the result suggested a statistically significant increase in post-test scores compared to pre-test scores. The results of the paired samples t-test suggested that there was a statistically significant improvement in language expression skills following the application of the Baby Bus App with role playing method.

Table 4.2 Paired Samples Statistics

Paired Samples Statistics							
Group	Pre-test		Post-test		Mean Difference	T	P-Value
	\bar{x}	SD	\bar{x}	SD			
Sample Group	69.53	3.67	78.8	5.41	10.90-7.64=3.26	-11.64	<0.1
Significance level (p) : ≤ 0.05 -significant							

4.2 Questionnaire Analysis

Quantitative data were collected using a five-point Likert scale to evaluate kindergarten students' views on the improvement of language expression skills by Baby Bus App and role playing. The scale ranged from one, indicating strong disagreement, to five, indicating strong agreement. The questionnaire comprised fifteen items divided into three sections: Part A - interest & motivation, Part B - participation enthusiasm, and Part C - the effectiveness of Baby Bus App and role playing method to improve kindergarten student's language expression ability. Each of the thirty participants (n = 30) received a questionnaire. Descriptive statistics, including mean and standard deviation, were used to analyze the survey results. The mean scores were categorized as follows: the highest scores fell between 4.21 and 5.00, high scores ranged from 3.41 to 4.20, medium scores ranged from 2.61 to 3.40, low scores ranged from 1.81 to 2.60, and the lowest scores ranged from 1.00 to 1.80.

The mean scores and standard deviations for students' satisfaction with Part A, labeled "interest & motivation", were displayed in Table 4.4. The item "Learning new words and phrases was a pleasant experience for me." (Item 4) garnered the highest mean score of 4.02, indicating a "High" level of satisfaction, falling within the high range of the five-point Likert scale. Despite a slightly lower mean score for Item 5 (mean = 3.65), a closer examination of the mean score suggests that students' views on Part A of the questionnaire, particularly regarding interest and motivation, remained highly positive (mean = 3.82).

Table 4.3 Mean and Standard Deviation: Part A (n=30)

	PART A: Interest and Motivation	Mean	SD	Interpretation
1	I was excited about using the Baby Bus App to learn new vocabulary.	3.78	0.56	high
2	I found learning language thought games more interesting than the traditional way of learning.	3.69	0.64	high
3	I liked to use activities related to the Baby Bus in the classroom to learn the language.	3.98	0.67	high
4	Learning new words and phrases was a pleasant experience for me.	4.02	0.62	high
5	I would like to spend time studying and reviewing on the Baby Bus App.	3.65	0.68	high
	Average	3.82	0.63	high

Table 4.5 shows the mean scores and standard deviations of students in Part B participation enthusiasm. According to the data, item 8, "I liked to share my learning experience with other students about the Baby Bus App," received the highest mean score at 4.08. Item 9, "In class, I often took the initiative to raise questions or participate in discussions." had the lowest average score of 3.76. However, considering the overall average score of 3.92, it is still in the "highest" range.

Table 4.4 Mean and Standard Deviation: Part B (n=30)

	PART B: Participation Enthusiasm	Mean	SD	Interpretation
6	In the process of using the Baby Bus App, I actively participated in class activities.	3.89	0.64	high
7	I felt more engaged when learning with my classmates using the Baby Bus APP.	3.95	0.67	high
8	I liked to share my learning experience with other students about the Baby Bus App.	4.08	0.71	high
9	In class, I often took the initiative to raise questions or participate in discussions.	3.76	0.62	high
10	I think games motivated me to do better in class.	3.91	0.69	high
	Average	3.92	0.67	high

The average scores and standard deviations of students' answers in part C "the effectiveness of baby bus app and role playing method to improve children's language expression ability." are shown in Table 4.6. Statistics show that the majority of students believe that the Baby Bus App and role play help improve their expression skills. Item 13 "Through games, my oral expression ability was improved significantly..." The highest average score was 4.05. Item 15, "I would like to recommend Baby Bus App to my classmates and friends." had the lowest average score of 3.79. The overall average score of 3.93 is still at the "highest" level. To sum up, Baby Bus App and role play can improve the language expression skills of kindergarten students.

Table 4.5 Mean and Standard Deviation: Part C (n=30)

	PART C: The Effectiveness of Baby Bus App and Role Playing Method to Improve Children's Language Expression Ability.	Mean	SD	Interpretation
11	I thought my pronunciation was improved through the role playing method of the Baby Bus App.	3.82	0.66	high
12	Using the Baby Bus App made it easier for me to remember new vocabulary.	4.01	0.61	high
13	Through role playing, my oral expression ability was improved significantly.	4.05	0.68	high
14	The Baby Bus App helped me express myself more confidently in my daily life.	3.98	0.68	high
15	I would like to recommend Baby Bus App to my classmates and friends.	3.79	0.65	high
	Average	3.93	0.66	high
	Overall Mean & SD for all 15 items	3.89	0.65	high

As mentioned earlier, the C section has the highest average score of 3.93 with a standard deviation of 0.66. Parts A and B had lower mean scores, with standard deviations of 0.63 and 0.67, respectively, and mean scores of 3.82 and 3.92, respectively. Nevertheless, the overall mean of 3.89 indicates that students are more satisfied with the use of Baby Bus and role playing to improve their language skills.

CHAPTER 5

CONCLUSION, DISCUSSION, AND RECOMMENDATIONS

This chapter presented the summary of the study, and the details were presented in the following order:

- 5.1 Conclusion
- 5.2 Discussion
- 5.3 Recommendations

5.1 Conclusion

The two research objectives were stated for this study:

- 1) To compare the kindergarten students' expression skills before and after applying Baby Bus App with role playing method in China.
- 2) To investigate the kindergarten students' learning satisfaction towards applying Baby Bus App with role playing method in China.

