

## Application Of Blended Learning In Chinese Pinyin Learning Of Primary 4 Students At A Private School In Bangkok

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**Abstract:** Technology and mobile devices have become an increasingly extreme part of our daily lives, so much so that it is only natural to be able to take that same technology and utilize it inside the classroom. Thus, this paper explored the application of blended learning in Chinese Pinyin learning of primary 4 students at a private school in Bangkok. Population of this study comprises two groups of Chinese Pinyin learning of Primary 4 students. A random sampling was used to select two groups for experimental and control group. The experimental group was taught with blended learning approach and the control group was taught with traditional method. The research was conducted in the first semester of the private school in Bangkok in 2017. The study used quantitative design. The research instruments were pretest and posttest as well as a set of questionnaires to gather the data. The findings of this research revealed that the posttest Mean Scores 24.54 of the experimental group was much greater than 15.90 of the control group. Moreover, the findings revealed the improved average score of the pretest to posttest that the experimental group was 20.50% higher than the control group. In addition, the findings showed that the students were satisfied with Chinese Pinyin learning through using the Blended Learning at high level (90.7%) in this study.

**Keywords:** Blended Learning in Chinese Pinyin, Blended Learning, Chinese Pinyin, Primary 4 Students

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### I. Introduction

Within the 21st century, China has been noted to have more power and influence worldwide. Along with the enhancement of China's comprehensive power, the internationalization of the Chinese language is an inevitable trend. The world Chinese education is currently impeded by the shortage of Chinese teachers', difficulties in sharing the high quality Chinese resources and the obsolescence of teaching means and methods<sup>1</sup>. The beginning of the 21<sup>st</sup> century has seen an explosion of interest in learning Modern Standard Chinese at both college levels and secondary-school levels of education in the world<sup>2</sup>. Throughout China, Pinyin provides the Mandarin pronunciation of Chinese characters, which promotes the development of Chinese children's reading skillset<sup>3</sup>. From information gained through conducted research, Pinyin was found to also be very helpful for Chinese learners in Learning Chinese characters<sup>4</sup>. Furthermore, Pinyin also possibly facilitates the cross-language transfer of phonological awareness from Chinese to English and vice versa. The increased use of technology in language education of instructional design and technique for language learning is of rapidly growing importance according to Chung<sup>5</sup>. The rapid advancement of information and communications technology have received a great deal of attention in the field of education<sup>6</sup>. Learners use the Blended Learning in Chinese Pinyin differently from the traditional learning and teaching mode of learning Chinese as a foreign language<sup>7</sup>. It provides students with a variety of Pinyin learning resources, to improve the efficiency of students, to create a more rich language communication environment and stimulate students sensory input<sup>8</sup>.

The Blended Learning in Chinese Pinyin has a substantial impact in Thailand. The Chinese Pinyin is the basic knowledge of the language system that will help a learner, whether a Chinese or a foreign student, to learn Chinese mandarin<sup>9</sup>. Due to these findings, the researcher used the application of Blended Learning in teaching Chinese in an academic semester to improve Chinese Pinyin learning achievement in the classroom of Primary 4 students in a private school in Bangkok.

Blended Learning in teaching Chinese as a second language has a bright future<sup>10</sup>. It is low cost and is said to be able to greatly arouse students' enthusiasm for learning Chinese<sup>11</sup>. It can greatly improve the efficiency of teaching Chinese as a second language and can quickly promote individuals both in Thailand and even the global process of Chinese teaching reform<sup>11</sup>.

### Research Objectives

1. To find out the learning achievement of Blended Learning approach compared to traditional technology in Chinese Pinyin learning of Primary 4 students at a private school in Bangkok.

2. To find out the satisfaction of Primary 4 students in learning Chinese Pinyin through Blended Learning.

### **Research Questions**

The two questions of the research are as follows.

1. What is the learning achievement of Blended Learning approach compare to traditional technology in Chinese Pinyin learning of Primary 4 students in learning Chinese Pinyin?
2. Will the students in Experimental Group be satisfied with the application of Blended Learning in Chinese Pinyin learning?

### **Terminology**

**Blended Learning:** in this study refers to a teaching method where students are using mobile devices, Multimedia TV learning and face-to-face learning that takes place in learning environments in Chinese Pinyin learning in class.

