THE USE OF LEARNING MANAGEMENT SYSTEM AND MULTIMEDIA INSTRUCTION FOR CHINESE SPEAKING SKILL OF GRADE 11 THAI STUDENTS

BY

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Abstract

This study investigated the effectiveness of integrating Learning Management System with Multimedia Instruction to enhance the Chinese speaking skill of Grade 11 Thai students. Conducted for four weeks in a private school in Chonburi Province, Thailand, the research utilised pre-test, post-test, and satisfaction questionnaire to assess learning outcomes. The findings revealed significant improvement in students' speaking skill, particularly in pronunciation, vocabulary, fluency, and communicative skills. In average, students' scores increased by 41% in the post-test, demonstrating substantial progress in their Chinese speaking skill. Multimedia tools, including audio recordings and videos, fostered an interactive and engaging learning environment, while the Learning Management System enabled personalised learning experiences and effective progress tracking. Students reported high levels of satisfaction with this approach, emphasising its positive impact on their motivation and engagement. These results suggested that integrating Learning Management System with multimedia instruction was a practical and effective method for teaching Chinese as a foreign language, providing valuable insights for educators and policymakers alike.

(Total 134 pages)

Keywords: Learning Management System, Multimedia Instruction, Chinese Speaking Skill, Language Education, Grade 11 Thai Students, Educational Technology

Student's Signature …..... Thesis Advisor's Signature .....

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT.)

TABLE OF CONTENTS (CONT.)

LIST OF TABLES

LIST OF FIGURES

Page

Figures

ABBREVIATIONS

Abbreviation	Meaning
TELL	Technology-Enhanced Language Learning
IOC	Item-objective Congruence
TTS	Text to speech
AI	Artificial Intelligence

CHAPTER 1

INTRODUCTION

This chapter explains the background and rationale behind the study, followed by elucidating the research objectives, posing research questions, and establishing research hypotheses. Furthermore, it will address the scope, conceptual framework, terminology definitions, and expected outcomes of the study.

1.1 Background and Rationale of the Study

The development of Chinese education for ethnic Chinese in Thailand reflects the historical changes in Sino-Thai relations. Since the initial Chinese immigration to Thailand in the 14th century, Chinese education has slowly taken shape, with different forms such as private schools and joint schools. In the early 20th century, with the introduction of revolutionary ideas from China and the rise of the Chinese community, Chinese education rapidly developed, with the establishment of several Chinese schools. However, during and after World War II, Thai government policies shifted, causing a severe setback to Chinese education. Only in the 1990s, with the rise of the Chinese economy and Thailand's positive adjustment of its policy towards China, did Chinese education begin to revive, with an increase in the number of Chinese schools and the quality of education.

In the 21st century, Thai Chinese education has ushered in new development opportunities. With the continuous growth of the Chinese economy and the strengthening of Sino-Thai relations, the demand for Chinese language learning in Thai society is increasing. The Thai government has also gradually recognized the importance of Chinese education and started to support its development. Traditional Chinese schools not only maintain Chinese education but also promote it in Thailand's

public schools. As cultural exchanges between China and Thailand deepen (Li, 2012).

With the continuous growth of the Chinese economy, especially since the 21st century, China's influence in Southeast Asia has significantly increased. In 2014, the governments of China and Thailand reached an agreement on a high-speed railway project, which not only strengthened the transportation links between the two countries, but also deepened cultural exchanges, thereby promoting cooperation between China and Thailand in the fields of tourism and culture. (Punyaratabandhu & Swaspitchayaskun, 2018) Various channels, such as the establishment of Confucius Institutes and the substantial presence of Chinese students and tourists in Thailand, have significantly strengthened China's influence in Thailand. As of 2015, there were 13 Confucius Institutes and 11 Confucius Classrooms established in Thailand, with over 8,000 Chinese volunteers received, making it the country that hosts the largest number of Chinese volunteers in Southeast Asia. Furthermore, more than 600,000 students in Thailand have received Mandarin instruction. The non-profit nature of Confucius Institutes underscores their commitment to promoting Chinese language and culture globally, playing a pivotal role in China's cultural dissemination within Thailand (Tungkeunkunt, 2016).

As the frequency of exchanges between China and Thailand increases and the promotion of Chinese language teaching becomes widespread in Thailand, related issues have also surfaced. The scarcity of Chinese language teachers in Thailand has led to many schools offering only one Chinese class per week, which is insufficient to meet the actual needs of effective language instruction (Wang, 2020).

Furthermore, Chinese teachers who have come to Thailand have observed that the teaching environment here differs markedly from that in China, rendering their domestic teaching experience less applicable in this new context. Among the challenges they face, how to effectively stimulate the students' learning motivation in Thailand has become a major one.

According to the survey on Thai students' motivation to learn Chinese, the student group exhibits significant deficiencies in purposefulness and initiative in learning. Compared with adults, students, due to the immaturity of their cognitive development, have not formed clear life views and self-value systems, leading to a vague learning motivation, unclear goals, and a lack of sustained interest and effective learning strategies. The main motivation for most students to learn Chinese is the forced requirement of school curriculum as well as the increasingly close trade and cultural exchanges between China and Thailand, in which parents expect their children to improve their personal cultivation and future prospects by learning Chinese. However, this passive learning mode leads to a lack of initiative and enthusiasm among students (Qin, 2018).

According to the survey results of Chinese language teachers in Thailand, teachers generally believe that the main motivation for Thai students to learn Chinese is its practicality. Students generally believe that mastering Chinese skill will have a positive impact on their future employment prospects and personal development (Kanoksilapatham, 2011).

Thai students tend to prefer a more dynamic and visually engaging teaching style compared to the traditional Chinese-style teacher-cantered approach. The development of modern educational technology and students' desire for diverse learning experiences may contribute to this preference for more interactive and visually appealing teaching methods (Samormob & Phusawisot, 2020).

In Thailand's educational environment, where students tend to absorb and process information through multiple senses, multimedia instruction can adapt well to this learning preference. Through multimedia tools, students can practice Chinese in simulated or real-life contexts, which helps them better understand and apply the language in practice. Furthermore, the interactive nature of multimedia instruction encourages students to actively participate, improving their motivation and engagement, which is crucial for enhancing learning outcomes.

To enhance students' motivation to learn Chinese and emphasize its practical value, educators should consider adopting multimedia instruction. This method integrates visual, auditory, and kinaesthetic elements to provide students with a rich and dynamic learning environment. Multimedia instruction utilizes tools such as videos, audio, animations, and interactive software to not only capture students' attention but also provide them with opportunities to learn and practice the language, thereby enhancing their understanding and memory of the language.

However, in multimedia instruction, due to the large amount of and rich classroom information, students might find it challenging to keep up with the learning progress and unable to complete normal class notes. There is an excessive number of pictures and text information on the screen, which makes it challenging for students to record all the relevant knowledge and leaves them unsure about what to focus on recording (Zonghao, 2022).

In this study, a diverse array of multimedia tools was employed to enhance the Chinese language speaking skills of Thai students. Video materials served a dual purpose: demonstrating accurate pronunciation and intonation while providing visual support for non-verbal communication cues. Audio recordings were utilised to facilitate listening and imitation exercises, which are essential for mastering pronunciation. Additionally, group video projects were introduced to foster an interactive and collaborative learning environment. These multimedia elements were designed to create an enriched and immersive educational experience that stimulates all facets of communication skills (Wang, Woo, Quek, Yang, & Liu, 2012).

The integration of multimedia tools in language education is expected to yield numerous advantages. Videos effectively convey nuances in speech and non-verbal communication, while audio resources facilitate repetitive listening exercises crucial for enhancing pronunciation skills. Group video projects encourage peer interaction, providing students with opportunities to apply their linguistic knowledge within a social context. This approach not only improves speaking proficiency but also enhances overall learning satisfaction by making the educational experience more

engaging and interactive (Macfadyen & Dawson, 2010). Furthermore, multimedia resources offer the convenience of accessibility at any time and from any location, a benefit not consistently available in traditional classroom settings (Naveh, Tubin, & Pliskin, 2010).

Despite these evident advantages, the challenges associated with integrating multimedia into language instruction were substantial. Technical issues, such as inadequate internet connectivity or outdated hardware, could hinder the effectiveness of these tools. Additionally, there was considerable variability in the quality of multimedia content, and not all students had equal access to essential technology (McGill & Klobas, 2009). However, these limitations could be mitigated through meticulous planning and adequate support.

After a comprehensive evaluation of the benefits and drawbacks, researchers concluded that the advantages of using multimedia tools for teaching Chinese as a foreign language to Thai students far outweighed any encountered disadvantages. The interactive and flexible nature of multimedia made it an attractive option for enhancing linguistic proficiency and student satisfaction. Consequently, confident in their potential to enrich the overall learning experience, these multimedia tools were integrated into the study.

The proliferation of multimedia teaching has elevated the issue of homework to a prominent position, rendering it an unavoidable concern.

The educational system widely acknowledges homework as a fundamental component that enhances learning quality and academic achievement. Research demonstrates that homework not only deepens students' comprehension of course material but also significantly enhances their academic performance, particularly at the higher education level. A positive correlation exists between homework completion and the academic success of college students, further underscoring the critical role that homework plays in assessing and improving students' academic proficiency (Suamuang, Easter, & Suksakulchai, 2021).

Nevertheless, the actual rate of homework completion has frequently been suboptimal. In Thailand, the issue of students copying assignments from peers due to an inability to complete them independently has attracted considerable attention. Furthermore, inappropriate assignment distribution can adversely affect students' emotional well-being and learning attitudes. In some cases, teachers may lack sufficient insight into whether students have completed their assignments independently or relied on others for assistance (Songsirisak & Jitpranee, 2019).

Currently, one of the prominent challenges in education is the effective monitoring of students' post-class learning following classroom instruction. The implementation of a Learning Management System is regarded as a promising solution. Designed to plan, execute, and evaluate the entire learning process, a Learning Management System is an integrated software application or web-based technological platform. Through this system, educators can create and deliver course content, monitor student participation in real-time, and conduct online assessments (Kasim & Khalid, 2016). It provides a centralised hub for educational materials, assignments, assessments, and communications (Rabiman, Nurtanto, & Kholifah, 2020). By incorporating a Learning Management System into the educational framework, educators can more efficiently deliver course material while tracking student progress and enhancing the overall educational experience (Weaver, Spratt, & Nair, 2008). The advantages of utilising a Learning Management System include improved instructional productivity; the ability to customise learning experiences; flexible learning opportunities; and fostering student interaction through dynamic tools (Gautreau, 2011).

For educators, the implementation of a Learning Management System presents numerous advantages, including substantial time savings, optimal organisation of teaching materials, and enhanced efficiency in evaluating student performance. Furthermore, the integration of email systems within the Learning Management System framework significantly improves communication between instructors and students.

For learners, a Learning Management System greatly enriches the educational experience by providing convenient access to a diverse array of resources, thereby enhancing their technological proficiency and increasing opportunities for interaction with instructors while broadening their access to educational materials.

Building upon these benefits, the incorporation of multimedia into Learning Management System further amplifies educational impact by offering synergistic advantages in academic settings. By leveraging multimedia's capacity to integrate various content forms—such as text, images, audio, and video—we create a dynamic learning environment that engages multiple senses and accommodates diverse learning styles. This rich and engaging content has significant potential to enhance student engagement, improve information retention, and facilitate comprehension of complex concepts through visual and auditory cues.

The seamless integration of multimedia within the Learning Management System framework ensures that this content is not only dynamic but also well-organised, accessible, and trackable.

This structured platform empowers educators to effectively deliver multimedia lessons, assign interactive exercises, and easily monitor student progress. Students can access these materials at any time from any location—fostering self-paced learning and flexibility. Moreover, the Learning Management System facilitates a range of interactive activities such as discussion forums, peer reviews, and collaborative projects—all significantly enriched by incorporating multimedia elements. This approach not only enhances the educational experience but also prepares students for the technologically advanced world that awaits them beyond the classroom.

The integration of multimedia with learning management system not only enhances the organisation and accessibility of educational content but also paves the way for a more personalised learning experience. By leveraging the interactive nature of multimedia and the structured environment of Learning Management System, educators can customise content to address the unique needs of each student. This

customisation includes offering supplementary multimedia resources to those who require additional support and providing advanced materials for students seeking to delve deeper into the subject matter. Such an approach is instrumental in implementing differentiated instruction and fostering an inclusive educational environment where every student, regardless of their abilities or background, can engage with and benefit from the learning materials.

Furthermore, the analytical capabilities inherent in Learning Management System platforms significantly augment the integration of multimedia. Teachers can use data from student interactions with multimedia content to thoroughly assess learning outcomes and pinpoint areas where students might be struggling. This insight empowers educators to adapt their teaching strategies in real-time, maintaining curriculum alignment with student needs and continuously refining instructional methods for optimal effectiveness.

The convergence of multimedia and Learning Management System, therefore, represents a transformative shift in education. It enriches the educational landscape by fostering interactivity, flexibility, and responsiveness to the diverse needs of both educators and students. This synthesis creates a more inclusive, engaging, and effective learning environment that is better equipped to prepare students for the multifaceted challenges of the modern world. By embracing this technological advancement, educational institutions can provide a learning experience that is not only contemporary but also profoundly impactful, empowering students with the knowledge and skills they need to thrive in a globalised and technologically advanced society.

The integration of multimedia with learning management system not only enhances the organization and accessibility of educational content but also paves the way for a more personalized learning experience. By leveraging the interactive nature of multimedia and the structured environment of earning Management System, educators can customize content to address the unique needs of each student. This customization includes offering supplementary multimedia resources to those who require additional support and providing advanced materials for students seeking to

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Finally, the Learning Management System and multimedia were utilized to teach and enhance the Chinese speaking skill of Thai students. The primary objectives of this study were to cultivate Thai students' proficiency in Chinese speaking and to improve their learning satisfaction. It is anticipated that the research findings will provide valuable insights and offer an alternative teaching and learning method for Chinese speaking skill. These findings can serve as important references for future Chinese language educational practices and reforms, particularly within Thai educational contexts and beyond.

1.2 Research Objectives

1.2.1 To compare Grade 11 Thai students' speaking skill before and after the use of and Learning Management System and multimedia instruction.

1.2.2 To investigate Grade 11 Thai students' satisfaction towards learning Chinese speaking skill through the use of Learning Management System and multimedia instruction.

1.3 Research Questions

1.3.1 Did the use of Learning Management System and multimedia instruction help improve Grade 11 Thai students' Chinese speaking skill?

1.3.2 How satisfied were Grade 11 Thai students towards learning Chinese speaking skill through the use of Learning Management System and multimedia instruction?

1.4 Research Hypotheses

The use of Learning Management System and multimedia instruction would help improve Grade 11 Thai students' Chinese speaking skill.

