Research Article

APPLYING MULTIMEDIA TECHNOLOGY AND INTERACTIVE TEACHING APPROACH IN TEACHING CHINESE AT A PRIVATE UNIVERSITY

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Abstract

This study aims to discover and improve the Thai private university students' Chinese language listening and speaking skills and investigate the Thai students' Chinese curriculum integration of multimedia and interactive teaching view. The researchers used quantitative method to obtain the 35 students before and after the test result. Statistical data analysis methods included sample t-test and descriptive analysis to compare the mean, standard deviation, and percentage. The results showed that Thai students' scores improved significantly after applied multimedia and interactive teaching methods. The students had a very positive attitude toward the applying of multimedia and interactive teaching methods in Chinese language class. Universities' teachers can adopt multimedia and interactive teaching methods in Chinese teaching class for students' learning and exchange activities.

***Keywords*:** *Multimedia technology, Interactive approach, Enhance listening and speaking skills*
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Introduction

In the context of globalization, English as an international language was well-known to the world's people. However, in the rapid development of China, the input of Chinese culture to the world was increasing, and people around the world were beginning to be interested in Chinese. The

teaching of Chinese as a foreign language has gradually gained a certain status in the world. The joint education of Chinese and foreign universities has gradually popularized Chinese teaching.

In Chinese acquisition, listening and speaking are relatively easy parts for international students, which is also the part of this study. For foreign students who choose Chinese as a compulsory university course, listening and speaking is easier to create a language environment. Therefore, the researcher mainly chooses Thai students' Chinese listening and speaking as the primary research scope in this study.

The listening class was not simply listening but a comprehensive class focused on listening. Obstacles must be cleared before the teaching of new words. This was a necessary process before class. The listening class was not simply comprehensive focused on listening (Liu, 2016). The teaching of the Chinese listening course was the priority in Chinese teaching (Cai & Lynch, 2016).

Researchers combined Chinese songs in Chinese listening class, and playing Chinese songs before class can stimulate students' interest in learning. Similarly, integrating Chinese films into listening teaching is also one of the ways for students to enter the classroom quickly. By watching and learning film and television materials, we can get in touch with films closest to the real life of Chinese people (Ma, 2020).

This research used the following process to teach how to speak Chinese. They included: Introduction (Explain the purpose of this lesson to students); Put forward teaching goals (clearly introduce to students the content of classroom teaching and teachers' expectations for students' learning outcomes); Observation (Teachers needed to keep track of and ensure that students' progress follows the course goals); Feedback (let students understood their performance activities at the end of the course and stimulated their inner motivation, sense of accomplishment, and self-confidence) and Follow-up activities on the following topics (gave students the following follow-up assignments to strengthen the activities in the course).

In Chinese oral teaching, the most important thing is to make students interested in learning actively. Some teachers also adopt organizational teaching, new word processing, interpretation, learning texts and keywords, and setting up oral dialogue scenes (Li, 2020). The principles of teaching Chinese listening and speaking include the Task-based approach, Communicative approach, and Situational approach. Interactive teaching is a form of learning and communication that focuses on students' needs, abilities, and interests (Giorgdze & Dgebuadze, 2017). It emphasizes the interaction between students and the website, and teachers. The interactive type is rich, the mode of teaching information updates speed, and according to the full use of the role of the teacher, it stimulates the enthusiasm of the students (Ma, 2019).

Whereas students often lose interest during lecture-style teaching, interactive teaching styles promote an atmosphere of attention and participation. Make it interesting. Make it exciting. Make it fun. The multimedia technology and interactive teaching approach to Chinese listening and speaking include determining the teaching theme, teacher and student interaction, cooperative group discussion, scenario demonstration and learning results, teacher's assessment, and feedback. Furthermore, this research applied that theory, Social Learning Theory, Interactionism, and Experiential Learning Theory.

In Chinese teaching, oral English teaching has always occupied a significant position. This study aims to put forward scientific and reasonable teaching design to improve teaching quality. The interactive teaching model emphasizes the interaction between students and teachers, students and students, students and websites. The interactive teaching mode has the advantages of rich interactive types, fast information update, based on giving full play to the role of teachers, in stimulating students' enthusiasm, and so on (Ma, 2019).

