

The use of Pictograph in Learning Chinese Characters of Grade Four Thai Students

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Abstract

This mixed-method study was used to explore the application of pictographs in the teaching of Chinese characters in the grade four students in Thailand. The two main purposes of this study were to compare students' learning achievements and explore their satisfaction with learning Chinese characters with pictographs. The study was conducted at a private school in Ayutthaya, Thailand. The study involved 22 grade four students for six weeks. Quantitative data was collected through achievement tests (pre-test and post-test). Qualitative data were collected from classroom observation and semi-structured interviews. The Wilcoxon sign rank test was used to analyze the scores before and after the analysis. 100% of the scores were positive rank, the positive average rank was 11.50, and the sign value was 0.000. The mean score of the post-test and pre-test was 16.27 and 7.14, with the mean difference was 9.13; this revealed that students'

learning achievement improved. The data from classroom observation and interviews also showed that students were satisfied with learning Chinese characters using pictographs. Therefore, it is highly recommended to use pictographs in learning Chinese characters for effective learning achievement and satisfaction.

Keywords: pictograph, Chinese character, learning achievement, satisfaction

1. Introduction

Through the development of economic globalization and cooperation, exchanges between China and various countries and regions in the world are becoming more frequent. For thousands of years, development in China has been constantly improving and growing, making china becoming the second largest economy in the world. More and more countries around the world now pay attention to it. Economic growth has provided opportunities for development of Chinese language, attracting many foreigners to learn Chinese, stirring up a spree of learning Chinese and at the same time to promote the development of diverse cultures and enhancing cultural soft power. At present, China is actively building Confucius institutes and Chinese International Promotion Base.

Thailand and China are close neighbors with the close economic exchanges between the two countries. Chinese language in Thailand has become more dramatically important. According to records, China and Thailand have started economic exchanges since more than 2,000 years ago, and there are a huge number of Chinese overseas nearly as one eighth of the total population in Thailand. They first set up private schools in Thailand to teach their children Chinese, and these schools gradually changed into Chinese schools in their later development. Wei (2015) mentioned that since the 1990s, Chinese language education has developed rapidly in Thailand. In 1999, the Thai government listed Chinese as an optional subject in the foreign language examination

of the college entrance examination. In 2000, the Ministry of Education of Thailand officially allowed the high schools to set up Chinese courses. A number of schools in Thailand, including colleges and public schools have started Chinese courses. Prior to 2008, most schools in Thailand had Chinese courses. In 2013, 1,524 institutions in Thailand offered Chinese courses and 863,056 people studied Chinese. Meanwhile, Thailand has also become one of the countries with the largest number of Confucius Institutes (Wen, 2014). Additionally, Wen (2014) mentions that it is known that today's Thai schools have begun to pay attention to Chinese teaching to various levels from kindergarten to university. Some schools are also specialized and hire Chinese teachers to teach Chinese. However, few Thai students can recognize, read and write Chinese characters.

According to Low, & Hew, & Wong (2014) Chinese Characters are one of the ancient languages in the world. The earliest known form was found on the “oracle bones” which was the earliest form of Chinese writing, dating back up to five millennia ago. The Chinese Characters use logographic to convey the meanings and sounds that indicate the meanings.

William (2012) shows that studying Chinese character is not easy for students. This is because Chinese characters are divided into two categories: sin-graph and alphabet-less language. On an average, a student with good language skills needs 1320 hours of teaching to reach level 2, compared with 450 hours for Latin. Li, (2014) mentioned that there are two reasons why Thai students make mistakes: The first point is regarding complex writing and phonetic-graphic of Chinese characters. The second point is an impact of Thai native language on students.

Xu (2008) explains three main problems existing in Chinese character teaching. On the one hand, separating Chinese character teaching from Chinese teaching is

independent of Chinese listening, speaking, reading, and writing skills training, therefore, Chinese characters are taught as a writing symbol. Moreover, some teachers equate the teaching of Chinese characters with the teaching of Chinese. In this kind of teaching, the teaching of Chinese characters depends on the content in the textbook and the internal rules of Chinese characters broken. Lastly, it is important to know how to help students understand the basic laws of forming Chinese characters and improve the writing ability of Chinese characters because teaching Chinese characters. This; however, has not received enough attention. Nevertheless, some pupils use pictographs to coordinate teaching in teaching Chinese as a foreign language and have achieved satisfactory results. Li, (2013) points out that pictograph is the most basic form of Chinese characters and it comes from pictures. We can use pictures and pictograph to teach Chinese characters. This method can improve students' learning efficiency and interest, and make students feel good about Chinese characters psychologically and further understand Chinese characters.