This study adopts quantitative methods, including pre-test, post-test and questionnaire survey, and the research objects are Chinese middle class kindergarten students. The results of the study led to the following conclusions:

5.1.1 The Result of Pretest and Posttest Data Analysis

The purpose of this study was to evaluate the language expression skills of middle class kindergarten students in Shandong province under the application of Baby Bus APP and role playing method. Then, the paired sample T-test was used to analyze the difference between the pre-test and post-test results in the learning outcomes of the sample group.

The application of the "Baby Bus" App and role-playing method have achieved some results in improving the language expression skills of middle class students in kindergartens in China. This way of language learning can stimulate kindergarten students' interest in language learning and improve their attention in language learning than the traditional way of learning. Through analysis, the application of Baby Bus App and role playing did improve children's language expression skills. It provided kindergarten students with a more vivid and interesting learning mode and practice links, and also provides opportunities for communication among kindergarten students. The Baby Bus App provides colorful video pictures and interesting games to greatly mobilized the enthusiasm of kindergarten students to participate in language learning. The role playing method provided kindergarten students with opportunities to communicate with their peers. In general, the Baby Bus App and role playing method have significantly the language expression skills of Chinese middle class kindergarten students.

1) The paired sample T-test showed that students' academic performance was significantly improved after using Baby Bus App and role playing method. The average score of the post-test was 78.8 points, which was 9.27 points higher than the average score of the pre-test 69.53 points. Standard deviation of the pretest were 3.67 and 5.41, respectively. The post-test results showed that the Baby Bus App and role-playing method had a positive effect on improving language expression skills.

2) The highest score in the pre-test was 76, the lowest score was 60, Whereas' the highest score in the post-test was 87, the lowest score is 69. As a result, the difference between the pre-test and post-test scores resulted in the highest post-test score being 20 points higher than the pre-test score. Similarly, the lowest score after the test was 4 points higher than the lowest score before the test.

3) All 30 participants improved their scores after the test compared to before the test, with improvements ranging from 4 to 20 points.

The Quantitative data analysis conducted earlier clearly showed an improvement in students' scores after the test. These findings strongly suggested that the use of Baby Bus App and role playing significantly improved the language expression skills of Chinese kindergarten students'.

5.2 Discussion

As mentioned earlier, the study revealed two key findings. The first study showed that the application of Baby Bus App and role-playing method improved the language expression skills of Chinese middle class kindergarten students in China. The second observation was that kindergarten students expressed high satisfaction in learning language expression skills through Baby Bus App and role playing. The following discussion clearly describes these findings in detail and explains how they addressed the research questions provided by this study.

5.2.1 Test of Language Expression Skills of Kindergarten Students

The results showed that Baby Bus App and role playing improved the language skills of kindergarten students. The average score of the post-test ($\bar{x} = 78.8$) was higher than that of the pre-test ($\bar{x} = 69.53$).

In addition, there was a significant difference in the grades of students. The student scored 66 points in the pre-test and 86 points in the post-test, an improvement of 20 points. For kindergarten students, Baby Bus App attracted children's attention and stimulated their interest in language learning through interesting interactive content and cartoon characters. This learning style enabled children to obtain language input in a relaxed and pleasant atmosphere, reducing the pressure of language learning. Through different scenes and story content in the Baby Bus App, children were able to access to common words in various life scenes, such as animals, food, daily activities, etc. This helped children understand and use new words in different situations, thereby enriching their vocabulary. Role playing was a very effective method of language learning. By imitating the dialogue and plot of the characters, children not only learned how to use language to express their ideas, but also improved their language fluency and sentence structure. Lillard (2017). By analyzing the role of role-playing on cognitive and language development, it was emphasized that children improved their verbal expression and social skills through activities in which they played different roles. Zhao and Zhang (2022) by studying the influence of educational applications on

children's language development, this paper analyzes how interactive content and multimedia elements helped children improve their language expression ability. Berk (2013) The process of young children's language development is discussed, and the importance of promoting language expression through role playing and interactive games was emphasized.

There are profound educational principles and practical values behind the use of baby bus app and role play to improve the language expression ability of kindergarten students. First of all, the Baby Bus app is an educational application that combines rich images, sounds and interactions to stimulate children's interest in learning through gamification. In these interactive games, children can not only hear new words and sentence patterns, but also actively participate in the learning process by clicking, selecting and answering. This kind of interaction is very strong, and it allows children to subtly improve their language skills by imitating the way virtual characters speak and behave in a fun environment. At the same time, the application of role-playing method further strengthens the child's language expression ability. In role play, children simulate various situations in real life and play different roles for language communication. Role-playing also encourages creativity and imagination. In these situations, children do not just repeat the language they have learned, but can freely create language according to their own understanding and imagination of the situation. This not only exercises their language skills, but also promotes their thinking development. With practice, children will become more confident and able to use language flexibly in different social situations.

In addition, both the Baby Bus app and role Play can be adapted to the child's level of language development, ensuring that the child is learning under the right challenges. Through appropriate difficulty Settings and interesting learning content, children will not feel bored or stressed, but can gradually improve their language skills in a pleasant learning atmosphere.

Overall, the Baby Bus app provides an easy and effective language learning platform for children through rich interactivity and fun contextualized learning. The

role-playing rule allows children to improve their language expression ability in practical use by being more involved and creative. Combined, the two not only allow children to learn language in a pleasant environment, but also improve their expression, social skills and thinking skills.

The Baby Bus App and role-playing method demonstrated a positive impact on improving the language expression skills of kindergarten students.

5.2.2 Students' Satisfaction

In order to collect and evaluate kindergarten students' views on the improvement of language expression ability through Baby Bus App and role playing, quantitative data were collected using five-point Likert scale. On a scale of 1, strongly disagree, to 5, strongly agree. The questionnaire consisted of 15 items, which were divided into three parts: Part A - interest and motivation, part B - enthusiasm for participation, and part C - the effectiveness of the teaching method of Baby Bus app and games on improving children's language expression skills, respectively.

