

A COMPARATIVE STUDY OF PRIMARY 1 STUDENTS' ATTITUDES TOWARD AND ACHIEVEMENT IN CHINESE LANGUAGE CLASS UNDER GAME TEACHING METHOD AND TRADITIONAL TEACHING METHOD AT AN INTERNATIONAL SCHOOL IN THAILAND

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Abstract: The purpose of this paper was to determine if there were significant differences in the attitude toward and the achievement in Chinese language class between two classes of Primary 1 students, one learning under the game teaching method and the other learning under the traditional teaching method, at an international school in Thailand during the academic year 2020-2021. This study was conducted on a convenience sample of 49 Primary 1 students, whose attitude toward and achievement in Chinese language class was measured before and after an experimental period of three weeks, during which the experimental group (24 students) was taught through the game teaching method, and the control group (25 students) was taught through the traditional teaching method. A 10-item questionnaire, based on the “attitude toward the learning situation” subscale from the Attitude/Motivation Test Battery (AMTB; Gardner, 2006), was used for measuring participants’ level of attitude toward Chinese language class, while a 35-question test was administered as pre- and post-test to measure participants’ achievement in Chinese language class. The collected data were analyzed using descriptive statistics (means, standard deviations, frequencies, and percentages) and independent samples *t*-tests. The findings showed that students in the experimental group had a significantly higher attitude toward Chinese language class than students in the control group. However, no significant difference in the gain in achievement in Chinese language class was seen between the experimental and control groups.

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Introduction

The number of people studying Chinese has increased worldwide, especially in Thailand (Wu & Yang, 2008). Under this scenario, how teachers teach Chinese as a foreign language is vital in Thailand.

Traditional teaching methods center on the teachers as leading actors, with students learning passively as information is provided in a single teacher-to-student direction (Liu & Hao, 2017). Under the traditional teaching method, the students' attitude toward learning Chinese is usually not positive (Li, 2016).

The game teaching method is one of the effective ways that has been found to improve the teaching of Chinese as a foreign language (Cheng, 2018). The game teaching method plays an important role in teaching a second or foreign language, attracting students' attention and improving their attitude toward the language and the class, but also helps children improve their achievement in Chinese language class (Hong, 2017).

Research Objectives

The researchers, concerned with the extensive use of the traditional teaching method in Chinese language education at an international school in Thailand, particularly in the early years of primary school, designed a comparative study to address the following objectives.

1. To determine the levels of attitude toward Chinese language class of Primary 1 students before and after using the game teaching method at an international school in Thailand.
2. To determine the levels of attitude toward Chinese language class of Primary 1 students before and after using the traditional teaching method at an international school in Thailand.
3. To determine the levels of achievement in a Chinese language class of Primary 1 students before and after using the game teaching method at an international school in Thailand.
4. To determine the levels of achievement in a Chinese language class of Primary 1 students before and after using the traditional teaching method in an international school in Thailand.
5. To determine if there is a significant difference in attitude toward Chinese language class between Primary 1 students learning under the game teaching method and those learning under the traditional teaching method

- at an international school in Thailand.
- To determine if there is a significant difference in the gain in achievement in Chinese language class between Primary 1 students learning under the game teaching method and those learning under the traditional teaching method at an international school in Thailand.

Theoretical Framework

This study was conducted based on the following supporting theories: game teaching theory, traditional teaching theory, and Gardner's socio-educational model of second language acquisition.

Game Teaching Theory

Game teaching refers to using game elements to teach specific skills or achieve specific learning effects (Shaffer et al., 2005). As shown in Figure 1, game characteristics, combined with the delivery of instructional content, can target particular behaviors or attitudes in the learners in a way that makes existing instruction more effective (Landers et al., 2015).

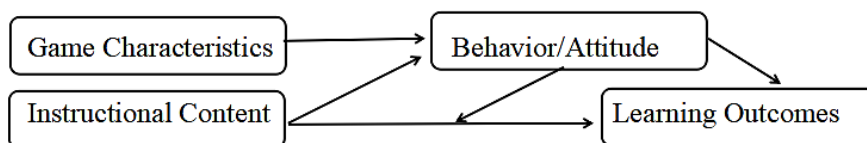


Figure 1. Interaction of Instructional Elements According to the Game Teaching Theory

Traditional Teaching Theory

Traditional teaching is a teacher-centered instructional approach under which students learn passively, and teachers, acting as symbols of authority and knowledge sources, use unified and fixed rules to restrain all students and instill knowledge into them in a single teacher-to-student direction (Liu & Hao, 2017; Wang, 2017).