Qin (2016) believes that Pictograph has a simple structure, a few strokes, and strong character-building ability. Using word cards and multimedia to help to teach is conducive in helping young students to feel involved with Chinese characters. This reduces the difficulties in learning Chinese characters, strengthening memory, and giving a new understanding of Chinese characters.

Research shows that Chinese characters, especially basic ones also have the shadow of old pictographs (Li, 2013). There are characters, as well as pictures and symbols. They have strong pictographic characteristics. On the other hand, pictographic teaching can help students understand the source of Chinese characters and cut out the ambivalence caused by writing difficulties in Chinese characters. Moreover, it can also improve students' understanding and memory of Chinese characters.

Therefore, the objectives of this study were to compare the achievement in learning Chinese characters and examine the satisfaction of Thai primary school students through the use of pictographic in teaching Chinese as a foreign language. In addition, Thailand has a long history of Chinese education which reflects the difficulties and shortcomings of learning Chinese as a foreign language for foreign students. Thus, I hope this study may further help Thai students learn Chinese characters more effectively.

2. Research Objectives



1. To compare grade four Thai students' Chinese characters learning achievement before and after using pictograph.
2. To find out grade four Thai students' satisfaction with the use of pictographs in learning Chinese characters.




3. Literature Review

3.1 Pictograph

Xu (1963), A famous scholar of classics and philology in the Eastern Han dynasty pointed out that pictograph refers to Pictograph creation is not just a simple painting; it is through observation, according to the natural objects, the curved lines into simple words vividly represents the meaning of things. For example, the (sun) 日 and the (mountain) 山 are pictographs (see example2). In a nutshell, pictograph is the way things look, The Chinese characters we use today are derived from pictographic characters, which are among the oldest.

Example2

Sun:  →  → 日

Mountain:  →  →  → 山

According to Qin (2016), In 100 AD, Shen Xu (1963) first described pictograph in his dictionary “Shuo Wen Jie Zi” (说文解字). And divide it into five types.

(1) About nature: (Sun) 日 (Moon) 月 (Cloud) 云 (Water) 水 (Rain) 雨 (Field) 田 (Mountain) 山 (Soil) 土, etc.

(2) About the human body: (People) 人 (Big) 大 (Mouth) 口 (Heart) 心 (Eyebrow) 眉 (Female) 女 (Long) 长, etc.

(3) About animal: (Horse) 马 (Cow) 牛 (Sheep) 羊 (Fish) 鱼 (Turtle) 龟 (Bird) 鸟 (Mouse) 鼠 (Elephant) 象, etc.

(4) About tool: (Net) 网 (Umbrella) 伞 (Knife) 刀 (Car) 车 (Boat) 舟 (Kettle) 壶 (Spoon) 勺, etc.

(5) About plant: (Wood) 木 (Bamboo) 竹 (Fruit) 果 (Rice) 米 (Cereal crops), etc.

3.2 Classification of Chinese characters

According to (Li & Kang, 1993) Chinese characters have been divided into six categories: (1) pictograph (象形) (2) compound ideographs (会意), (3) ideographs (指

事), (4) phono-semantic compounds (形声), (5) derivative characters (转借), and (6) loan characters (假借).

The first type represents the basic principles of the formation of Chinese characters which are said to originate from pictures. The first two types of characters, pictograph, and compound ideographs are abstract representations of an actual object or an abstract indication of an idea. In detail, pictograph depicts a material object. Ideographs are composed of two or more pictographic components, using the meanings of their components to represent a new meaning. The last type of character, semantic-phonetic compounds, as indicated in the name, has a pictographic component that represents a meaning category and another component indicating the sound of the whole character.