The results showed that students reported high levels of satisfaction in all three areas. Of particular note was the average score of 3.92 in Part B (enthusiasm for participation), indicating a high level of satisfaction. Similarly, Section A, which focuses on engagement, had an average score of 3.82, also on the higher end of the spectrum. In addition, Section C also showed a high average satisfaction score of 3.89.

The results showed that the Baby Bus App and role playing method had a significant effect on improving the language expression ability of kindergarten students. The kindergarten students gave excellent scores in the three dimensions of interest, motivation, participation and effectiveness, which were fully verified. At the same time, the scores for interest, motivation, engagement and effectiveness were comparable, and each participant received positive feedback.

In summary, students were generally satisfied with the application of the Baby Bus App and role-playing in improving their language expression skills, with an average score of 3.89 points across all categories. These results reflected students' positive evaluation of both approaches in terms of interest, motivation, engagement and effectiveness.

5.3 Recommendations

5.3.1 Recommendations for Implementation

Up to this part, the recommendations for further implementation are shown as follows.

1) Personalized Learning Approaches: Recognizing that each child has different learning needs, the app should be used in a personalized manner. Teachers can tailor content based on individual interests and language proficiency levels, ensuring that each child receives the appropriate challenge and support to develop their language skills.

2) Parental Involvement: Encourage parental involvement by providing parents with guidelines on how to use the Baby Bus app at home. Teachers can send home activity suggestions that parents can engage in with their children, reinforcing language development outside the classroom.

3) Professional Development for Teachers: Teachers should undergo regular training on how to effectively use the Baby Bus app and design role-playing activities. This training will equip them with the skills to maximize the potential of these tools in the classroom and ensure that they can implement them effectively.

5.3.2 Recommendations for Future Research

In light of the study's limitations, the following suggestions are proposed for future research:

1) Expanding the sample scope and study on diversified regions: This study only takes kindergartens in Shandong as an example, and future studies can

expand the sample nationwide to cover different regions and different types of kindergartens (such as urban and rural areas, areas with different economic backgrounds, etc.). Application (App) mai.

2) In-depth analysis of individual differences: Conduct a more detailed analysis of individual differences of students, including age, gender, family background, language basis and other factors, and explore how these factors affect the effect of Baby Bus App and role playing method. Such research can help design more personalized educational strategies to meet the learning needs of different students. Long-term tracking and effect evaluation:

3) Long-term follow-up and effect evaluation: This study usually focuses on short-term effects, and long-term follow-up studies should be conducted in the future to evaluate the continuous impact of Baby Bus App and role playing on students' language expression ability. This includes understanding whether students' language skills continue to improve after using these methods for a period of time, and whether long-term learning habits are formed.



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APPENDIX A
LETTER OF APPROVAL



Certificate of Approval
Qingdao Eaton Kindergarten

Subject: Approval to collect data for M.Ed. Thesis

Dear Sir/ Madam,

I am the student in Master of Education Program in Curriculum and Instruction at Rangsit University, Thailand and currently conducting research entitled, "*THE APPLICATION OF BABY BUS APP WITH GAME TEACHING METHOD FOR IMPROVING KINDERGARTEN STUDENTS' LANGUAGE EXPRESSION SKILLS IN CHINA*". The data collection procedures require the students' participation and the research instruments include pre-test, post-test, questionnaire and semi-structured interview.

For human research ethics consideration, the research procedures will be clearly explained to the participants and their guardians prior to their decision of taking part in the study. Moreover, the informed consent form must be signed by the participants together with their guardians before the study begins. Most importantly, the participants' information such as names and identities as well as the findings will be kept confidential and undisclosed throughout the study.

As mentioned above, I would like to seek the permission from the administration to collect data at this school. Thank you for your kind cooperation in advance.

Kind regards,

.....
(Ms. Yiling Zhang)

Telephone: 0998457024

Email address: yilingzhang808@gmail.com

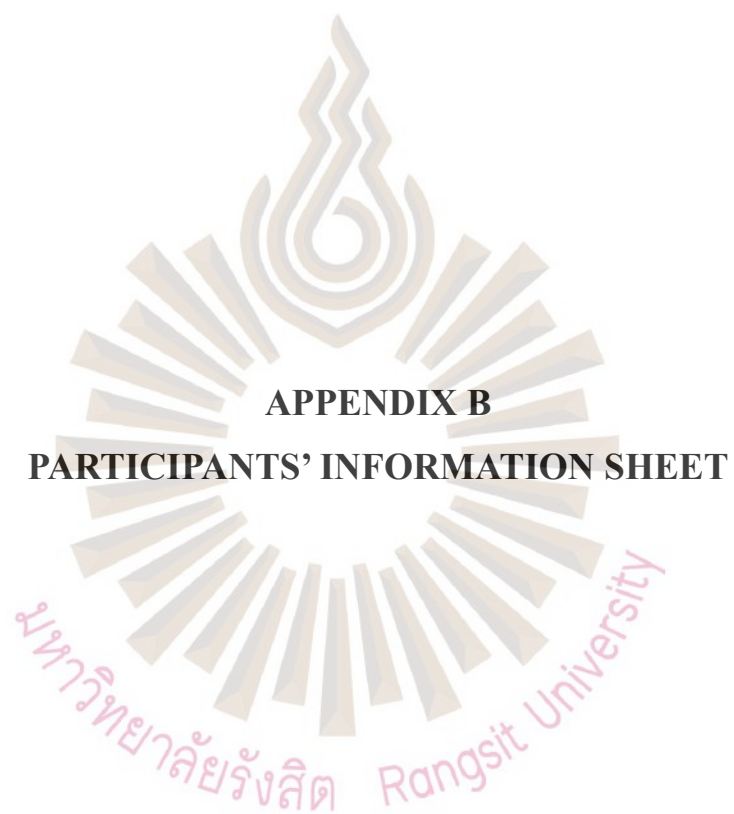
Rangsit University, Thailand.

