

**A DEVELOPMENT OF PLAY-BASED LEARNING THROUGH
SONGS TO IMPROVE CHINESE VOCABULARY
ACQUISITION OF KINDERGARTEN
STUDENTS IN THAILAND**



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TITLE A DEVELOPMENT OF PLAY-BASED LEARNING THROUGH
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OF KINDERGARTEN STUDENTS IN THAILAND

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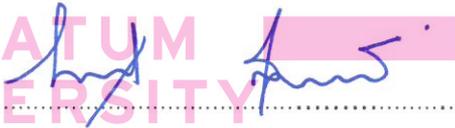
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ABSTRACT

The objectives of this research were: (1) to investigate how to design an effective teaching method of Play-based Learning through songs to improve Chinese vocabulary acquisition of kindergarten students in Thailand, and (2) to investigate the effectiveness of Play-based Learning through songs to improve Chinese vocabulary acquisition of kindergarten students in Thailand. A quantitative analysis was used in this research. 17 students of K1 from Double Trees International Kindergarten Ratchaphruek campus in Bangkok were divided into two groups, including an experimental group and a control group to participate in this research. Two research instruments were designed to obtain data, including lesson plans and the post-test (the Chinese vocabulary speaking test and the Chinese character matching test). The data was analyzed by means of descriptive statistics, independent sample t-test and content analysis. The results of the analyses revealed that (1) students in the experimental group achieved significantly higher scores on the Chinese vocabulary speaking test than students in the control group; and (2) Students' Chinese character matching test scores in the experimental group were higher than the control group, but not significantly. In summary, the final total scores indicate that the experimental group's Chinese vocabulary acquisition which conducted through the use of play-based learning through songs was superior to that of the control group through a traditional method. The findings suggest that this teaching method can effectively improve students' speaking vocabulary. It is recommended that play-based learning is to be employed with young learners when learning a second language.

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Graduation is not the end of the journey. Best wishes for a bright future for everyone.

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YANG YIQIAN

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CHAPTER 1

INTRODUCTION

1.1 Background

With the rapid growth of the Chinese economy and the increasing international influence, Chinese language learning has become a global craze. As a neighboring country of China, the development of Chinese language teaching in Thailand has been particularly rapid. In 2006, Thailand incorporated Chinese into its national education system, and Chinese has become a compulsory subject. The number of volunteer teachers sent to Thailand by the Confucius Institute has been increasing year by year. With the joint efforts of the two governments, the teaching of Chinese as a second language has been popularized and deepened in Thailand, and the trend is toward younger students. More and more kindergartens are offering Chinese language courses, and the researcher's target audience is Thai kindergarten students.

In the process of teaching Chinese to Thai kindergarten students, the researcher found that Thai children aged 3-6 are lively and playful, and for such a special group who learn Chinese as a second language, interest is the most direct motivation for them to master a language, so it is more important to focus on the fun of the class in the process of teaching Chinese, especially for Thai kindergarten Chinese classrooms. Through reading a lot of literature, it is found that play can stimulate and support children's development in language acquisition, communication skills, and concentration. And that play-based learning not only enhances the liveliness of the class but also mobilizes students' interest in learning and focuses their attention on the class, thus improving the teaching effectiveness. Ali (2018) also mentioned in her study that the benefits of play-based learning outweigh the traditional methods of teaching. Not only will the element of meaningfulness be included in the work students do, but also the added health benefits. Learning can be healthy and the longevity of this method can prove to be beneficial both academically and for physical wellness.

Although kindergarten students are young and easily distracted, they are at the critical period of learning a second language. If they can lay a good foundation during this period, it will be of great help to their future Chinese learning, and vocabulary learning is the key to all language learning, so vocabulary teaching is the top priority in Chinese teaching. In the process of teaching Chinese, the researcher has carried out a lot of teaching practices and tried to use a variety of

teaching methods to improve students' vocabulary acquisition. Through the teaching practices of the researcher, it was found that when children's songs were introduced into the Chinese classroom, students' attention was immediately attracted by the songs, and they would sing and dance along with the songs, unconsciously learning and remembering a lot of vocabulary in a relaxed and happy musical atmosphere.

The researcher works at Double Trees International School Ratchaphruek Campus in Bangkok, Thailand. The school has five grades from Nursery to K3, with 82 students. The school places great emphasis on Chinese language learning, with 1.5 to 2.5 hours of Chinese lessons per day, including vocabulary, words, math, reading, conversation, and writing. Each grade level has a specified theme for each semester, and the vocabulary content is all based on the nouns of the theme. At the same time, the researcher found in the preliminary data collection that many teachers choose to teach noun vocabulary with themes when teaching Chinese vocabulary to foreign children, while according to Liu (Director of the Institute of Linguistics, Chinese Academy of Social Sciences), "Chinese is a verb-based language", so obviously it is not enough to master only Chinese nouns, but also need to increase the learning of Chinese verbs to improve the Chinese vocabulary acquisition of kindergarten students.

Compared with the relatively mature system of teaching Chinese as a second language to adults, the research on teaching Chinese as a second language to kindergarten students in Thailand is just in its initial stage and a complete teaching system has not yet been formed. In addition, Thai kindergarten students, as a new group of Chinese language learners, are still learning the Thai language, and Chinese as a second language, should take fun as the principle, improve children's vocabulary as the purpose, combine play and teaching with children's playful and active nature, create a relaxed and happy learning atmosphere. In this way, let children acquire Chinese naturally through the process of playing, and enhance their confidence in learning Chinese, so that they can really be interested in Chinese from their heart and want to learn Chinese. Based on the above considerations and the researcher's practical experience, play-based learning through songs to improve kindergarten students' Chinese vocabulary acquisition is in line with the psychological and cognitive characteristics of young children, and moreover, it is in line with the lively and active nature of kindergarten students.

As the youngest age group exposed to the Chinese language, how to teach Chinese vocabulary to kindergarten students has not yet received widespread attention in Thailand, and many Chinese teachers have never been exposed to early childhood education before, which makes research in this area increasingly urgent. Since there is still very limited research on play-based Chinese learning for kindergarten students in Thailand, the researcher will use this study to introduce children's songs into Chinese classrooms in Thailand kindergarten, and actively search for a teaching model or method that can help young children learn Chinese, aiming to enrich the theory of learning Chinese as a second language for kindergarten students, provide some practical experience, as well as provide some reference opinions for Chinese teachers in Thailand or those who are going to Thailand.

1.2 Research Questions

1. How to design a teaching method of Play-based Learning through songs to improve Chinese vocabulary acquisition of kindergarten students in Thailand?
2. To what extent does Play-based Learning through songs help kindergarten students improve Chinese vocabulary acquisition in Thailand?

1.3 Research Objectives

1. To investigate how to design an effective teaching method of Play-based Learning through songs to improve Chinese vocabulary acquisition of kindergarten students in Thailand.
2. To investigate the effectiveness of Play-based Learning through songs to improve Chinese vocabulary acquisition of kindergarten students in Thailand.

1.4 Research hypothesis

Play-based Learning through songs will be able to improve the Chinese vocabulary acquisition of kindergarten students in Thailand.

1.5 Scope of Research

1. Target group

This target group was from students at Double Trees International Kindergarten's Ratchaphruek campus in Bangkok who speak Thai as their native language. The participants in this study were 17 students from two classes of K1, 10 boys and 7 girls. The two classes were Class A and Class B. Class A had 9 students and Class B had 8 students. The students were all beginners in Chinese and had similar language backgrounds. The mean scores of the final exams in the second semester of the 2021-2022 school year showed no differences between these two classes of students, so they were selected for this study.

2. Research variables

The experiment has two parts, the independent and dependent variables, as follows:

1. The independent variable is the use of play-based learning through songs.
2. The dependent variable is the student's score on the Chinese vocabulary test.

1.6 Definition of Terms

1. Play-based Learning

means that children learn through play. Children can explore, experiment, discover, and solve problems in imaginative and fun ways. Play can be either free play (activities that are spontaneous and directed by children) or guided play (activities that are also child-directed but in which the teacher participates as a co-participant) deliberate instruction. In the present study, the guided play was primarily used for intentional instruction. Play also took a variety of different forms, including role-play, building play, musical play, and physical play. The children were able to explore and discover according to their own interests and desires in the play, which stimulated the children's autonomy and initiative in learning.

Play, as an integral part of the language curriculum, provides an opportunity to reinforce language practice. Children's play is often accompanied by verbal output, where a word becomes a sentence and sentences change from short to long during communication, effectively improving children's ability to actually use language. Another reason for using play-based learning is simply that it is fun, and in the process of playing, they can dispel young children's fears and intimidations

about language learning. By incorporating the content and language knowledge into appropriate play, children will grow to enjoy language learning as they enjoy the play.

In present study, play-based learning and songs are combined to improve kindergarten students' acquisition of Chinese vocabulary. The researcher designed some playing activities that incorporated songs, and the students unconsciously entered into vocabulary learning while playing, which truly made teaching and learning pleasurable.

2. Chinese Vocabulary Acquisition

Vocabulary is the building material of language, and vocabulary acquisition is the foundation of Chinese language acquisition. The cognitive level of young children determines that vocabulary teaching is the main focus of teaching Chinese to kindergarten students. There is no unified standard for the content of vocabulary acquisition for kindergarten students' Chinese as a second language. For the special cognitive mechanism of kindergarten students, they should be taught vocabulary that they can accept and easily accept. The content of Chinese vocabulary instruction in the kindergarten where the researcher works is mainly based on themes, one for each semester, with the following topics: facial features, the body, colors, family members, stationery, fruits, poultry animals, land animals, sea animals, food and drink, vegetables, electrical appliances, household items, sports, furniture, and weather. The vocabulary around these themes is basically noun vocabulary, but verbs are also very important in Chinese vocabulary, and verbs are essential to express sentences in Chinese completely. Therefore, the common verbs "see, hear, eat and touch" were used as the target vocabulary for Chinese vocabulary acquisition in this study.

In this study, the vocabulary acquisition criterion for kindergarten students was comprehension of Chinese vocabulary and recognition ability of Chinese characters, rather than guessing. Understanding the meaning of vocabulary refers to being able to pronounce the vocabulary accurately based on the pictures, and recognizing characters means to connect Chinese characters precisely with corresponding pictures.