3.3 Pictograph in Teaching

Teaching method- Chinese-Origin Teaching (字源识字)

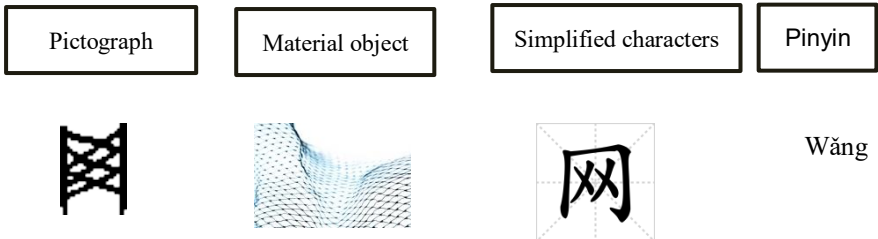
According to Chen (2013), Chinese-Origin Teaching means tracing the source and exploring the origin of things. According to the formation of pictographic characters, we can adapt the method of Chinese-Origin Teaching, which focuses on the exploration of the initial shape and evolution of Chinese characters to enable students to grasp the source of Chinese characters and have a preliminary impression of Chinese characters. Character-Origin Teaching includes three aspects:

- ① Showing the Origin: It is to show the initial form of Chinese characters to students so that students can understand the most specific image of Chinese characters.
- ② Showing the evolution of Pictograph: Showing the evolution from pictographic characters of Chinese characters, and to establish the concrete connections between them.

③ Combining the relation between form and meaning: The font of Chinese characters bears its meaning. The teacher should explain the meaning of Chinese characters in the process of study Chinese characters to help students deepen their understanding of Chinese characters.

Qin (2016) According to the Chinese Origin Teaching put forward some specific teaching methods.

① Pictures and Cards Method



For example, when teaching the word "net" 网, the teacher can follow the following steps:

Step 1: Using the word card to show the pictographic characters and let students guess what the pictographic symbol looks like.

Step 2: Showing the students pictures of fishing nets. Experience the evolution process from the material object picture of pictographic characters, and have a preliminary understanding of pictographic characters.

Step 3: Showing the modern Chinese character "net" and guide the students to compare the similarity between pictographic characters and Simplified Chinese characters.

Step 4: Teaching pinyin

3.4 The Role of Pictograph Character

Qin (2016) points out the two functions of pictographic teaching, namely the role of teachers and students.

1. Reducing the difficulty of learning Chinese characters

The differences between Chinese and Thai led to difficulties for Thai students in learning Chinese. Moreover, the structure of Chinese characters is complex, and there are many homophones and polyphonic characters increase the difficulty of learning. Therefore, teachers can teach hieroglyphs first, and then use pictograph to learn new Chinese characters, reducing the difficulty and pressure of students' learn.

2. Improving the efficiency of Chinese character teaching

Most pictographic characters are single characters and they are simple in structure and are the important foundation of all Chinese characters. Therefore, the use of pictographic in the teaching of Chinese characters, through vivid explanation, can improve the learning efficiency of students and consolidate the foundation.

3. Stimulating students' interest in learning

Using a traditional way to learning Chinese character can make students feel bored, so we can take an advantage of the rich imagination of young students to integrate pictographic characters and word CARDS into the teaching so that students can experience the fun of learning Chinese characters.

4. Training students' thinking ability in Chinese

Pictographic imitates the salient features of things and make the relationship between glyph and meaning close. Using this feature helps students to establish the relationship between the sound and meaning of Chinese characters and deepen their

understanding of words.

4. Methodology

A mixed method was used in this study. Quantitative data were collected from pre-test and post-test. Qualitative data were obtained from classroom observation and semi-structured interviews. The learning achievements (pre-test and post-test) were conducted to compare students' learning achievement before and after the treatment. The semi-structured interview and classroom observation were conducted to find out students' satisfaction with the use of pictographs to learn Chinese characters.

4.1 Research Participants

The population of the study was grade four students at a private school in Ayutthaya, Thailand. A purposive sampling was applied; involving 22 students (9 Male and 13 Female) grade four Thai students for the study. These students were within the age range of 9-11 years old with mixed abilities in the Chinese language.

4.2 Research Instruments

In this study, four instruments were used to collect the data. These are; three lesson plans, learning achievement tests (pre-test and post-test), semi-structured interviews, and classroom observation.

1. Three lesson plans: 50 minutes in each class, in a total of 300 minutes (1 Lesson plan = 2 Sessions), incorporating pictograph was used in the class. The researcher taught 6 sessions (1 session per week) in a duration of one and a half months.
2. Learning achievement test: The test was divided into two parts: pre-test and post-test with the same number of questions and the same standard. The test consisted of 24

questions; one point for each question. The test was composed of 12 Chinese characters.