Gardner's (2006) Socio-Educational Model of Second Language Acquisition

According to Gardner (2006), the learners' attitude toward the second or foreign language learning situation is comprised of two subscales: the evaluation of the teacher (i.e., learners' judgment reflecting their emotional response to the language teacher) and the evaluation of the course (i.e., learners' judgment reflecting their emotional response to the language class). In this study, the dependent variable named "attitude toward Chinese language class" was determined by Gardner's (2006) attitude toward the language learning situation, in particular, its subscale "evaluation of the course."

Conceptual Framework

The independent variable of this study was the teaching method. In contrast, the dependent variables were the attitude toward the Chinese language class and the achievement in the Chinese language class held by the participants. The conceptual framework of this study is depicted in Figure 2.

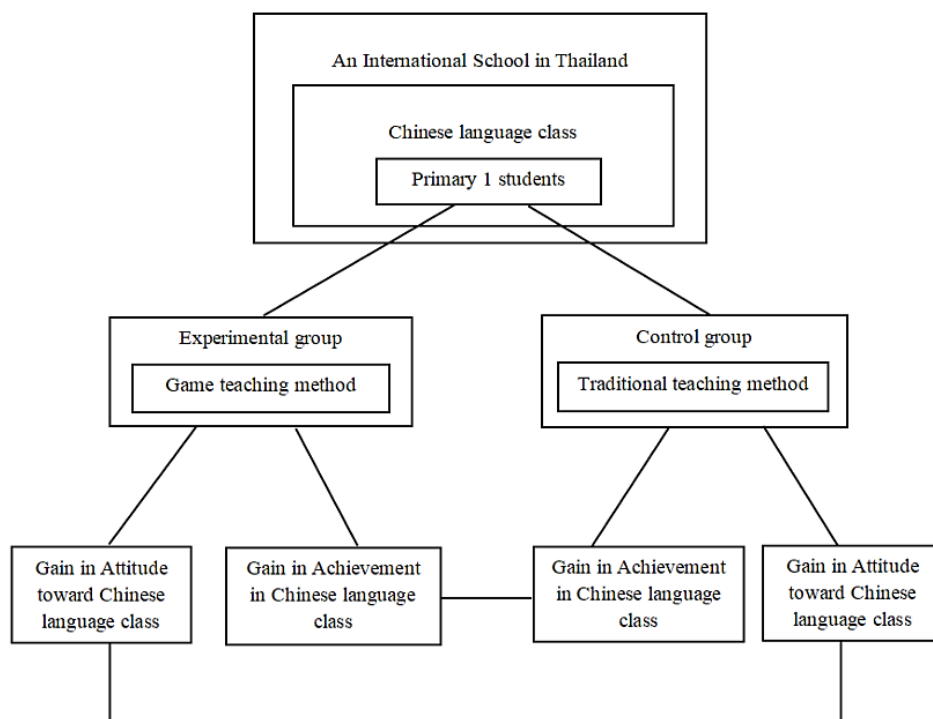


Figure 2. Conceptual Framework

Literature Review

In this section, some previous studies related to the research variables addressed in this study are reviewed and summarized.

Mo (2012) conducted a study on 86 Grade 2 students in Joseph Upatham School, Thailand, in order to examine relevant influencing factors on students' attitudes toward learning Chinese as a foreign language. Data were collected using the methods of a survey questionnaire, pre-and post-testing, interviews, and classroom observation. From the data analysis, it was found that teachers' teaching methods significantly impacted students' attitudes toward learning Chinese, interest in the Chinese language, and enthusiasm for learning the Chinese language. It was also found that teaching methods incorporating games and fun activities in the lesson aroused students' enthusiasm for learning the Chinese language. In contrast, traditional teaching methods made

students lose interest in the Chinese language.

Ni (2018) conducted a 9-week study on 141 junior high school students, from Grade 7 to Grade 9, enrolled in a school in Uthai Thani, Thailand. Ni used the game teaching method to implement classroom teaching tasks in a Chinese language class and collected data on students' interest in and knowledge of the Chinese language by means of observation, interviews, and a questionnaire survey. The results showed that most of the students in the target school had a lack of interest in learning Chinese and a low level of Chinese language before the study, which significantly increased their interest in learning Chinese after the incorporation of games in the Chinese language class. It was also found that students participated more actively in the class activities and their knowledge memory while learning using games was higher while learning under the game teaching method than when learning under traditional teaching.