Approval to collect data for M.Ed. Thesis

Signature

Date
Qingdao Eaton Kindergarten







Participant's Legal Guardian Information Sheet

Dear Legal Guardian,

Your child is being invited to take part in a research study. Before you sign this consent form, it is important for you to understand why the research is being done and what will be involved during the study. Please take time to read the following information carefully. You may consult the investigator or others about the study for the clear understanding.

Research school: Qingdao Eaton Kindergarten

Investigator: Ms. Yiling Zhang (Student ID Number: 6608823)

Affiliation: Suryadhep Teachers College, Rangsit University, Thailand

Research Title:

THE APPLICATION OF BABY BUS APP WITH GAME TEACHING METHOD FOR IMPROVING KINDERGARTEN STUDENTS' LANGUAGE EXPRESSION SKILLS IN CHINA

1. What is the objective of study?

To compare the kindergarten students' expression skills before and after applying Baby Bus App with Game Teaching method in China and to investigate the kindergarten students' learning satisfaction towards applying Baby Bus App with Game Teaching Method in China

2. Expected outcomes of the study

The kindergarten students' expression skills will significantly be improved after applying Baby Bus App with Game Teaching method in China and their learning satisfaction towards applying Baby Bus App with Game Teaching method in China will be high.

3. Number of participants in the study

Thirty kindergarten students

4. Research procedures

The researcher will collect the data in 4 steps. Firstly, a pre-test is to be given to the participants prior to the teaching experiment. Then, the participants will be taught by using Baby Bus App with Game Teaching Method for 8 sessions. After that, they will be asked to do the post-test. Finally, the questionnaire will be given to all participants, followed by the semi-structured interview.

5. Duration

The research period will last for 4 weeks (8 sessions)

6. Human Ethics Consideration

All participants and the guardians will be asked to sign the consent form before taking part in this study. The participants' agreement or refusal of the participation will not affect their study or routine life. The research method and design of this study appear to cause no more than a minimal risk to the participants. Nevertheless, the responsibility of any adverse case that may happen to the stakeholders belongs to the investigator, Ms.Yiling Zhang (Mobile Number:0998457024). The data and findings in the study will be kept confidential and removed after the study is completed.

Signature _____ () Participant's guardian Date...../...../.....	Signature _____ () Participant Date...../...../.....
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มหาวิทยาลัยรังสิต Rangsit University



APPENDIX C

EXPERTS WHO VALIDATED RESEARCH INSTRUMENT

	Name	Position/Title	Institutes
1	Expert 1	Principal	Eaton Kindergarten
2	Expert 2	Teacher	Eaton Kindergarten
3	Expert 3	Teacher	Eaton Kindergarten





APPENDIX D

IOC OF LESSON PLANS

มหาวิทยาลัยรังสิต Rangsit University

Item No	Attributes	Expert 1	Expert 2	Expert 3	Average	congruence
1	Lesson plan 1	+1	+1	+1	1	Congruent
2	Lesson plan 2	+1	+1	+1	1	Congruent
3	Lesson plan 3	+1	+1	+1	1	Congruent
4	Lesson plan 4	+1	+1	+1	1	Congruent






APPENDIX E
LESSON PLANS

Lesson plan 1

Lesson Plan 1(Session:1&2)	
<p>Subject: Language</p> <p>Topic: The pen was repaired after the sheep died (亡羊补牢)</p> <p>Grade: middle-class level students.</p> <p>Class Strengths: 30 students</p> <p>Time: 60 minutes (30 minutes/1session)</p> <p>students background knowledge:Unconditional requirement.</p> <p>Teaching and learning strategy: Application of Baby Bus App and role playing method</p> <p>Lesson Objectives:</p> <ol style="list-style-type: none"> 1. Students can identify and pronounce new words such as (羊、个、大、支 /Sheep, one, big, branch) 2. Students are able to understand the meaning of new vocabulary and apply it in context. 3. Students can construct simple complete sentences using new vocabulary. 4. Students confidently use the vocabulary they have learned in the role playing activities and communicate smoothly with their peers. 	
Session 1	
Stage & Duration	Teacher's Activities
Greeting students (1 minutes)	<ol style="list-style-type: none"> 1. Say hello to the students. 2. A brief introduction from the teacher.
Course introduction (2 minutes)	<ol style="list-style-type: none"> 1. An overview of today's learning content. 2. Inform students of the important and difficult points of the course.
Lead in (10 minutes)	<ol style="list-style-type: none"> 1. Introduce the background of the story of "亡羊补牢" to students. 2. Play the story animation in the Baby Bus App for children to watch and listen to the story.

Stage & Duration	Teacher's Activities
<p>Language learning using the Baby Bus App (15 minutes)</p>	<ol style="list-style-type: none"> 1. Show words related to the story ((羊、个、大、支 /Sheep, one, big, branch). 2. Use the picture card in the Baby Bus App to show pictures of these words and explain their meanings. 2. Teachers guide kindergarten students to use the Baby Bus App to learn and practice correct pronunciation of vocabulary. 4. Guide students to find corresponding words and pictures through listening and speaking in Baby Bus App, and make them actively participate.

Stage & Duration	Teacher's Activities
	
<p>Summarise and ask questions (2minutes)</p>	<ol style="list-style-type: none"> 1. Ask students what new vocabulary they have learned in this lesson. 2. Encourage them to use these words at home or in class.
Session 2	
Stage&Duration	Teacher's activities
<p>Greeting students (1 minutes)</p>	<ol style="list-style-type: none"> 1. Say hello to the students. 2. Check students' presence and make sure they can hear me clearly.
<p>Course introduction (2 minutes)</p>	<ol style="list-style-type: none"> 1. The teacher explains how to make simple sentences using phrases and new vocabulary, such as "I have a big sheep". 2. Provide sentence structure templates to encourage students to make sentences. Role playing activity
<p>Lead in (10 minutes)</p>	<ol style="list-style-type: none"> 1. The teacher quickly reviews the new vocabulary of the last lesson and asks the students to answer it by asking questions. 2. Emphasize the pronunciation and usage of each word.