3. Semi-structured interview: Semi-structured interview was conducted to collect qualitative data regarding student satisfaction. The researcher interviewed 22 grade four students, covering 8 questions.

4. Classroom observation: The classroom observation was carried out in three sessions (2th 4th 6th), and the qualitative data collected during classroom observation served as an important reference for the effectiveness of pictograph teaching.

4.3 Validity and Reliability

All research instruments were tested for validity and reliability before the study. The instruments used in this study were verified by experts (IOC) with the scored above 0.67, indicating that these instruments were valid for the study. To test the reliability of the achievement test, the researcher conducted a reliability test by using Kuder–Richardson Formula 20 (KR-20) with 50 grade four students who were not in the sample group. The measurement result was 0.74 which was greater than 0.7. This proved that the instrument used in this study was acceptable and reliable.

5. Results and findings

The Wilcoxon sign rank test was used for statistical analysis of learning achievement test. By comparisons of mean and standard deviation, the differences of student learning achievement in the pre-test and post-test were determined.

5.1 Data Analysis of Students' Learning Test

Table 1: Individual student' pre-test and post-test scores

Student Number	Pre-test Scores	Post-test Scores	Improvement of Scores
NO.1	7	12	+5
NO.2	8	20	+12
NO.3	6	18	+12
NO.4	7	22	+15
NO.5	2	14	+12
NO.6	3	14	+11
NO.7	13	20	+7
NO.8	9	17	+8
NO.9	14	20	+6
NO.10	5	22	+17
NO.11	6	18	+12
NO.12	14	19	+5
NO.13	3	10	+7
NO.14	9	20	+11
NO.15	10	19	+9
NO.16	7	12	+5
NO.17	0	3	+3
NO.18	10	19	+9
NO.19	8	14	+6
NO.20	4	17	+13
NO.21	5	15	+10

NO.22	7	13	+6
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The test consisted of 24 questions, with a total score of 24 points. Table 4.1 shows the test results of 22 students and all students improved their scores of different degrees, with scores ranging from 3-17 points. In the pre-test, the highest score of the students was 14 and the lowest score was 0 whereas in the post-test, the highest score of the students was 22 with the lowest score of 3. Among them, Student No.10 had the highest improvement (17 points).

Table 2: The comparisons of the Pre-test and post-test

Pre-test		Post-test		Mean Difference
Mean	SD	Mean	SD	
7.14	3.694	16.27	4.527	

As shown in Table 4.2, the pre-test mean score was 7.14 and the standard deviation was 3.694. In the post-test, the mean score was 16.27 and the standard deviation was 4.527. The mean difference was 9.13; in terms of mean difference students' scores were improved. This is further illustrated in Figure 1.

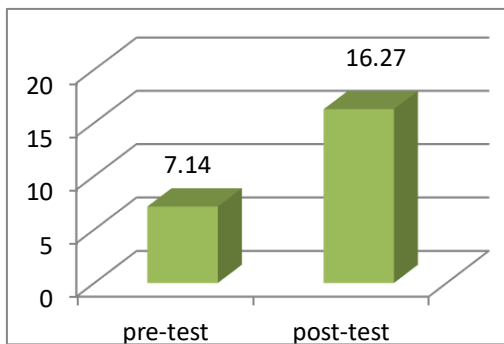


Figure 1: Comparison of pre-test and post-test Mean

Table 3: Wilcoxon signed-rank Test result

Rank of Wilcoxon		N	Mean of Rank	Sum of Rank	Sig
(Pre-test- Post-test)	Negative ranks	0 ^a	.00	.00	.000
	Positive ranks	22 ^b	11.50	253.00	
	Ties	0 ^c			
	Total	22			

- a. Posttest < Pretest
- b. Posttest > Pretest
- c. Pretest = Posttest

Wilcoxon's symbolic rank test was used to analyze the students' pre-test and post-test scores. The mean value, standard deviation (SD), and significance were compared. From the above table, it can be seen that the average score of pre-test and post-test was 7.14 and 16.27. Respectively, and the significance value is 0.000, lower than 0.05, which is statistically significant.