Methodology/Procedure

This section provides details on the study's population, sample, and research instruments.

Population and Sample

This research was conducted on 49 students from 2 out of the 6 Primary 1 classes at an international school in Thailand during the academic year of 2020-2021. Classes 1 and 2 were purposively chosen for this study after statistically confirming that there was no significant difference in achievement in Chinese language class between these two classes. Class 1, comprised of 24 students, was assigned as the experimental group and taught using the game teaching method. In contrast, Class 2, comprised of 25 students, was assigned as the control group and taught using the traditional teaching method. The experimental intervention lasted for three weeks (15 teaching days), 1.5 hours per class session, from January 18 to February 5, 2021.

Research Instruments

This study was conducted using the following research instruments: the Students' Attitude Toward Chinese Language Class Questionnaire and the Pre-Test and Post-Test for Chinese Language Class.

Students' Attitude Toward Chinese Language Class Questionnaire. This assessment tool (see Table 1) was based on the ten items comprising the "English course evaluation" subscale of the international version of the Attitude/Motivation Test Battery (AMTB), developed by Gardner (2006).

Table 1. *Items in the Students' Attitude Toward Chinese Language Class Questionnaire*

Item No.	Item statement
1	I prefer to spend more time in my Chinese class and less in other classes
2	I enjoy the activities of our Chinese class much more than those in my other classes
3	I like my Chinese class so much; I look forward to studying more Chinese in the future
4	I look forward to the time I spend in Chinese class
5	Chinese is one of my favorite courses
6	My Chinese class is really a time well spent
7	I think my Chinese class is interesting
8	To be honest, I really have a lot of interest in my Chinese class
9	To be honest, I like my Chinese class
10	I find it easy to think of anything positive about my Chinese class

The original items from the AMTB were slightly modified in wording (e.g., negatively worded items were positively reworded; the word “English” was substituted by “Chinese”) in order to match the context of the current study. After that, the resulting instrument was piloted on 13 students who were purposively chosen from Primary 1 classes that were not significantly different in achievement in a Chinese language class to Class 1 and Class 2 (i.e., five students from Class 4 and eight students from Class 6). The Cronbach’s alpha coefficient obtained from this pilot study was .96, which can be interpreted as excellent reliability for the total scale. The final questionnaire used a 5-point Likert scale using words and smiley faces, ranging from 1 to 5 (1/☹️ = *strongly disagree*, 2/😞 = *disagree*, 3/😐 = *neutral*, 4/😊 = *agree*, 5/😄 = *strongly agree*). Each item was shown to the participants in both Chinese and English.

Pre-Test and Post-Test for Primary 1 Students' Chinese Language Achievement.

This pre-test was comprised of 35 questions to measure the Chinese academic achievement of Primary 1 target international school students regarding topics such as stationery and classroom equipment. The post-test was comprised of the same 35 questions included in the pre-test but shuffled.

For both assessment tools, the maximum score was 100 points, with a minimum passing grade of 34.5 points.

Research Findings

From the analysis of the collected data, the following findings were obtained.

Findings From Research Objective 1

The following findings were obtained regarding this research objective, considering an interpretation scale of 1-5, with 5 being “very positive.”

- Students in the experimental group held a negative attitude toward Chinese language class before using the game teaching method, $M = 2.20$, $SD = 1.02$.
- Students in the experimental group held a neutral attitude toward Chinese language class after using the game teaching method, $M = 3.26$, $SD = 1.22$.
- The difference between the means, from the pre-test to the post-test, showed an increase in the mean outcome of $3.26 - 2.20 = 1.06$ units.

Findings From Research Objective 2

The following findings were obtained regarding this research objective, considering an interpretation scale of 1-5, with 5 being “very positive.”

- Students in the experimental group held a negative attitude toward Chinese language class before using the traditional teaching method, $M = 2.02$, $SD = .88$.
- Students in the experimental group held a negative attitude toward Chinese language class after using the traditional teaching method, $M = 2.28$, $SD = 1.16$.
- The difference between the means, from the pre-test to the post-test, showed an increase in the mean outcome of $2.28 - 2.02 = .26$ units.

Findings From Research Objective 3

Regarding this research objective, the following findings were obtained.

- For the participants learning under the game teaching method, the mean score in the pre-test for Primary 1 students’ Chinese language achievement was interpreted as fairly good, $M = 66.75$ points, $SD = 22.88$ points. The pre-test scores ranged from 30 to 98 points.
- For the participants learning under the game teaching method, the mean score in the post-test for Primary 1 students’ Chinese language achievement was interpreted as very good, $M = 87.46$ points, $SD = 13.05$ points. The post-test scores ranged from 59 to 100 points.