1.5 Scope of the Study

This study was conducted within the specific of Thai educational context described in this chapter; therefore, generalization of the results must be done with caution, especially when working at different levels of education and using different research tools.

The study took place at a private school in Chonburi Province, Thailand. Additionally, the data and findings were collected from Grade 11 Thai students who were enrolling in a Chinese subject at the research school through the use of pre-test and post-test as well as the questionnaire. These data and findings were subsequently used to address the research objectives.

Furthermore, in Chonburi Province, teachers have the autonomy to devise and execute their own instructional approaches and exercises tailored to the specific requirements and preferences of the pupils. Thus, this study aimed to suggest the use of Learning Management System and multimedia instruction as the teaching and learning tools, along with tailored teaching approaches, to enhance Thai students'

proficiency in Chinese speaking skill and their learning satisfaction.

1.5.1 Location of the study

As mentioned earlier, the researcher conducted this study in a private school at Pattaya, in Chonburi Province, Thailand. The school has been approved by the Ministry of Education and followed as the typical educational requirements of the city. The school was established in 2001. It consists of junior high levels and senior high school levels, with 33 junior high school classes and 22 senior high school classes. There are about 80 teachers and more than 1,850 students.

Among them, there were 9 classes in Grade 11 that offer courses in Chinese, with about 30 students in each class. The average ability of students in the classes was the same. The location of the study school was shown in Figure 1.1 below:

Figure 1.1 Shows the Location of the Study School

Source: Sawang Boriboon Wittaya School, 2024

1.5.2 Population and Sample

Population: The population of the study consisted of nine classes of Grade 11 Thai students studying at a research school. In total, there were 270 students as the study population.

Sample: This study applied a clustered random sampling method to select one class out of nine classes of Grade 11 for being used as a sample of the study. This class included 20 students with the age level of 16-17 years old and mixed genders. They were offered the courses in Chinese and had been learning Chinese for one or two years. Therefore, they appeared to have the similar Chinese language ability.

1.5.3 Time Frame

The study took place in Chonburi Province, Thailand during the second semester of the 2024 academic year, involving a twice-weekly teaching experiment spanning four weeks. For this study, the lesson plans consisted of 8 lessons, each lasting 50 minutes and totalling 400 minutes were be designed. The Time frame for the research process was shown in Table 1.1 below:

Table 1.1 Time Frame for the Research Process

Activity	Jul	Aug	Sept	Oct	Nov	Dec	Jan
Literature Review							
Research Proposal							
Data Collection							
Data Analysis							
Report Writing							
Final Defence							

1.5.4 Content of Lesson plans

In this study, the researcher designed four lesson plans, divided into sixteen sections, each lasting 50 minutes. The theme of each class is based on the professional textbooks on Chinese teaching, "Hanyu Jiaocheng (Yang, 2006). The Content of

Lesson plans was shown in Table 1.2 below:

Table 1.2 Content of Lesson Plans

Lesson Plan	Topics	Use of Learning Management System and Multimedia Instruction
Test	Pre-test	To describe the content on random pictures.
Lesson Plan 1	Listening and speaking training	1.Teacher uploads the audio materials and related questions to the Learning Management System students preview the audio content before class and submit answers through the Learning Management System in class. Teachers review student responses on the Learning Management System and give feedback. 2.Play the audio material, let the students get familiar with the pronunciation and intonation of Chinese, improve the language perception ability through listening practice.
Lesson Plan 2	Repetition training	1.Teachers publish video resources related to the subject of the course on the Learning Management System, and students submit a summary on the Learning Management System after watching the video. Teachers evaluate and give feedback on students' summaries through the Learning Management System. 2.Use video to show real or simulated Chinese communication scenarios to help students understand the practical application of the language, while enhancing memory through visual elements.
Lesson Plan 3	Songs	1.Teachers provide the audio and lyrics of songs on the Learning Management System, student groups practice before class, and upload singing videos through the Learning Management System in class. Teachers and classmates can watch and give comments on the Learning Management System. 2.Through the melody and rhythm of the song, students can learn Chinese pronunciation and intonation in a relaxed and pleasant atmosphere and enhance the sense of rhythm of the language.

Table 1.2 Content of Lesson plans (Cont.)

Lesson Plan	Topics	Use of Learning Management System and Multimedia Instruction
Lesson Plan 4	Video shoot	1.Teachers provide guidance and examples of video production on the Learning Management System, student groups plan and shoot videos before class, and submit finished products through the Learning Management System. Teachers and classmates can watch the videos and discuss and evaluate them on the Learning Management System. 2.Students use video production tools to combine Chinese language learning with creative expression and improve their language skills and teamwork skills through practical video creation projects.
Test	Post-test	To describe the content on random pictures.

1.6 Conceptual Framework

This study developed a conceptual framework to explore the potential impact of two independent variables—the implementation of a Learning Management System and the use of multimedia instruction—on two dependent variables: the enhancement of Chinese speaking skills and learning satisfaction among Grade 11 Thai students. The Learning Management System offered a structured platform for delivering course content, managing assignments, and tracking student progress. Meanwhile, multimedia instruction, incorporating videos, audio recordings, and interactive activities, fostered greater engagement and motivation. This framework sought to illuminate how these integrated educational technologies enhanced students' Chinese proficiency and overall learning satisfaction. Figure 1.3 below:

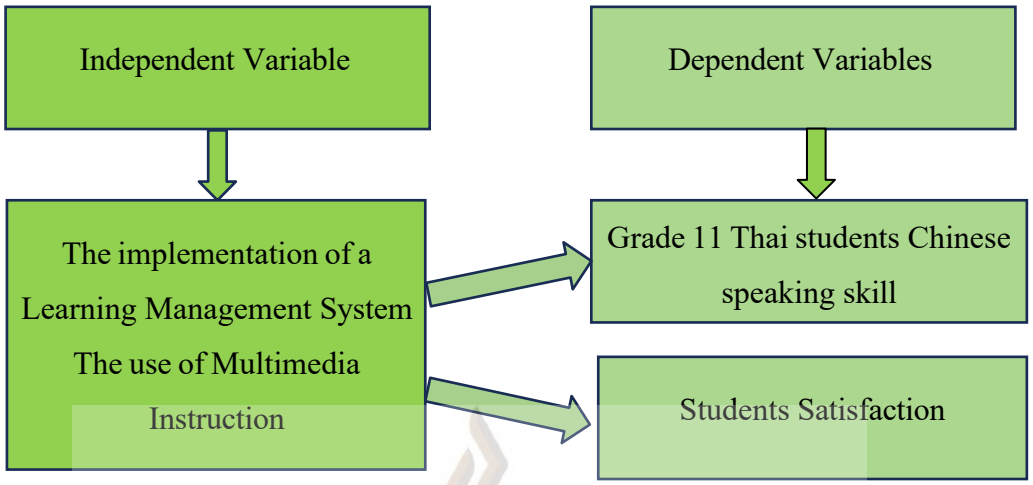


Figure 1.2 Conceptual Framework

1.7 Research Terminologies

Learning Management System refers to crucial element within the educational technology landscape, defined as a web-based software application or integrated technological platform designed to optimise and enhance the delivery, management, and assessment of educational content and processes. Learning Management System transcends basic administrative functions by providing a comprehensive suite of pedagogical tools tailored to meet diverse educational needs. These tools include discussion forums that promote collaborative learning, real-time chat systems facilitating communication between students and educators, and seamless integration of multimedia resources aimed at enriching the learning experience.

A Learning Management System acts as a central hub for educational materials, assignments, assessments, and communications, equipping educators with the means to effectively create, deliver, and evaluate course content. It fosters student interaction through dynamic tools that cultivate a more engaging, personalized learning environment. The system's analytical capabilities further empower educators to assess learning outcomes accurately, identify areas where students may encounter difficulties, and adapt teaching strategies in real time to align with student needs. In summary, a Learning Management System represents a multifaceted solution in educational technology that not only organises access to educational content but also leverages interactivity and flexibility

to enhance the overall learning experience—rendering it an indispensable asset in contemporary educational practices.

To apply a Learning Management System in class, educators can use it to streamline lesson delivery, facilitate communication, and enhance student engagement. For example, they can upload course materials, assignments, and multimedia resources to the Learning Management System for easy student access. Interactive tools like discussion forums and real-time chat can be employed to encourage collaboration and clarify doubts. Additionally, educators can use the system's analytics to monitor student progress, identify learning gaps, and adjust instructional strategies to better meet individual needs, creating a more personalized and effective learning experience.

Multimedia Instruction refers to the integration of text, images, audio, animations, and video into teaching to create dynamic and interactive learning environments. By accommodating diverse learning styles—visual, auditory, and kinesthetic it enhanced the educational experience. Grounded in pedagogical research, it combined media elements to improve comprehension, retention, and engagement by leveraging the brain's ability to process multisensory information.

Effective design required balancing content delivery, managing cognitive load, and adhering to pedagogical principles to align materials with learning objectives. This strategy utilized technology to deliver inclusive, interactive experiences, fostering better retention, comprehension of complex concepts, and active student participation.

Learning Management System with Multimedia Instruction refers to conceptualised as an integrated educational framework that amalgamates the organisational and administrative capabilities of a Learning Management System with the rich, interactive attributes of multimedia content. This synergy cultivates a dynamic educational environment that is engaging, flexible, and tailored to accommodate diverse learning styles.

In this context, the Learning Management System functions as the central platform for curriculum delivery, student interaction, and assessment management, while multimedia instruction offers a wide array of content forms—including text, images, audio, and video—to address various sensory modalities and enhance information

processing. This integration facilitates seamless deployment of educational materials that are accessible, trackable, and adaptable to different learning paces and preferences.

This approach empowers educators to effectively deliver lessons, assign interactive exercises, monitor student progress meticulously, and provide timely feedback within a structured yet versatile online platform. Students benefit from ubiquitous access to educational resources at any time or place; they can engage with content in multiple formats while participating in collaborative and interactive learning activities significantly enriched by multimedia elements.

The convergence of these two components signifies a transformative shift in education—fostering interactivity, flexibility, and responsiveness to the diverse needs of both educators and students. This synthesis engenders a more inclusive, engaging, and effective learning environment better equipped to prepare students for the multifaceted challenges posed by the modern world—thereby offering a contemporary and impactful educational experience.

In the classroom, the Learning Management System with Multimedia Instruction is implemented through a structured and systematic approach. Initially, detailed lesson plans are meticulously developed, incorporating multimedia activities such as listening to audio recordings, watching videos, performing songs, and creating videos. These resources are systematically uploaded to the Learning Management System and organised into modules for seamless access. During the implementation phase, students actively engage with these multimedia materials to practice listening, speaking, and summarising content, thereby enhancing their language proficiency. Group activities, including the creation and performance of Chinese songs and videos, are facilitated via the Learning Management System, promoting collaborative learning and practical language application. Assignments and submissions are managed through the Learning Management System, enabling efficient tracking and timely feedback. Pre-tests and post-tests are administered to measure improvements in oral proficiency.

Chinese Speaking Skill refers to Chinese speaking skill refers to the ability to communicate effectively in Mandarin, encompassing pronunciation, vocabulary, grammar, syntax, and tonal accuracy. It also includes communicative competence, cultural awareness, and interpersonal skills for appropriate language use across social

contexts. Fluency is marked by smoothness, rhythm, and spontaneity in constructing coherent, relevant discourse. Proficiency reflects confidence, adaptability, and nuanced communication for varied purposes, demonstrating overall language mastery and cultural adaptability.

Assessment involves oral tests and class performance evaluations. Oral tests include pre- and post-tests to assess image descriptions, dialogues, and impromptu speeches, scored on pronunciation, grammar, fluency, and communicative competence using a 5-point rubric. Class performance evaluates participation in discussions, group activities, and oral homework, with teachers providing feedback on real-time language use, ensuring practical application in diverse contexts.

Students' Learning Satisfaction refers to Grade 11 Thai students' interest, motivation, engagement, and effectiveness after learning Chinese speaking skill by applying Learning Management System and the multimedia instruction. In this study, students' learning satisfaction will be measured through the administering of 15 items of 5-point Likert scale questionnaire.

Grade 11 Thai students refer to a cohort of 20 learners, aged 16-17, from a school in Chonburi Province, Thailand. This group includes 1 Chinese students as language assistants, three advanced Thai students with over four years of Chinese study who act as group leaders, and sixteen Thai students with one to two years of Chinese experience who are the primary participants. This structured diversity fosters peer learning and enhances overall language proficiency.

1.8 Limitations of the Study

The study was expected to inspect the application of multimedia instruction and Learning Management System for Chinese speaking skill grade 11 students in Chonburi Province, Thailand. However, the limitations of this study needed to be considered as follows:

This study was limited to only a class of 20 students in a high school in Chonburi Province, Thailand; therefore, it may not be possible to generalize the results with all high school students in Thailand.

This study lasted only for four weeks. Therefore, the results may differ from those of a longer-term study.

This study consisted of the use of Learning Management System that are specifically created by the researcher. The results of the study may be various with the use of another version of Learning Management System.

1.9 Significance of the Study

The application of multimedia instruction and Learning Management System was helpful to improve the Chinese speaking skill of grade 11 students in Chonburi Province, Thailand.

It was expected that students were satisfied with the use of Learning Management System and multimedia instruction to learn Chinese speaking skill.

This study provided Chinese teachers with novel ideas for teaching Chinese speaking skill. The application of Learning Management System and the multimedia instruction shed the light of Thai students' more effective Chinese speaking skill.

CHAPTER 2

LITERATURE REVIEW

This chapter will introduce the Chinese language teaching and learning in Thailand; teaching and learning Chinese speaking skill; the application of multimedia instruction in teaching and learning Chinese speaking skill; Learning Management System; learning satisfaction in Chinese language; relevant references and studies.

2.1 Chinese Language Teaching and Learning in Thailand

2.1.1 Early Chinese education in Thailand

Chinese immigrants arrived in Thailand in the 14th century, establishing private schools dedicated to teaching classical Chinese literature, including the 'Four Books and Five Classics.' As the Chinese community in Thailand expanded, so did the demand for Chinese language education, resulting in the proliferation of such institutions. This trend was particularly pronounced during the 18th century, when private tutors collaborated to form more structured educational entities known as 'kohuang.'

However, the growth of Chinese education in Thailand faced significant challenges. The early 20th century experienced a decline due to various political and social factors, including legal restrictions imposed on Chinese language schools. Despite these adversities, the Thai Chinese community demonstrated resilience; by mid-century, there was a notable revival in Chinese education. The post-World War II period marked a critical phase of recovery and expansion, characterized by both new school establishments and renovations of existing ones.