In 2020, the whole world faced a COVID-19 outbreak, and almost all schools have chosen online instead of offline teaching, including Chinese teaching. In this extraordinary period, online teaching combined with multimedia teaching was the way used by most schools, and teachers have become the only choice to put teaching content into slides teaching (Wang, 2016).

The use of technology in the development of teaching media plays an important role in improving students' teaching quality (Rajendra, 2018). This powerful teaching tool combines print, sound, visuals, animation, and movies, interactivity. These systems could also automatically update the students' course credit standing (Hamada & Hassan, 2016).

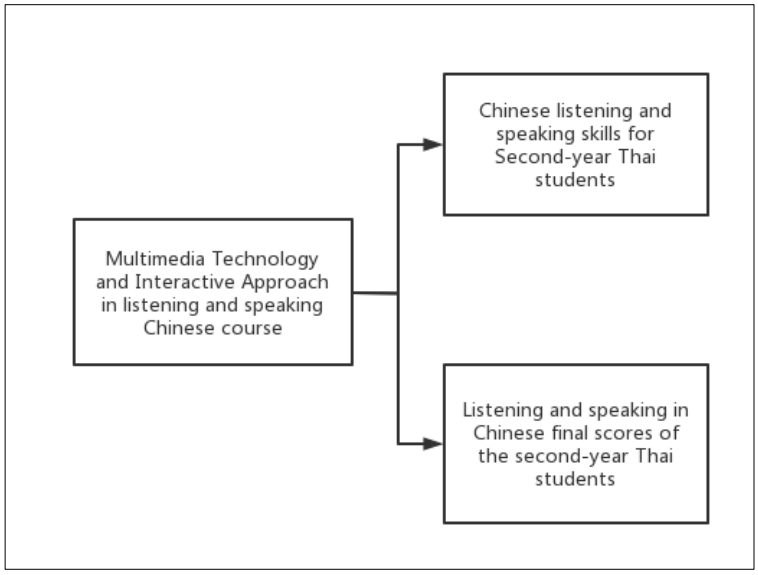

Figure 1. Illustration of the Conceptual Framework

Multimedia technology allowed users to be integrated and process data from various sources such as images, graphics, video, audio, animation, and text on a single hardware platform. In the past decade, the rapid development of multimedia technology has brought fundamental changes to computing, entertainment, and education (Tantawy, 2017). In addition, Multimedia technology includes the definition of computer-based interactive applications that allow people to exchange ideas and information through digital technologies. Media can be a movie clip, such as a podcast or a newspaper article speech, and a song heard on the radio (Tan, 2017).

At present, the application of multimedia technology in classroom teaching has become a universal form of the teaching world. It can mobilize students' enthusiasm and stimulate their interest in learning and actively participate in the learning process. As the main body of teaching, multimedia technology can also create a better learning atmosphere for students and make students more likely to accept unfamiliar information. Teachers can present teaching content directly to students through multimedia. The sound heard by students' ears and the picture seen by their eyes are different from the traditional teaching model, which has replaced the previous boring and rigid classroom model.

Through interactive teaching, Thai students can increase their impression of Chinese, increase their interest in Learning Chinese in the process of interactive teaching, and no longer have stereotypes about learning Chinese, and no longer give up learning because of difficulties.

The interactive teaching approach was a form of learning and communication activities. The focus of interactive teaching was the needs, abilities and interests of students (Giorgdze & Dgebuadze, 2017). The interactive teaching approach emphasizes the interaction between students and students, the interaction between students and websites, and the interaction between students and teachers. The teaching in this mode has rich interaction types, rapid information update speed, and was fully utilized based on the role of the teacher; it stimulated the enthusiasm of students (Ma, 2019). Interactive teaching was all about instructing the students in a way they were actively involved with their learning process. There were different ways to create an involvement like this. Most of the time it was through the following activities (Knapen, 2018). Teacher-student interaction, Student-student interaction, the use of audio, visuals, video, and Hands-on demonstrations and exercises.