**Multimedia TV:** in this study refers to one kind of the interactive whiteboard which is hanging on the wall of classroom. Teacher can use the TV to connect Samsung tablets with Android Operational System and laptops.

**Pretest and Posttest:** in this study refers to achievement of Primary 4 students in Chinese Pinyin learning in a private school in Bangkok.

**Chinese Pinyin:** in this study refers to learning the system of spelling in Mandarin Chinese using the letters of the English alphabet. The sounds of the language must be mastered through the ear, not the eye in the classroom.

**Software of Chinese Pinyin:** in this study refers to the mobile applications in Google Play applications store from China, and all of them are free. Likewise, the applications can be used online and offline.

**Chinese Time:** in this study refers to the curriculum book from lesson 1 to lesson 4 focus on pronunciation of Chinese Pinyin learning.

## **II. Literature Review**

### **Chinese Pinyin Learning Method**

Chinese Pinyin is the Romanized phonetic transcription of the Chinese language. Chinese Pinyin was founded by the ministry of the PRC (People's Republic of China) and approved by the ministry in 1958<sup>3</sup>. Chinese Pinyin system reflects the characteristics of the Chinese language. All Chinese Pinyin are composed of three parts: Chinese initials, Chinese finals, and Chinese tones<sup>12</sup>.

### **Blended Learning in Chinese Pinyin**

Chinese language learning applications have been developed and made available in different languages and on different mobile devices (iOS or Android system) in order to allow one to learn Chinese<sup>9</sup>. Blended Learning already existed in traditional teaching, but until 2011 foreign e-learning was at a low point, people began to reflect on the pure technical environment, studying by Blended Learning was gradually increased<sup>13</sup>. These learners want their mobile devices to be used for more than just communication and entertainment, but also for learning Chinese in or out of classroom<sup>14</sup>. The researcher wants these studies to promote deep Blended Learning strategies in Chinese Pinyin and Chinese learning in the world<sup>15</sup>. Blended learning, and teaching Chinese as the second language learning (TCSL) have become more important for learners so as to improve student satisfaction<sup>16</sup>. Blended Learning approach in Chinese learning can inspire and make students enthusiastic to learn in class<sup>17</sup>. An organic combination of traditional face-to-face classroom teaching and network teaching is a model of integration of information technology and curriculum<sup>18</sup>. In the classroom, students' learning can no longer rely solely on the teachers' delivery of knowledge and skills<sup>19</sup>. The using of sound media for Chinese Pinyin learning through reading, recording and comparing sounds for students starting from 0 to 4 years can help to correct pronunciation<sup>20</sup>. The use of graphic media for Blended learning in Chinese learning to teach vocabulary, has a strong intuitive<sup>21</sup>, it can avoid some of the students cause of the weak foundation in English so that they can understand the Chinese meaning of words and explain in English<sup>22</sup>.

## **III. Material And Methods**

The research methodology used the quantitative method, which aimed to study the Primary 4 students effective of achievement in Chinese Pinyin Learning by using Blended Learning. Moreover, the quantitative

method also aimed to study the Primary 4 students satisfaction through using Blended Learning in Chinese Pinyin Learning.

### **Samples**

The school assigned two Chinese teachers and the researcher was assigned to teach two classes. The researcher used the simple random sampling method to select two groups by drawing the students' ID out in random, each group consisting of 24 students. Hence, two groups used the same technique to determine which section was randomly picked up for experimental group and which one for control group. The result showed the final 24 students used in each group. It is important to note that during the research study, six students left the school, one of which was from experimental group and other five Students were from control group. Moreover, the students who were not chosen into the two experimental groups that were taught Chinese Pinyin in the same week were not beginners of Chinese Pinyin learning class and could not be chosen to fill the population into two groups to take the pretest in this study. Therefore, the experimental group consisted 23 students and the control group had only 19 students remained.

### **Pretest and Posttest**

To study the effectiveness of Blended Learning on the students' learning achievement, a pretest and a posttest were conducted to both the groups. The tests were conducted in 4 parts using 10 'fills in the blank' items for dictation and reading. And, there were 12 'fills in the blank' items for writing and 10 items for speaking and reading on Chinese Pinyin. Pretest and posttest were conducted to both of the groups to compare the learning achievement before and after the treatment was given. After the pretest, the control group was taught by using the traditional method whereas the experimental group was taught by using the Blended Learning method. The posttest used the same questions as in the pretest after the experiment was conducted. The pretest was administered in the beginning of the study and the posttest was administered at the end of the experiment. The researcher used the pretest and posttest to study the effectiveness in Blended Learning in Chinese Pinyin learning in this study. The quantitative researcher used questionnaires of Blended Learning in Chinese Pinyin learning for evaluation of improvement in Chinese Pinyin learning.