3. Songs

The songs used in this study are Chinese children's songs, which are defined in Chinese as "songs created for children and suitable for children to sing", and have the following characteristics:

first, they have a clear rhythm, emphasize rhyme, and are easy to recite and remember. Second, the content is simple, close to life, and easy to understand. Third, they have a short form, a single structure, and a recurring recurrence. When using children's songs to teach Chinese, it is very important to choose suitable children's songs or reasonably adapt existing children's songs. The choice of children's songs is related to the actual effect on learners' Chinese learning.

Three songs were selected for the study: Five Senses, Motion Song (adapted from แมาคิลี่ล่าสัตว์), and Baby Shark (adapted). These songs either had a light melody with a moderate tempo that was easy for the children to remember, or they were melodies that the children were already familiar with, but the lyrics were adapted to the vocabulary they needed to learn.

1.7 Expected Benefits

1. Theoretical significance

The results of the study can provide an understanding and awareness of the enhancement of Chinese vocabulary acquisition of Thai kindergarten students with play-based learning through songs, and enrich the teaching theory of kindergarten students learning Chinese as a second language.

2. Pedagogical significance

The results of the study can be used in two ways. Firstly, they will provide some practical experience for Chinese teachers in Thailand or coming to Thailand about enhancing the Chinese vocabulary acquisition of kindergarten students. Secondly, the results of the study will provide a proper guideline for classroom operation with play-based learning through songs.

1.8 Conceptual Framework

In this research, the use of play-based learning through songs is the independent variable, and the dependent variable is the student's score on the Chinese vocabulary test. The relationship between the two is whether play-based learning through songs improves kindergarten students' acquisition of Chinese vocabulary. If students' scores on play-based learning through songs were not better than traditional learning, this indicates that play-based learning through songs will be not appropriate for improving the Chinese vocabulary acquisition of kindergarten students.

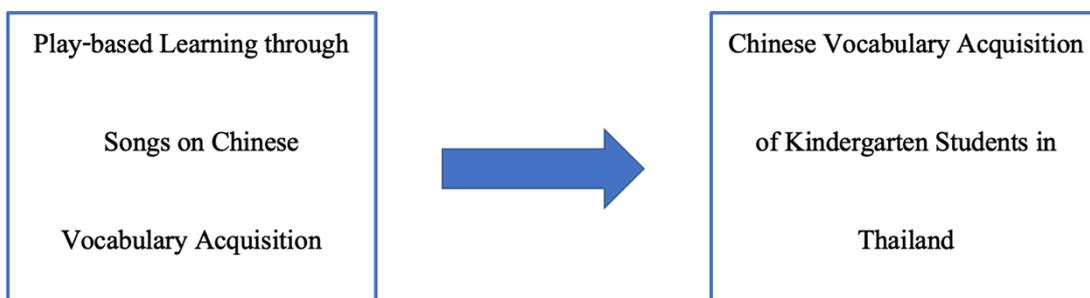


Figure 1.1 Research Framework for Play-based Learning through Songs on Chinese Vocabulary Acquisition

CHAPTER 2

REVIEW OF LITERATURE

This study encompasses two main parts—theories and related studies. There are four fundamental theories involved in this study, namely (1) Play-based Learning, (2) The Use of Songs in Language Learning, (3) Vocabulary Acquisition, and (4) ADDIE Model.

2.1 Part 1 Research Theories

This study is based on the three fundamental theories in teaching and learning as follows:

1. Play-based Learning

Play. Froebel (1782-1852) was the first educator in the history of education to recognize the educational value of play and to systematically and professionally include play activities in the journey of early childhood education. In "pedagogics of kindergarten" (1861), Froebel points out that play is the means by which the creative and active instincts of young children can develop, and should be used as a teaching method to create a relaxed and harmonious activity environment with a free and pleasant psychological environment. In the process of children's play, the children's play should be accompanied by songs in different tones to develop their interest in playing. Through play, children exercise their bodies, develop their language, cultivate their imagination and thinking power, get to know the world, and accumulate life experience.

What is play-based learning

To put it simply: children learn through play. During the act of the play, children are exploring, taking risks, engaging their imagination, and solving problems. The Early Years Learning Framework defines play-based learning as “a context for learning through which children organize and make sense of their social worlds, as they engage actively with people, objects and representations”. In this conceptualization, play is often described as an activity that should not be interfered with by adults, in which the teacher's responsibility is "to support, not to disturb" and to avoid contriving or "hijacking" the play. An alternative perspective describes the play as a chance for children to internalize and explore academic concepts, in which teacher involvement is seen as an opportunity to further children's learning and is encouraged. This type of play-based learning is

effective because it actively engages the learner, and this level of engagement can be maintained while implementing some teacher-directed elements. Although the degree of teacher involvement in play-based learning practices can vary, with different elements more or less teacher-directed, effective play-based learning strategies are frequently emphasized as fundamentally child-directed. (Pyle & Danniels, 2017)

Elements of play-based learning

For play-based learning to work, educators create a very deliberate environment that encourages the child to participate. Play-based learning involves the following elements:

Self-direction: The child chooses what they play and how they play. Adults can supervise, accompany, or potentially suggest ideas, but the child decides the rest.

Unstructured Exploration: The child is allowed to explore for themselves and select objects or activities based on their own interests. It is important that the environment includes lots of options, but it is ultimately left up to the child.

Fun: Play must be enjoyable for the child. Adults should not force certain activities as it's important that the child is enjoying what they are doing.

Process-oriented: It is the process of the play that is important, there is no end goal or correct response. (Bestchance, 2020)

Benefits of play-based learning

Studies show that play promotes a child's literacy and language development. During preschool years, a child's vocabulary grows and develops significantly, and play-based learning encourages conversations to occur in a natural way. Even participating in individual play-based learning encourages language and communication. A child will often speak to themselves while playing or narrate the toys they are playing with, even acting out multiple sides of a conversation. (Bestchance, 2020)

2. The Use of Songs in Language Learning

A song is a musical composition intended to be performed by the human voice. (Wikipedia) Songs have an ancient tradition in educational use and have long been used to educate children. Children have learned their tribal history, lineage, and language by singing with their family and friends. Songs have also helped preserve cultures and languages close to extinction (Okorodudu,

2014). It is perhaps not surprising that singing is frequently transferred to language teaching and language learning (Davis, 2017).

As Guglielmino (1986) states, "songs bridge the [brain's] hemispheres, strengthening retention through a complementary function as the right hemisphere learns the melody, the left, the words". That connecting bridge is also mentioned clearly. The songs' benefits as relaxing and motivation and a natural bridge between native and foreign languages can motivate students to increase language practice.

One approach to understanding the power of music and song in the classroom may be found in studies involving speech and the brain. Songs possess an invaluable key to incorporating the whole brain into the learning process. This theory may provide principles to design more effective learning experiences. By using a variety of input methods, including songs, there may be more opportunities for students to connect to their present knowledge base and add new knowledge. Songs not only help to store bits of information, but it is a means by which the brain releases that same information for use.

Songs are an effective memory aid for the classroom. "Many people often remember rhyme, rhythm or melody better than ordinary speech" (Falioni, 1993) Some researchers expound on the benefit of songs as a memory aid. As previously stated, the "staying" power of a song may be due to the connection formed between the tune and the words as it is put in memory, or the chunking effect. As many researchers agree, the tune and text of a song are to some extent integrated into memory rather than stored independently. According to McElhinney and Annett (1996), "The integration of the temporal aspect of a tune with the text might promote the better organization of material and consequently enhance recall".

3. Vocabulary Acquisition

"Acquisition" refers to the process of natural absorption. Second-language acquisition (SLA) is the process by which people learn a second language. (Wikipedia) People must start with specific words and sentences when learning a language. After learning a word or a sentence, a language is acquired if it produces a specific thought and the ability to use it freely every time the word or sentence is encountered. Stephen Krashen (1982) argues that the difference between "learning" and "acquisition" is that "learning" is an act and "acquisition" is a process. Language acquisition

requires a process of learning to the acquisition, whether it is L1 (language1) or L2 (language2) acquisition. Because acquisition requires learning, the term language acquisition includes language learning in general. According to Lewis (1993), vocabulary acquisition is a central task in second language acquisition, and what they need most is to have an adequate vocabulary. Vocabulary is essential to learning a language.

A vocabulary is the basic unit of a language. By its very nature, vocabulary is a building block in a language. Learners cannot learn a language without vocabulary. The most important purpose of teaching Chinese as a second language is to develop learners' ability to recognize vocabulary, identify vocabulary, select vocabulary, and use vocabulary, and to develop their ability to use words correctly in communication. Vocabulary plays a crucial role in communicative activities, especially in learner talk and young children's talk, where much of the grammar is simplified. Inadequate vocabulary can affect the smooth flow of communication and the smooth acquisition of information between participants in a conversation (Chen, 2016). According to the British linguist Wilkins (1972), "While without grammar very little can be conveyed, without vocabulary, nothing can be conveyed".

The most basic manifestation of language acquisition in young children is the acquisition of vocabulary through the processes of perception, comprehension, imitation, memorization, consolidation, and application. The process of vocabulary acquisition is divided into five major stages, as follows:

Stage 1: Perception is hearing and seeing. Between the ages of half and one year, children are in the preparatory stages of phonological awareness and vocalization, distinguishing their parents' voices and understanding some instructions. This is the basic need for people to learn a language.

Stage 2: Imitation of adult speech. As young children acquire language, they are able to imitate but not necessarily understand and remember. When children around one year of age are really learning to speak, a word, vocabulary, or sentence usually begins with imitation. At this stage, it is important for children to repeatedly imitate in order to remember.

Stage 3: The ability to remember is divided into two categories: long-term memory and short-term memory. Short-term memory is easily forgotten, which can be a long process and practice for learning a language, while young children with long-term memory can easily learn a language.

Developing good memory skills will enable children to acquire language vocabulary more effectively.