By the late 20th century—prior to China's economic reform and opening-up policy—Chinese education in Thailand had developed into a relatively comprehensive system. Community efforts culminated in a robust network of Chinese schools that played an essential role in preserving cultural heritage and linguistic identity, thereby becoming an integral component of Thailand's diverse educational landscape. Throughout these periods, the evolution of China's educational framework within Thailand has exemplified community resilience and adaptability amidst shifting social and political contexts.

2.1.2 Chinese Education Current Status in Thailand

Economic, political, and cultural factors have profoundly shaped the evolution of Chinese language education in Thailand. The rapid expansion of China's economy and its increasing prominence in global markets have prompted the Thai government to gradually acknowledge the significance of Chinese language education in bolstering national competitiveness. Furthermore, close exchanges and frequent trade interactions between China and Thailand have heightened the demand for proficiency in Chinese.

The Thai government's endorsement of Chinese language education is evident through its policies that integrate Chinese into the national educational framework. The introduction of the 'Strategic Plan to Promote Chinese Teaching and Enhance National Competitiveness' by the Thai Ministry of Education in 2016 has catalyzed a surge in demand for Chinese courses nationwide, resulting in an increase from 80,000 learners in 2003 to approximately 600,000 in 2013; nearly 3,000 schools now offer such courses.

Despite these advancements, several challenges persist within Thai Chinese language education. Firstly, there exists a shortage of qualified teachers whose professionalism varies significantly; this inconsistency contributes to a lack of uniformity regarding teaching standards and materials. Secondly, students often exhibit weak motivation toward learning; many lack sustained interest or effective learning strategies. Given that Chinese is not a compulsory subject within the

curriculum, students frequently neglect skill development. Moreover—although there is notable interest among Thai students—the prevailing perception is that current learning materials and pedagogical approaches do not adequately address their needs.

Cultural factors also play an essential role in shaping the landscape of Chinese language education. The presence of a vibrant Chinese community provides a natural foundation for such educational initiatives while fostering acceptance due to Thailand's openness and inclusivity toward diverse cultures. However, the promotion of Chinese language education necessitates overcoming existing cultural differences as well as linguistic barriers.

In conclusion, economic, political, and cultural factors have contributed to some successes in Chinese language education in Thailand, but in order to achieve sustainable development, it is still critical to address issues with teacher quality, educational resources, and student motivation.

2.2 Teaching and Learning Chinese Speaking Skill

The teaching and learning of Chinese as a foreign language, with particular emphasis on speaking skill, has been the focus of extensive research. The inherent complexity of the Chinese language—characterised by its tonal nature and logographic writing system—presents unique challenges for Western learners (Stickler & Shi, 2013). Researcher have investigated various pedagogical approaches and technologies in response to these challenges. One notable approach is the use of audio blogs as a metacognitive tool to facilitate the development of speaking skill. Tan, Y. and Tan, S. (2010) conducted a case study that demonstrated the potential of audio blogs in enhancing students' Chinese speaking abilities through metacognitive reflection. Their findings indicated that students who participated in audio blogging activities exhibited significant improvements in their oral performance, underscoring the effectiveness of this method.

Furthermore, Tan and Tan's study (2010) highlighted the critical role of metacognitive strategies within the learning process. They identified a systematic approach among students involving evaluation, monitoring, and planning regarding their learning endeavours. However, they observed an imbalance in their use of metacognitive knowledge, with task knowledge predominating over person and strategy knowledge. This suggests that while students concentrated on content-related tasks, they often overlooked other essential factors such as individual learning styles and improvement strategies (Tan, Y. & Tan, S., 2010).

In terms of online learning contexts, Stickler and Shi (2013) explored the use of multimodal communication in synchronous online tutorials. They observed that while teachers' intentions and students' perceptions gradually aligned, linguistic and cultural differences led to mismatches. Their study emphasised the necessity for careful planning of online tasks and highlighted the importance of technical training for both teachers and students in ensuring effective communication and reducing anxiety in the online learning environment.

Moreover, the integration of technology in language learning, such as text-to-speech (TTS) systems, has shown promise in enhancing the pronunciation and speaking skill of non-native speakers of Chinese. TTS systems can offer standard pronunciation models and provide opportunities for repeated practice, which is crucial for learners to develop accurate tones and pronunciation.

In summary, teaching and learning Chinese speaking skill require a multifaceted approach that includes metacognitive strategies, multimodal interactions, and technology integration. These elements can help overcome the inherent difficulties of the language and provide a supportive learning environment for non-native speakers.

2.3 Multimedia Instruction

2.3.1 Overview of the Development of the Multimedia Instruction

Multimedia instruction represents a significant development within the educational sector, fundamentally transforming the methods of conveying and assimilating information. Multimedia instruction integrates diverse media forms—including text, audio, images, animations, and video—to create a dynamic and interactive learning environment. (Almara'beh, Amer, & Sulieman, 2015) have demonstrated the effectiveness of this approach in capturing students' attention and enhancing their overall learning experience.

A key advantage of multimedia instruction lies in its capacity to present information across multiple formats, catering to various learning styles and preferences. For example, some learners may favour visual aids, while others might prefer auditory explanations. By offering a rich tapestry of educational content, multimedia instruction effectively accommodates these differing needs (Dabbagh & Kitsantas, 2012).

Furthermore, research indicates that multimedia tools facilitate improved retention and recall of information. The integration of visuals with textual or auditory elements significantly enhances memory retention; the brain processes and recalls information more efficiently when presented in a multisensory format (Moreno & Mayer, 2007).

However, several challenges accompany the development of effective multimedia instruction. A primary concern is the necessity for high-quality design and production, which demands both technical expertise and a comprehensive understanding of pedagogical principles. Educators need to be aware of the potential cognitive strain learners may experience when presented with excessive information in a short amount of time (Mayer, 2005).

Moreover, issues related to accessibility and equity persist. Not all educational institutions or students have equal access to the technology essential for implementing multimedia instruction. This disparity has the potential to exacerbate educational inequalities among different student groups (Hannafin & Land, 1997).

In conclusion, while the advancement of multimedia instruction has introduced a versatile and engaging teaching methodology with significant potential to enhance learning processes, it remains imperative to address challenges associated with its design, implementation, and accessibility in order to ensure that its benefits are accessible to all learners.

2.3.2 Multimedia Instruction for Chinese Speaking Skill

Researcher have extensively researched the incorporation of multimedia tools into the educational process, particularly in the context of teaching Chinese as a foreign language. Multimedia-enhanced language learning offers an interactive and engaging platform that accommodates diverse learning styles, thereby enhancing the overall language acquisition experience (Criollo-C, Luján-Mora, & Jaramillo-Alcázar, 2018). Zhou (2021) highlights the potential of mobile-assisted language learning (MALL) for improving English speaking skill within a Chinese EFL framework, positing that mobile technology can significantly enhance learners' speaking abilities and other linguistic competencies.

A notable advantage of multimedia instruction is its provision of immediate feedback, facilitating interactive learning activities tailored to individual learners' needs (Zhou, 2021). Specific mobile applications Chinese language learners improve their speaking skill by offering features like voice recording and playback. These tools enable learners to compare their pronunciation with that of native speakers, thereby augmenting their speaking proficiency.

Nevertheless, the integration of multimedia in language instruction presents several challenges. Liu (2016) highlights technical challenges like compatibility across different operating systems and the restricted accessibility of specific application tools. Additionally, distractions arising from the small screen size of mobile devices and notifications may impede the learning process (Di, 2018).

Zhou's (2021) systematic literature review underscores the necessity for further research on Mobile-Assisted Language Learning (MALL) within the context of enhancing Chinese EFL speaking skill. The review indicates that the majority of studies in this domain are quasi- experimental and limited in scale, primarily concentrating on learners' perceptions of MALL and the relationship between speaking abilities and motor skill. These investigations frequently neglect affective factors such as motivation and speaking anxiety.

To optimize multimedia utilization for teaching Chinese speaking skill, it is imperative for educators to select and integrate tools that cater to their learners' specific needs (Zhou, 2021). Future research should examine the effects of MALL across diverse learner demographics while also considering affective factors that influence the development of speaking proficiency.

In conclusion, although multimedia instruction presents numerous advantages for teaching Chinese speaking skill, it is vital to address the associated challenges and limitations. By doing so, educators can leverage multimedia tools effectively to enhance language learning experiences and outcomes.

2.3.3 Application in the classroom

In the classroom setting designed to enhance Chinese speaking skill among Thai students, multimedia instruction plays a pivotal role by integrating various media forms into the learning process. Audio recordings are utilised to refine pronunciation, allowing students to listen and mimic the essential sounds and tones of the Chinese language. Videos serve dual purposes: they demonstrate correct pronunciation and

intonation while providing visual cues for non-verbal communication, which is particularly beneficial for a nuanced language like Chinese. These videos can depict real-life conversations or simulated scenarios, helping students understand the practical application of the language. Furthermore, group video projects are introduced to encourage students to apply their linguistic knowledge in collaborative and social contexts, known to improve speaking proficiency and overall learning satisfaction. This multimedia approach not only captures students' attention but also creates a rich and dynamic learning environment that caters to diverse learning styles, thereby enhancing their understanding and retention of the language.

2.4 Learning Management System

The evolution of Learning Management System represents a significant advancement in educational technology, fundamentally transforming the delivery and management of educational content. Learning Management System is web-based software applications designed to enhance teaching and learning experiences by providing a platform for content dissemination, student interaction, and assessment management (Kasim & Khalid, 2016, p. 55). They have become integral components of contemporary educational strategies due to their flexibility, user- friendliness, accessibility, and ease of use (Kasim & Khalid, 2016, p. 56).

The need for a more systematic and efficient approach to online learning management led to the origins of Learning Management System. Initially focused on administrative functions, early systems have since evolved to encompass a diverse array of pedagogical tools that address various educational needs—such as discussion forums, real-time chat systems for communication, and multimedia resources aimed at enhancing learning experiences (Rabiman et al., 2020, p. 1059).

A key driver in the evolution of Learning Management System has been the advancement of information and communication technology (ICT), which has facilitated the integration of multimedia and interactive elements into these platforms. This development has fostered a more dynamic and engaging learning environment,

thereby enhancing student outcomes (Weaver et al., 2008, p. 30).

Despite numerous advantages, the progression of Learning Management System has encountered several challenges. A primary concern is the digital divide; unequal access to technology can impede the effectiveness of Learning Management System for certain students (Gautreau, 2011, para. 4). Furthermore, the complexity inherent in some Learning Management System interfaces may present usability issues that detract from the overall learning experience.

In conclusion, while significant progress characterises the development of Learning Management System—offering innovative solutions to enhance educational delivery—challenges remain. However, ongoing advancements in technology and pedagogical strategies continue to refine Learning Management System capabilities, promising even greater potential for the future of education.

In the classroom, teachers utilise the Learning Management System for teaching in the following ways: Prior to class, instructors upload course-related materials such as teaching videos, audio files, PowerPoint presentations, and reading materials to the Learning Management System. This allows students to access these resources anytime for pre-class preparation and post-class review. During class sessions, teachers initiate discussion topics through Learning Management System 's real-time interactive features, like online discussion boards. Students can express their opinions and respond to peers' posts, while teachers provide guidance and feedback. For assignments, teachers create tasks on the Learning Management System, specifying requirements and deadlines. Upon completion, students submit their work electronically, and teachers subsequently grade and offer detailed improvement suggestions. Students can promptly check this feedback to understand areas needing improvement. Additionally, teachers use Learning Management System testing tools to regularly schedule online assessments to evaluate students' grasp of key concepts. After tests, the system automatically grades students, allowing them immediate insight into their performance and mistakes for targeted review. Teachers also analyse test results to adjust subsequent teaching plans and focus areas. Through the Learning

Management System, teachers can post course announcements regarding important updates, homework deadlines, and exam schedules, ensuring students stay informed about critical learning activities. Overall, using Learning Management System enhances the efficiency and organisation of the teaching process while promoting student autonomy and interaction.

2.5 Learning Satisfaction in Chinese Language

Foundational research in educational psychology and learning theories can trace the evolution of learning satisfaction. Initially, scholars concentrated on the relationship between learning outcomes and student motivation, gradually acknowledging the significance of satisfaction within the learning process. During the 1970s and 1980s, with the emergence of educational assessment and curriculum design, learning satisfaction became a critical indicator of educational quality. In recent years, the proliferation of online learning platforms and advancements in educational technology have broadened research on learning satisfaction, placing greater emphasis on learner experience, interaction, and self-efficacy. In academic discourse, learning satisfaction not only aids educators in evaluating and enhancing curricula but also provides policymakers with valuable insights for improving educational equity and quality— ultimately better addressing learners' needs.

2.6 Related Theories

A pedagogical model that integrates a learning management system with multimedia instruction and is grounded in constructivist and sociocultural theories emphasizes the significance of social interaction and cultural context within the framework of student-cantered learning and knowledge construction. Through scaffolded instruction, contextualized learning experiences, and collaborative activities, students actively engage in knowledge construction while deepening their understanding through interactions with peers. This integration not only enhances learner motivation and fosters critical thinking, but it also improves students' reflective capacities and the relevance of their learning to real-world contexts, thereby rendering

teaching more diverse, flexible, and personalized.

2.6.1 Learning Theory of Constructivism

Constructivism, a learning theory in education, asserts that learners actively construct and reassemble knowledge through experiences and interactions, rather than passively receiving it from teachers. It underscores the significance of learners' prior knowledge and experiences in shaping their comprehension of new information.

In a constructivist classroom, educators assume the role of facilitators rather than mere providers of information. They cultivate an environment where students can explore, question, and establish connections between their existing knowledge and new concepts. As students engage in constructing their own understanding, this approach fosters critical thinking and problem-solving skill.

The constructivist paradigm values the process of learning as much as the content itself. It frequently involves collaborative learning, where students work together to address problems or explore ideas, thereby enabling them to appreciate diverse perspectives and recognize that knowledge can be multifaceted.

Moreover, constructivism acknowledges learners' diversity, recognizing that each student constructs knowledge uniquely. This understanding promotes a more inclusive and personalized educational approach, with teachers supporting and guiding each student's unique learning journey. In summary, constructivist educational theory advocates for an active, learner-cantered methodology that emphasizes the construction of knowledge through experience, reflection, and social interaction.

2.6.2 Theory of Sociocultural

Sociocultural theory in education, primarily grounded in the work of Lev Vygotsky, emphasizes the importance of social interaction and cultural context in the learning process. This perspective views learning not as a solitary endeavour but as a

social activity intricately linked to the cultural practices and social interactions present in the learner's environment.

At the core of sociocultural theory is the concept of the Zone of Proximal Development (ZPD), which delineates the gap between what a learner can achieve independently and what they can accomplish with assistance from a more knowledgeable peer or adult. This zone signifies the learner's potential for growth, wherein effective learning transpires through collaborative problem- solving and guided participation.