Findings From Research Objective 4

Regarding this research objective, the following findings were obtained.

- For the participants learning under the traditional teaching method, the mean score in the pre-test for Primary 1 students’ Chinese language achievement was interpreted as average, $M = 49.28$ points, $SD = 26.69$ points. The pre-test scores ranged from 8 to 99 points.
- For the participants learning under the traditional teaching method, the

mean score in the post-test for Primary 1 students' Chinese language achievement was interpreted as fairly good, $M = 67.84$ points, $SD = 20.74$ points. The post-test scores ranged from 21 to 100 points.

Findings From Research Objective 5

Regarding this research objective, the following findings were obtained.

- There was a significant difference in attitude toward Chinese language class between Primary 1 students under the game teaching method and those under the traditional teaching method at an international school in Thailand, $t(47) = 3.78$, $p < .001$.
- The gain in attitude toward Chinese language class was significantly larger in the experimental group ($M = 1.06$, $SD = .73$) than in the control group ($M = .26$, $SD = .76$). In other words, learning under the game teaching method led to a significantly larger gain in students' attitude toward Chinese language class than learning under the traditional teaching method.

Findings From Research Objective 6

Regarding this research objective, the following findings were obtained.

- The results of the independent samples t -test failed to reveal a significant difference in the gain in achievement in Chinese language class between Primary 1 students under the game teaching method and those under the traditional teaching method at an international school in Thailand, $t(47) = .62$, $p = .539$.
- In other words, the gain in students' achievement in Chinese language class experienced by a Primary 1 student in this study is independent of the teaching method under which the student is learning the Chinese language (for the experimental group, $M = 20.71$, $SD = 12.33$; for the control group, $M = 18.56$, $SD = 11.97$).

Discussion

This section discusses the findings obtained from this study, placing them in context with previous studies. The discussion is organized by variables.

Primary 1 Students' Attitude Toward Chinese Language Class Under the Game Teaching Method

Primary 1 students from the experimental group went from having a negative attitude toward Chinese language class before using the game teaching method to having a neutral one after using the game teaching method. This result indicates that using the game teaching method to teach Primary 1 Chinese language at the target school appears to have a statistically positive effect on students' attitudes toward Chinese language class. This result is similar to the

one reported by Zhang (2014), who found that the overall attitude toward learning the Chinese language held by students from Rayon Middle School and Nakhon Ratchasima Middle School was more positive when using the game teaching method than under other methods.

Primary 1 Students' Attitude Toward Chinese Language Class Under the Traditional Teaching Method

Primary 1 students from the control group were found to have a negative attitude toward Chinese language class before and after using the traditional teaching method. This result indicates that using the traditional teaching method to teach Primary 1 Chinese language at the target school appears to have no statistical effect on students' attitudes toward Chinese language class. This result is in line with the ones reported by Mo (2012) and Wang (2014), who found that the traditional teaching method makes middle school students lose enthusiasm and interest in learning the Chinese language. Since both enthusiasm and interest are attitudinal traits, then it can be concluded that students learning the Chinese language under the traditional teaching method experienced a detriment in their attitudes toward learning the language.

Primary 1 Students' Achievement in Chinese Language Class Under the Game Teaching Method

Primary 1 students from the experimental group went from having a fairly good achievement in Chinese language class before using the game teaching method to having a very good one after using the game teaching method. This result indicates that using the game teaching method to teach Primary 1 Chinese language at the target school appears to have a statistically positive effect on students' achievement and understanding in Chinese language class. This result is similar to the one Sun (2017) reported, who found that using the game teaching method on junior high school students in Phuket, Thailand, led to higher interest, comprehension, and achievement in Chinese language class. The researchers believe that students' achievement improved under the game teaching method because they were interested and able to actively participate in the games, which allowed them to consolidate what they had learned and hence improve their achievement.

Primary 1 Students' Achievement in Chinese Language Class Under the Traditional Teaching Method

Primary 1 students from the control group went from having an average achievement in Chinese language class before using the traditional teaching method to having a fairly good one after using the traditional teaching method. This result indicates that using the traditional teaching method to teach Primary 1 Chinese language at the target school appears to have a statistically

positive effect on students' achievement and understanding in Chinese language class. This result is contrary to the one reported by Chen (2018), who found that it was difficult to improve students' achievement in Chinese language classes using the traditional teaching method in primary and secondary schools in Nakhon Sawan, Thailand.