Stage 4: Understanding the meaning of vocabulary. When children learn a language, they always begin by learning single-word sentences and then learn sentences. Whether learning a single-word sentence (vocabulary) or a sentence, it is important to be able to understand the meaning of the vocabulary before acquiring a language. Vocabulary represents concepts, and in the process of acquiring a vocabulary, children first see the image of a physical object and hear the sound that represents it, and then make a connection with the concept represented by the vocabulary, and after repeated stimulation children are able to successfully combine the two so that they can understand the meaning of a vocabulary.

Stage 5: Children use the vocabulary they have learned to communicate. Learning a language is about using it, and therefore, learning a second language involves regular use. Although young children do not acquire a rich vocabulary, they can combine basic vocabulary with knowledge of the language, begin to understand and master the social functions of language, and are able to communicate in general everyday situations.

4. ADDIE Model

For many years now, educators and instructional designers alike have used the ADDIE Instructional Design (ID) method as a framework in designing and developing educational and training programs. “ADDIE” stands for Analyze, Design, Develop, Implement, and Evaluate. (Florida State University, 1970s)

A: The Analysis phase can be considered as the “Goal-Setting Stage.” In this phase, instructors distinguish between what the students already know and what they should know after completing the course.

D: In the design phase, the focus is on learning objectives, content, subject matter analysis, exercise, lesson planning, assessment instruments used and media selection.

D: The Development stage starts the production and testing of the methodology being used in the project.

I: Much of the real work is done here as IDs and students work hand in hand to train on new tools, so that the design can be continuously evaluated for further improvement.

E: The main goal of the evaluation stage is to determine if the goals have been met, and to establish what will be required moving forward in order to further the efficiency and success rate of the project. (Kurt, 2018)

2.2 Part 2 Related Studies to the Present Research

1. The Use of Songs in Language Learning

The essential characteristic of children's songs is playfulness, and the application of children's songs in Chinese classrooms actually responds to the active personality of Thai elementary school students. The most effective way for children to learn is through play, and the initial learning activities of children's songs are actually closely integrated with play. For example, when parents spend time with their own young children, they sing children's songs while playing games with their children. In general, children's songs tend to accompany games, and once the song begins, the associated game begins, and once the game ends, the song stops. In terms of the nature of children's songs, it belongs to a language game, an activity that teaches and sings, and chanting children's songs exercises children's language skills as well as their behavioral skills. (Ma, 2019)

Liu (2014) provided some teaching methods of Chinese children's songs in second language teaching. The action performance method is when the teacher teaches students to read the children's songs aloud with the addition of performing actions based on the content of the children's songs. The direct method is to use some more visual means such as objects, toys, pictures, and homemade props to teach Chinese. It is designed to mobilize the visual, auditory, tactile, and verbal-kinesthetic senses to work together and coordinate as a whole in order to attract children's attention and deepen their memory and understanding of the content of the children's songs. The translation method is to explain the meaning of the Chinese children's songs in the students' native language. The role-play method is a teaching method that teaches Chinese children's songs by having students play different roles. The game method is a method of teaching students to review and consolidate the Chinese knowledge learned in the Chinese children's songs by playing games.

Qian (2019) argues that it is necessary to enrich the fun of song teaching and combine songs with play to highlight children's initiative and enthusiasm. Among them, "Flipping Picture" is mentioned, i.e., flipping pictures to introduce lyrics; "Interactive ", i.e., strengthening children's expectations of the play and singing through teacher-child and child-child interactions, and also

narrowing the distance between teachers and children; the "Role Play", in which children independently identify and play roles to enhance the effectiveness of learning in context; the "White Space", in which children are guided to discover the hidden content of the chart by listening to the song, stimulating their curiosity and purpose, and effectively memorizing it; and the "Rhythm Game", in which children are guided to create movements to create the song. The "Rhythm game" is a game in which children play through the creation of movements, thus consolidating their understanding of the lyrics. The clever use of play makes teaching playful and allows children to learn through participation and joy.

In her study, Zhang (2018) also proposed organizing song teaching activities in the form of pictures. The "de-picture method" is mentioned, that is, the children can sing the song on the basis of one or several pictures, and guide the children to recall and sing; the "row picture method", that is, the children reorder the order of pictures according to the structure or content of the song. In this way, children can change from "passive listening" to "active listening" and better utilize their autonomy; the "picture drawing method", in which children express their ideas through drawing, forms the process of creation, highlighting the initiative of children.

Ilinawati & Dharma (2018) in their study concluded that teaching vocabulary through song improved their students' vocabulary in several aspects; they were: (1) The students' memorization improved in finding the meaning. (2) Students' knowledge in identifying the words based on their cluster. (3) students' pronunciation improved gradually since they have a lot of practice. They also found that songs as the media could be used to facilitate the teaching-learning process, the selection of various songs also influences the students' interest in learning. Besides, teaching vocabulary through songs improved students' vocabulary, it also improved students' motivation in learning.

In Magnussen and Sukying's (2021) study, the use of TPR and songs was found to be very useful to enhance receptive vocabulary with young learners as songs include authentic language that can be repeated multiple times in a fun and rhythmic way, and physical movement is believed to activate the brain's right hemisphere, which aids the retention of newly learned, so the TPR&S and similar methods facilitate multi-sensory learning.

2. The Present Research Study

The present research aimed to design an effective teaching method of play-based learning through songs to improve the Chinese vocabulary acquisition of kindergarten students in Thailand.

The value of songs in teaching Chinese as a second language has been recognized, but there are not many studies on play-based learning through songs and even fewer studies on vocabulary teaching with play-based learning through songs. This study will investigate the practical cases of play-based learning through songs in teaching vocabulary in Thai kindergarten classrooms, summarize the achievements and problems of play-based learning through songs in Thai kindergarten Chinese classrooms, and give suggestions for how to apply play-based learning through songs in teaching vocabulary of Thai kindergarten Chinese classrooms in the future.



CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Design

The present study adopted the experimental research design employing a quantitative research method approach which aimed to investigate the effectiveness of play-based learning through songs to improve Chinese vocabulary acquisition of kindergarten students in Thailand.

The experiment selected 17 students from two classes of K1 out of 82 students in the Ratchaphruek campus of Double Trees International School. The students were divided into two groups, Group A and Group B, according to their respective classes. Group A had an even number of students which made it easier to conduct class activities was selected as the experimental group using play-based learning through songs approach to teach Chinese vocabulary, and Group B was the control group, which used the traditional vocabulary teaching method. The teaching experiment consisted mainly of Chinese lesson plans design and testing. Since the students in the study had already mastered the theme vocabulary of the five senses and the body, the 10 verbs "see, hear, eat, drink, smell, touch, run, jump, walk, and stop" were selected as the target vocabulary for teaching Chinese vocabulary acquisition to kindergarten students. The experiment took 300 minutes. At the end of the experiment, students were required to take a Chinese vocabulary test. They were asked to answer questions based on flashcards one by one and match Chinese characters with corresponding images to get the test results. The test results were analyzed using descriptive statistics, mean, SD, and t-test.

3.2 Research Process

The present research employed the ADDIE Instructional Design (ID) method as a framework in designing experiment. "ADDIE" stands for Analyze, Design, Develop, Implement, and Evaluate. Due to the hierarchical structure of the steps, the process must be completed in a linear fashion, completing one phase before starting the next, the entire process is as follows.



Figure 3.1 The Five Components of the ADDIE Model by Florida State University (1970s)

Stage 1. Analysis

There is no unified syllabus and textbook for early childhood Chinese as a second language, and specific teaching objectives and vocabulary requirements for vocabulary acquisition of kindergarten students are in urgent need of supplementation. Therefore, the content and instructional goals of the kindergarten Chinese language curriculum depend largely on individual teachers. The students in this study were all beginners in Chinese, and the theme vocabulary they mastered were colors, fruits, facial features, and body. The researcher selected 10 common verbs corresponding to the five senses and body: "看 (see), 听 (hear), 吃 (eat), 喝 (drink), 闻 (smell), 摸 (touch), 走 (walk), 跳 (jump), 跑 (run), and 停 (stop)" as the target vocabulary.

Thai kindergarten students are active and energetic, but their primary focus is on playing, so if you want them to learn Chinese effectively, you must make Chinese classes interesting and enjoyable. Kindergarten students are too young to concentrate on class all the time, which is a common feature of early children all over the world, but Thai children particularly adore music and dancing, especially dancing to songs with a strong rhythm. Therefore, it is essential to

find songs that are upbeat, with lyrics that can be expressed physically and that are highly relevant to the teaching content. This is more conducive to drawing students' attention, enlivening the classroom atmosphere, increasing classroom interaction, deepening the memory of the knowledge learned, and achieving the teaching objectives more easily.

Stage 2. Design

2.1 Song Selection

A total of three songs were used as supplementary teaching content in this study. The first song is called "Five Senses", which was a new song that the students have never heard before. This song has a light melody and a moderate speed, so it is easy for children to remember, and the lyrics have the vocabulary of the five senses that students have already mastered, so it is easy to understand. The Chinese lyrics are "眼睛眼睛, 看一看, 耳朵耳朵, 听一听, 鼻子鼻子, 闻一闻, 嘴巴嘴巴, 吃一吃, 双手双手, 摸一摸。 一二三四, 五感觉。" In English, it means "Eyes, look, ears, listen, nose, smell, mouth, eat, hands, touch. One, two, three, four, five senses."

The second song, called "Motion Song", was adapted from a very popular Thai song "แมคทีลิตัวตัว", The students liked the song very much, and it was a familiar melody for them, but the lyrics were changed. The new lyrics are only four vocabulary "walk, jump, run and stop", but they are repeated over and over again to deepen the students' memory.

The third song, adapted by the researcher, is based on the global song "Baby Shark". Because it is a popular song with children, has an upbeat rhythm, and the lyrics can be changed at will, which makes it particularly suitable for teaching the second language to kindergarten students.

2.2 Activity Design

The researcher combined song and play-based learning by designing the following activities.

Roll call sing: Use the melody of "baby shark", point to a student's name, and add a verb, and the student who is pointed out will have to sing and do the corresponding action at the same time.

Follow the song: students and teachers in a circle, play the music "motion song", all in the same direction, clockwise or counterclockwise, while singing while following the song to do,

singing to “走 (walk)” then you walk, singing to “跳 (jump)” then you jump, singing to “停 (stop)” then everyone needs to stop. When the other two songs are played, you can also follow the music in place and do the actions.