The role of teachers or more knowledgeable others is crucial within this sociocultural framework. They provide scaffolding—temporary support that enables learners to undertake tasks that would otherwise be insurmountable on their own. This level of support gradually diminishes as learners gain competence, facilitating the internalization of strategies and skill imparted during instruction.

Sociocultural theory regards language as an essential tool, serving not only as a means of communication but also as an instrument for cognitive processes like thinking and problem- solving. Through social dialogue, learners cultivate internal speech, which is vital for higher-order cognitive functions including planning, reasoning, and self-regulation.

Sociocultural theory holds significant implications for education, advocating for the adaptation of teaching to learners' cultural contexts and the active, collaborative nature of learning. Teachers should encourage students to participate in meaningful activities that align with their cultural experiences, promoting active learning instead of merely receiving information passively. Furthermore, this theory emphasizes that learners' diverse cultural backgrounds and experiences shape learning, which is not a uniform experience. Consequently, educators should strive to create inclusive learning environments that recognize and build upon each student's unique strengths and perspectives.

In summary, sociocultural theory provides a framework for understanding how social interactions and cultural contexts influence learning. It highlights the significance of collaboration, communication, and active learner participation in knowledge construction, offering educators valuable insights for designing and implementing effective teaching strategies.

2.7 Related Research and Studies

This section examines the current landscape of research in several critical areas pertaining to Chinese language education in Thailand, multimedia instruction, Learning Management System, and learner satisfaction. By analysing recent advancements and trends, we can define the forefront of inquiry within these domains.

2.7.1 Chinese Language Education in Thailand

Recent investigations into Chinese language education in Thailand have highlighted the growing significance of proficiency, driven by increased economic and cultural exchanges between China and Thailand. A notable focus area is the integration of Chinese language education into the Thai national curriculum, which has experienced considerable progress. (Punyaratabandhu & Swaspitchayaskun, 2018) conduct research that elucidates the impact of China's Belt and Road Initiative on this educational sector, highlighting political and economic factors that propel this trend forward. Furthermore, (Tungkeunkunt, 2016) explores China's soft power influence in Thailand through cultural and commercial exchanges, further reinforcing the necessity for robust Chinese language education.

Recent studies have shifted toward understanding the effectiveness of diverse teaching methodologies alongside technological integration within language instruction. For instance, initiatives such as "Chinese+" programs—combining Chinese language learning with vocational training—represent a significant development in this field. This approach not only enhances linguistic skills but also provides practical vocational training relevant to Thailand's economic context. Empirical evidence indicates that these integrated

programs can substantially improve students' motivation and engagement levels, thereby leading to enhanced learning outcomes (Zhao & Liu, 2021).

2.7.2 Multimedia Instruction

Numerous studies have extensively examined the application of multimedia instruction in language learning, demonstrating its efficacy in enhancing student engagement and improving learning outcomes. (Samormob & Phusawisot 2020) found that Thai students exhibit a preference for dynamic and visually engaging teaching methods, which multimedia instruction effectively provides. (Zonghao 2022) discusses the advantages and disadvantages of multimedia teaching, noting that while it can significantly enrich learning experiences, it also presents challenges such as information overload and the necessity for high-quality content. Studies have shown that the integration of multimedia tools, such as videos, audio recordings, and interactive software, facilitates language acquisition by providing diverse and immersive learning environments.

Recent advancements in multimedia instruction emphasise the use of virtual and augmented reality (VR/AR) technologies to create more immersive educational experiences. These technologies can simulate real-life scenarios, providing students with practical opportunities for language use that traditional methods cannot offer. Studies indicate that VR/AR can substantially enhance language retention and speaking skills by fostering a more engaging and interactive learning environment (Mayer & Moreno, 2023).

2.7.3 Learning Management System

The evolution of Learning Management System represents a significant advancement in educational technology. Learning Management System platforms such as Moodle have become integral components of contemporary educational strategies, offering flexibility, accessibility, and an array of pedagogical tools. (Kasim & Khalid 2016) conducted a systematic review on selecting appropriate Learning Management

System solutions for higher education institutions; they highlighted the importance of user-friendliness alongside the capacity to support diverse educational needs. (Rabiman et al., 2020) discuss the design and development of e-learning systems utilising Learning Management System in vocational education contexts, emphasising their role in enhancing instructional productivity as well as student engagement. The incorporation of multimedia within Learning Management System platforms further amplifies their educational impact by creating dynamic interactive learning environments.

Current research on the Learning Management System focuses on integrating artificial intelligence (AI) and machine learning to provide personalized learning experiences tailored to individuals' needs. AI can analyse student data to identify patterns in learning behaviours while predicting future performance; this allows for customised pathways designed to meet specific learner requirements. This approach not only enhances academic outcomes but also improves student satisfaction through a more tailored educational experience (Naveh et al., 2010).

2.7.4 Learning Satisfaction

Learning satisfaction serves as a critical indicator of both educational quality and student engagement levels. Research efforts have concentrated on understanding factors contributing to student satisfaction along with how various instructional methodologies may enhance it further. (Suamuang et al., 2021) investigated relationships among instructor feedback, self-regulation practices, assignment completion rates, and academic achievement within Thai higher education institutions; they found that timely constructive feedback significantly boosts overall student satisfaction levels. Songsirisak & Jitpranee's analysis from 2019 examined homework assignments' effects on student performance while underscoring appropriate distribution's importance regarding maintaining motivation levels among learners.

Recent studies have also explored emotional design's role within multimedia learning environments—an approach involving elements intended to evoke positive emotions through aesthetically pleasing visuals or compelling narratives aimed at

enriching learners, experiences overall. Research indicates emotional design markedly enhances both engagement metrics and reported satisfaction rates by rendering processes enjoyable rather than stressful during study sessions (Plass & Kaplan, 2016).

2.7.5 Emerging Research Directions

The forefront of research in these domains increasingly emphasises the integration of advanced technologies and personalised learning methodologies. In the context of Chinese language education, there is a growing focus on employing artificial intelligence (AI) and machine learning to develop adaptive learning systems that can customize instruction according to individual students' needs. Within multimedia instruction, the exploration of virtual and augmented reality (VR/AR) aims to create more immersive and engaging educational environments. Adding big data analytics and learning analytics to learning management system has become an important area of study. This lets teachers see how their students are doing in real time and make decisions based on data that will help them learn better. Additionally, significant interest exists in understanding the psychological and emotional factors influencing student engagement within the realm of learning satisfaction, alongside developing strategies to address these dimensions.

In conclusion, contemporary research across Chinese language education, multimedia instruction, Learning Management System, and learner satisfaction is characterised by a pronounced emphasis on technological integration coupled with personalised approaches to learning. These advancements possess substantial potential for significantly enriching educational experiences and outcomes; thus, they represent critical areas for investigation by both educators and researchers.

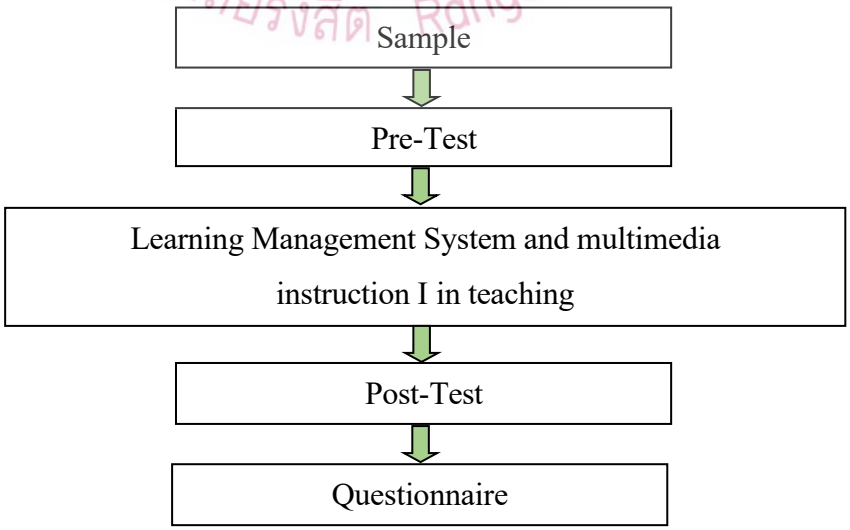
CHAPTER 3

RESEARCH METHODOLOGY

The research methodology in this chapter examines the effectiveness of the Learning Management System and multimedia instruction in enhancing Chinese speaking skill among Grade 11 Thai students, while also evaluating their learning satisfaction. The methodology included a comprehensive research design, participant selection criteria, data collection procedures, validation and reliability assessments of research instruments, and a systematic approach to data analysis.

3.1 Research Design

The study adopted a mixed-methods research design, utilising both quantitative and qualitative approaches to provide a comprehensive understanding of the impact of Learning Management System and Multimedia Instruction on students' Chinese speaking skill, as well as their satisfaction with the learning process. The Research Design of the Study was shown in Figures 3.1 below:



Figures 3.1 Research Design of the Study

In alignment with the research objectives, this study employed a mixed-methods research methodology to evaluate the impact of Learning Management System and multimedia instruction on Grade 11 Thai students' Chinese speaking skill and their learning satisfaction. This mixed- methods approach facilitated a comprehensive assessment by integrating both quantitative and qualitative data.

Quantitative data were collected through a pre-test and post-test design, measuring students' Chinese speaking abilities before and after the intervention involving Learning Management System and multimedia instruction. This comparative analysis enabled quantification of improvements in students' speaking skill while providing statistical evidence for the effectiveness of these instructional technologies.

In addition to quantitative data, qualitative insights were gathered through open-ended questions within questionnaires as well as focus group discussions. These methods illuminated students' perceptions, experiences, and attitudes towards Learning Management System and multimedia instruction. The qualitative findings yielded a deeper understanding of students' learning journeys, their engagement with technology, and factors contributing to their satisfaction with the educational process.

By utilizing both quantitative and qualitative methodologies, this study aimed to present a holistic perspective on the influence of Learning Management System and multimedia instruction on Thai students' Chinese speaking skill alongside their overall learning satisfaction. The mixed- methods approach enriched findings by offering nuanced interpretations regarding how educational technologies affected language learning outcomes and student satisfaction.

3.2 Population and Sample

3.2.1 Population

The population of this study comprised nine classes of Grade 11 Thai students enrolled in Chinese language courses at a private school in Chonburi

Province, Thailand. This group represented the broader cohort of students within the specified educational context who were studying Chinese as an academic subject. There were 270 students as the study population.

3.2.2Sample group

For this study, a sample group of 20 Grade 11 students from a private school in Chonburi Province, Thailand, was meticulously selected to represent a cross-section of Chinese language learners. The sample included both male and female students with varying levels of proficiency, ensuring diversity in language skills. All participants had studied Chinese for at least one to two years, providing a foundational understanding of the language. This targeted approach facilitated an in-depth analysis of how Learning Management System and multimedia instruction enhanced Chinese speaking skills, with the aim of generating insights that are both representative and generalisable to similar educational settings.

3.2.3 Research Site

The present study was undertaken in a school located in a private school in Chonburi Province, Thailand, near the city centre. The Grade 11 in this school included a student population of 270 and were taught by a faculty of 30 teachers.

3.3 Research Instruments

In accordance with the research objectives, three main instruments were employed to collect quantitative data: the implementation of four lesson plans, Chinese speaking skill assessments (pre-test and post-test), and a satisfaction questionnaire.

3.3.1 Quantitative Data Collection Instrument

3.3.1.1Lesson plans

The researcher meticulously developed four comprehensive lesson plans for Grade 11 students, primarily based on Volume II of 'Hanyu Jiaocheng'. This textbook serves as a foundational resource for instruction, providing a vocabulary repository and constituting the primary teaching content for the first two activities:

(1) Listening to Audio Recordings and Responding to Questions

The students used audio materials to improve their listening comprehension and pronunciation skill. These exercises reinforce the textbook's vocabulary base.

(2) Watching Videos and Summarising the Content in Chinese

The students used the textbook's content as a guide for video-based lessons, where they watched videos and then summarise their content in Chinese. This process enhanced their language proficiency by applying the vocabulary and grammar from the textbook to real-world situations.

In addition to these textbook-centred activities, the lesson plans included more interactive and creative elements.

(3) Performing Chinese Songs in Groups

This activity was designed to enhance students' pronunciation and rhythmic speech while also promoting enjoyment through music.

(4) Creating Chinese Videos in Groups

In this collaborative project, students applied their language skill practically, encouraging peer learning within a supportive environment.

Structured across eight 50-minute sessions, this curriculum encompassed a total of 400 minutes of instructional time. A pre-test and post-test—both requiring students to describe random images—were utilised to assess improvements in oral proficiency. The Learning Management System played an integral role in distributing and managing multimedia resources, overseeing assignment management with feedback mechanisms, tracking student progress throughout the learning process, and conducting assessments. This holistic approach was designed to maximise teaching effectiveness while enriching learners' experiences. The Lesson plans outline was shown in Table 3.1 below:

Table 3.1 Lesson Plans Outline

Lesson plans	Topics	Teaching method	Minutes
Lesson Plan 1	Listening and Speaking Training	The audio-linguistic approach focuses on enhancing listening comprehension and oral proficiency through audio materials. Students listen to pre-recorded dialogues or narratives from the "Hanyu Jiaocheng" textbook, followed by Q&A sessions to reinforce understanding and spoken language production. This method develops aural skills and the ability to reproduce linguistic structures. The instructor uploads audio materials and questions to a Learning Management System for student preview. Students download and review materials, record initial answers, and submit them via the Learning Management System. In class, the instructor reviews responses, plays the audio, and provides real-time feedback on pronunciation and intonation. After class, detailed explanations and pronunciation guides are posted. Homework includes analysis of audio materials and pronunciation recordings submitted via the Learning Management System for evaluation.	Lesson 1 50 minutes Lesson 2 50 minutes
Lesson Plan 2	Repetition Training	In the video-watching segment, students engage with materials related to their vocabulary and grammar studies. They summarize their observations to reinforce comprehension and apply Chinese language skills. This approach enhances communication abilities by emphasizing language as a practical tool. Teachers upload videos to a Learning Management System for students to preview and record key points.	Lesson 1 50 minutes

Table 3.1 Lesson Plans Outline (Cont.)

Lesson plans	Topics	Teaching method	Minutes
		In class, students submit summaries via a Learning Management System, which teachers review and discuss. The video is replayed, with guidance on pronunciation, intonation, and non-verbal cues. Feedback is provided in real time. After class, detailed analyses and language explanations are posted on a Learning Management System. Homework includes further video analysis and practice, with students recording and uploading summaries and exercises for teacher evaluation.	Lesson 2 50 minutes
Lesson Plan 3	Songs	Music-Integrated Language Learning incorporates songs into instruction to enhance pronunciation, tone, rhythm, and memory retention. Students learn and perform Chinese songs, fostering natural intonation in an enjoyable context. Teachers upload song materials, including audio, lyrics, and singing tips, to a Learning Management System for student preview. In class, students practice songs in groups, rehearse, and upload videos to Learning Management System for peer and teacher feedback. Teachers provide guidance on pronunciation, intonation, and rhythm during live performances. After class, detailed singing instructions and language points are posted on Learning Management System for review. Homework involves recording singing practices via Learning Management System for teacher evaluation.	Lesson 1 50 minutes Lesson 2 50 minutes

Table 3.1 Lesson Plans Outline (Cont.)