This interactive approach was a flexible teaching method. A person who sees learners as active participants in the classroom rather than passive learners insists that the language should not only be the object and content of learning, but also be an interactive experience, in which learning people were willing to interact with each other and communicate in a second language (Boudreau et al., 2018). In teaching Chinese as a foreign language, effective

teacher-student interaction could help stimulate students' interest in learning. Teacher-student speech interaction was a basic method of classroom teaching and a key link in the process of language teaching. At the same time, it could create the necessary language environment, promoted the development of students' language skills, and improved their practical ability (Kandambi, 2018). Dynamic and communicative teaching methods, also known as interactive teaching methods, constitute the basic elements of the recently developed stimulating learning process. By used interactive techniques and strategies, students could focus more on learning, retain more information, and became more satisfied (Senthamarai, 2018).

Objective of the Research

This research has two objectives which are 1) to aim to enhance Chinese listening and speaking skills by applying multimedia technology and interactive teaching approach to Thai students at a Thailand private university, and 2) to investigate Thai students' perceptions of the integration of multimedia technology and interactive teaching approach in Chinese courses.

Research Methodology

In this research, the methodology of the quantitative method was applied for gaining research data and results. The researcher used an experimental research approach, and questionnaires have been adopted as the research instruments to collect data. A pre-test and a post-test were conducted before and after the semester in order to check whether the respondents' Chinese ability would increase or not. To validate a set of instruments which were the pre-test, post-test and questionnaires, an approach of Index of Item-Objective Congruence (IOC) was examined by three experts who were professors in teaching Chinese to check whether the instruments were valid. The score results of the IOC were higher than the acceptable score of 0.8 at 0.83 and 0.86. After the validation, the instruments were distributed to the respondents for data collection on their Chinese listening and speaking skills, and their satisfaction level toward multimedia technology and interactive teaching approach.

This study was conducted on the second-year Thai students in the second semester of academic year 2020, the Department of Chinese of a private university in Thailand. The population was 235 students in five classes (different class sizes) of the Department of Chinese, Faculty of Liberal Arts.

The research sample of this study was selected using the purposive sampling selection method, which was based on the collaboration from the students and the permission from the University. The students were willing to participate in the treatment as volunteers, which came to

the sample size of 35 students. In addition, the researcher received collaboration from the teachers of the classes in the experimental and data collection periods.

Research Conclusions and Discussion

A total of 35 students were selected as a sample; they did both pre-test, post-test, and questionnaires. Data were analyzed using the Social Science Statistical Software Package (SPSS) in this study. Data analysis had two sections. The first section was descriptive analysis, which analyzed the demographic factors; the second was the regression analysis. This section analyzed the relationship between each different variable. Those researchers also tried this software for each variable in testing the reliability of the analysis. In this research, researchers used descriptive statistical methods to summarize the essential characteristics of the data. Frequency and percentage were used to calculate and analyze the sample demographic data. Thus, after analysis, the results were shown in the following sections.

Table 1. Summary of Sample Demographic Information

Subject	Options	Frequency	Percentage
Gender	Male	22	62.9%
	Female	13	37.1%
Length of Studying Chinese	less than 2 years	5	14.3%
	2-5 years (inclusive)	11	31.4%
	5-10 years (inclusive)	14	40.0%
	Over 10 years	5	14.3%
Age	17-18	9	25.7%
	19-20	26	74.3%

According to Table 1, students were female at 62.9%, and male at 37.1%. The number of female students was 22; the number of males was 13. The results found that the Length of Studying Chinese of 5 students studied Chinese for less than two years, it meant that they started to study Chinese when they were university students at 14.3%, 11 students studied Chinese for 2-5 years, they had 31.4%, there were 14 students studied Chinese for 5-10 years, they had 40%, there were five students study Chinese more than ten years, they had 14.3%. Therefore, most students studied Chinese for 5-10 years, which means many started studying Chinese when they were very young. The students were aged between 19 and 20, and they were 26, occupied 74.3%.