Stage & Duration	Teacher's Activities
Play role playing games (15 minutes)	<ol style="list-style-type: none"> 1. Students take turns playing the role of shepherd and sheep. 2. The teacher is present to guide and encourage the students to use the newly learned sentences to carry on the conversation.
Homework (2 minutes)	<ol style="list-style-type: none"> 1. Ask the students to think, what would you do if you were a shepherd yourself? 2. Kindergarten students are asked to complete the story exercises in this Baby Bus App lesson



Lesson Plan 2

Lesson Plan 2(Session:1&2)	
<p>Subject: Language</p> <p>Topic: Little things add up to big things.</p> <p>Grade: middle-class level students.</p> <p>Class Strengths: 30 students</p> <p>Time: 60minutes (30 minutes/1session)</p> <p>students background knowledge: Unconditional requirement.</p> <p>Teaching and learning strategy: Application of Baby Bus App and role playing method</p> <p>Lesson Objectives:</p> <ol style="list-style-type: none"> 1. Students can identify and pronounce new words such as (少、多、石、山 /Little, much, stone, mountain) 2. Students are able to understand the meaning of new vocabulary and apply it in context. 3. Students can construct simple complete sentences using new vocabulary. 4. Students confidently use the vocabulary they have learned in the role playing activities and communicate smoothly with their peers. 	
Session 1	
Stage & Duration	Teacher's activities
Greeting students (1 minutes)	<ol style="list-style-type: none"> 1. Teacher say hello to the students. 2. Check students' presence and make sure they can hear me clearly.
Course introduction (2 minutes)	<ol style="list-style-type: none"> 1. An overview of today's learning content. 2. Inform students of the important and difficult points of the course.
Lead in (10 minutes)	<ol style="list-style-type: none"> 1. Introduce the background of the story of "积少成多" to students. 2. Play the story animation in the Baby Bus App for children to watch and listen to the story.

Stage & Duration	Teacher's Activities
	
<p>Language learning using the Baby Bus App (15 minutes)</p>	<ol style="list-style-type: none"> 1. Show words related to the story (少、多、石、山 /Little, much, stone, mountain) 2. Use the picture card in the Baby Bus App to show pictures of these words and explain their meanings. 3. Teachers guide kindergarten students to use the Baby Bus App to learn and practice correct pronunciation of vocabulary. 4. Guide students to find corresponding words and pictures through listening and speaking in Baby Bua App, and make them actively participate. 

Stage & Duration	Teacher's Activities
	
Summarise and ask questions (2 minutes)	<ol style="list-style-type: none"> 1. Review the story 2. Encourage children to use the vocabulary learned in this lesson in their daily life.
Session 2	
Stage & Duration	Teacher's Activities
Greeting students (1 minutes)	<ol style="list-style-type: none"> 1. Teacher say hello to the students. 2. Check students' presence and make sure they can hear me clearly.
Course introduction (2 minutes)	<ol style="list-style-type: none"> 1. The teacher explained how to make simple sentences using phrases and new vocabulary, such as "There are many rocks on the mountain." 2. Provide sentence templates to encourage students to make sentences. Role playing activity
Lead in (10 minutes)	<ol style="list-style-type: none"> 1. The teacher quickly reviews the new vocabulary from the previous lesson, reviews the story, and asks the students to answer by asking questions. 2. Emphasize the pronunciation and usage of each word.


Stage & Duration	Teacher's Activities
Play role playing games (15 minutes)	<ol style="list-style-type: none"> 1. The students take turns acting the rabbit and the turtle 2. The teacher is present to guide and encourage the students to use the newly learned sentences.
Homework (2 minutes)	<ol style="list-style-type: none"> 1. Ask kindergarten students to recall the story of a little turtle in order to build a house, what did he do? 2. Kindergarten students are asked to complete the story exercises in this Baby Bus App lesson.



Lesson Plan 3

Lesson Plan 3(Session:1&2)	
<p>Subject: Language</p> <p>Topic: Slow birds fly first</p> <p>Grade: middle-class level students.</p> <p>Class Strengths: 30 students</p> <p>Time: 60minutes (30 minutes/1session)</p> <p>students background knowledge: Unconditional requirement.</p> <p>Teaching and learning strategy: Application of Baby Bus App and role playing method</p> <p>Lesson Objectives:</p> <ol style="list-style-type: none"> 1. Students can identify and pronounce new words such as (飞、太、早、鸟/Fly, too, early, bird) 2. Students are able to understand the meaning of new vocabulary and apply it in context. 3. Students can construct simple complete sentences using new vocabulary. 4. Students confidently use the vocabulary they have learned in the role playing activities and communicate smoothly with their peers. 	
Session 1	
Stage & Duration	Teacher's Activities
Greeting students (1 minutes)	<ol style="list-style-type: none"> 1. Teacher say hello to the students. 2. Check students' presence and make sure they can hear me clearly.
Course introduction (2 minutes)	<ol style="list-style-type: none"> 1. An overview of today's learning content. 2. Inform students of the important and difficult points of the course.
Lead in (10 minutes)	<ol style="list-style-type: none"> 1. Introduce the background of the story of "笨鸟先飞" to students. 2. Play the story animation in the Baby Bus App for children to watch and listen to the story.

Stage & Duration	Teacher's Activities
	
<p>Language learning using the Baby Bus App (15 minutes)</p>	<ol style="list-style-type: none"> 1. Show words related to the story (飞、太、早、鸟/Fly, too, early, bird) 2. Use the picture card in the Baby Bus App to show pictures of these words and explain their meanings. 3. Teachers guide kindergarten students to use the Baby Bus App to learn and practice correct pronunciation of vocabulary. 4. Guide students to find corresponding words and pictures through listening and speaking in Baby Bus App, and make them actively participate. 