Lesson plans	Topics	Teaching method	Minutes
Lesson Plan 4	Video Shoot	In the video creation activity, students collaborate to produce videos showcasing their Chinese proficiency. They plan, script, act, and edit videos, including dialogues, narratives, or explanations tied to lesson themes. This project fosters active learning, creativity, and practical language application in a meaningful context. Teachers upload resources like instructional materials, sample videos, and tips to the Learning Management System for student preview. In class, students form groups to plan video projects, covering themes, scripts, schedules, and roles. Group tasks and requirements are posted on the Learning Management System to guide filming and editing. Preliminary videos are uploaded for teacher and peer feedback, with in-class guidance emphasizing language accuracy and creativity. Groups present their videos live, receiving immediate feedback on strengths and areas to improve. Post-class, teachers upload advanced video production tips and language points to the Learning Management System for review. Students refine their projects and submit final videos using the platform's tools for teacher evaluation.	Lesson 1 50 minutes Lesson 2 50 minutes
Test	Post-test		

3.3.2 Chinese Speaking Skill Tests (Pre-test and Post-test)

The Chinese Speaking Skill Tests included a pre-test and a post-test, meticulously assess students' oral Chinese proficiency. These assessments were carefully constructed to gauge students' abilities to describe random images, emphasising their observational skills, linguistic accuracy, narrative coherence,

vocabulary usage, and speech fluency. Both the pre-test and post-test aligned with the course syllabus to ensure uniformity in difficulty levels and types of prompts, thereby facilitating a reliable comparison of student progress throughout the study.

During the tests, students were presented with random images and tasked with providing detailed descriptions that were subsequently evaluated against several criteria. The first criterion assessed the accuracy and completeness of their descriptions by evaluating their ability to observe and articulate details within each image. Language expression was appraised for grammatical correctness, appropriate vocabulary use, and coherent sentence construction—indicators of students' command over the Chinese language. Students' logical flow and connectivity among ideas demonstrated their capacity to construct clear narratives or sequences of events, thereby assessing narrative coherence. Additionally, the breadth of vocabulary employed by students was taken into account; a wider range suggests greater linguistic proficiency. Finally, fluency in oral expression was evaluated based on smoothness and natural rhythm during delivery while considering factors such as pace and overall ease of communication. These comprehensive criteria provided an in-depth evaluation of students' oral proficiency in Chinese, enabling a nuanced understanding of their language skills before and after instructional intervention.

3.3.3 Satisfaction

In this study, the researcher developed an anonymous questionnaire to assess student satisfaction regarding the integration of multimedia instruction and Learning Management System in Chinese language courses. The questionnaire comprised 15 statements that students evaluated on a five-point Likert scale, ranging from 5, indicating strong agreement, to 1, indicating strong disagreement. The statements, formulated to capture a comprehensive perspective on student sentiment, examine various dimensions of their learning experience. The questions were structured to evaluate students' interest and motivation in learning Chinese, their level of engagement with course materials, and the perceived efficacy with instructional technologies on their language acquisition. The researcher assured participants that

they received guidance and detailed explanations for each statement in their native language before initiating the rating process, ensuring a smooth and well-informed response to the survey. This methodology aimed to yield valuable insights into student satisfaction while identifying areas for potential enhancement within the teaching and learning processes.

3.4 Validity and Reliability

3.4.1 Validity

Validity is a critical metric for evaluating the extent to which a measurement tool or instrument accurately captures its intended construct. It plays an essential role in the development and assessment of tests, reflecting the degree of correspondence between measurement outcomes and the targeted construct. A higher degree of alignment corresponds to greater validity of the instrument (Kumar, 2018). Rovinelli and Hambleton (1977) developed the Index of Objective Coherence (IOC) for Programs in this study to assess the content validity of all research instruments. The IOC score ranges from -1 to +1, where +1 indicates clear alignment with established objectives, 0 suggests ambiguity in measurement, and -1 signifies misalignment. An IOC score between 0.67 and 1.00 deems an item appropriate for use, while scores below 0.67 indicate a need for modification or elimination.

In this study, all instruments were validated with the scores of≥ 0.67, showing that all were valid for the further use in data collection processes.

3.4.2 Reliability

Reliability is contingent upon the acceptability of measurement validity (Valaste, 2015). It pertains to both stability and consistency within measurement results. This study employs the Cronbach's alpha method to assess the reliability of questionnaire items. The range of Cronbach's alpha values is 0 to 1, with values above 0.6 considered insufficient for internal consistency reliability, thereby requiring item

deletion or modification. Values between 0.7 and 0.8 indicate considerable reliability, while those ranging from 0.8 to 0.9 suggest excellent reliability levels. The researcher will administer a pilot test involving Chinese-speaking skills tests and questionnaires to a separate cohort of forty grade 11 students before analysing the results accordingly. A reliability score exceeding 70 is considered satisfactory, as it indicates adequate internal consistency for the research instruments utilized in this study. The value range of Cronbach's alpha was shown in Table 3.2 below:

Table 3.2 The Value Range of Cronbach's Alpha

Cronbach's Alpha Rule of Thumb	Internal Consistency
$\alpha \geq 0.90$	Excellent
$0.80 \leq \alpha < 0.90$	Good
$0.70 \leq \alpha < 0.80$	Acceptable
$0.60 \leq \alpha < 0.70$	Questionable
$0.50 \leq \alpha < 0.60$	Poor
$\alpha < 0.50$	Unacceptable

Source: Dzulkalnine, Hamid, Ibrahim, & Zura, 2022

The reliability test score of the questionnaire items was 0.77, demonstrating that all items were reliable for the further use.

3.5 Data Collection Procedure

3.5.1 Ethical Approvement

To ensure that the research was conducted ethically and with the requisite permissions, the researcher obtained approval from the administration of the school in Chonburi Province, Thailand (see Appendix A). Given that the participants are Grade 11 students, consent was also secured from both the school and the parents or legal guardians of these students.

3.5.2 Confidentiality

The researcher secured the requisite ethical approval to conduct the study within the school premises. The process involved securing necessary permissions from the school board and verifying that the parents or legal guardians of participating students were provided informed consent.

3.5.3 Data collection

The sample population comprised data collection for this study spanned a period of four weeks 21 Grade 11 students from a public school in Chonburi Province, Thailand, representing diverse genders and varying levels of Chinese language proficiency. Data collection for this study spanned a period of four weeks. During this timeframe, the researcher implemented four lesson plans, with each lesson conducted twice weekly, resulting in a total of eight sessions. Students' learning outcomes and satisfaction were assessed through pre- and post-tests and a questionnaire.

3.6 Data Analysis

The data collected in this study were analysed using a mixed-methods approach, integrating both quantitative and qualitative analytical techniques to comprehensively address the research objectives.

Quantitative data, derived from pre-test and post-test, were used to measure improvements in participants' Chinese speaking skill. This data provided statistical evidence regarding the effectiveness of multimedia instruction and Learning Management System on students' language proficiency. The analysis involved calculating the mean, standard deviation, and significance values to assess the impact of the instructional approach on students' speaking abilities.

Furthermore, quantitative data extracted from the questionnaire were used to evaluate student satisfaction with the multimedia instruction and Learning Management System employed in their Chinese language courses. The responses were analysed by computing means and standard deviations, offering insights into students' perceptions and overall satisfaction with the teaching model.

By utilizing quantitative and analytical method, this study sought to present a holistic view of how multimedia instruction and Learning Management System affect Grade 11 students' Chinese speaking skill as well as their satisfaction with the teaching approach. Findings from both analyses were triangulated to validate results while offering a more comprehensive understanding of research outcomes. The range of mean score interpretation was shown in Table 3.3 below:

Table 3.3 The Range of Mean Score Interpretation

Mean Score Range	Students' Perceptions Level
4.30 to 5.00	Highest
3.50 to 4.29	High
2.70 to 3.49	Moderate
1.90 to 2.69	Low
1.00 to 1.89	Lowest

Source: Zaki & Ahmad, 2017

CHAPTER 4

RESULTS

In this study, a quasi-experimental design was employed to examine the effectiveness of a Learning Management System integrated with multimedia instruction in improving the Chinese speaking skills of Grade 11 Thai students. Moreover, the research explored students' learning satisfaction with the multimedia-enhanced Learning Management System approach. Data were collected through the following research instruments: Chinese speaking skill assessments (a pre-test and a post-test) and a student satisfaction questionnaire. The results were organized as follows:

4.1 Analysis of Chinese speaking skill test scores

4.2 Analysis of student satisfaction questionnaire

4.1 Analysis of Chinese Speaking Skill Test Scores

The objective of this study was to address the first research question, which sought to determine whether the integration of the Learning Management System with Multimedia Instruction could significantly improve the Chinese speaking skills of Grade 11 Thai students. The conclusions were drawn based on the analysis of pre-test and post-test results. A paired sample t-test was used to compare the Chinese speaking skill test scores, examining the mean, standard deviation, and significance (p) value. To ensure fairness and accuracy, the evaluation process was carried out by two independent assessors.

4.1.1 Findings of Paired Sample T-test

In this study, 20 participants completed a picture-description test. During the test, each participant randomly selected one image from a set of ten and provided a

detailed description based on the visual content. The test was designed to evaluate participants' verbal skills both before and after the experimental intervention. Table 4.1 presents the score differences between the pre-test and post-test results. The data showed that 2 participants improved by 10%–19%, 5 participants improved by 20%–29%, and 13 participants improved by 30% or more. Notably, all participant demonstrated an increase in their post-test scores compared to their pre-test results, with score improvements ranging from 1 to 4 points.

The post-test analysis revealed that all 20 participants experienced either moderate or significant improvements. The highest score increase was 4 points, achieved by participant 11, while the smallest improvement was 1 point, recorded for participant 1, 5, 6,12,14 and 17. In the pre-test, participant 2,8 and 10 achieved the highest score of 7 points (out of 10), while participants 3,13, and 14 scored the lowest, with 3 points each.

Following the intervention, the post-test results showed that the highest score of 10 points was achieved by participant 8 and 11, while the lowest score of 4 points was shared by participants 14. These findings highlight the effectiveness of the intervention in enhancing participants' verbal performance. Score difference between pre-test and post-test was shown in Table 4.1 below:

Table 4.1 Score Difference between Pre-Test and Post-Test

Student ID	Pre-test Score (Full Score=10)	Post-test Score (Full Score=10)	Improvement Score	Percentage Difference
1	6	7	1	16.67%
2	7	9	2	28.57%
3	3	5	2	66.67%
4	4	7	3	75.00%
5	4	5	1	25.00%
6	5	6	1	20.00%
7	6	9	3	50.00%
8	7	10	3	42.86%

Table 4.1 Score Difference between Pre-Test and Post-Test (Cont.)

Student ID	Pre-test Score (Full Score=10)	Post-test Score (Full Score=10)	Improvement Score	Percentage Difference
9	4	6	2	50.00%
10	7	9	2	28.57%
11	6	10	4	66.67%
12	5	6	1	20.00%
13	3	5	2	66.67%
14	3	4	1	33.33%
15	5	8	3	60.00%
16	5	7	2	40.00%
17	6	7	1	16.67%
18	5	7	2	40.00%
19	5	7	2	40.00%
20	4	7	3	75.00%
Mean	5	7.05	2.05	41.00%

4.1.2 Pre-test-Post-test Comparison

That which follows Figure 4.2 presents a comparative graphical depiction of individual student scores in the pre-test and post-test. In the figure, the blue bar indicates the scores obtained on the pre-test, and the red bar represents the scores obtained on the post-test following the implementation of the intervention. According to the graphical display, it is possible to observe that after the Learning Management System combined with Multimedia Instruction was administered, all participants obtained higher scores on the post-test. This shows that the Learning Management System combined with Multimedia Instruction was an effective learning method for improving Chinese speaking skill. Individual student achievement in pre-test and post-test was shown in Figure 4.1 below:

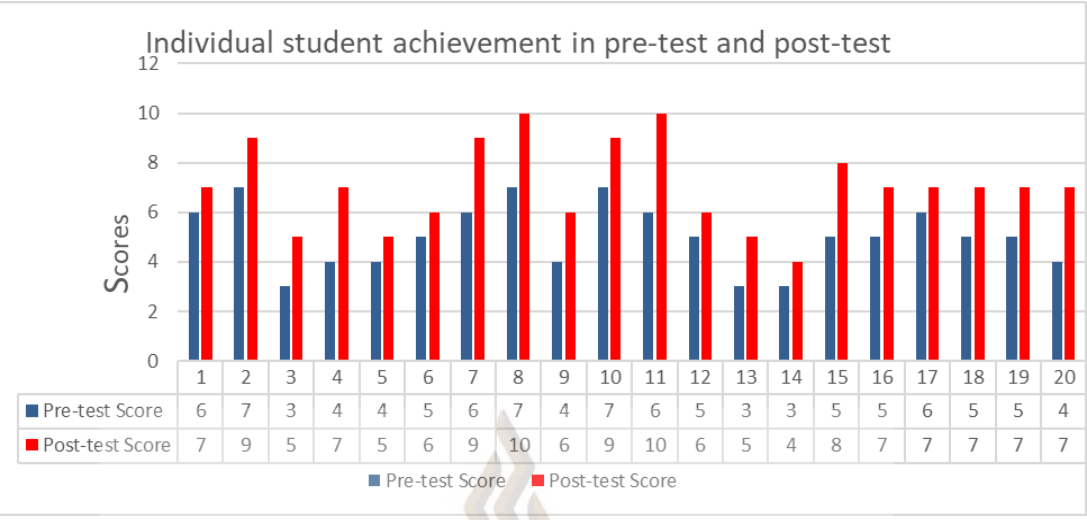


Figure 4.1 Comparative Graphical Depiction of Individual Student Scores

The following table presents the mean scores for the pre-test and post-test, which were 5.00 and 7.05, respectively. The results indicated that the mean score of the post-test was significantly higher than that of the pre-test. As illustrated by the comparison between the red bars in the post-test and the blue bars in the pre-test, there was an increase of 2.05 points. These findings suggest that all participants showed improvement in their scores during the post-test. Comparison of pre-test and post-test mean was shown in Figure 4.2 below:

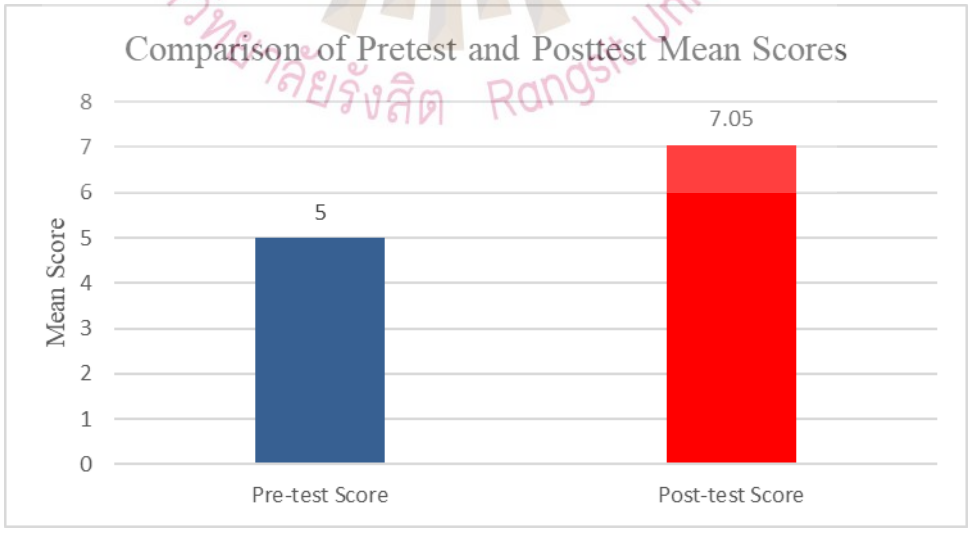


Figure 4.2 Comparison of Pre-Test and Post-Test Mean

4.1.3 Analysis of Paired Sample t-Test

Table 4.2 presents paired samples t-test results analysis on the test scores, demonstrating a favourable result. The pre-test group exhibited a mean score of 5.00 with a standard deviation of 1.30, whereas the post-test group had a mean score of 7.05 and a standard deviation of 1.70. The post-test mean was 2.05 points higher than the pre-test, indicating a significant improvement in average scores post-intervention. The calculated significance value (P) in this study was 0.05, significantly ($P < 0.05$). This low P-value strongly suggests that the post-test scores of the sample group statistically significantly outperformed the pre-test scores. Details of the mean scores from the pre-test and post-test are available in Table 4.2, highlighting the efficacy of the Learning Management System combined with Multimedia Instruction in improving participants' Chinese speaking skill. Paired samples t-Test results was shown in Figure 4.2 below:

Table 4.2 Paired samples t-Test results

Group	Pre-test		Post-test		Mean Difference	T	P-value
Sample Group	$\bar{x}$	SD	$\bar{x}$	SD	7.05-5.00=2.05	10.34	<.05
	5.00	1.30	7.05	1.70			
Significance level (p): ≤0.05-significant							

4.2 Analysis of Questionnaire

Quantitative data for this study were collected using a five-point Likert scale to assess the learning satisfaction of Grade 11 Thai students regarding the use of a Learning Management System combined with Multimedia Instruction for Chinese speaking skill. A score of 1 indicated strong disagreement, while a score of 5 indicated strong agreement. The questionnaire consisted of 15 items, categorized into three sections: Part A, which focused on teacher usage and competency; Part B, which focused on student engagement and interaction; and Part C, which addressed the perceived learning impact and preference for the Learning Management System and Multimedia Instruction approach. This learning satisfaction questionnaire was

distributed to all 20 participants. Descriptive statistics, including means and standard deviations, were used to analyse the data. The mean scores were classified into specific ranges: the highest range (4.30-5.00), high range (3.50-4.29), moderate range (2.70-3.49), low range (1.90-2.69), and lowest range (1.00-1.89).

Table 4.3 presented the mean scores and standard deviations for students' satisfaction with Part A: teacher usage and competency. The overall mean score for Part A was 4.04, indicating that students' perceptions of their teachers' usage and competency in using the Learning Management System and Multimedia Instruction for Chinese-speaking lessons are generally very high. The highest mean score of 4.25 was awarded to Item 5, "Your teacher regularly used Moodle's Test feature in his or her classes," which is classified as "High" on the five-point Likert scale. The mean scores for the other items were also high, with Item 4, "Your teacher regularly used Moodle's Multimedia Instruction features in their courses," receiving a mean score of 4.10. The mean scores for Items 1, 2, and 3 were 3.90, 4.05, and 3.90, respectively, all classified as "High." With an average mean score of 4.04 and a standard deviation of 0.857, the data indicates a high level of satisfaction with teacher usage and competency. Mean and Standard Deviation (SD): Part A - Teacher Usage and Competency (n=20) was shown in Table 4.3 below:

Table 4.3 Mean and Standard Deviation (SD): Part A - Teacher Usage and Competency (n=20)

	Part A: Teacher Usage and Competency	Mean	SD	Interpretation
1	Your teachers were using Moodle in the classroom with great frequency.	3.90	0.91	High
2	Your teacher knows everything about Moodle.	4.05	0.89	High
3	Your teacher regularly used Moodle's Assisted Instruction feature in his or her classes.	3.90	0.91	High
4	Your teacher regularly used Moodle's Multimedia Instruction features in their courses.	4.10	0.79	High

Table 4.3 Mean and Standard Deviation (SD): Part A - Teacher Usage and Competency (n=20) (Cont.)

	Part A: Teacher Usage and Competency	Mean	SD	Interpretation
5	Your teacher regularly used Moodle's Test feature in his or her classes.	4.25	0.79	High
	Average	4.04	0.86	High

Table 4.4 presented the mean scores and standard deviations of students' ratings based on the results of Part B: Student Engagement and Interaction. According to the data, Item 6, "You'd had a hands-on experience with Moodle in a classroom setting." received the highest mean score of 4.20. In contrast, Item 9, "You loved it when your teachers used Multimedia Instruction for their lessons" received the lowest mean score of 3.95. However, it still fell within the 'high' category for mean scores.

Table 4.4 shows that the overall mean score for Part B was 4.10, with all six items receiving "high" ratings. The results indicated that participants felt the use of a Learning Management System combined with Multimedia Instruction increased their engagement in learning Chinese speaking skills and encouraged active participation in the learning process both inside and outside the classroom. This suggests that the integration of these technological tools effectively enhanced the students' motivation and involvement in learning activities, positively influencing their overall learning experience. Mean and Standard Deviation (SD): Part B - Student Engagement and Interaction (n=20) was shown in Table 4.4 below:

Table 4.4 Mean and Standard Deviation (SD): Part B - Student Engagement and Interaction (n=20)

	Part B: Student Engagement and Interaction	Mean	SD	Interpretation
6	You'd had a hands-on experience with Moodle in a classroom setting.	4.20	0.83	High
7	You liked to get up on stage and work Multimedia Instruction during class.	4.05	0.60	High

Table 4.4 Mean and Standard Deviation (SD): Part B - Student Engagement and Interaction (n=20) (Cont.)

	Part B: Student Engagement and Interaction	Mean	SD	Interpretation
8	You found Moodle easy to operate and use.	4.20	0.89	High
9	You loved it when your teachers used Multimedia Instruction for their lessons.	3.95	0.83	High
10	You thought that using Multimedia Instruction was more likely to make you more interested in the Chinese Speaking Skill.	4.05	0.67	High
11	You thought using Multimedia Instruction in Chinese Speaking Skill was more helpful for you to understand the points.	4.15	0.75	High
	Average	4.10	0.77	High

Based on the results of Part C: Perceived Learning Impact and Preference for using a Learning Management System combined with Multimedia Instruction, Table 4.5 presents the mean scores and standard deviations of the students' responses. In Item 15, "You preferred the Multimedia Instruction classroom to the traditional classroom" most participants expressed a strong preference for the Multimedia Instruction classroom over the traditional one, with a mean score in the "very high" range (mean = 4.25). In Item 14, "You found Multimedia Instruction's learning resources about Chinese speaking skills informative" the mean score was 4.10, indicating that students found the learning resources provided through Multimedia Instruction to be highly informative. The lowest mean score, 4.00, was recorded for Item 13, "Teachers were more likely to prompt you to communicate with them when they were using Multimedia Instruction to teach" which still falls within the "High" category.

The overall mean score for Section C was 4.15, classified as "High," indicating that students' Chinese speaking skills were improved after using the Learning Management System combined with Multimedia Instruction.

The mean scores of all items showed that participants agreed with the use of the Learning Management System combined with Multimedia Instruction was highly effective, particularly in enhancing classroom interaction and the informativeness of learning resources. This suggested that the integration of these technological tools had a significant positive impact on students' learning outcomes and preferences. Mean and Standard Deviation (SD): Part C - Perceived Learning Impact and Preference (n=20) was shown in Table 4.5 below:

Table 4.5 Mean and Standard Deviation (SD): Part C - Perceived Learning Impact and Preference (n=20)

	Part C: Perceived Learning Impact and Preference	Mean	SD	Interpretation
12	Teachers had more active classes when they use Multimedia Instruction to teach.	4.25	0.85	High
13	Teachers were more likely to prompt you to communicate with them when they are using Multimedia Instruction to teach.	4.00	0.86	High
14	You found Multimedia Instruction's learning resources about Chinese speaking skills informative.	4.10	0.85	High
15	You preferred Multimedia Instruction classroom to the traditional classroom.	4.25	0.72	High
	Average	4.15	0.82	High

The learning satisfaction questionnaire results provided by the participants showed that the mean scores of each item were "high", and no item received "moderate" or "low" scores. The mean scores of the three parts were 4.04, 4.10, and 4.15, respectively, and the overall mean of the 15 items was 4.10. The results of the study indicated that the use of a Learning Management System combined with Multimedia Instruction for Chinese speaking skills was met with a high level of satisfaction among the participants.

CHAPTER 5

CONCLUSION, DISCUSSION, AND RECOMMENDATIONS

The summary of the study was presented in this chapter as per the sequence given below:

5.1 Conclusion

5.2 Discussion

5.3 Recommendations

5.1 Conclusion

The researcher conducted this study to address the following two questions: 1) Did the use of Learning Management System and multimedia instruction help improve Grade 11 Thai students' Chinese speaking skill? and 2) How satisfied were Grade 11 Thai students towards learning Chinese speaking skill through the use of Learning Management System and multimedia instruction?

To answer these questions, data were collected and analysed using Chinese speaking skill tests and a learning satisfaction questionnaire. Based on the analysis, the following conclusions were drawn regarding students' Chinese speaking skills and their satisfaction levels.

5.1.1 Results of Chinese Speaking Skill Analysis

The first research question was: Did the use of Learning Management System and multimedia instruction help improve Grade 11 Thai students' Chinese speaking skill? This question was addressed by analysing the pre-test and post-test results following the research intervention.

A paired sample t-test was conducted within the sample group to perform a comparative statistical analysis, identifying differences in improvement levels between the pre-test and post-test. As shown in Table 4.2 of Chapter 4, the mean score of the post-test (7.05) was significantly higher than that of the pre-test (5.00), with a mean difference of 2.05. Moreover, the significance (p) value was 0.001, well below the standard threshold of 0.05 ($p < 0.05$). This low p-value strongly indicates that the post-test scores of the sample group were statistically significantly higher than the pre-test scores.

These quantitative results demonstrated a notable improvement in Chinese speaking skills among all participants, as evidenced by the substantial increase in post-test performance. The findings affirmed that the integration of a Learning Management System with Multimedia Instruction effectively enhanced students' learning outcomes.

In conclusion, the research successfully addressed the first question by comparing the Chinese speaking skills of Grade 11 Thai students before and after the intervention. The research hypothesis—that the use of a Learning Management System combined with Multimedia Instruction would lead to a significant improvement in students' Chinese speaking skill was confirmed.

5.1.2 Results of Students ' Learning Satisfaction

The second research question was: How satisfied were Grade 11 Thai students towards learning Chinese speaking skill through the use of Learning Management System and multimedia instruction? To evaluate this, quantitative data were collected through a satisfaction questionnaire administered to 20 students at the end of the intervention. The questionnaire, consisting of 15 items grouped into three sections, was analysed using descriptive statistics.

The results revealed consistently positive outcomes, indicating that all students expressed a high level of satisfaction with the use of a Learning Management

System combined with Multimedia Instruction. The analysis for each section is summarised below:

Part A: Teacher Usage and Competency

This section received an average mean score of 4.04, classified as "high." The results suggest that students perceived their teachers' usage and competency with the Learning Management System and Multimedia Instruction as highly effective in supporting their Chinese speaking lessons.

Part B: Student Engagement and Interaction

The average mean score for this section was 4.10, also classified as "high." All items in Part B received high ratings, reflecting that most students were highly engaged and actively involved in the learning process facilitated by the Learning Management System and Multimedia Instruction.

Part C: Perceived Learning Impact and Preference

The average mean score for this section was 4.15, categorised as "high." Most students regarded the use of the Learning Management System combined with Multimedia Instruction as both beneficial and practical for improving their Chinese speaking skill.

The mean scores for the three sections were 4.04, 4.10, and 4.15, respectively, with an overall mean score of 4.10 across all 15 items. All items were rated within the "high" categories, with no item receiving a "moderate" or "low" rating.

In conclusion, the results of the satisfaction questionnaire indicate that students expressed high satisfaction with the implementation of a Learning Management System combined with Multimedia Instruction in their Chinese-speaking classes. These findings further affirm the positive impact of integrating these technological tools into the learning environment.

5.2 Discussion

5.2.1 Improving Students' Chinese Speaking Skill

The analysis of the study focused on evaluating the impact of using a Learning Management System combined with Multimedia Instruction on improving Chinese speaking skills among Grade 11 Thai students. The study produced two key findings.

First, the study found that the integration of a Learning Management System with Multimedia Instruction significantly improved students' Chinese speaking skills. After four weeks of using the Learning Management System and Multimedia Instruction, data from the pre-test and post-test revealed a marked improvement in students' performance. The students' post-test scores increased by 41% overall, highlighting the effectiveness of the approach in enhancing their speaking skills.

The second key finding was that Grade 11 Thai students reported a high level of learning satisfaction with the strategy of improving speaking skills through the Learning Management System and Multimedia Instruction. The learning satisfaction questionnaire, completed by participants four weeks after the intervention, indicated a mean score of 4.10, reflecting the students' positive perception of the approach.

Finally, according to Jean Piaget's constructivist learning theory, the use of a Learning Management System combined with Multimedia Instruction supports students in constructing knowledge through active cognitive processes. This suggests that the Learning Management System played a significant role in facilitating continuous learning of Chinese speaking skills, particularly by fostering participation and enthusiasm both inside and outside the classroom. Additionally, in line with the learning theory of Technology-Enhanced Language Learning (TELL), the use of Multimedia Instruction enhances personalised learning, improves interactivity and participation, and provides timely feedback, all of which contribute to higher levels of satisfaction in Chinese learning.