Table 2. The Descriptive Statistics of SCORE1 and SCORE2

	N	Minimum	Maximum	Mean	Std. Deviation
SCORE 1	35	31	41	34.20	3.243
SCORE 2	35	33	45	42.06	2.413
GAP	35	2.00	12.00	7.8571	2.77746
Valid N (listwise)	35				

Based on Table 2, it showed that the mean score of pre-test score (SCORE 1) was 34.20 and the post-test score (SCORE 2) was 42.06, which means the students understood better after the study of applying multimedia technology and interactive teaching approach in teaching Chinese listening and speaking, the mean gap between pre-test and post-test was 7.86. Additionally, the researcher also noticed that the standard deviation of SCORE 2 was 2.41 and SCORE 1 was 3.24, which meant that most of the students get higher ability after they received the multimedia technology and interactive teaching approach in teaching Chinese listening and speaking.

In the following parts, studies had shown that test results used SPSS software to test the relationship between different scores and students' satisfaction. T-test and Pearson correlation coefficient analysis will be shown in the next section. The following Table 3 shows the details of these four assumptions and the analysis results.

Table 3. Summary of Hypotheses Testing Result

Hypothesis	**Significant Value (alpha)**	**Correlation Coefficient**	**Result**
The relationship of Pre-test and Post-test Scores	0.000	0.551	Supported
The relationship of Pre-test and Scores Gap	0.000	-0.689	Supported
The relationship of Post-test and Scores Gap	0.000	0.225	Supported
The relationship of Perceived Value (Student Satisfaction) and Scores Gap	0.000	-0.253	Supported
The relationship of Perceived Value (Student's Satisfaction) and SCORE 1	0.000	0.152	Supported
The relationship of Perceived Value (Student Satisfaction) and SCORE 2	0.000	-0.087	Supported

Based on Table 3, it could be noticed that there was a positive relationship between SCORE 1 (pre-test score) and SCORE 2 (post-test score). The correlation was 0.551, which means there was a strong relationship between SCORE 1 and SCORE 2. This could also be proved that students could benefit from applied multimedia technology and interactive teaching approach in

teaching Chinese listening and speaking. If the student could get a higher score in the pre-test, they could get a higher score after applying multimedia technology and interactive teaching approach in teaching Chinese listening and speaking. In addition, the p-value was less than 0.05; it rejected the null hypothesis and stated that there was a significant difference, on average, in SCORE 1 and SCORE 2.

Furthermore, Table 3 demonstrated that there was a negative relationship between SCORE 1 (pre-test score) and GAP (the gap between pre-test score and post-test score). The correlation was - 0.689, which means there was a negative relationship between SCORE 1 and GAP. Supposed the student could get a lower score on the pre-test, in that case, they could get a higher score after applying multimedia technology and interactive teaching approach in teaching Chinese listening and speaking. The students who got a lower score on the pre-test could benefit from multimedia technology and interactive teaching in Chinese listening and speaking. In addition, the *p*-value was less than 0.05; it rejected the null hypothesis and stated that there was a difference, on average, in SCORE 1 and GAP. Furthermore, it was rejected (p <0.05) and stated that it has a significant difference between SCORE 1 and GAP.

From Table 3, it displayed that there was a positive relationship between SCORE 2 and GAP. The correlation was 0.225, which means there was a fragile relationship between SCORE 2 and GAP. This could also be proved that students could benefit from applying multimedia technology and interactive teaching approach in teaching Chinese listening and speaking. The students who had a higher post-test score could get more benefit from applying multimedia technology and interactive teaching approach in teaching Chinese listening and speaking. In addition, the *p*-value was less than 0.05; it rejected the null hypothesis and stated that there was a difference, on average, in SCORE 2 and GAP. It was rejected (p<0.05) and states that it has a significant difference between SCORE 2 and GAP.

The results showed the value of 10 questions in the questionnaire, which was called both higher than 4, which means most of the students were satisfied with the results of applied multimedia technology and interactive teaching approach in teaching Chinese listening and speaking. The mean of 10 questions called “perceived value” was 4.72, which was higher than 4. This was also proved that most of the students were satisfied with applying multimedia technology and interactive teaching approach in teaching Chinese listening and speaking. For detail, the researcher noticed that according to all ten questions, students marked question 4 and question 5 with the lowest score, which average was 4.66, this question was “I like this teaching approach” and “It could make me want to learn Chinese proactively,” that means the applying multimedia technology and interactive teaching approach in teaching Chinese could help Thai students better

understand the meaning of Chinese words when Chinese words and Thai words were much different. Then, the researcher noticed that according to all ten questions, students marked question 8 (Q8) with the highest score, which average was 4.83, this question was “It makes me understand the meaning of some Chinese words easier,” the reasons could be the teaching technique was very new for many Thai students, it was ~~not~~ different from a traditional teaching technique. Therefore, most Thai students needed time to adopt this teaching method.