Stage & Duration	Teacher's Activities
	
Summarise and ask questions (2 minutes)	<ol style="list-style-type: none"> 1. Review the story 2. Encourage children to use the vocabulary learned in this lesson in their daily life.
Session 2	
Stage & Duration	Teacher's Activities
Greeting students (1 minutes)	<ol style="list-style-type: none"> 1. Teacher say hello to the students. 2. Check students' presence and make sure they can hear me clearly.
Course introduction (2 minutes)	<ol style="list-style-type: none"> 1. An overview of today's learning content. 2. Inform students of the important and difficult points of the course.
Lead in (10 minutes)	<ol style="list-style-type: none"> 1. The teacher quickly reviews the new vocabulary from the previous lesson, reviews the story, and asks the students to answer by asking questions. 2. Emphasize the pronunciation and usage of each word.
Play role playing games	<ol style="list-style-type: none"> 1. The students take turns acting the smart bird and the dumb bird.


Stage & Duration	Teacher's Activities
(15 minutes)	2. The teacher is present to guide and encourage the students to use the newly learned sentences.
Homework (2 minutes)	1. Ask the kindergartners to remember what Stupid Bird did to win the game. 2. Kindergarten students are asked to complete the story exercises in this Baby Bus App lesson.



Lesson Plan 4

Lesson Plan 4 (Session:1&2)	
<p>Subject: Language</p> <p>Topic: Sit in the well and watch the sky</p> <p>Grade: middle-class level students.</p> <p>Class Strengths: 30 students</p> <p>Time: 60minutes (30 minutes/1session)</p> <p>students background knowledge: Unconditional requirement.</p> <p>Teaching and learning strategy: Application of Baby Bus App and role playing method</p> <p>Lesson Objectives:</p> <ol style="list-style-type: none"> 1. Students can identify and pronounce new words such as (坐、井、天、水/Sit, well, sky, water) 2. Students are able to understand the meaning of new vocabulary and apply it in context. 3. Students can construct simple complete sentences using new vocabulary. 4. Students confidently use the vocabulary they have learned in the role playing activities and communicate smoothly with their peers. 	
Session 1	
Stage & Duration	Teacher's Activities
Greeting students (1 minutes)	<ol style="list-style-type: none"> 1. Teacher say hello to the students. 2. Check students' presence and make sure they can hear me clearly.
Course introduction (2 minutes)	<ol style="list-style-type: none"> 1. An overview of today's learning content. 2. Inform students of the important and difficult points of the course.

Stage & Duration	Teacher's Activities
<p>Lead in (10 minutes)</p>	<ol style="list-style-type: none"> 1. Introduce the background of the story of "坐井观天" to students. 2. Play the story animation in the Baby Bus App for children to watch and listen to the story. 
<p>Language learning using the Baby Bus App (15 minutes)</p>	<ol style="list-style-type: none"> 1. Show words related to the story (坐、井、天、水/Sit, well, sky, water) 2. Use the picture card in the Baby Bus App to show pictures of these words and explain their meanings. 3. Teachers guide kindergarten students to use the Baby Bus App to learn and practice correct pronunciation of vocabulary. 4. Guide students to find corresponding words and pictures through listening and speaking in Baby Bus App, and make them actively participate. 

Stage & Duration	Teacher's Activities
	
<p>Summarise and ask questions (2 minutes)</p>	<ol style="list-style-type: none"> 1. Review the story 2. Encourage children to use the vocabulary learned in this lesson in their daily life.
Session 2	
Stage & Duration	Teacher's Activities
<p>Greeting students (1 minutes)</p>	<ol style="list-style-type: none"> 1. Teacher say hello to the students and give a self-introduction. 2. Check students' presence and make sure they can hear me clearly.

Stage & Duration	Teacher's Activities
Course introduction (2 minutes)	<ol style="list-style-type: none"> 1. An overview of today's learning content. 2. Inform students of the important and difficult points of the course.
Lead in (10 minutes)	<ol style="list-style-type: none"> 1. The teacher quickly reviews the new vocabulary from the previous lesson, reviews the story, and asks the students to answer by asking questions. 2. Emphasize the pronunciation and usage of each word.
Play role playing games (15 minutes)	<ol style="list-style-type: none"> 1. The students take turns acting the frog and the bird. 2. The teacher is present to guide and encourage the students to use the newly learned sentences.
Homework (2 minutes)	<ol style="list-style-type: none"> 1. Ask kindergarten students to think about how do you feel sitting at the head of a well is different from sitting outside and seeing the sky? 2. Kindergarten students are asked to complete the story exercises in this Baby Bus App lesson.



Item Objective Congruence for Grammar Assessment

1. Rate +1, if the item clearly matches the stated objectives.
2. Rate 0, if the item is unclear or unsure whether the measures meet the stated objectives.
3. Rate -1, if the item does not clearly match the stated objectives.

Sl. No	Questions	Expert 1	Expert 2	Expert 3	IOC Average	Congruence
1.	Question 1	+1	+1	+1	1	Congruent
2.	Question 2	+1	+1	+1	1	Congruent
3.	Question 3	+1	+1	+1	1	Congruent
Overall Average		1				Congruent



中班幼儿语言表达能力测试问卷

(前测&后测)

科目：语言

总分：100分

姓名：

日期：

一、词汇题目 (每题 2 分, 共 20 分)

请根据下面的题目, 选出正确的答案。

1. 下列哪张图片是羊?



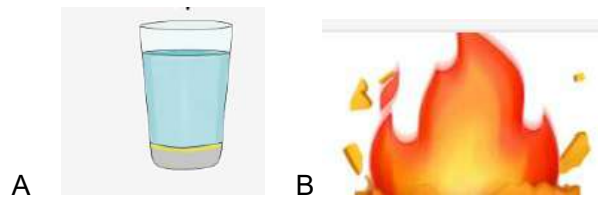
2. 下列哪张图片是鸟?