The results of this study demonstrated that the use of a Learning Management System combined with Multimedia Instruction significantly contributed to improving students' Chinese speaking skill.

Firstly, when comparing the pre-test results with the post-test scores, all 20 students in the study showed improvement. The mean score for the pre-test was 5.00, while the post-test mean score was 7.05, representing an improvement of 2.05 points or 41%. The p-value obtained from the t-test statistical analysis was 0.001, indicating a significant difference between the pre-test and post-test scores. This suggests that the participants made substantial progress in their Chinese speaking skills after the intervention.

Secondly, an analysis of the individual data revealed that all participants showed improvements in their post-test scores, ranging from 1 to 4 points. The participant with the most significant improvement was Student Number 11, whose pre-test score was 6 (out of 10) and post-test score was 10, reflecting a 4-point increase, or a 66.67% improvement. Among the other participants, 2 students improved by 10%–19%, 5 improved by 20%–29%, and 13 improved by 30% or more. Importantly, no participant showed a decline or stagnation in their post-test scores.

In conclusion, the significant improvements in the participants' scores after the four-week intervention clearly indicate that the use of a Learning Management System combined with Multimedia Instruction can lead to a substantial enhancement in students' Chinese speaking skills. The findings of this study align with the original research question and support the hypothesis that this approach results in significant improvement in language proficiency.

The results of this study are consistent with those of several previous studies, including those by Wang et al. (2012), Macfadyen and Dawson (2010), Criollo-C et al. (2018) and Zhou (2021). These studies also confirm that the integration of a Learning Management System with Multimedia Instruction positively impacts students' language skill.

5.2.2 Students' Learning Satisfaction

This study aimed to assess students' satisfaction with the use of a Learning Management System combined with Multimedia Instruction for learning Chinese speaking skills. A five-point Likert scale was used, where 1 represented "strongly disagree" and 5 represented "strongly agree." The satisfaction questionnaire consisted of 15 items, divided into three parts. A total of 20 participants (n=20) completed the questionnaire, and the results were analysed using descriptive statistics, including mean and standard deviation. The mean score range was categorised as follows: 4.30-5.00 for very high satisfaction, 3.50-4.29 for high satisfaction, 2.70-3.49 for moderate satisfaction, 1.90-2.69 for low satisfaction, and 1.00-1.89 for very low satisfaction. The following discussion presents the findings by section:

1) Part A: Teacher Usage and Competency

The results from Part A of the satisfaction questionnaire revealed a total mean score of 4.04, indicating "high" satisfaction. The participants agreed that learning Chinese speaking skills through a Learning Management System combined with Multimedia Instruction was very effective and that it motivated them to learn both inside and outside the classroom. The use of the Learning Management System and Multimedia Instruction encouraged active learning, enabling the participants to better understand Chinese.

2) Part B: Student Engagement and Interaction

Part B of the satisfaction questionnaire received an overall mean score of 4.10, reflecting "high" satisfaction. The participants believed that the Chinese-speaking classes, conducted through a Learning Management System combined with Multimedia Instruction, provided more opportunities for interaction and participation. The Learning Management System and Multimedia Instruction facilitated student-centred, autonomous learning, motivating the participants to engage more deeply in speaking skill development. Furthermore, the interactive learning platform provided timely feedback, which encouraged students to actively participate in learning tasks.

3) Part C: Perceived Learning Impact and Preference

Part C of the satisfaction questionnaire showed a mean score of 4.15, indicating "high" satisfaction. The participants expressed that the Learning Management System combined with Multimedia Instruction contributed to the improvement of their Chinese speaking skills and helped build a solid foundation for continuous learning both in and outside the classroom. Additionally, the use of these tools enhanced their collaboration and self-learning abilities in Chinese, aligning with the principles of constructivist learning theory and the Technology-Enhanced Language Learning (TELL) theory.

In summary, the participants rated all 15 items with "high" satisfaction, resulting in an overall mean score of 4.10. This indicated that the students had a positive attitude toward learning Chinese speaking skills using the Learning Management System combined with Multimedia Instruction, as no items received "moderate" or "strongly disagree" ratings.

These findings are consistent with previous research, such as that by Samormob and Phusawisot (2020), which found that blended learning methods, including the use of a Learning Management System, increase student participation and engagement. Similarly, studies by Almara'beh et al. (2015), Dabbagh and Kitsantas (2012), Moreno and Mayer (2007), and Mayer (2005) also emphasised that the integration of Learning Management System with Multimedia Instruction enhances students' learning enthusiasm and participation, resulting in high levels of satisfaction.

5.3 Recommendations

This study found that the use of a Learning Management System combined with Multimedia Instruction significantly improved the Chinese speaking skills of Grade 11 Thai students. Additionally, the students reported high levels of learning satisfaction with this approach for enhancing their speaking abilities. Based on these findings and conclusions, the following recommendations are proposed.

5.3.1 Recommendations for Implementation

The results of the study demonstrated that post-test scores exceeded pre-test scores, and students reported higher levels of satisfaction. Therefore, it is recommended that teachers integrate the use of a Learning Management System combined with Multimedia Instruction into daily teaching practices when teaching Chinese speaking skills to other grade levels in order to provide students with personalised and diverse learning pathways.

Based on the survey results, teachers should develop strategies to stimulate students' learning interest and self-motivation, considering the significant improvement in student participation and motivation in the multimedia-enhanced learning environment. During implementation, teachers should focus on coaching students in learning strategies and assisting them in efficiently using digital tools for self-study.

It is also recommended that instructors of other languages consider adopting a Learning Management System combined with Multimedia Instruction. This recommendation is based on feedback from several study participants, who found this learning method engaging, enjoyable, and effective in fostering a stimulating learning environment that better meets students' needs.

Finally, educational administration departments and school management should consider providing teachers with more professional training and resource support in technology-enhanced learning models to promote the effective implementation of teaching activities.

5.3.2 Recommendation for Future Studies

The researcher wished to provide the following recommendations for future research, taking into account certain limitations identified in the study.

Although this study has made some progress in exploring the effect of a Learning Management System combined with Multimedia Instruction in improving the Chinese speaking skills of Grade 11 Thai students, some of its limitations and potential development directions should also be recognized. This study only selected 20 Grade 11 Thai students in Chonburi Province, Thailand. Therefore, conducting research in other parts of Thailand provided valuable replication opportunities to verify and validate the research results.

The research time of this study was limited, lasting only four weeks, and the tools used were specific to the Learning Management System and Multimedia Instruction. Consequently, to achieve more reliable findings, future research might have benefited from conducting extended investigations and incorporating additional qualitative research methods, such as focus group discussions and classroom observations. These methods can facilitate a deeper examination of the learners' specific strategies, experiences, and limitations associated with the implementation of a Learning Management System combined with Multimedia Instruction. This approach can significantly deepen our understanding of their Chinese-speaking skill development process.

At the same time, given the diversity of learners' backgrounds, future research can broaden the sample range to include a broader range of regions and school types. This will enable a more comprehensive assessment of the applicability and effectiveness of using a Learning Management System combined with Multimedia Instruction in various educational contexts.

As educational technology continues to advance, educators and teachers can explore the application of advanced technologies like artificial intelligence and big data analysis to enhance the Learning Management System approach in the classes. This can be achieved through the integration of these technologies into the Learning Management System, which creates a personalised learning recommendation system, thereby improving learning efficiency and effectiveness.

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APPENDICES

APPENDIX A
LETTER OF APPROVAL

Certificate of Approval

Sawangboriboon Wittaya School

Subject: Approval of data collection for M.Ed. Thesis
Dear Sir/Madam,

I am currently enrolled in the master in Curriculum and Instruction at Rangsit University, Thailand. I am conducting research on "The use of Learning Management System and Multimedia Instruction for Chinese Speaking Skill of Grade 11 Thai Students". This research requires students' participation. The instruments involved during the study pretest and protest for obtaining the required data. Therefore, I would like to seek permission from the administration to allow me to collect data at this school where the names and identities of the students will be kept confidential and undisclosed.

Yours Sincerely,

WenQiang Song

Date: 2024.1.1

Sawangboriboon Wittaya School

APPENDIX B
PARTICIPANTS' INFORMATION SHEET

Participant's Legal Guardian Information Sheet

Dear Participant:
You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Talk to others about the study if you wish.

Research School: Sawangboriboon Wittaya School

Name: WenQiang Song. Student ID:6610011

Studying University: Suryadhep Teachers College of Rangsit University, Thailand

Research Title:
The use of Learning Management System and Multimedia Instruction for Chinese Speaking Skill of Grade 11 Thai Students

Date:2024.11.1

Sawangboriboon Wittaya School

APPENDIX C
SATISFACTION QUESTIONNAIRE

Satisfaction Questionnaire

Dear students.

This questionnaire is part of the Master of Education thesis in Curriculum and Instruction at Rangsit University. The study is titled “The use of Learning Management System and Multimedia Instruction for Chinese speaking skill of grade 11 Thai students”.

Researcher will use the results of the analysis to examine student satisfaction with learning Chinese speaking by using Moodle through Situational approach. This can provide some new understandings and ideas for students' future Chinese speaking teaching.

Best Regards,

Mr. Wenqiang Song

Master candidate, Education in Curriculum and Instruction, Surya deep Teachers’ College, Rangsit University.

Part 1 Demographic Data

Age

Please choose only one of the following:

- Between 18-20 years
- Between 16-17 years
- 15 and above

Gender

Please choose only one of the following:

- Male
- Female

NO.	ITEMS	5	4	3	2	1
Teacher Usage and Competency						
1.	Your teachers were using Moodle in the classroom with great frequency.					
2.	Your teacher knew everything about Moodle.					
3.	Your teacher regularly used Moodle's Assisted Instruction feature in his or her classes.					

NO.	ITEMS	5	4	3	2	1
4.	Your teacher regularly used Moodle's Multimedia Instruction features in their courses.					
5.	Your teacher regularly used Moodle's Test feature in his or her classes.					
	Student Engagement and Interaction					
6.	You'd had a hands-on experience with Moodle in a classroom setting.					
7.	You liked to get up on stage and work Multimedia Instruction during class.					
8.	You found Moodle easy to operate and use.					
9.	You loved it when your teachers used Multimedia Instruction for their lessons.					
10.	You thought that using Multimedia Instruction was more likely to make you more interested in the Chinese Speaking Skill.					
11.	You thought using Multimedia Instruction in Chinese Speaking Skill was more helpful for you to understand the points.					
	Perceived Learning Impact and Preference					
12.	Teachers had more active classes when they use Multimedia Instruction to teach.					
13.	Teachers were more likely to prompt you to communicate with them when they are using Multimedia Instruction to teach.					
14.	You found Multimedia Instruction's learning resources about Chinese speaking skills informative.					
15.	You preferred Multimedia Instruction classroom to the traditional classroom.					

NO.	ITEMS	5	4	3	2	1
An Open-ended Question Please give additional comments and suggestions						

APPENDIX D
BASIC INFORMATION FOR EXPERTS

Basic Information for Experts

NO.	Name	Position/Title	Institutes
1	Expert 1	Director of Chinese Department	Sawangboriboon Wittaya School
2	Expert 2	Teacher (Chinese)	Sawangboriboon Wittaya School
3	Expert 3	Teacher (Chinese)	Sawangboriboon Wittaya School

APPENDIX E
IOC OF QUESTIONNAIRE

INVITATION TO BE AN IOC EXPERT

In

THE USE OF LEARNING MANAGEMENT SYSTEM AND MULTIMEDIA INSTRUCTION FOR CHINESE SPEAKING SKILL OF GRADE 11 THAI STUDENTS

.....

Dear Expert

I would like to thank you for accepting to be an IOC expert in my thesis Please find below the Research Title, Research Objectives, Research Questions, Research Instruments, and the Guidelines for Expert Review Using Item Objective Congruence (IOC) as well as the criteria for expert review.

My Research Title

The use of Learning Management System and Multimedia Instruction for Chinese Speaking Skill of Grade 11 Thai Students

Research Objectives

1.To compare grade 11 Thai students Chinese speaking skill using Learning Management System and Multimedia Instruction in Learning Management System and Multimedia Instruction in Chonburi Province in Thailand.

2.To investigate grade 11 Thai students' satisfaction towards using earning Management System and Multimedia Instruction in Chinese speaking skill in Chonburi Province in Thailand.

Research Questions

1.Is there an improvement in Chinese speaking skill of grade 11 Thai student s after using Learning Management System and Multimedia Instruction Chonburi Province in Thailand?

2.Will grade 11 Thai students be satisfied with using Learning Management System and Multimedia Instruction in Chinese speaking skill?

The research Instruments

1.A questionnaire of 16 questions (15 Likert scale items and one open-ended question. Lesson plan Form.

2.Guidelines for Expert Review Using Items Objective Congruence (IOC) Please rate each item that corresponds to your opinion on content validity.

Rating Criteria

+1 for the item that matches the stated objectives.

0 for the unclear item and the rater is unsure whether it meets the stated objectives.

-1 for the item that does not match the objectives.

I truly appreciate your kind help and valuable support for my thesis.

WenQiang Song

Researcher

Item Objective Congruence (IOC) Form 1

NO.	ITEMS	-1	0	+1
	Teacher Usage and Competency			
1.	Your teachers were using Moodle in the classroom with great frequency.			
2.	Your teacher knew everything about Moodle.			
3.	Your teacher regularly used Moodle's Assisted Instruction feature in his or her classes.			
4.	Your teacher regularly used Moodle's Multimedia Instruction features in their courses.			
5.	Your teacher regularly used Moodle's Test feature in his or her classes.			
	Student Engagement and Interaction			
6.	You'd had a hands-on experience with Moodle in a classroom setting.			
7.	You liked to get up on stage and work Multimedia Instruction during class.			
8.	You found Moodle easy to operate and use.			
9.	You loved it when your teachers used Multimedia Instruction for their lessons.			
10.	You thought that using Multimedia Instruction was more likely to make you more interested in the Chinese Speaking Skill.			
11.	You thought using Multimedia Instruction in Chinese Speaking Skill was more helpful for you to understand the points.			
	Perceived Learning Impact and Preference			
12.	Teachers had more active classes when they use Multimedia Instruction to teach.			
13.	Teachers were more likely to prompt you to communicate with them when they are using Multimedia Instruction to teach.			