### **Questionnaire**

A mixed survey questionnaire form was used, including the five-point Likert Scale and multiple choice testing, to find out the satisfaction of Chinese Pinyin learning after using the Blended Learning in Primary 4 students. The researcher developed two parts for the questionnaire. Part A asked about the students' demographic information and Part B was a perspective questionnaire which consisted of 10 statements of questions asking about the students' satisfaction. The questionnaire was administered only to the experimental group after the treatment.

### **Lesson Plan in the Experimental Group**

The lesson plans were follows the lesson 1 to lesson 4 in a curriculum book named "Chinese Time" that was from a private school in Bangkok. The researcher used 12 weeks of 50 minutes per period in Chinese Pinyin Learning using the blended learning during the experiment. The researcher designed four lesson topics of Chinese Pinyin, which were used in both the experimental group and control group. The experimental group was taught by using the Blended Learning and the control group was taught by using the traditional method.

The researcher used the four kinds of Chinese Pinyin software on Android operational system in the class for the experimental group. The software from China was very useful for learners to improve their Chinese Pinyin learning. In this study, all of the software used was free and popular in China. The lesson topics were taught in the same week but on different days. The researcher taught once a week for both of the experimental groups.

According to the curriculum book for the first semester of 2017 academic year, the researcher used Lesson 1-4 from the *Chinese Time*. The first lesson from *Chinese Time* was named "Pronunciation One: Initials" which was divided four lesson plans to teach. The second lesson from *Chinese Time* was named "Pronunciation Two: Finals" which was divided four lesson plans to teach. The third lesson from *Chinese Time* was named "Pronunciation Three: Tones" which was divided three lesson plans to teach. The fourth lesson from *Chinese Time* was named "Pronunciation Four: Practice" which was used only one lesson plan to teach.

According to the lesson plans, the researcher used the software *Baby learn Pinyin* to teach the first lesson in the lesson plan 1-8 that was from the 1<sup>st</sup> week to the 8<sup>th</sup> week. At the same time, the researcher used the software *Learn Pinyin* to help the students practice the initials and finals of Chinese Pinyin in the same Lesson Plan 1-8 from 1<sup>st</sup> week to the 8<sup>th</sup> week. Then, the researcher used the software *Pin Pin* to teach the third topic in the lesson plan 9-11 that was from the 9<sup>th</sup> week to the 11<sup>th</sup> week. Finally, the researcher used the software *ABC Chinese* to teach the last topic in the lesson plan 12 that was in the 12<sup>th</sup> week.

The twelve Lesson Plans for the Experimental Group are as follows:

nalP nosseL	Name of Software	Lesson Topics	Duration in the First Semester
Plan 1-4	Baby Learns Pinyin, Learn Pinyin	Chinese Initials	The 1 <sup>st</sup> -4 <sup>th</sup> weeks
Plan 5-8	Baby Learns Pinyin, Learn Pinyin	Chinese Finals	The 5 <sup>st</sup> - 8 <sup>th</sup> weeks
Plan 9-11	PinPin	Chinese Tones	The 9 <sup>th</sup> - 11 <sup>th</sup> weeks
Plan 12	ABC Chinese	Chinese Pinyin and	The 12 <sup>th</sup> week

### Lesson Plan in the Control Group

The control group was used the same Lesson Topics without software. The lesson plans from 1-4 were taught about Chinese initials, the lesson plans from 5-9 were taught about Chinese finals, the lesson plans from 10-11 were taught about Chinese tones, and the same lesson plan 12 was taught about Chinese Pinyin Practice.

The weeks of the Lesson Plans for the control group are as follows:

Lesson Plan	Lesson Topics	Duration in the First Semester
Plan 1-4	Chinese Initials	The 1 <sup>st</sup> -4 <sup>th</sup> weeks
Plan 5-8	Chinese Finals	The 5 <sup>st</sup> - 8 <sup>th</sup> weeks
Plan 9-11	Chinese Tones	The 9 <sup>th</sup> - 11 <sup>th</sup> weeks
Plan 12	Chinese Pinyin and Numbers	The 12 <sup>th</sup> week

### Applications of Pinyin Learning

According to the curriculum book “*Chinese Time*”, the researcher used four software applications of Blended Learning in the classroom, the four software applications of Chinese Pinyin Learning that were also utilized in this study. They were free and taken from Google Play Store in offline mode. Four Applications of Pinyin Learning in Experimental Group are as follows.