Who has it: Students and the teacher sit in a circle and the teacher hands out vocabulary cards with Chinese characters on them, one card for each student, and then starts playing the song for everyone to sing together, and when the target vocabulary is sung, whoever has that vocabulary card in their hand holds it up high for everyone to see.

Continue to sing: divide the students into two groups (for example, boys' group and girls' group), one group sings the first half of the lines, one group sings the second half of the lines, and then exchange them.

You sing I do: two students as a group, one student sings, another student follows his lyrics and does the action, the singing student can disrupt the order of the lyrics at will, for example, the original order of the lyrics of the five senses is "eyes, look, ears, listen, nose, smell, mouth, eat, hands, touch." Students can sing in their own order: "Ears, listen, mouth, eat, eyes, look"

Where is it: Put the flashcards on different corners of the classroom, and play the song, the teacher presses pause when singing the target vocabulary, students have to run to where the target vocabulary flashcard is and touch it.

2.3 Research Instruments Design

Eight lesson plans and a vocabulary test as the research instruments were designed, which are describe on page 21.

Stage 3. Development

This experiment should have been piloted first, but there were only two K1 classes at this school both participated in this experiment. The researcher considered involving students from other grades in the pilot test, but their basic Chinese knowledge and classroom performance varied so much that it was not informative. So the researcher found three experts, including two university lecturers and one Chinese language director from the kindergarten participating in the research to evaluate the research instruments and give recommendations. The experts all have more than five years of experience teaching Chinese, two of them are native speakers and one is Thai, all of them are experts in linguistics and Chinese language teaching.

Stage 4. Implementation

The researcher designed two sets of Chinese lesson plans with target vocabulary as the teaching content, one using play-based learning through songs would be conducted in group A and one using a traditional teaching method would be conducted in group B. There was no difference except whether using play-based learning through songs or not. The experiment lasted for one week from June 6, 2022, to June 10, 2022 at Double Trees International School Ratchaphruek Campus. Two new students transferred to the experimental group in the middle of the experiment but did not participate the research, and samples had not included them.



Figure 3.2 Implementing the experiment on the experimental group



Figure 3.3 Implementing the experiment on the control group

Stage 5. Evaluation

The researchers organized same vocabulary test for both groups of students after the experiment and compared the results of the two groups. Students were required to answer the vocabulary questions based on the images one by one and to connect the Chinese characters to the corresponding images with a line. The data obtained were then analyzed for mean, mean difference, standard deviation, t-test, and significance using the SPSS program to compare the differences in scores between the two groups on the post-test. In addition, at the end of each class, the teacher asked the students questions about the vocabulary they had learned based on the images. This was to review and evaluate the students' mastery of what they had learned.

3.3 Target Group

The target group was three to four year old K1 students from Double Trees International Kindergarten Ratchaphruek campus in Bangkok. The students were all Thai nationals with Thai as their native language, and there were children from bilingual backgrounds who did not participate in this study. There were 17 students in two classes, 10 boys and 7 girls. The two classes were Class A and Class B. Class A had 8 students and Class B had 9 students. All of them were Thai, they had a similar language background, and they were all beginners in Chinese at the same level. The mean scores of the final exams in the second semester of the 2021-2022 school year showed no differences between these two classes of students, so they were selected for this study. According to their class, the students were divided into two groups, Group A and Group B. Group A was selected as the experimental group because an even number of students made it easier to conduct class activities, and group B was the control group. The two study groups were kept in their existing classrooms to ensure that the children remained in a relatively safe and familiar environment.

3.4 Research Instruments

The research instruments in this study included lesson plans and a post-test, as shown in the Table 3.1. A teaching method of Play-based Learning through songs was designed, students had to learn the Chinese vocabulary through this method. After the experiment, students were tested to get data.

Table 3.1 Research Instruments

Research questions	Purposes	Instruments	Data sources	Data analyses
1. How to design a teaching method of Play-based Learning through songs to improve Chinese vocabulary acquisition of kindergarten students in Thailand?	(1) To assist in obtaining quantitative data for the Chinese vocabulary test. (2) To support in analyzing the design process of an effective teaching method.	Lesson Plans	The analyses of Theories & Experts' evaluation scores	Content analysis
2. To what extent does Play-based Learning through songs help kindergarten students improve Chinese vocabulary acquisition in Thailand?	(1) To assess students' Chinese vocabulary acquisition. (2) To help with the analysis of the assessment, confirm the quantitative data, and explain how Play-based Learning through songs can enhance Chinese vocabulary acquisition.	Post-test (Chinese vocabulary test)	Post-test scores	Descriptive statistics (mean, SD) and t-test

1. Lesson Plans

The following Table 3.2 shows the researcher's lesson plans for play-based learning through songs designed according to the ADDIE Model. It mainly includes teaching format, teaching content, teaching objectives, teaching time schedule and teaching evaluation. Lesson plans validation was administered by three experts. Lesson plans were designed to answer the research question 1. *How to design a teaching method of Play-based Learning through songs to improve Chinese vocabulary acquisition of kindergarten students in Thailand?*

Table 3.2 Lesson Plans

Title	Teaching 10 common Chinese verbs by using play-based learning through songs
Lesson Format	Onsite
Students	8 students, 3-4 years old, K1 of Double Trees International School Ratchaphruek Campus
Chinese Level	Chinese beginners who have mastered the theme vocabulary of colors, fruits, facial features, and the body.
Target Vocabulary	看 (see), 听 (hear), 吃 (eat), 喝 (drink), 闻 (smell), 摸 (touch), 走 (walk), 跳 (jump), 跑 (run), 停 (stop).
Songs	Five Sense Motion Song (Adaptation) Baby Shark (Adaptation)
Material	flashcards (with picture and character) flashcards (only with character)
Teaching Time	8*30+2*30=300min From June 6 to June 10, the first four days were conducted for 30 minutes in the morning and 30 minutes in the afternoon each day to organize the teaching. The fifth day was 30 minutes in the morning and 30 minutes in the afternoon for the test.
Objective	1. Students will be able to understand the meaning of these ten verbs and be able to say the vocabulary accurately according to the pictures and pronounce them clearly. 2. Students can identify the Chinese characters of this ten vocabulary.
Rewarding System	Positive Reinforcement: To increase student participation in the classroom, stickers are awarded to students who perform positively.
Teaching Process	Lesson 1 (30min): 看 (see), 听 (hear), 吃 (eat), 闻 (smell), 摸 (touch)

Title	Teaching 10 common Chinese verbs by using play-based learning through songs
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1. Review the vocabulary: eye, ear, nose, and mouth. The teacher points to her facial features and asks: What is this, and let the students say the corresponding Chinese aloud. (5min)
2. Introduce the song "Five Senses", and let the students sing along with the corresponding actions. (5min)
3. Take out flashcards (with picture and vocabulary) and explain to students what the words "看, 听, 吃, 闻 and 摸" mean in the lyrics, and ask them to repeat and correct their pronunciation. (5min)
4. Continue to play song three times and let students sing along with the song and move freely. (5min)
5. Activity- Continue to Sing, students are divided into groups of boys and girls. The boys sing the first half of the phrase "Eyes... Nose..." The girls sing the second half of the phrase "Look... Listen..." and then switch. Then the students will be divided into groups on the left side of the classroom and groups on the right side of the classroom according to their seats, and continue the activity. (10min)

Lesson 2 (30min): 看 (see), 听 (hear), 吃 (eat), 闻 (smell), 摸 (touch)

1. Play the song "Five senses" and let everyone do the movements with the song as a review. (5min)
 2. Turn off the music and let students sing the song once, then take out the flashcards (with picture and vocabulary) and let them read along and correct their pronunciation. (5min)
 3. Activity- You sing I do, first the teacher sings and the students do the action together, and the teacher corrects. Then divide the students into four groups according to the number of students, and stand in front of the classroom in groups of two, one student sings, one student does the action,
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Title	Teaching 10 common Chinese verbs by using play-based learning through songs
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and the other students observe whether the student doing the action is correct, and if there is a mistake, point it out and demonstrate the correct action. (20min)

Lesson 3 (30min): 看 (see), 听 (hear), 吃 (eat), 闻 (smell), 摸 (touch)

1. Sing the song “Five senses” together once, then the teacher will take out flashcards (with picture and vocabulary) and explain the vocabulary, then put the flashcards on the whiteboard for display. (10min)

2. Activity- Who has it, give the flashcards (only with character) to students, one for each student, some students will get the same flashcard, then play the song “Five senses”, when the target vocabulary is sung, the teacher presses pause, the students who get the target vocabulary flashcard should stand up quickly and say the vocabulary out loud. (15min)

3. Activity- Where is it, put four flashcards (only with character) of different vocabulary in the four corners of the classroom, and play the song “Five senses”, when the target vocabulary is sung, the teacher presses pause and students run to the corner where the target vocabulary flashcard is and touch it. (15min)

Lesson 4 (30min): 看 (see), 听 (hear), 吃 (eat), 闻 (smell), 摸 (touch), 喝 (drink)

1. Review the vocabulary "看, 听, 吃, 闻, 摸", show the flashcards (with picture and vocabulary) and ask students to answer together what is this. Show the new flashcard "喝", take out a bottle of water and make the action of drinking to explain the vocabulary, let the students read along and correct their pronunciation. (10min)

2. Introduce the song "Baby Shark", students sing it together once, then the teacher replaces the lyrics with "眼睛, 看看看... 耳朵, 听听

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听... 嘴巴, 喝喝喝..." Slow down the tempo, repeat the song over and over again, then play the accompaniment, put the flashcards on the whiteboard, and sing the corresponding lyrics when the teacher points to the flashcard. (10min)

3. Activity- Where is it, put five flashcards with different vocabulary (with picture and vocabulary) in five different places in the classroom, the teacher will sing an adapted version of "Baby Shark" and when the target vocabulary is sung, students will run to the location of the flashcard and touch it. (10min)

Lesson 5 (30min): 走 (walk), 跳 (jump), 跑 (run), 停 (stop)

1. Review the vocabulary "看, 听, 吃, 闻, 摸, 喝", show the flashcards (with picture and vocabulary) and ask the students what is this, then let them say the corresponding Chinese aloud. (5min)