Based on Table 3, it could be noticed that there was a negative relationship between perceived value and GAP. The correlation was -0.253, which means a negative relationship between perceived value and GAP. The student who has a lower gap between pre-test score and post-test score, the more perceived value from applying multimedia technology and interactive teaching approach in teaching Chinese listening and speaking. In addition, the *p*-value was less than 0.05; it rejected the null hypothesis and stated that there was a difference, on average, in perceived value and GAP. It was rejected ($p<0.05$) and states that it has a significant difference between SCORE 2 and GAP.

From Table 3, there was a positive relationship between perceived value and SCORE 1. The correlation was 0.152, which means there was a weak relationship between perceived value and SCORE 1. This could also be proved that students could benefit from applying multimedia technology and interactive teaching approach in teaching Chinese listening and speaking. The student who had a higher pre-test score, the more perceived value from applying multimedia technology and interactive teaching approach in teaching Chinese listening and speaking were. In addition, the *p*-value was less than 0.05; it rejected the null hypothesis and stated that there was a difference, on average, in PERCEIVED VALUE and SCORE 1. It was rejected ($p<0.05$) and states that it has a significant difference between PERCEIVED VALUE and SCORE 1.

Based on Table 3, it showed that there was a negative relationship between perceived value and SCORE 2. The correlation was -0.087, which means a negative relationship between perceived value and SCORE 2. The student who has a lower post-test score, the more perceived value from applying multimedia technology and interactive teaching approach in teaching Chinese listening and speaking. In addition, the *p*-value was less than 0.05; it rejected the null hypothesis and stated that there was a difference, on average, in PERCEIVED VALUE and SCORE 2. It was rejected ($p<0.05$) and states that it has a significant difference between PERCEIVED VALUE and SCORE 2.

This was comprehensive research on "Multimedia Technology and Interactive Teaching Approach in Teaching Chinese at a Private University" and aims to achieve two teaching objectives: 1) To investigate whether this new method could enhance Chinese listening and speaking skills by

applying multimedia technology and interactive teaching approach on Thai students at a private university, and 2) To investigate Thai students' perceptions on the integration of multimedia technology and interactive teaching approach in Chinese courses and the study has been conducted at Rangsit University in Thailand.

In this paper, the researcher summarized Social Learning Theory, Interactionism Theory, and Experiential Learning Theory, including the other related researches. It was shown that applying multimedia technology and an interactive teaching approach could be successful in Chinese listening and speaking of second-year Thai students. In the teaching process, the interactive whiteboard was used as the primary teaching tool to participate in teaching so that students could learn in their own authentic experience and maximize their enthusiasm for active learning. According to the actual situation of the second-year Thai students, a targeted lesson plan was developed so that they could reflect the effectiveness of this research method in the final listening and speaking test scores and let them be able to apply indeed some of the knowledge they have learned in real life. At least related words and sentences could flash in their minds.

In order to investigate the effect of using multimedia technology and interactive teaching method in the teaching of Chinese listening and speaking, 35 students were tested for their Chinese proficiency. The researchers found a significant positive correlation between pre-test scores and post-test scores. The researchers also found that most respondents were satisfied with the researchers' application of multimedia technology and interactive teaching methods in Chinese listening and speaking teaching. It also shows a significant relationship between test scores and perceived scores, meaning that students have higher test scores and more perceived value in applied multimedia technology and interactive teaching methods to teaching Chinese listening and speaking.

The research results have shown that Thai students could benefit from applied multimedia technology and interactive teaching approach in teaching Chinese listening and speaking, especially those second-year students. Teachers could also get feedback to improve or strengthen teaching methods in this process. The conclusions were as follows:

According to the survey results, students were bored by the traditional teaching model. By interacting with students in class, they can be known where students' weaknesses were and which teaching methods students were more interested in. In interaction with students, the teacher can also through a variety of activities so that the students consolidate the knowledge, to achieve the teaching purpose, make the students interested in Chinese, to improve Chinese achievement. This study also helps to strengthen teachers' multimedia technology and the confidence of the interactive teaching method of listening.