1. These Applications have offline learning function, and they are all popular, useful and free for their users. The *Baby Learns Pinyin* Application is a combination of Pinyin strokes, phrase pronunciations, cartoon illustrations, with divergence-shaped memory, for these reasons, a learner can master the standard Pinyin pronunciation faster. It is suitable for beginning learners. Therefore, the researcher used it in the Lesson Plan 1-8 for the students to learn initials and finals of Chinese Pinyin.
2. The *Learn Pinyin* Application has very clear English interpretation of Pinyin and is very convenient quizzes within, for these reasons a learner can test listening, reading and speaking skills of Pinyin easily. It is also very convenient and easy to understand for a beginning learner. Therefore, the researcher used it in Lesson Plan 1-8 to practice initials and finals of Chinese Pinyin.
3. The *Pinpin* Application focuses on the tones learning of Pinyin. It is very suitable for a learner who has a Pinyin Learning foundation to practice the different part of tones in each Pinyin. Therefore, the researcher used it in Lesson Plan 9-11 to practice Pinyin in the classroom.
4. The *ABC Chinese* Application has 36 topics and 3 levels; the first level has nine topics, like alphabet letters, numbers, colors, verbs, food and so on. The topic of numbers just coincided with the lesson plan 12.

### Data Collection Process

The data collection process was in the Chinese learning class during 12 weeks of 50 minute- periods in Chinese Pinyin Learning. The students used Blended Learning during the experiment. The researcher designed the Pinyin into four Chinese lessons for experimental and control groups. The experimental group was taught by using of Blended Learning approach and the control group was taught by using the traditional method. The researcher taught once a week for both of the groups. The Chinese lessons were taught in the same week but on different days.

The data collection and analysis schedules are as follows.

Procedures	Schedule in the First Semester of Academic 2017
Pretest, posttest, questionnaire, Lesson Plan design	Before the in 1 <sup>st</sup> semester
Pretest	in 1 <sup>st</sup> week
First data analysis of Pretest	in 2 <sup>nd</sup> -3 <sup>rd</sup> week
Posttest	In 12 <sup>th</sup> week
Questionnaires	in 13 <sup>th</sup> week
Data analysis of Posttest and Questionnaires	in 14 <sup>th</sup> week

**Data Analysis**

Learning Achievement Test (Pretest and Posttest): In assessing the effectiveness of Blended Learning compared to the traditional teaching method on the learning achievement of Primary 4 students in Chinese Pinyin learning, the comparison between the pretest and posttest scores was done by t-test. The mean scores ( $\bar{X}$ ), the standard deviation (SD), t-value and p-value of pretest and posttest were computed within both experimental group and control group. In addition, the descriptive of statistic growth percentage of four language skills (Listening, Reading, Speaking and Writing) was used to analyze the pretest to posttest of two groups and achievement test level of the samples.

Questionnaires: To find out the satisfaction of Primary 4 students in learning Chinese Pinyin after using the blended learning, the questionnaire comprising of 10 items was used in the experimental group. The data was collected through the questionnaire and was analyzed by using descriptive statistics the average percentage of satisfaction was used for comparing each item of boys' and girls' satisfaction. The scores of satisfaction and average percentage satisfaction were computed within experimental group. In addition, the analysis was done by using SPSS, and the mean scores ( $\bar{X}$ ), the standard deviation (SD), the t-value and the p-value were compared in independent t-test.

**IV. Data Analysis and Result**

**A. Demographic Information of The Samples**

**Table 1** Demographic Information of the Experimental and Control groups

Gender	Experimental	Control	Total
Male	10	12	22
Female	13	7	20
Total	23	19	42

Table 1 shows that 42 students of Primary 4 in the international program who participated in the preference survey, consisting of 10 boys and 13 girls in the experimental group, 12 boys and 7 girls in the control group. The experimental group was taught Blended Learning method and the control group was taught traditional teaching approach to learn Chinese Pinyin. Both of the experimental and the control group students were in the age group of 8 to 10 years old. The experimental group had 23 students and the control group had 19 students for mentioned in Chapter 3, during the research study, six students left the school, one of which was from the experimental group and other five students were from the control group.