5.2 Data Analysis of Semi-structured interview

The interview was conducted at the end of the study, with 22 grade four students (9 males and 13 females), including 8 questions. To protect the privacy of study participants, they would be called by numbers (No.1 to No.22). Content analysis was used to analyze qualitative information from each participant's interview. Students' answers were recorded and translated into English and subsequently transcribed for data analysis.

Question 1: Did you like learning Chinese? How?

It was found that most participants enjoyed learning Chinese. The reasons included the following two aspects: First, many Chinese characters could be learned in the learning process and used in daily life and the future life. Secondly, the process of learning Chinese characters was simple and interesting and would not be boring.

Question 2: How did you find the learning process of this course interesting?

It was show that the majority of participants found learning Chinese interesting mainly for the following two reasons: first, the top reason for most students was that they were keen to participate in class activities and enjoy the feeling of games and competition. Secondly, after using pictographs in the teaching process, the learning difficulty was reduced and it became easy to understand. The addition of CARDS, picture, and pictograph enriched the classroom atmosphere.

Question 3: How did you feel about using word CARDS to explain pictograph?

It was found that all the respondents' feelings included the following two aspects:

1. Feeling interesting, the word CARDS to learn Chinese characters not only enriched the classroom but also attracted the attention of students.
2. Feeling easy, Chinese characters come from pictographic and have high similarity. So using them to study Chinese characters can deepen our memory, reduce the difficulty of learning."

Question 4: How did pictographic teaching make it easy to learn Chinese characters?

It was indicate that all the students thought that using pictographic to learn Chinese characters made learning easier. Chinese characters originated from pictures, and there is a high degree of similarity between pictures, pictographs, and Chinese characters. Therefore, students understood the evolution of Chinese characters by

learning pictographs, and this evolution process also helped students understand and learn Chinese characters better. Question 5: How did pictograph help you to remember Chinese character better?

It was point out that all the respondents believed that pictograph characters helped them remember Chinese characters better. The reasons included two aspects: first, the similarity between pictographic and Chinese characters, so pictograph could be used as an auxiliary means to help students establish the connection between pictures and Chinese characters. Secondly, the ability of younger students to remember pictures and figures was higher than that of Chinese characters.

Question 5: Have you improved your Chinese character writing ability after this course? How?

It was mean that most of the students believed that their ability to write Chinese characters had improved only a little because most students just improved their ability to remember the shape of Chinese characters during the learning process. They still made some mistakes when they wrote Chinese characters. In most cases, students wrote fewer or more strokes. Moreover, few students thought that their writing skills had improved a lot.

Question 6: Did you like to participate in class activities? Why?

It was found that all the interviewees expressed their like to participate in class activities with mainly two reasons: Classroom activities helped them learn more about Chinese characters including listening, speaking, reading, writing, and memory and enhance the interest in learning.

Question 8: Did you like to continue learning Chinese characters using pictographs? Why?

It was show that most of the students (20 students) were willing to continue using

pictographic to learn Chinese characters because it was fun, simple, and easy to understand. Only a small number of students (2 students) were unwilling to continue using pictographic to continue learning Chinese characters because they thought that pictograph would not be used in modern society. In short, the learning of pictograph increased the burden of memory.

5.3 Data Analysis of Classroom Observation

The classroom observation (CO) data were collected with a peer teacher, in three sessions (2nd, 4th, and 6th), including eight questions.

From the classroom observation:

- The students' participation and enthusiasm in the class were getting higher and higher in each session, and the number of students who asked and answered questions increased.
- The use of pictographic CARDS attracted students' attention, enriched the classroom content and improved the efficiency
- Finally, the use of pictographic CARDS was indeed helpful to students to learn Chinese characters.

However, through the observation, it was also found the use of pictographic was beneficial for students to memorize Chinese characters better but it did not help them write Chinese characters better. In other words, Thai students possessed some problems with writing, especially in strokes.

6. Discussions

The discussion was based on two research objectives:

6.1 Research Objective 1 – To compare grade four Thai students' Chinese character learning achievement before and after using pictographs.

The findings of this study showed that the use of pictographic increased students' scores on the achievement test. It also supported the findings by Shu (2015) which indicated that explaining the evolution between Chinese characters, old characters, and pictures, students better understood the strokes of Chinese characters and improved their writing skills and abilities. Low, Wong, Han, Kim, Jung and Yang (2008) also found that use pictographs were conducive to improving the efficiency of Chinese character learning.