3. 下列哪张图片表示飞?



4. 下列哪张图片是水？



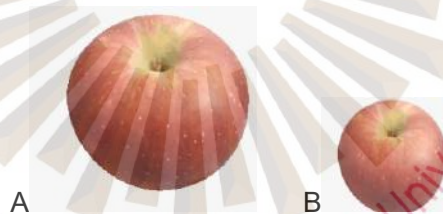
5. 下列哪张表示图片少？



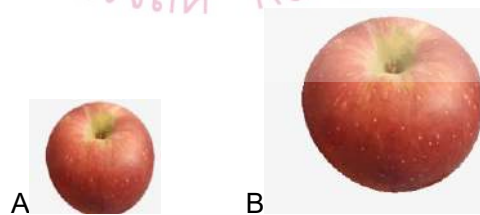
6. 下列哪张图片是山？



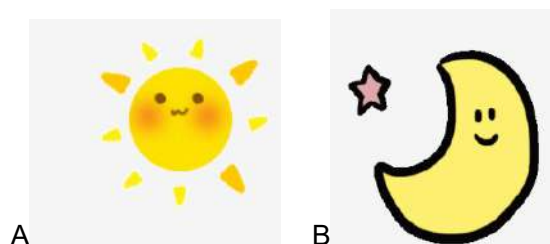
7. 下列哪张图片表示大？



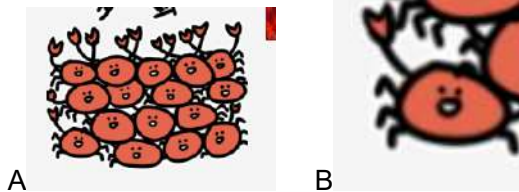
8. 下列哪张图片表示小？



9. 下列哪张图片表示早？



10. 下列哪张表示图片多？



二、发音 (每题2分, 共20分)

请重复下面的词汇, 注意发音。

1. 坐
2. 井
3. 观
4. 天
5. 羊
6. 个
7. 大
8. 只
9. 多
10. 少



三、词语的正确用法 (每题 0-4 分, 共 40 分)

请用下列词汇造句, 展示它们的正确用法。幼儿能够用一下词汇正常造句吗?

1. 坐

- 完全不会 (0分)
- 勉强会一点 (1分)
- 基本会 (2分)
- 比较熟练 (3分)
- 非常熟练 (4分)

2. 多

- 完全不会 (0分)
- 勉强会一点 (1分)
- 基本会 (2分)
- 比较熟练 (3分)
- 非常熟练 (4分)

3. 少

- 完全不会 (0分)
- 勉强会一点 (1分)
- 基本会 (2分)
- 比较熟练 (3分)
- 非常熟练 (4分)

4. 个

- 完全不会 (0分)
- 勉强会一点 (1分)
- 基本会 (2分)
- 比较熟练 (3分)
- 非常熟练 (4分)

5. 只

- 完全不会 (0分)
- 勉强会一点 (1分)
- 基本会 (2分)
- 比较熟练 (3分)
- 非常熟练 (4分)

6. 早

- 完全不会 (0分)
- 勉强会一点 (1分)
- 基本会 (2分)
- 比较熟练 (3分)
- 非常熟练 (4分)

7. 天

- 完全不会 (0分)
- 勉强会一点 (1分)
- 基本会 (2分)
- 比较熟练 (3分)
- 非常熟练 (4分)

8. 飞

- 完全不会 (0分)
- 勉强会一点 (1分)
- 基本会 (2分)
- 比较熟练 (3分)
- 非常熟练 (4分)

9. 石

- 完全不会 (0分)
- 勉强会一点 (1分)
- 基本会 (2分)
- 比较熟练 (3分)
- 非常熟练 (4分)

10. 早

- 完全不会 (0分)
- 勉强会一点 (1分)
- 基本会 (2分)
- 比较熟练 (3分)
- 非常熟练 (4分)

四、正确表达 (每题 0-4 分, 共 20 分)

请根据以下场景进行描述。

1. 如果羊圈里面的羊丢了, 如果是你你会怎么办?

- 完全不能描述 (0分)
- 能简单说几句但不清晰 (1分)
- 能基本描述清楚思路 (2分)
- 能比较详细地描述 (3分)
- 能非常详细清晰地描述 (4分)

2. 你觉得坐在井口和坐在外面看到的天空有什么不同?
- 完全不能描述 (0分)
 - 能简单说几句但不清晰 (1分)
 - 能基本描述清楚思路 (2分)
 - 能比较详细地描述 (3分)
 - 能非常详细清晰地描述 (4分)
3. 如果你要盖一栋房子,但你的盖房子的石头不够,你会怎么办?
- 完全不能描述 (0分)
 - 能简单说几句但不清晰 (1分)
 - 能基本描述清楚思路 (2分)
 - 能比较详细地描述 (3分)
 - 能非常详细清晰地描述 (4分)
4. 如果下个月你要去参加跑步比赛,但现在的你跑步速度并不快,你会怎么办?
- 完全不能描述 (0分)
 - 能简单说几句但不清晰 (1分)
 - 能基本描述清楚思路 (2分)
 - 能比较详细地描述 (3分)
 - 能非常详细清晰地描述 (4分)
5. 描述一次幼儿园里让你最开心的经历。
- 完全不能描述 (0分)
 - 能简单说几句但不清晰 (1分)
 - 能基本描述清楚思路 (2分)
 - 能比较详细地描述 (3分)
 - 能非常详细清晰地描述 (4分)