**B. Pretest Scores of Experimental and Control Group**

The first analysis is on pretest scores in the experimental and control groups.

**Table 2** The Pretest Scores of the Experimental and Control Groups

Item	Experimental Group	Control Group
Number of students	23	19
Pretest Scores	0.00	0.00

Table 2 shows that the pretest scores of experimental and control groups were 0.00. It can be concluded that the Primary 4 students in both the experimental and control groups had the same Chinese Pinyin learning level of no Chinese knowledge at the beginning stages of this study.

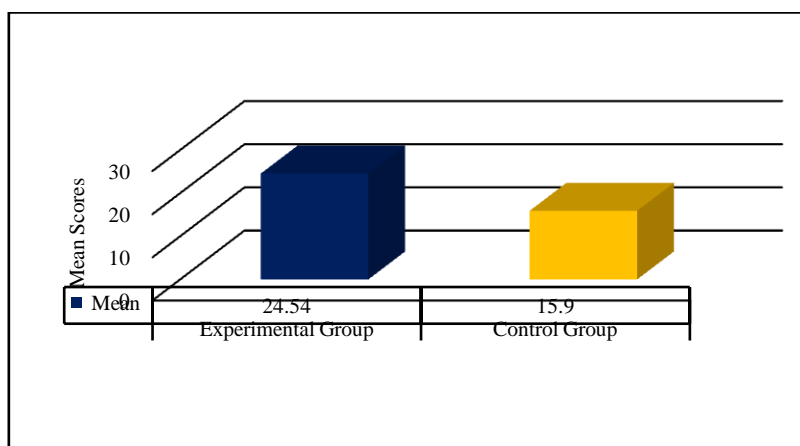
**C. A Comparison of Posttest Scores of the Experimental and Control Groups**

**Table 3** Mean Scores ( $\bar{X}$ ), Standard Deviation (SD), Mean Difference (MD), t-value and p-value of Posttest Scores of the Experimental and Control Groups (Independent t-test)

	Experimental Group	Control Group	MD	T value	P value
$\bar{X}$	24.54	15.90	8.65=20.5%	5.33	0.00
SD	4.83	5.69			

Table 3 shows the mean scores of the Primary 4 students in the experimental group was 24.54 with standard deviation of 4.83 ( $\bar{X}$ = 24.54, SD = 4.83); whereas the mean scores of the Primary 4 students in the

control group was 15.90 with the standard deviation of 5.69 ( $\bar{X}=15.90$ ,  $SD = 5.69$ ). The mean difference between the two groups was 8.65 ( $MD = 8.65$ ). The t-value was 5.33 with the p-value was 0.00 ( $p < 0.05$ ). Therefore, it can be concluded that the mean scores of the posttest of the experimental group was higher than the mean scores of the posttest of the control group. The following Fig. illustrates the comparison of the posttest mean scores of the experimental and control groups. It shows that the improvement of posttest in experimental group and faster than the control group.



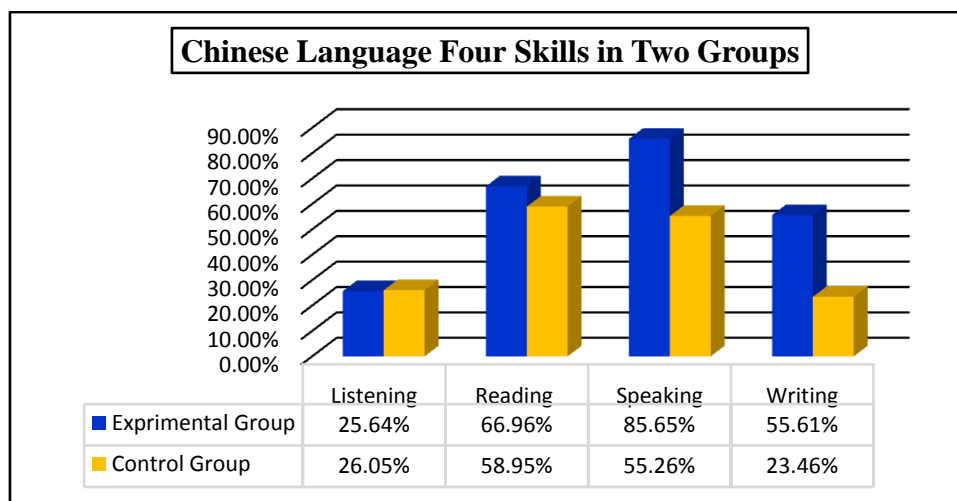
**D. Comparison of Chinese Language Four Skills in Experimental Group and Control Group.**