This study has improved students' motivation to learn Chinese and their confidence in speaking by using multimedia technology and interactive teaching methods to teach Chinese listening and speaking to Thai students, especially second-grade students. They can learn Chinese easily without too much pressure and reluctance. Multimedia technology and interactive teaching methods have improved students' interest in learning Chinese and their Chinese scores.

Research Contributions of the Study

Based on the findings, it found that Thai students could get benefit from applied multimedia technology and interactive teaching approach in teaching Chinese listening and speaking; the main findings could be explained as follows:

The findings showed that the pre-test scores were positively correlated with the post-test scores, the pre-test scores were positively correlated with the achievement gap, and the post-test scores were positively correlated with the achievement gap, indicating that the application of multimedia technology and interactive teaching in Chinese listening and speaking teaching is beneficial to students. If the students can get higher scores in the preliminary examination, then the application of multimedia technology and interactive teaching methods in Chinese listening and speaking can also get higher scores. The application of multimedia technology and interactive teaching methods in Chinese listening and speaking can benefit students with high scores. It was noted that the R^2SCORE1 GAP was much larger than the R^2SCORE2 GAP, suggesting that students who scored high on preparatory exams benefited more because they had a better base of knowledge, which they could then gain from studying.

Moreover, the researchers found a positive correlation between perceived value and GAP and between perceived value and score 1 and score 2. This means that students can benefit from multimedia technology and interactive teaching in Chinese listening and speaking teaching. The concept the more prominent the gaps are between the pre-test scores and the post-test scores, the stronger the students' perception of the value of applying multimedia technology and interactive teaching in Chinese listening and speaking teaching will be. Hence, the higher the students' score after the test showed, the higher their perception of the value of applying multimedia technology and interactive teaching in Chinese listening and speaking was high.

The researcher found that the research results proved the idea of Patel (2013) and Ma (2020), who indicated that using multimedia to create situations to teach communication skills, had its unique advantages. Technology plays a significant role in the teaching of communication skills. The results indicated that most of the students benefited from the new teaching way. The results also showed that most of the students perceived that the new teaching approach was good. This

was consistent with the results of Cao (2014) who indicated that students could better grasp the overall perception of teaching because teachers used dynamic display, color, and sound technology to realize some static and inanimate things, which could arouse students' sensory sensitivity.

Furthermore, the multimedia technology and interactive teaching approach in teaching Chinese listening and speaking could be widely applied in universities. Additionally, universities could follow Liu (2018), who suggested that universities and teachers could directly present teaching content to students through multimedia. The sound heard by the students' ears and the pictures seen by the eyes differed from the traditional teaching model, replacing the previous boring and rigid classroom model.

For instance, teachers could firstly combine Chinese songs in Chinese listening class and play Chinese songs before class to stimulate students' interest in learning. Secondly, Chinese movies were integrated into listening teaching, which was also one of the ways for students to enjoy the class quickly. Thirdly, teachers who want to teach students Chinese speaking need to pay extra attention to five aspects: vocabulary, grammar, fluency, pronunciation, and intonation.

Based on the findings, the teachers also could use an interactive teaching approach, which was a form of learning and communication activities related to Giorgdze & Dgebuadze (2017), who informed that the focus of interactive teaching was the needs, abilities, and interests of students and teachers could follow the ways of Knapen (2018) of following actions:

1) Teacher-student interaction

2) Student-student interaction

3) The use of audio, visuals, video

4) Hands-on demonstrations and exercises.

Future researchers could apply multimedia technology and interactive teaching approaches in teaching Chinese to a larger sample. For example, they could apply to different universities to increase the sample. Then, the future researchers could apply multimedia technology and interactive teaching approach in teaching Chinese, in different countries, and with different language backgrounds. For example, they could compare Thai and native students who speak a different language to check how this teaching technique works differently. Finally, yet importantly, future researchers could apply a new teaching technique in different subjects or countries; and then they could compare which way is better to teach students studying Chinese.

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