2. Introduce the song "Motion Song", drive the students to sing along with the corresponding actions, and play the song twice here. (5min)

3. Take out flashcards (with picture and vocabulary) and explain to students what the vocabulary "走, 跳, 跑, 停" means in the lyrics, and have them repeat and correct their pronunciation. (5min)

4. Continue to play the song three times and let students sing along with the song and move freely. (5min)

5. Activity- Follow the song, the teacher and students form a circle, play the song and follow the song to move in a clockwise direction. (10min)

Lesson 6 (30min): 走 (walk), 跳 (jump), 跑 (run), 停 (stop)

1. Play the song "Motion Song", let everyone follow the song to do the action as a review. (5min)

Title	Teaching 10 common Chinese verbs by using play-based learning through songs
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2. Turn off the music and have students sing the song once, then take out the flashcards (with picture and vocabulary) and let them read along and correct their pronunciation. (5min)

3. Activity- You sing I do, the teacher will disrupt the order of the lyrics, let the students follow what the teacher sings and do the actions, then ask one student to be the teacher, he will sing and the other students will follow the actions. Finally, divide the students into four groups, and stand in front of the classroom in groups of two, one student sings, one student does the action, and the other students observe whether the students who do the action are correct, and point out if they are wrong, and demonstrate the correct action. (20min)

Lesson 7 (30min): 走 (walk), 跳 (jump), 跑 (run), 停 (stop)

1. Sing the song “Motion Song” together once, then the teacher takes out the flashcards (with picture and vocabulary) to explain the vocabulary, and post the flashcards (only with character) on the whiteboard to show them. (10min)

2. Play the song “Motion Song” and when the target vocabulary is sung, the teacher presses pause and the students point out the target vocabulary flashcards among the four flashcards (only with character) and say the vocabulary aloud. (15min)

3. Activity- Where is it, put four flashcards (only with character) with different vocabulary characters in the four corners of the classroom, play the song “Motion Song”, when the target vocabulary is sung, the teacher presses pause, and students run to the corner where the target vocabulary flashcard is and it. (15min)

Title	Teaching 10 common Chinese verbs by using play-based learning through songs
Evaluation and Assessment	<p>Lesson 8 (30min): 看 (see), 听 (hear), 吃 (eat), 闻 (smell), 摸 (touch), 喝 (drink), 走 (walk), 跳 (jump), 跑 (run), 停 (stop)</p> <ol style="list-style-type: none"> 1. Review all the target vocabulary and answer what it is based on the flashcards (with picture and vocabulary) and flashcards (only with character). (5min) 2. Play the songs “Five senses” and “Motion Song”, sing along with them, then the teacher sings the first half of the phrase "Baby Shark" and let the students sing the second half of the phrase according to the flashcards the teacher shows. (5min) 3. Activity- Roll call sing, post all the flashcards (only with character) on the whiteboard, the teacher sings the students' names with the "Baby Shark" melody, then points to a target vocabulary flashcard and the student who is called sings the vocabulary with the "Baby Shark" melody. (10min) 4. Activity-who has it, give the flashcards (only with character) to the students, one for each student, and then the teacher sings the target vocabulary in the melody of "Baby Shark" at random, and when the target vocabulary is sung, whoever has the target vocabulary flashcard should stand up quickly and say the vocabulary aloud. (10min)
	<ol style="list-style-type: none"> 1. Observe whether students actively participate in classroom activities. 2. Ask students questions before the end of each lesson.



Figure 3.4 Flashcards (with picture and vocabulary)



Figure 3.5 Flashcards (only with character)

2. Validation of the Lesson Plans

Content validity and construct validity were assessed by three experts, including two university lecturers and one Chinese language director from the kindergarten participating in the research using a five-score rating scale Evaluation Form (5=most relevant/connected/appropriate, 4=very, 3=somewhat, 2=fairly, 1=least). The experts all have more than five years of experience teaching Chinese, two of them are native speakers and one is Thai, all of them are experts in linguistics and Chinese language teaching. Mean scores were generated based on the results. The elements that did not achieve a score of 3.50 were revised according to the recommendations of the experts. (See Appendix D for the experts' validation of Lesson Plans)

The overall content and construct validity was 4.71, indicating that lesson plans were appropriate for the students. Although every item received a score greater than 3.5, one of the flashcards depicting "stop (停)" and the gesture used in it was replaced based on the opinions and suggestions of the experts since the original image was ambiguous and the replacement image was more suited for Chinese usage. And an evaluation and assessment method were added. The revised and adjusted items are shown in Table 3.3.

Table 3.3 Revised and Adjusted Version of Lesson Plans

No.	Original Items	Revised and Adjusted Items
Flashcards		
7.1	Observe whether students actively participate in classroom activities.	<ol style="list-style-type: none"> 1. Observe whether students actively participate in classroom activities. 2. Ask students questions before the end of each lesson.

3. Chinese Vocabulary Test

In order to test to what extent Play-based Learning through songs help kindergarten students improve Chinese vocabulary acquisition in kindergartens, students were tested after learning. The test is divided into two parts. The first part is a speaking test where students say the words represented by the pictures according to the flashcards. The second part is a Chinese character matching test where students connect the pictures with the corresponding vocabulary characters. Students in the experimental and control groups tested exactly the same content.

Part 1: Speaking Test

Speaking test adopted a one-to-one approach. The researcher showed the students 10 target vocabulary flashcards “看 (see), 听 (hear), 吃 (eat), 闻 (smell), 摸 (touch), 喝 (drink), 走 (walk), 跳 (jump), 跑 (run), 停 (stop)” in sequence and they had to answer the question “他/她在做什么? (what is he/she doing?)” according to the picture on each flashcard. The test rubric is cited from Lin (2019), where a vocabulary word full is 5 scores, for a total of 50 scores.



Figure 3.6 Chinese vocabulary speaking test

Table 3.4 Rubric score for the Chinese vocabulary speaking test

Standard	Scores
Autonomous answer, correct, accurate pronunciation	5
Autonomous answer, correct, a little deviation in pronunciation	4
According to the prompts, correct, the pronunciation is accurate or a little deviation	3
Unable to answer independently, follow speak, pronunciation accurately	2
Unable to answer independently, follow speak, pronunciation is not accurate	1

Note. Cited from Lin (2019)

Part 2: Matching Test (Chinese vocabulary test for characters)

The matching test uses the Connecting Worksheet, which students are usually familiar with and helps them to respond quickly. There are 10 items, and students have to connect the pictures with the corresponding vocabulary characters, and each item is worth 5 scores, totaling 50 scores. To help students perform properly, the matching test uses pictures and fonts that they are familiar with. The matching test takes no more than 10 minutes.

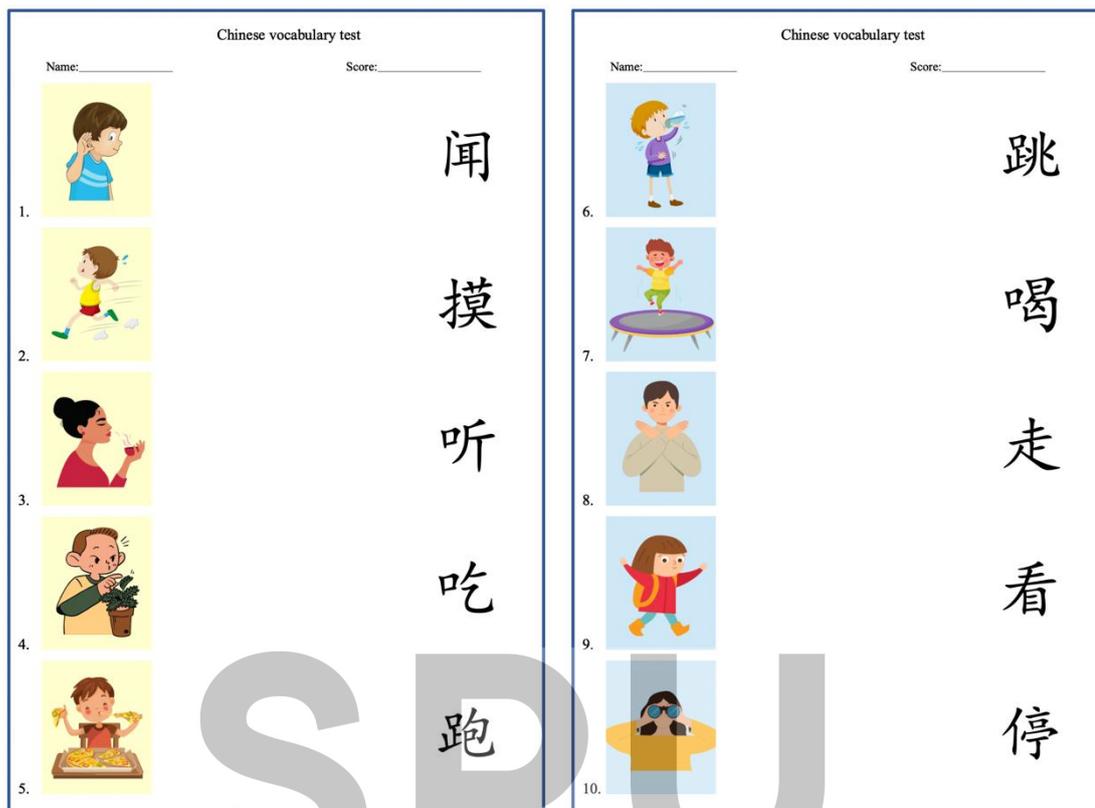


Figure 3.7 Chinese vocabulary test for characters

4. Validation of the Chinese Vocabulary Test

Content validity and construct validity were assessed by three experts, including two university lecturers and one Chinese language director from the kindergarten participating in the research using means of the Index of Item Objective Congruence (IOC) process (Rovinelli & Hambleton, 1977). The experts all have more than five years of experience teaching Chinese, two of them are native speakers and one is Thai, all of them are experts in linguistics and Chinese language teaching. A three-point rating scale Evaluation form, -1 = Incongruent, 0 = Questionable, and 1 = Congruent, was provided to the experts. Mean scores were generated based on the results. The items which did not achieve the score between 0.50 and 1.00 were revised according to the recommendations of the experts. (See Appendix E for the experts' validation of Post-test)

The overall content and construct validity was 0.89 which indicated that the test content was suitable for the students, the test items and choices were appropriate for the students and could measure students' Chinese vocabulary acquisition. Only Items 11 and 25 were lower than 0.50, both of which were inaccurate representations of "stop (停)" images. The revised and

adjusted items are shown in Table 3.3 Revised and Adjusted Version of Lesson Plans, while the other items were not adjusted.