**Table 4** the Chinese Language Growth Percentage (GP) of 4 Skills in the Experimental and Control Group

Items	LS %	RS%	SS%	WS%
Experimental Group	25.64	66.96	85.65	55.61
Control Group	26.05	58.95	55.26	23.46

(LS=listening scores, RS = reading scores, SS = speaking scores, WS= writing scores, 10 scores for LS, RS, SS, 12 scores for WS)

Table 4 shows four skills’ scores of the growth percentage of pretest to posttest of Experimental and Control Group. The growth percentage of listening skill was 25.64% in experimental group; whereas the growth percentage from pretest to posttest was 26.05% in the Control Group. The growth percentage of reading skill was 66.96% in experimental group; whereas the growth percentage from pretest to posttest was 58.9% in the Control Group. The growth percentage of speaking skill was 85.65% in experimental group; whereas the growth percentage from pretest to posttest was 55.26% in the Control Group. The growth percentage of writing skill was 55.61% in experimental group; whereas the growth percentage from pretest to posttest was 23.46% in the Control Group. Fig. shows Chinese language 4 skills in the Experimental and Control Group.

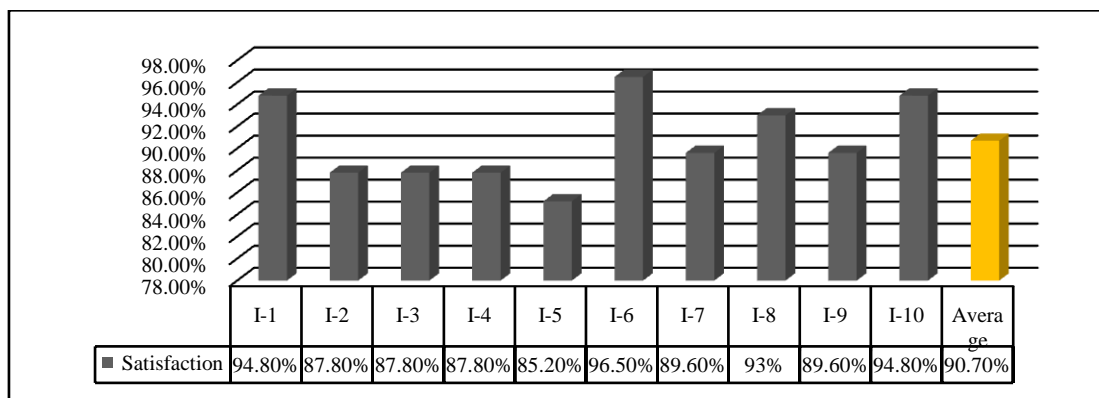


**E. Analysis of Questionnaire to Find Out the Satisfaction of Primary 4 Students in Chinese Pinyin Learning through Blended Learning**

**Table 5** The Satisfaction Scores and Percentage in Experimental Group

Item	I-1	I-2	I-3	I-4	I-5	I-6	I-7	I-8	I-9	I-10	Average
Scores	109	101	101	101	98	111	103	107	103	109	104.3
%	94.8	87.8	87.8	87.8	85.2	96.5	89.6	93	89.6	94.8	90.7

Table 5 shows the total satisfaction of application of blended learning in Chinese Pinyin learning is 90.7% in experimental group. I-1 shows the satisfaction of using the blended learning in learning how to use Chinese Pinyin is 94.8% in experimental group. I-2 shows the satisfaction of the blended learning can help the Primary 4 students remember the Chinese initials is 87.8% in experimental group. I-3 shows the satisfaction of the blended learning can help the Primary 4 students remember the Chinese finals is 87.8% in experimental group. I-4 shows the satisfaction of the blended learning can help Primary 4 students read the Chinese tones is 87.8% in experimental group. I-5 shows the satisfaction of the blended learning can help the Primary 4 students spell the Chinese Pinyin is 85.2% in experimental group. I-6 shows the satisfaction of the blended learning can help Primary 4 students improve their pronunciation in Chinese Pinyin is 96.5% in experimental group. I-7 shows the blended learning is interesting in learning Chinese Pinyin is 89.6% in experimental group. I-8 shows the satisfaction of students agree that blended learning can improve their Chinese level is 93% in experimental group. I-9 shows the satisfaction of the students agree with the blended learning in Chinese learning interesting is 89.6%. I-10 shows the students agree with the blended learning give their confidence to learn Chinese is 94.8%. Table 5 was translated to the following Fig. displaying the satisfaction percentage of each item and the average satisfaction percentage.