Pictograph had a simple structure, a few strokes, and strong character-building ability. Using word cards and multimedia to help to teach was conducive in helping young students to feel involved with Chinese characters. This reduced the difficulties in learning Chinese characters, strengthening memory, and giving a new understanding of Chinese characters (Qin, 2016). Based on the pictograph, students saw the evolution of Chinese characters and found out the rules of forms of Chinese characters. This subsequently improved the overall identification and understanding of Chinese characters by foreign students (Liu, 2011).

The research results showed that all students (22 students) had increased in their post-test scores compared to their pre-test scores. Improvement scores were in a range from 3 points as the lowest to 17 points as the highest. In addition, students also said in the semi-structured interview that learning Chinese characters through a pictographic helped them improve their memory of Chinese characters. This finding corresponded to the findings by Lam (2011) who conducted a test on 192 random-sampled second

graders from 4 schools where this approach was adopted in the teaching of the characters. The result of his study showed that pictograph particularly was useful in helping learners to memorize how to write the character precisely.

6.2 Research Objective 2 – To find out grade four Thai students' satisfaction on the use of pictograph in learning Chinese characters.

In this research, the instruments used for the second objective of the study were semi-structured interviews and classroom observation. The interview results and the classroom observation results were complementary to each other. The results revealed that students had a positive view of using pictographic to learn Chinese characters. This was in line with the studies by Abraugh (2000) who claimed that learning satisfaction was developed because students enjoyed engaging in activities designed by courses.

The results of the interview showed that all the students actively participated in pictographic learning and found the classroom atmosphere interesting. This learning method helped the students to understand the origin and evolution of Chinese characters better, made them easier to learn and memorize Chinese characters, and reduced the difficulty of learning Chinese characters. According to Qin (2016), the interest was the best teacher in all work and the motivation for students to learn, it was; therefore, very important to cultivate students' interest by providing students a relaxing and happy atmosphere and promoting the efficiency of learning.

An important component of language acquisition is “comprehensible input” Therefore, the best way to do this is to provide “understandable input” in a good environment, including information that students want to hear (Ricardo, 2007). Krashen (1981) believes that learners can only improve their foreign language proficiency through “input hypothesis”, and “understandable input” is very important in the learning process. Therefore, in teaching Chinese as a foreign language, the traditional Chinese

character teaching method can only get relatively low “understandable input”, while the method of displaying the source of Chinese characters by using pictograph CARDS can help students improve their “understandable input”.

Regarding the interview responses, the students showed that pictographic CARDS helped them understand Chinese characters better. This finding was also supported by the Dual coding theory. Dual coding theory had its roots in the practical use of imagery as a memory aid 2500 years ago (Yates, 1966). According to an important principle of dual coding theory, using both language and vision to present information enhances memory. Knowledge could be explained graphically and this helped with the understanding of language. (Paivio, & Clark, 2006). The teaching method of using pictograph cards in this study was related to the evolution process of Chinese characters and clearly, it was conducive to attracting students' attention and development of learning interest. All in all, this helped the students improve their learning achievement and satisfaction as a whole.

7. Conclusion

This study showed that learning Chinese characters with pictograph improved students' scores in learning achievement test. The use of pictographic CARDS attracted students' attention, enhances the classroom atmosphere and cultivated their interest in learning. The use of pictographic characters made the students intuitively understand the evolution process of Chinese characters which was conducive to students' understanding and memory of Chinese characters better as well as long-term memory of Chinese characters.

However, the study was limited to only 22 students in grade 4 in Thailand. For further research, similar studies can be conducted on larger sample sizes and at different grade levels. The duration of this study was one and a half months. In order to obtain

more reliable and significant results, it was probably necessary to extend the duration in future studies. According to the findings of this study, the researcher suggested that teachers of Chinese as a second language (TCSL) would use pictograph to teach Chinese characters to improve students' ability as well as interest in learning. In addition, the pictograph teaching also required the teacher to have a certain understanding of pictographic. In other words, teachers should continue to improve the knowledge before class and prepare the teaching plan and teaching materials in advance. According to the course content, students' level and age as well as the teaching plan would be constantly adjusted in the use process. Ultimately, this approach was proved fruitful and provided an alternative way of teaching and learning Chinese as a second or foreign language. The researcher hoped that this study would contribute to more efficiency in teaching and learning Chinese as a second or foreign language on the whole.

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