3.5 Data Collection Procedures

1. The researcher designed the research instruments, i.e., lesson plans and a Chinese vocabulary test, and verified the validity of the instruments. Lesson plans was submitted to three experts to assess content validity by using a five-score rating scale Evaluation Form, and test items were used the Index of Item-Objective Congruence (IOC) measurement.

2. From June 6, 2022, to June 10, 2022 at Double Trees International School Ratchaphruek Campus, the experimental group and the control group conducted the experiment simultaneously. The experiment lasted for a total of five days, with teaching conducted on the first four days and testing of the experimental results on the fifth day.

3. The researcher obtained the test results and compared the results of the two experimental groups for analysis.

3.6 Data Analysis

Data analysis is the process of making sense out of data, and involves consolidating, reducing, and interpreting what people have said and what the researcher has seen and read (Merriam, 2009). Data analysis for this study was analyzed using descriptive statistics, mean, SD, t-test, and significance to compare the differences in scores between the two groups on the post-test.

CHAPTER 4

RESULTS

The objectives of this research were: 1) To investigate how to design an effective teaching method of Play-based Learning through songs to improve Chinese vocabulary acquisition of kindergarten students in Thailand, and 2) To investigate the effectiveness of Play-based Learning through songs to improve Chinese vocabulary acquisition of kindergarten students in Thailand.

The results of the data collected using the experimental group and the control group post-test designs after the deployment of play-based learning through songs are revealed in this chapter. SPSS was used to examine the quantitative data from the Chinese vocabulary speaking test and matching test. To compare the differences in post-test scores between the experimental group and the control group, quantitative data were analyzed using the mean, mean difference, standard deviation, t-test, and significance. The results were then presented in accordance with the two main research questions as outlined below.

4.1 Part 1 Results of Research Objective 1

To investigate how to design an effective teaching method of Play-based Learning through songs to improve Chinese vocabulary acquisition of kindergarten students in Thailand.

To achieve this objective, the researcher studied many previous studies, analyzed the theories from the research, and finally adapted them to get an own set of teaching steps. Based on these steps the researcher designed a teaching method to improve Chinese vocabulary acquisition using play-based learning through songs, and then refined it according to the evaluation and suggestions of three experts. Finally, lesson plans were designed to demonstrate the teaching steps as follows.

The first step needed to determine the teaching content, which is the target vocabulary, select appropriate songs based on the vocabulary, and design the relevant play activities. The target students in present study had mastered the theme vocabulary of fruits, five senses, and body, so 10 common verbs "看 (see), 听 (hear), 吃 (eat), 喝 (drink), 闻 (smell), 摸 (touch), 走 (walk), 跳 (jump), 跑 (run), and 停 (stop)" were chosen to expand their vocabulary. The three selected

songs were Five Senses, Motion Song (Adaptation) and Baby Shark (Adaptation), all of which had the light melody and the moderate speed, and the lyrics were closely related to the target vocabulary. Then, combining theories and experiences, the researcher designed six play activities incorporating the songs: Roll call sing, Follow the song, who has it, Continue to sing, You sing I do & Where is it.

The second step was coming to the formal teaching process, normally was to start a lesson with a review. In the first lesson, theme nouns related to the target vocabulary, such as eyes, nose, and mouth, are reviewed. The subsequent lessons focus on reviewing what was learned in the previous lesson. Review is a very important step, not only to strengthen memory, but also the known learning content is more likely to help students get into the learning mode. As a general rule, the time spent on this step is limited to 5 minutes or less.

Thirdly step, play the song. The song is played three times, the first time for students to listen and the teacher to dance along with the music, the second time, the teacher drives students to dance along with the music, the third time, still with students singing and dancing at the same time, some students can softly sing along. This step typically lasts no longer than 5 minutes and serves primarily to familiarize students with the song and liven up the classroom atmosphere.

Next step, take out the target vocabulary flashcards with the images. Explain the meaning of the vocabulary words one by one and have students follow along and correct their pronunciation. Be careful to make sure that each student knows the meaning of the vocabulary and repeats the vocabulary aloud. When showing the flashcards, adding body movements can help students remember. This step takes 5 minutes.

Fifth step is to conduct the activity, which is play-based learning through songs. Before doing the activity, make sure to do a demonstration to ensure that students can understand it so that the activity can run smoothly. And set up a positive reinforcement, such as giving students who are active a sticker to put on their own display with their name on it, or verbal praise as well. This step is usually taken 15 to 20 minutes.

As a final step, spend one or two minutes assessing whether students have mastered what they have learned. Take out the flashcards and ask students for the vocabulary shown in the pictures and have them respond in unison or ask students who are not particularly active in the

classroom to respond individually. This process helps students review and serves as a good reinforcement.

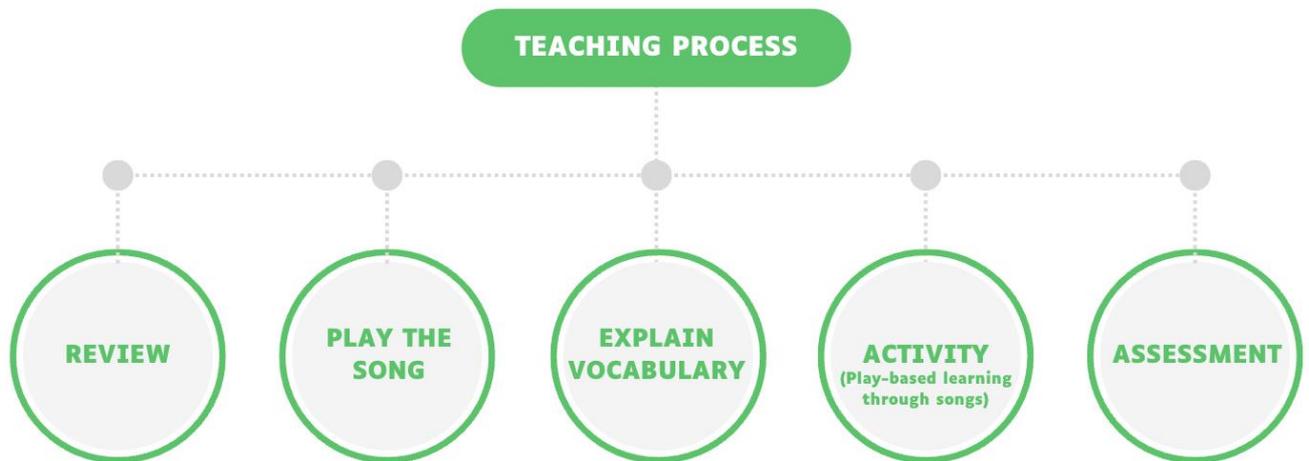


Figure 4.1 Teaching Steps for Learning New Content

The above are the teaching steps for learning new content as in Figure 4.1. Sometimes the whole lesson is a review of the previous content to strengthen the learning, so there may be two play activities, then the teaching steps will also be adjusted to Figure 4.2: Review, Activity 1, Activity 2, Assessment.



Figure 4.2 Teaching Steps for Review

4.2 Part 2 Results of Research Objective 2

To investigate the effectiveness of Play-based Learning through songs to improve Chinese vocabulary acquisition of kindergarten students in Thailand.

This question aimed to investigate the effects of Play-based Learning through songs on students' Chinese vocabulary acquisition. The hypothesis for this question was that the use of Play-based Learning through songs would enhance students' Chinese vocabulary acquisition. This hypothesis was accepted, as demonstrated in Figure 4.3 and Table 4.1. (a) the Chinese vocabulary speaking test and (b) the Chinese character matching test were the two study instruments utilized for this question and objective. After implementation, the post-test scores of students' Chinese vocabulary acquisition test were analyzed using descriptive statistics (means /standard deviations) and the independent sample t-test.

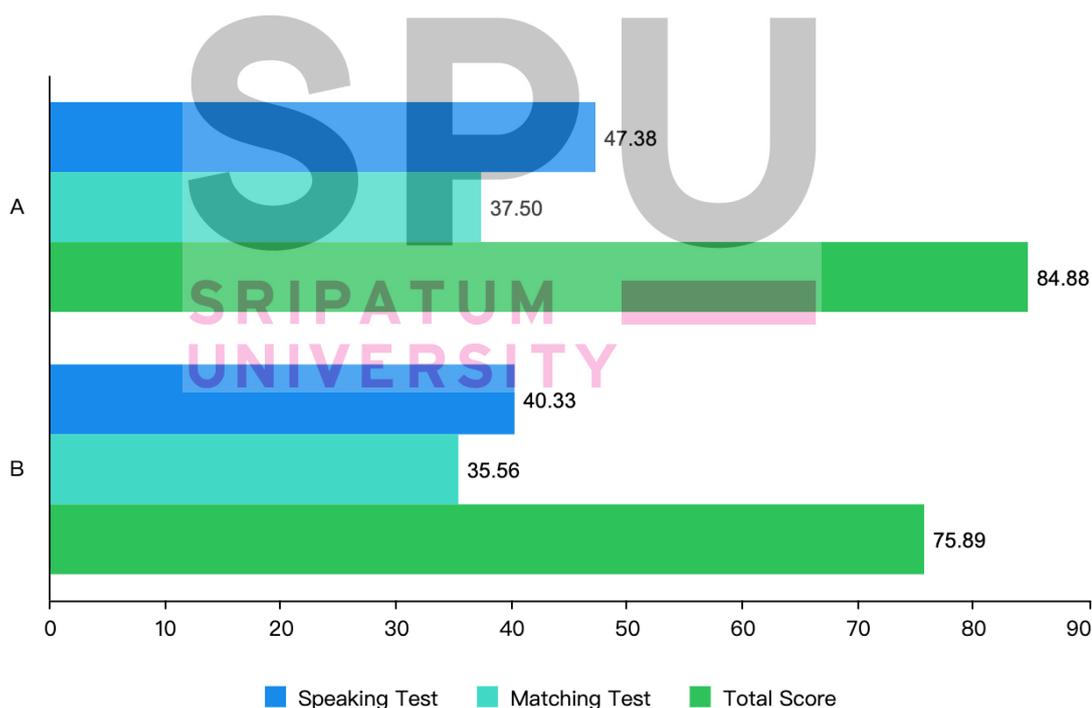


Figure 4.3 The Mean scores of Chinese vocabulary test

According to Figure 4.3, students in Group A (the experimental group) on the speaking test received a mean score of 47.38, whereas those in Group B (the control group) received a mean score of 40.33. It is clear that on the speaking test, students in the experimental group outperformed those in the control group. On the Chinese character matching test, the mean score

of Group A students was 37.50, which was marginally higher than the mean score of Group B students, which was 35.56; so this difference was not statistically significant. From the total score of 100 points, the mean score of group A was 84.88 and the mean score of group B was 75.89. Therefore, it may be inferred that the students whose curriculum incorporated play-based learning through songs had greater post-test scores for Chinese vocabulary acquisition than those who learnt using traditional methods.