**V. Discussion**

The goals of the study were to find out the learning achievement of Blended Learning approach compared to traditional technology in Chinese Pinyin learning of Primary 4 students at a private school in Bangkok. In addition, the findings through the quantitative analysis on the students' Chinese Learning an achievement were significantly improved by Blended Learning. The research questions were answered as follows.

**Research Question 1**

What is the learning achievement of Blended Learning approach compare to traditional technology of Primary 4 students in Learning Chinese Pinyin?

Based on the results of the data analysis and research findings, the research concluded that the students of the experimental and the control groups were found to have relatively the same equal Chinese Pinyin level before getting the treatment. As Table 2 shows clearly through the pretest result of both the groups done before the treatment. The result of the pretest scores of experimental and the control groups was 0.00, that means they were at the same level of Chinese Pinyin learning beginners.

In addition, as Table 3 shows the mean scores of posttest in experimental group was 24.54 with the standard deviation of 4.83 ( $\bar{X} = 24.54, SD=4.83$ ); whereas the mean scores of posttest in control group was

15.90 with the standard deviation of 5.69 ( $\bar{X}=15.90$ ,  $SD=5.69$ ). The mean difference of the two groups was 8.65 ( $MD = 8.65$ ). The analysis shows that the participants in the experimental group scored higher in the posttest to compare to the pretest scores. Therefore, from Table 2 to Table 3, it can be concluded that using Blended Learning approach in Chinese Pinyin learning in the classroom improved the achievement of students better and faster than the traditional teaching method.

In addition, the Table 4 shows the achievement and growth rate of Chinese language in four skills from pretest to posttest in the Experimental group and the Control Group. The Table 4 and Fig. show the reading, speaking and writing skills of Chinese Pinyin learning in Experimental Group was growth being faster than the Control Group. However, the listening skill of Chinese Pinyin learning was similar in growth rate and grew slower in two groups.

The achievement of Chinese Language in four skills shows that Pinyin Learning of reading, speaking and writing was growing faster in the experimental group than in the control group in this study. In the early of knowledge explosion, students' learning can no longer rely solely on the teachers' delivery of knowledge and skills<sup>19</sup>. Students need to explore for themselves. They need to be able to work independently. However, the results of the present study show that students in the Experimental Group do not do well in their listening skill as the students in the Control Group. It was found that Table 4 and Fig. also show through Chinese Pinyin learning in the experimental group and the control group, Chinese Pinyin can improve learners' ability to speak and read in a short period of time. The Experimental Group using the Blended Learning method was faster than the control group. This has a positive effect on foreign beginners who are learning Chinese and can obtain more self-confidence and self-affirmation and enhance beginners' interest in learning. In this study, Chinese as the second language learning shows that Pinyin improves a student's speaking and reading faster.

Blended Learning solves the problem in different ways according to different problems and requirements and adopts different ways of media and information transmission in Chinese education. Blended Learning includes mixed types, mainly in multimedia teaching and virtual learning environment centered on mobile technology can inspire students learning Chinese<sup>23</sup>. As mentioned before, in the Table 3, the application of Blended Learning in this study improved students Chinese Pinyin learning achievement in experimental group by 20.5% more than in the control group in the classroom.

Blended Learning described an e-learning system for technical Chinese learning that integrates sounds, pictures, videos, and Flash animation into a Web-based multimedia course to optimize learning efficiency and an organic combination of traditional face-to-face classroom teaching and network teaching, it is a model of integration of information technology and curriculum<sup>18</sup>. As mentioned before, the application of Blended Learning in this study that most students like utilized Blended Learning in Chinese learning in the classroom.