Comparison of Primary 1 Students' Attitude Toward Chinese Language Class According to the Teaching Method

In this study, Primary 1 students from the experimental group reported a gain in their attitude toward the Chinese language class of 1.06 units. In contrast, students from the control group reported only a gain of 0.26 units, a significant difference favoring the experimental group was found. This result was in line with the one reported by Mo (2012), who also found a significant difference in Thai middle school students' Chinese learning attitude favoring the game teaching method over the traditional teaching method. The researchers believe that one reason why learning under the game teaching method led to a significantly larger gain in students' attitude toward Chinese language class than learning under the traditional teaching method is that, since the participants were children aged 6-7 years old, they tend to prefer games and fun activities over recitation and drill. Then, since students in the experimental group were participating in the classroom activities more actively and enthusiastically than their counterparts in the control group, the use of the game teaching method had a statistically more positive effect on their attitude toward Chinese language class and possibly on other attitudinal traits such as their interest in and enthusiasm for Chinese language class (Gardner, 2006).

Comparison of Primary 1 Students' Achievement in Chinese Language Class According to the Teaching Method

In this study, Primary 1 students from the experimental group reported a gain in their achievement in the Chinese language class of 20.71 points, while students from the control group reported a gain of 18.56 points, with no significant difference being found between the groups. Therefore, according to the results of this study, low levels of attitude toward Chinese language class are not necessarily counter to large gains in achievement in the Chinese language class, regardless of the teaching method. This result was contrary to the ones reported by Mo (2012) and Zhang (2015), who found a significant difference in the achievement in Chinese language classes held by Thai, middle school students, favoring the game teaching method over the traditional teaching method. The researchers believe that there were many reasons students' achievement statistically improved the same under the two teaching methods. These reasons involve variables and conditions that were out of the scope of this study, such as receiving extra tutoring in the Chinese

language, extrinsic and intrinsic motivation for learning the Chinese language, and parental encouragement to learn the Chinese language (Gardner, 2006).

Recommendations

Based on the study findings, the following recommendations are provided for students, teachers, school administrators, and future researchers.

Recommendations for Students

After the experimental period, Primary 1 students under the game teaching method had a neutral attitude toward Chinese language class, which was more positive than the attitude toward Chinese language class held by students under the traditional teaching method, which reported a negative attitude. Then, it is recommended for students to be able to self-manage their own attitude toward Chinese language class by observing their own behavior and expressing their feelings while learning Chinese (e.g., how they memorize and understand the Pinyin, Chinese characters, sentences, and texts they learn in a Chinese language class), in order to get to identify their own learning limitations and the aspects they would like to improve.

Recommendations for Teachers

Since Primary 1 students under the game teaching method reported a more positive attitude toward Chinese language class than the one held by students under the traditional teaching method by the end of the experimental period, teachers must consider the inclusion of games and fun activities while teaching the Chinese language, since this study provides evidence that students seem to prefer that kind of instructional activities over traditional ones.

Recommendations for School Administrators

School administrators can make use of students' attitudes toward Chinese language class to provide students with more interesting learning materials and facilities for learning the language in order to enrich students' learning experience; provide teachers with more effective teaching tools for teaching Chinese (e.g., online Chinese language resources and game resources), and increase students' attitude toward Chinese language class as well as possibly other attitudinal traits, such as students' interest in learning. Also, school administrators may consider providing Chinese language teachers with professional training on teaching methods or activities to help them give a more effective classroom teaching and enrich Chinese language teachers' teaching methods.

Recommendations for Future Researchers

In this study, the researchers used the game teaching method and the

traditional teaching method. Then, it is suggested that future researchers try to compare various teaching methods used in the Chinese language class to broaden the research field. Also, to gain a deeper understanding of the gain in achievement in Chinese language classes between different teaching methods, it is recommended that future researchers consider research variables and conditions that were left out of the scope of the present study, such as receiving extra tutoring in Chinese language, extrinsic and intrinsic motivation for learning the Chinese language, having Chinese heritage, and parental encouragement to learn the Chinese language. In this study, the researchers conducted a 15-day experiment on only two classes comprised of 49 Primary 1 students, taking 22.5 hours in total and only two units of teaching content. Future researchers may conduct longer instructional interventions on larger sample sizes in order to examine the effect on many instructional research variables. Finally, future researchers can set up the corresponding questionnaires in the mother tongue of the students in order to strengthen their understanding of the items so as to get more reliable data.

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