Table 4.1 Results of Independent t-test

	Group	Score	N	Mean	S.D.	Mean Difference	t	Sig.
Speaking Test	A	50	8	47.38	2.39	7.04	4.384*	0.001
	B	50	9	40.33	3.94			
Matching Test	A	50	8	37.5	7.07	1.94	0.678	0.508
	B	50	9	35.56	4.64			
Total	A	100	8	84.88	8.41	8.99	2.223*	0.042
	B	100	9	75.89	8.24			

*p<0.05

As seen in Table 4.1, the t-test (also known as independent sample t-test) was used to investigate the differences between the two groups for Speaking Test, Matching Test, and Total Score, and it can be seen that the two groups do not show significance for Matching Test ($p>0.05$), indicating that the two groups do not differ for Matching Test. No difference exists in the Matching Test. In contrast, the two groups demonstrated significance for two items of Speaking Test, Total Score ($p<0.05$), indicating that there are differences between the two groups for Speaking Test, Total Score. Detailed analysis demonstrates that (1) Speaking Test results between the two groups were statistically significant at the 0.01 level ($t=4.384$, $p=0.001$), and the particular comparison difference indicates that the mean value of Group A (47.38) is considerably higher than the mean value of Group B (40.33). (2) Total Score was substantially different between the two groups at the 0.05 level of significance ($t=2.223$, $p=0.042$), and the difference in specific comparisons revealed that the mean of Group A (84.88) was significantly higher than the mean of Group B (75.89).

According to the findings of the Chinese character matching test, the experimental group's mean score (37.50) was only slightly higher than the control group's mean score (35.56), showing that there was no significance ($p > 0.05$) between the two groups. The researcher then investigated in more detail by interviewing two Chinese teachers and a teaching assistant regarding these results. (all of the interviews were translated)

*“**Researcher:** Based on my lesson plans and test results, what do you think caused the little difference in Chinese character matching test scores between the two groups?”*

***Colleague A:** Most of the activities in your lesson plans are designed to help children remember the pronunciation, whereas learning the characters takes up less time. And children enjoy songs, particularly Thai children who love to dance to songs, so if there is a song, their attention will readily follow the song and their visuals will pay little attention to the characters. As you are aware, Chinese characters are extremely complex, thus I believe that playing the song while learning Chinese characters may interfere their memory.”*

(Colleague who teaches K2, Interview, 20 June 2022)

*“**Researcher:** Based on my lesson plans and test results, what do you think caused the little difference in Chinese character matching test scores between the two groups?”*

***Colleague B:** Chinese characters are mainly learnt through reading and writing, and your students are definitely too young to write. So, it is inappropriate to begin learning Chinese characters at such a young age. Not until 6 years old are Chinese characters taught in China, right? If you must begin learning Chinese characters at such an early age, you will have to rely on visual memory, and I don't think that songs will be of much assistance. However, there is no combination of writing and reading to learn Chinese characters, that is only short-term memory and does not achieve long-term memory.”*

(Colleague who teaches K3, Interview, 20 June 2022)

*“**Researcher:** From your observations, what do you think caused the little difference in Chinese character matching test scores between the two groups?”*

***Teacher Assistant:** The biggest difference between the two classes in learning Chinese characters was the music. In one class you played the music, while in another you did not.*

Although you used different activities, I observed that the children in both classes were having fun and enjoying the activities, so maybe the playing helped them to remember the Chinese characters while the music helped them to remember the pronunciation.”

(Teacher Assistant of two research groups, Interview, 20 June 2022)

Combining the interviewees' and the researcher's own observations led to the conclusion that Chinese characters are learned primarily through visual and written; hence, through songs instruction has little effect on the learning Chinese characters. Play-based learning, however, can help students better memorize Chinese characters, and among the traditional methods of teaching early children is the gamification method, which has been applied by the researcher to the classroom instruction of the control group. Based on the communication between Teacher Sofea (Tai, Shah, Hashim, & Mustafa, 2021) and her children, it shows that play supports pre-literacy skills in the classroom. This has aligned well with Teacher Sofea's beliefs that the purpose of a play-based kindergarten program was to support literacy skills. Although different activities were devised, both research groups implemented different extent of gamified learning to assist students in mastering Chinese characters, which also led to a non-significance result in the mean scores of the two groups on the Chinese character matching test.

In summary, the implementation of play-based learning through songs could overall significantly enhance kindergarten students' vocabulary acquisition. When asked to answer vocabulary questions according to flashcards, students in the experimental group could do better than the control group. However, when it came to the matching test, there was no significant difference between the two groups. These results indicate that play-based learning through songs has been shown to improve early children's ability to speak Chinese vocabulary, but there is a discussion about its effectiveness in improving Chinese character recognition skill. Overall, the experimental group's Chinese vocabulary acquisition which conducted play-based learning through songs was superior to that of the control group through traditional method. This implies that incorporating play-based learning through songs into the curriculum is effective in improving students' Chinese vocabulary acquisition.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

The objectives of this research were: 1) To investigate how to design an effective teaching method of Play-based Learning through songs to improve Chinese vocabulary acquisition of kindergarten students in Thailand, and 2) To investigate the effectiveness of Play-based Learning through songs to improve Chinese vocabulary acquisition of kindergarten students in Thailand. Target group was used to select 17 students of two K1 classes from the Ratchaphruek campus of Double Trees International Kindergarten in Bangkok to participate in the experiment. The research instruments included lesson plans and a post-test, which contained a Chinese vocabulary speaking test and a Chinese character matching test on the post-test. After the experiment, post-test data collection is conducted. And quantitative data analysis was used by the mean, mean difference, standard deviation, t-test, and significance to compare the result differences in post-test between the experimental group and the control group.

This chapter concludes and discusses the present study into the effects of Play-based Learning through songs on Chinese vocabulary acquisition of Thailand kindergarten students. It is divided into four major sections: (1) Conclusions, (2) Discussions, (3) Limitations, and (4) Recommendations. Following is extensive information about each component.

5.1 Conclusions

This present study analyzed the Chinese vocabulary acquisition of Thai kindergarten students using play-based learning through songs to investigate how to design an effective teaching method to stimulate students' learning initiatives, enliven the classroom atmosphere, and improve students' Chinese vocabulary acquisition, and to what extent this play-based learning through songs instruction has improved kindergarten students' Chinese vocabulary acquisition.

Play-based learning through songs is a teaching instruction that combines play and songs. This teaching instruction used play to increase the fun of language learning and improved students' classroom learning attention through songs. The study also used pictures and body

language to explain the meaning of vocabulary, which facilitated students' understanding and also exercised body coordination.

First of all, a teaching method of play-based learning through songs was designed, along with the use of flashcards and body language in the teaching process, which in this study was demonstrated through lesson plans. During the implementation of lesson plans, it was found that the kindergarten students were more actively involved in the play-based learning through songs class than in the traditional teaching activities. The students kept singing loudly along with the songs while playing, even when the music stopped, they would continue to sing the song and accompanied by body movements. This is a good indication that the play-based learning through songs instruction was enjoyed by the students and the classroom atmosphere was enthusiastic.

Secondly, an experiment was conducted to teach Chinese vocabulary by dividing the students into an experimental group and a control group, in which the experimental group was used the play-based learning through songs instruction and the control group was used the traditional teaching method. Then, a Chinese vocabulary test was organized at the end of the experiment to compare the test results of the two groups. The mean score of the experimental group was 84.88, while the mean score of the control group was 75.50, which indicated that the play-based learning through songs substantially enhanced the students' Chinese vocabulary acquisition.

The findings of the Chinese vocabulary test revealed that play-based learning through songs is an effective teaching method that has a significant effect on stimulating children's interest in learning Chinese, increasing their self-confidence in learning Chinese, enlivening the classroom atmosphere, and improving their Chinese vocabulary acquisition, and it can be suggested for usage in early childhood settings.

5.2 Discussions

From the results of the study, when students were asked to answer vocabulary questions with images, students in the experimental group could do better than the control group. However, when it came to the matching test, there was no significant difference between the two groups. This may indicate that play-based learning through songs can improve kindergarten students' vocabulary rather than their Chinese character recognition skills. Based on the results of

the vocabulary test, it also improves their ability to listen and speak. This should be due to the fact that the students were exposed to the songs and the vocabulary in the songs mainly through listening.

Academics advocate that vocabulary instruction for young children is enlightening and emphasizes the fun aspect of teaching. Lin (2015) argued that young children acquire vocabulary primarily by listening, with reading and writing taking a back seat, and her experimental results showed that the use of perceptual presentation was the most effective in acquiring Chinese vocabulary for young students.

Play-based learning through songs refers to the combination of play and learning, and learning through play and songs. This instruction emphasizes the acquisition of freedom, enjoyment, experience, and knowledge in song and play instruction, and Liu (2019) also mentioned in her research that designing and implementing interesting play situations in each activity can engage children's minds in play and encourage their individual expression. After one week of the play-based learning through songs implementation, based on the statistical results of the Chinese vocabulary test, it can be interpreted and concluded that this instruction (play-based learning through songs) was effective in improving students' Chinese vocabulary acquisition.