The using of sound media for Chinese Pinyin learning through reading, recording and comparing sounds for students starting from 0 to 4 years can help to correct pronunciation<sup>20</sup>. From the Table 4 and Fig. show that through the Blended Learning the Primary 4 students' speaking and reading skills in the experimental group were improvement more than listening and writing skills. The use of graphic media of Blended Learning in Chinese learning to teach vocabulary, has a strong intuitive<sup>21</sup>, can avoid some of the students cause of the weak foundation in English so that they can understand the Chinese meaning of words and explain in English<sup>22</sup>. Teaching technique was used in the Experimental Group to improve the students' achievement that was higher than the Control Group, but if the Control Group gets high techniques the same as the Experimental Group, they might have gained the better results as well.

## **Research Question 2**

Will the students in Experimental Group be satisfied with the application of Blended Learning in Chinese Pinyin learning?

The positive effectiveness of using the Blended Learning in the Chinese Pinyin learning was proved by the high satisfactory rates of students toward the Blended Learning combined teaching method of this study. As Table 5 shows the satisfaction of Primary 4 students in Bangkok, who are the beginners learn Chinese applied the Blended Learning approach. This study finding supports the statement of Jing<sup>17</sup>, who viewed that the Blended Learning meets student's expectations for utilizing technology, develops independent learning skills, and offers increased flexibility and convenience. For the school that gives them access to new resources, is an opportunity for school development and lets them experiment with new pedagogy and techniques, helps meet student expectations and build student skills, allows for more flexible scheduling, and retains the face to face aspect faculty may cherish. Application of Blended Learning in Chinese learning can inspire and make students enthusiastic to learn in class<sup>17</sup>. As summarized in Table 5 and Fig were mentioned above, the average satisfaction of the Primary 4 students in learning Chinese Pinyin through Blended Learning in experimental group was 90.7%. Thus, the students of Primary 4 students satisfied with the application of Blended Learning in Chinese Pinyin learning.



The findings of satisfaction survey through the Blended Learning in Chinese Pinyin learning in the experimental group, they could be seen that beginners, especially younger beginners, prefer color-rich Blended Learning and interactive multimedia television learning. Moreover, through the face-to-face teaching by teachers in the classroom, younger learners could be guided to learn in a timely manner. In addition, in the classroom, the educators can answer students' puzzles in a timely manner. Therefore, the students of the experimental group mostly got high scores of satisfactions through the Blended Learning in Chinese Pinyin learning in this study.

## **VI. Recommendations and Conclusion**

### **Recommendations**

#### **A. Recommendations for schools, teachers and students**

1. The application of Blended Learning can motivate students to learn better Chinese language.
2. The application of Blended Learning with specific teaching methods can help enhance Chinese learning of the students.
3. This study proved the hypothesis that Blended Learning does truly help students to develop their Chinese Pinyin Learning to result in higher level Pinyin achievement.
4. Likewise, for students, visualization and vocalization of the Chinese curriculum books can be made more interesting and more impressive in Chinese classroom.
5. In addition, for teachers, the positive response from the students can give teachers more teaching achievement. Therefore, the teaching method of Blended Learning is applied to Chinese as a second language learning and can stimulate Chinese learners' active learning better and is beneficial to the promotion of Chinese learning.
6. Moreover, Blended Learning cannot only improve students' academic achievement, but also can improve students' self-confidence in learning and teachers' sense of teaching achievement.

#### **B. Recommendations for future researchers**

1. The researcher recommends for a future study to have more samples from Chinese learners, not only have primary students of educational area, but also have other different levels of Chinese language learners' areas.
2. In the future, the researchers can use Blended Learning to study Chinese Grammar Learning, Chinese Characters Learning, Chinese Oral Learning, and other Chinese Language Learning.
3. In addition, the educators can also study more and better Chinese as the Second Language Learning software that can be used on mobile devices and Blended Learning in the future.
4. In the future research, the researcher can study on students' gender in order to differentiate the effectiveness of the Chinese Learning ability between boys and girls.

## **VII. Conclusion**

The findings of this research revealed that the Chinese Pinyin learning achievements of the Primary 4 students taught by using Blended Learning approach tested were better than the students taught with the traditional approach. The posttest Mean Scores 24.54 of the experimental group was much greater than 15.90 of the control group. Moreover, the findings revealed the improved average score of the pretest to posttest that the experimental group was 20.50% higher than the control group. In addition, the findings showed that the students were satisfied with Chinese Pinyin learning through using the Blended Learning at high level (90.7%) in this study.

## **References**

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