成绩测试评分标准

标准	5 (优秀)	4 (良好)	3 (及格)	2 (有待改进)	1 (不及格)
词汇量	能够正确识别并用所有词汇	识别大部分词汇，部分准确使用	能够识别少数词汇，使用有误	能够识别少数词汇，使用有误	无法识别或使用词汇
发音	发音准确，流利自然	发音基本正确，偶尔有误	发音有明显错误，影响理解	发音较差，但可通过练习提高	发音严重不准确
造句能力	句子完整且语法正确	句子大致正确，但有小错误	句子结构松散，含糊不清	造句有困难，但可改善	无法造句或语法完全错误
综合表达能力	逻辑清晰，表达流畅	表达基本清楚，但有停顿	表达有困难，逻辑不清	表达混乱，需多加练习	表达混乱，难以理解

Rubric for Achievement Test

Criteria	5 (Excellent)	4 (Very Good)	3 (Average)	2 (Below Average)	1 (Poor)
Vocabulary	Able to correctly recognize and use all vocabulary	Recognizes most vocabulary with some accurate use	Able to recognize a few vocabulary words, but usage is incorrect	Has difficulty recognizing vocabulary but can learn further	Unable to recognize or use vocabulary
Analytical Ability	Accurate pronunciation, fluent and natural	Pronunciation mostly correct, occasional errors	Noticeable pronunciation errors that affect understanding	Poor pronunciation but can improve with practice	Severe pronunciation inaccuracies
Emotional Attitude	Complete sentences with correct grammar	Sentences mostly correct but with minor errors	Sentences mostly correct but with minor errors	Difficulty in forming sentences but can improve	Unable to form sentences or complete grammar errors
Cultural Literacy	Logical and fluent expression	Basic clarity in expression but with pauses	Difficulty in expression, unclear logic	Expression is confused and needs practice	expression is chaotic and hard to understand



Item Objective Congruence for Questionnaire

Rate +1, if the item clearly matches the stated objectives.

Rate 0, if the item is unclear or unsure whether the measures meet the stated objectives.

Rate -1, if the item does not clearly match the stated objectives.

Sl No.	Item Test No.	Expert 1	Expert 2	Expert 3	Average	Congruence
1	I was excited about using the Baby Bus App to learn new vocabulary.	1	1	1	1	
2	I found learning language through games more interesting than the traditional way of learning.	1	1	1	1	
3	I liked to use activities related to the baby bus in the classroom to learn the language.	1	0	1	0.67	
4	Learning new words and phrases was a pleasant experience for me.	1	1	1	1	
5	I would like to spend time studying and reviewing on the Baby Bus App.	1	1	1	1	
6	In the process of using the Baby Bus App, I actively participated in class activities.	0	1	1	1	

Sl No.	Item Test No.	Expert 1	Expert 2	Expert 3	Average	Congruence
7	I felt more engaged when learning with my classmates using the Baby Bus APP.	1	1	1	1	
8	I liked to share my learning experience with other students about the Baby Bus App.	1	1	1	1	
9	In class, I often took the initiative to raise questions or participate in discussions.	1	1	0	0.67	
10	I think games motivated me to do better in class.	1	1	1	1	
11	I thought my pronunciation was improved through the role playing method of the Baby Bus App.	1	1	0	0.67	
12	Using the Baby Bus App made it easier for me to remember new vocabulary.	1	1	1	1	
13	Through role playing, my oral expression ability was improved significantly.	1	1	1	1	
14	The Baby Bus App helped me express myself more confidently in my daily life.	1	1	1	1	

Sl No.	Item Test No.	Expert 1	Expert 2	Expert 3	Average	Congruence
15	I would like to recommend Baby Bus App to my classmates and friends.	1	1	0	0.67	
Overall Average		0.912				





Questionnaire

Dear students,

This questionnaire is part of the Master's thesis in Education, Curriculum and Teaching, Rangsit University. The title of this study is the application of Baby Bus App with role playing method for improving kindergarten students' language expression skills in China. The researchers will use the results of the analysis to examine the learning satisfaction of Chinese kindergarten students using the role playing method. This can provide some new understanding and ideas for Chinese kindergarten students to improve their language expression ability. Best Regards,

Ms YiLing Zhang

Master candidate, Education in Curriculum and
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Rangsit University.








Part 1 General information of the respondents

Direction:

Put a tick mark () in the brackets.

1.Female ()

Please indicate your level of agreement with each statement on a scale from 1 to 5, where 1 represents 'Strongly Disagree' and 5 represents 'Strongly Agree,' as described in the table below.

Scale: Strongly Agree (SA)-5 Agree(A)- 4 Neutral (N)-3 Disagree(D)-2 Strongly Disagree (SD)-1						
SI No.	Items	SA 5 	A 4 	N 3 	D 2 	SD 1 
PART A:INTEREST AND MOTIVATION						
1.	I was excited about using the Baby Bus App to learn new vocabulary.					
2.	I found learning language thought role playing more interesting than the traditional way of learning.					
3.	I liked to use activities related to the Baby Bus in the classroom to learn the language.					
4.	Learning new words and phrases was a pleasant experience for me.					
5.	I would like to spend time studying and reviewing on the Baby Bus App.					
PART B: PARTICIPATION ENTHUSIASM						
6.	In the process of using the Baby Bus App, I actively participated in class activities.					
7.	I felt more engaged when learning with my classmates using the Baby Bus APP.					

SI No.	Items	SA 5 😊	A 4 😄	N 3 😐	D 2 😞	SD 1 😭
8.	I liked to share my learning experience with other students about the Baby Bus App.					
9.	In class, I often took the initiative to raise questions or participate in discussions.					
10.	I think role playing motivated me to do better in class.					
PART C: THE EFFECTIVENESS OF Baby Bus App AND Role Playing METHOD TO IMPROVE CHILDREN'S LANGUAGE EXPRESSION ABILITY.						
11	I thought my pronunciation was improved through the role playing method of the Baby Bus App.					
12	Using the Baby Bus App made it easier for me to remember new vocabulary.					
13	Through games, my oral expression ability was improved significantly.					
14	The Baby Bus App helped me express myself more confidently in my daily life.					
15	I would like to recommend Baby Bus App to my classmates and friends.					

BIOGRAPHY

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