In designing the playing activities, the researcher adhered to the "multi-sensory linkage" strategy mentioned by Wang (2020) in her work on the gamification strategy of kindergarten song teaching. By guiding children to consciously listen, look, sing, and move during the activities, we stimulate the sensory senses such as hearing, seeing, touching, smelling, and kinesthetic senses, forming a multi-sensory and multi-channel combination to feel, appreciate, express, and create songs, thus increasing the enthusiasm for participating in the activities and developing multiple intelligences such as good listening habits, observation skills, and expression skills.

Improving Chinese vocabulary acquisition by using play-based learning through songs is indeed meaningful, mainly because of the following points:

First, the students' motivation to learn Chinese has increased by using play-based learning through songs, and they are more motivated to learn Chinese. The students in the experimental class asked the teacher in every class what song we were going to learn, were extremely enthusiastic about the activity. They often unintentionally sang Chinese children's songs

after class, expressing their fondness for songs. Murphey (1987) stated that an interest in music and related movement was a strong motivator for language learning.

Second, by using play-based learning through songs, the students were able to remember the Chinese vocabulary in the lyrics more deeply and for a longer amount of time. McElhinney and Annett (1996) examined the effect of music on recall of verbal material using non-familiar tunes and lyrics. Results showed that using song to aid recall was effective. The researcher asked the same Chinese vocabulary in both experimental and control groups, but received vastly different responses. When the researcher asked the students in the control group about the vocabulary during the review session at the beginning of the class, the most of them took a few moments to recall it, and a few were unable to respond at all. However, when the researcher went to the experimental class, the students immediately began singing along with the music.

Third, the difference in classroom atmosphere between the experimental group using play-based learning through songs and the control group using the traditional teaching method was obvious, with the experimental group having a more relaxed and active atmosphere. The researcher taught kindergarten K1 students, who prefer playing and singing to learning. Using play-based learning through songs to teach Chinese vocabulary can induce them to learn unconsciously, and they can also get the exercise of limb coordination, inner pleasure and creative satisfaction during the playing. Meanwhile, in Pei Shen Mei's (2020) study, it was found that most of the teachers who had used the play-based teaching method believed that the playing could liven up the classroom learning atmosphere and make students acquire new knowledge in a relaxed and enjoyable atmosphere.

The present study was generally successful, because listening and speaking are the skills that early children usually develop first (Indrayani, 2016), and also are the basis for learning Chinese characters. Because if they don't know what the meaning of the words they see is, they can't match them to images. And play-based learning through songs can be exactly what is needed to effectively improve kindergarten students' ability to listen and speak Chinese vocabulary. This instruction not only caters to the active nature of early children and solves the challenge of early children's inattentiveness, but also successfully encourages students' learning initiative. Play-based Learning through songs stimulates effective vocabulary learning in early learners' settings and can be recommended for implementation in classrooms involving early learners.

Recently, the teaching of Chinese to young children in Thailand has been developing rapidly, but there are still many elements of the current research that need to be supplemented. For example, there is no unified standard about the content of vocabulary acquisition for young children, and the specific teaching objectives and requirements for young children's vocabulary acquisition also need to be added. Secondly, scholars can also make their own suggestions about the teaching strategies for vocabulary acquisition in Chinese as a second language for young children. Considering the local educational philosophy and teaching situation in Thailand, there are very few practical research results. Therefore, the present study is based on the above theories and seeks to fill the gaps therein.

5.3 Limitations

One thing to note about conducting a play-based learning through songs experiment is that the data from the experiment is affected by the time and scale of the experiment. Typically, experimental investigations often take longer to produce results that are closer to the truth. The author's present experiment took only one week, and if the experiment could be extended to a longer duration, more realistic results would be obtained. In addition, the number of students participating in this experiment was limited, as just two classes of students for the comparison experiment and class sizes were modest. This may have affected the data's accuracy.

5.4 Recommendations

There are five suggestions for further research as follows:

1. The design of the instructional activities should combine the songs and playing to meet the comprehension ability of early children, and the activities should not be overly complicated, otherwise they will not be carried out effectively. In addition, we should focus on the enjoyment of the activities to mobilize students' enthusiasm, and more physical activities should be designed to get students moving so that children's bodies will constantly visualize the lyrics in the play-based learning through songs, and make learning enjoyable.

2. The songs selected should be upbeat, catchy, energetic, and relevant to the Chinese vocabulary being learned. If you choose to adapt a song, you should select one that students are

familiar with and love, so that they are more motivated. And the teacher can even invent their own songs or translate Thai songs to Chinese.

3. The teacher should speak Chinese throughout the entire process of teaching Chinese to early children. When explaining activities, it is optimal to have a teaching assistant accompany the demonstration to facilitate students' understanding and more comfortable participation in the activities.

4. When teaching vocabulary to early children (under 6 years old) in Chinese as a second language, it is better for kindergarten teachers not to introduce Chinese characters.

5. The number of students participating in the experiment should be increased and the duration of the experiment should be extended in order to obtain more accurate experimental data.



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APPENDICES
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Appendix A

Post-test Scores

Name	Group	Speaking Test	Written Test	Total
Rose	A	48	35	83
Jun	A	48	35	83
Ingfah	A	47	30	77
Great	A	50	45	95
Lily	A	50	50	100
Juju	A	45	40	85
Kirk	A	43	35	78
Nate	A	48	30	78
Tung	B	42	35	77
Akin	B	33	30	63
Ozone	B	38	35	73
Kin	B	40	35	75
Marvin	B	45	40	85
Aun	B	40	35	75
Serene	B	37	30	67
Dalynn	B	43	35	78
Elise	B	45	45	90

Appendix B

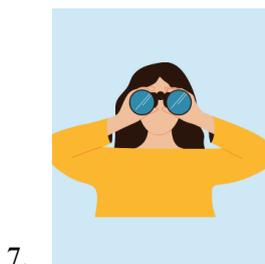
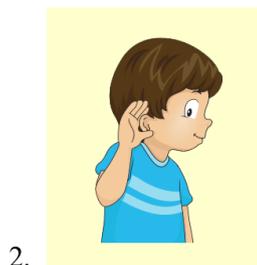
The Chinese vocabulary speaking test

Chinese vocabulary speaking test

Name: _____

Score: _____

Question: 他/她在做什么? What is he/she doing?



Appendix C

The Chinese character matching test

Chinese vocabulary test

Name: _____ Score: _____

1.		闻
2.		摸
3.		听
4.		吃
5.		跑

Chinese vocabulary test

Name: _____

Score: _____



跳

喝

走

看

停

Appendix D

Experts' Validation of Lesson Plans

No.	Items	Mean	Results
Elements of lesson plans (Overall)			
1	Lesson plans covers all the elements needed for teaching.	5.00	Accepted
2	The sequence of Lesson plans is appropriate.	5.00	Accepted
3	The elements of Lesson plans are related.	5.00	Accepted
Elements of lesson plan (Individual)			
4	Songs of Lesson plans are appropriate and innovative.	4.67	Accepted
5	1st song: Five Senses	5.00	Accepted
6	2nd song: Motion Song (Adaptation)	4.33	Accepted
7	3rd song: Baby Shark (Adaptation)	4.33	Accepted
8	The objectives are relevant to the research objectives	4.67	Accepted
9	The objectives are clear on what is intended to students' learning outcomes.	4.67	Accepted
10	The objectives are achievable.	4.33	Accepted
11	The content is relevant to the objectives and is achievable to the objectives set.	5.00	Accepted
12	Instructional materials are clearly set and prepared.	5.00	Accepted

No.	Items	Mean	Results
13	Time allotment for each activity is appropriate.	5.00	Accepted
14	The instructional procedure is appropriate.	4.67	Accepted
Each activity is set clearly and appropriately.			
15	Activity 1: Roll call sing	5.00	Accepted
16	Activity 2: Follow the song	5.00	Accepted
17	Activity 3: Who has it	5.00	Accepted
18	Activity 4: Continue to sing	3.67	Accepted
19	Activity 5: You sing I do	5.00	Accepted
20	Activity 6: Where is it	4.00	Accepted
21	Activities are relevant to play-based learning through songs	4.67	Accepted
22	Evaluation and assessment are appropriate.	4.67	Revised

Appendix E

Experts' Validation of Post-test

No.	Items	Mean	Results
1	Is the format of the test easy to follow?	1.00	Accepted
2	Is the test suitable for the students?	1.00	Accepted
3	Are the images selected appropriate?	0.67	Accepted
4	Is the rubric appropriate?	1.00	Accepted
5	Do the tests indicate students' acquisition of Chinese vocabulary?	1.00	Accepted
Passage I: Speaking Test			
6	Is the passage appropriate for the students?	1.00	Accepted
7	Is item 1 appropriate for the students?	1.00	Accepted
8	Is item 2 appropriate for the students?	1.00	Accepted
9	Is item 3 appropriate for the students?	0.67	Accepted
10	Is item 4 appropriate for the students?	1.00	Accepted
11	Is item 5 appropriate for the students?	0.00	Revised
12	Is item 6 appropriate for the students?	1.00	Accepted
13	Is item 7 appropriate for the students?	1.00	Accepted
14	Is item 8 appropriate for the students?	1.00	Accepted
15	Is item 9 appropriate for the students?	1.00	Accepted
16	Is item 10 appropriate for the students?	1.00	Accepted
Passage II: Written Test			
17	Is the passage appropriate for the students?	1.00	Accepted
18	Is item 1 appropriate for the students?	1.00	Accepted

No.	Items	Mean	Results
19	Is item 2 appropriate for the students?	1.00	Accepted
20	Is item 3 appropriate for the students?	1.00	Accepted
21	Is item 4 appropriate for the students?	1.00	Accepted
22	Is item 5 appropriate for the students?	1.00	Accepted
23	Is item 6 appropriate for the students?	1.00	Accepted
24	Is item 7 appropriate for the students?	1.00	Accepted
25	Is item 8 appropriate for the students?	0.00	Revised
26	Is item 9 appropriate for the students?	0.67	Accepted
27	Is item 10 appropriate for the students?	1.00	Accepted



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