NO.	ITEMS	-1	0	+1
14.	You found Multimedia Instruction's learning resources about Chinese speaking skills informative.			
15.	You preferred Multimedia Instruction classroom to the traditional classroom.			
	An Open-ended Question Please give additional comments and suggestions			

Item Objective Congruence (IOC) Form 2

Training Plan

Date/Time……

Topics	Weeks	Lesson plans	Moodle Application	Multimedia Instruction	-1	0	+1
Learn and use Moodle and practice Chinese conversation.	Week 1	1.Introduce the Moodle platform and teach students how to log in and use its basic functions. 2.Learn new vocabulary and grammar through Moodle. 3.Roleplaying activities where students ask and answer questions via Moodle.	1.Students practice listening and respond to questions through activities on Moodle. 2.Teachers post assignments and provide feedback via Moodle.	1.Engagement: By employing audio clips for listening exercises, multimedia can render the learning process more captivating. This enables students to practice pronunciation and intonation in a more dynamic manner. 2.Interactive Learning: Video materials that illustrate diverse scenarios can enhance roleplaying activities, permitting			

Topics	Weeks	Lesson plans	Moodle Application	Multimedia Instruction	-1	0	+1
				students to practice conversational Chinese in a more immersive setting.			
Discover the methods of summarising what you have heard.	Week 2	1.Learn new vocabulary and grammar. 2.Watch a video comparing weather patterns in various cities to Beijing's weather. 3.Students take notes on the key points discussed in the video and summarize them.	1.Students submit short reports on weather patterns via Moodle. 2.Teachers share video materials and collect students' reports through Moodle.	1.Visual Learning: The use of videos to compare weather patterns can help students understand abstract concepts more concretely, as they can see the actual weather conditions. 2.Notetaking and Summarisation: Multimedia can provide visual aids and structured notes that students can refer to when summarising the content, improving their ability to convey information clearly and concisely.			

Topics	Weeks	Lesson plans	Moodle Application	Multimedia Instruction	-1	0	+1
Exploring Chinese Pronunciation and Rhythm through Song	Week 3	1.Students form groups to select a Chinese song of their choice. 2.The teacher explains Chinese pronunciation techniques and singing techniques specific to Chinese songs. 3.Students practice and perform the selected song.	1.Students share their song performance videos via Moodle. 2.Teachers provide feedback and suggestions through Moodle.	1.Students can practice pronunciation and rhythm at their own pace by using multimedia tools to slow down or repeat song lyrics. 2.Cultural Exposure: Music provides students with an entertaining introduction to Chinese culture and language, thereby enhancing their interest and motivation to learn the language. Learn and use Moodle and practice Chinese conversation.			
Shooting Chinese Short Videos	Week 4	1.Review the previous song performance and introduce the new video project. 2.The teacher explains the basics of video	1.Students upload their video scripts and final videos via Moodle. 2.Teachers post video production guidelines	1.Creative Expression: Multimedia provides a platform for students to express themselves creatively through video production, which can enhance their language use			

Topics	Weeks	Lesson plans	Moodle Application	Multimedia Instruction	-1	0	+1
		production, including scripting, shooting, and editing. 3.Students plan their video, write scripts, and outline their production process.	and collect students' video works through Moodle.	in a practical and meaningful context. 2.Technical Skills: Students can learn technical skills such as video scripting, shooting, and editing, which are valuable life skills and can make the learning process more engaging. 3.Collaborative Learning: The process of video production often involves teamwork, which can foster collaborative learning and communication skills among students.			
Grade: 11 Number of Students:20 Teaching Materials: With and Without Moodle application							

APPENDIX F

EXPERT FEEDBACK ON IOC

INVITATION TO BE AN IOC EXPERT

In

THE USE OF LEARNING MANAGEMENT SYSTEM AND MULTIMEDIA INSTRUCTION FOR CHINESE SPEAKING SKILL OF GRADE 11 THAI STUDENTS

.....

Dear Expert

I would like to thank you for accepting to be an IOC expert in my thesis Please find below the Research Title, Research Objectives, Research Questions, Research Instruments, and the Guidelines for Expert Review Using Item Objective Congruence (IOC) as well as the criteria for expert review.

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Research Objectives

1. To compare grade 11 Thai students Chinese speaking skill using Learning Management System and Multimedia Instruction in Learning Management System and Multimedia Instruction in Chonburi Province in Thailand.
2. To investigate grade 11 Thai students' satisfaction towards using earning Management System and Multimedia Instruction in Chinese speaking skill in Chonburi Province in Thailand.

Research Questions

1. Is there an improvement in Chinese speaking skill of grade 11 Thai student s after using Learning Management System and Multimedia Instruction Cho nburi Province in Thailand?

2. Will grade 11 Thai students be satisfied with using Learning Management System and Multimedia Instruction in Chinese speaking skill?

The research Instruments

1. A questionnaire of 16 questions (15 Likert scale items and one open-ended question.
2. Lesson plan Form.

Guidelines for Expert Review Using Items Objective Congruence (IOC)

Please rate each item that corresponds to your opinion on content validity

Rating Criteria

+1 for the item that matches the stated objectives

0 for the unclear item and the rater is unsure whether it meets the stated objectives

-1 for the item that does not match the objectives

I truly appreciate your kind help and valuable support for my thesis.

WenQiang Song

Researcher

Item Objective Congruence (IOC) Form 1

NO.	ITEMS	-1	0	+1
	Teacher Usage and Competency			
1.	Your teachers were using Moodle in the classroom with great frequency.			✓
2.	Your teacher knows everything about Moodle.			✓
3.	Your teacher regularly used Moodle's Assisted Instruction feature in his or her classes.			✓
4.	Your teacher regularly used Moodle's Multimedia Instruction features in their courses.		✓	
5.	Your teacher regularly used Moodle's Test feature in his or her classes.			✓
	Student Engagement and Interaction			
6.	You'd had a hands-on experience with Moodle in a classroom setting.			✓
7.	You liked to get up on stage and work Multimedia Instruction during class.			✓
8.	You found Moodle easy to operate and use, don't you?			✓
9.	You loved it when your teachers used Multimedia Instruction for their lessons, don't you?			✓
10.	You thought that using Multimedia Instruction was more likely to make you more interested in the Chinese Speaking Skill, don't you?			✓
11.	You thought using Multimedia Instruction in Chinese Speaking Skill was more helpful for you to understand the points, don't you?			✓
	Perceived Learning Impact and Preference			

12.	Teachers had more active classes when they use Multimedia Instruction to teach, right?			✓
13.	Teachers were more likely to prompt you to communicate with them when they are using Multimedia Instruction to teach, right?			✓
14.	You found Multimedia Instruction's learning resources about Chinese speaking skills informative, don't you?			✓
15.	You preferred Multimedia Instruction classroom to the traditional classroom, don't you?			✓

An Open-ended Question

Please give additional comments and suggestions

Item Objective Congruence (IOC) Form 2

Training Plan

Date/Time.....

Topics	Weeks	Lesson plans	Moodle Application	Multimedia Instruction	-1	0	+1
Learn and use Moodle and practice Chinese conversation.	Week 1	1.Introduce the Moodle platform and teach students how to log in and use its basic functions. 2.Learn new vocabulary and grammar through Moodle. 3.Role-playing activities where students ask and answer questions via Moodle.	1.Students practice listening and respond to questions through activities on Moodle. 2.Teachers post assignments and provide feedback via Moodle.	1.Engagement: By employing audio clips for listening exercises, multimedia can render the learning process more captivating. This enables students to practice pronunciation and intonation in a more dynamic manner. 2.Interactive Learning: Video materials that illustrate diverse scenarios can enhance role-playing activities, permitting students to practice conversational Chinese in a more immersive setting.			✓

Topics	Weeks	Lesson plans	Moodle Application	Multimedia Instruction	-1	0	+1
Discover the methods of summarising what you have heard.	Week 2	1.Learn new vocabulary and grammar. 2.Watch a video comparing weather patterns in various cities to Beijing's weather. 3.Students take notes on the key points discussed in the video and summarize them.	1.Students submit short reports on weather patterns via Moodle. 2.Teachers share video materials and collect students' reports through Moodle.	1.Visual Learning: The use of videos to compare weather patterns can help students understand abstract concepts more concretely, as they can see the actual weather conditions. 2.Note-taking and Summarisation: Multimedia can provide visual aids and structured notes that students can refer to when summarising the content, improving their ability to convey information clearly and concisely.			✓
Exploring Chinese Pronunciation and Rhythm through Song	Week 3	1.Students form groups to select a Chinese song of their choice. 2.The teacher explains Chinese pronunciation techniques and singing techniques specific to Chinese songs.	1.Students share their song performance videos via Moodle. 2.Teachers provide feedback and suggestions through Moodle.	1.Students can practice pronunciation and rhythm at their own pace by using multimedia tools to slow down or repeat song lyrics. 2.Cultural Exposure: Music provides students with an entertaining introduction to Chinese culture and language, thereby enhancing their interest and motivation to learn the			✓

Topics	Weeks	Lesson plans	Moodle Application	Multimedia Instruction	-1	0	+1
		3.Students practice and perform the selected song.		language. Learn and use Moodle and practice Chinese conversation.			
Shooting Chinese Short Videos	Week 4	1.Review the previous song performance and introduce the new video project. 2.The teacher explains the basics of video production, including scripting, shooting, and editing. 3.Students plan their video, write scripts, and outline their production process.	1.Students upload their video scripts and final videos via Moodle. 2.Teachers post video production guidelines and collect students' video works through Moodle.	1.Creative Expression: Multimedia provides a platform for students to express themselves creatively through video production, which can enhance their language use in a practical and meaningful context. 2.Technical Skills: Students can learn technical skills such as video scripting, shooting, and editing, which are valuable life skills and can make the learning process more engaging. 3.Collaborative Learning: The process of video production often involves teamwork, which can foster collaborative learning and communication skills among students.			✓
Grade: 11 Number of Students:20 Teaching Materials: With And Without Moodle application							

Item Objective Congruence (IOC) Form 1

NO.	ITEMS	-1	0	+1
	Teacher Usage and Competency			
1.	Your teachers were using Moodle in the classroom with great frequency.			✓
2.	Your teacher knows everything about Moodle.			✓
3.	Your teacher regularly used Moodle's Assisted Instruction feature in his or her classes.			✓
4.	Your teacher regularly used Moodle's Multimedia Instruction features in their courses.			✓
5.	Your teacher regularly used Moodle's Test feature in his or her classes.			✓
	Student Engagement and Interaction			
6.	You'd had a hands-on experience with Moodle in a classroom setting.			✓
7.	You liked to get up on stage and work Multimedia Instruction during class.			✓
8.	You found Moodle easy to operate and use, don't you?			✓
9.	You loved it when your teachers used Multimedia Instruction for their lessons, don't you?			✓
10.	You thought that using Multimedia Instruction was more likely to make you more interested in the Chinese Speaking Skill, don't you?			✓
11.	You thought using Multimedia Instruction in Chinese Speaking Skill was more helpful for you to understand the points, don't you?			✓
	Perceived Learning Impact and Preference			

12.	Teachers had more active classes when they use Multimedia Instruction to teach, right?			✓
13.	Teachers were more likely to prompt you to communicate with them when they are using Multimedia Instruction to teach, right?			✓
14.	You found Multimedia Instruction's learning resources about Chinese speaking skills informative, don't you?			✓
15.	You preferred Multimedia Instruction classroom to the traditional classroom, don't you?			✓

An Open-ended Question

Please give additional comments and suggestions

YANG

Item Objective Congruence (IOC) Form 2

Training Plan

Date/Time.....

Topics	Weeks	Lesson plans	Moodle Application	Multimedia Instruction	-1	0	+1
Learn and use Moodle and practice Chinese conversation.	Week 1	1.Introduce the Moodle platform and teach students how to log in and use its basic functions. 2.Learn new vocabulary and grammar through Moodle. 3.Role-playing activities where students ask and answer questions via Moodle.	1.Students practice listening and respond to questions through activities on Moodle. 2.Teachers post assignments and provide feedback via Moodle.	1.Engagement: By employing audio clips for listening exercises, multimedia can render the learning process more captivating. This enables students to practice pronunciation and intonation in a more dynamic manner. 2.Interactive Learning: Video materials that illustrate diverse scenarios can enhance role-playing activities, permitting students to practice conversational Chinese in a more immersive setting.			✓

Topics	Weeks	Lesson plans	Moodle Application	Multimedia Instruction	-1	0	+1
Discover the methods of summarising what you have heard.	Week 2	1.Learn new vocabulary and grammar. 2.Watch a video comparing weather patterns in various cities to Beijing's weather. 3.Students take notes on the key points discussed in the video and summarize them.	1.Students submit short reports on weather patterns via Moodle. 2.Teachers share video materials and collect students' reports through Moodle.	1.Visual Learning: The use of videos to compare weather patterns can help students understand abstract concepts more concretely, as they can see the actual weather conditions. 2.Note-taking and Summarisation: Multimedia can provide visual aids and structured notes that students can refer to when summarising the content, improving their ability to convey information clearly and concisely.			✓
Exploring Chinese Pronunciation and Rhythm through Song	Week 3	1.Students form groups to select a Chinese song of their choice. 2.The teacher explains Chinese pronunciation techniques and singing techniques specific to Chinese songs.	1.Students share their song performance videos via Moodle. 2.Teachers provide feedback and suggestions through Moodle.	1.Students can practice pronunciation and rhythm at their own pace by using multimedia tools to slow down or repeat song lyrics. 2.Cultural Exposure: Music provides students with an entertaining introduction to Chinese culture and language, thereby enhancing their interest and motivation to learn the			✓

Topics	Weeks	Lesson plans	Moodle Application	Multimedia Instruction	-1	0	+1
		3.Students practice and perform the selected song.		language. Learn and use Moodle and practice Chinese conversation.			
Shooting Chinese Short Videos	Week 4	1.Review the previous song performance and introduce the new video project. 2.The teacher explains the basics of video production, including scripting, shooting, and editing. 3.Students plan their video, write scripts, and outline their production process.	1.Students upload their video scripts and final videos via Moodle. 2.Teachers post video production guidelines and collect students' video works through Moodle.	1.Creative Expression: Multimedia provides a platform for students to express themselves creatively through video production, which can enhance their language use in a practical and meaningful context. 2.Technical Skills: Students can learn technical skills such as video scripting, shooting, and editing, which are valuable life skills and can make the learning process more engaging. 3.Collaborative Learning: The process of video production often involves teamwork, which can foster collaborative learning and communication skills among students.			✓
Grade: 11 Number of Students:20 Teaching Materials: With And Without Moodle application							

YANG

Item Objective Congruence (IOC) Form 1

NO.	ITEMS	-1	0	+1
	Teacher Usage and Competency			
1.	Your teachers were using Moodle in the classroom with great frequency.			✓
2.	Your teacher knows everything about Moodle.		✓	
3.	Your teacher regularly used Moodle's Assisted Instruction feature in his or her classes.			✓
4.	Your teacher regularly used Moodle's Multimedia Instruction features in their courses.			✓
5.	Your teacher regularly used Moodle's Test feature in his or her classes.		✓	
	Student Engagement and Interaction			
6.	You'd had a hands-on experience with Moodle in a classroom setting.			✓
7.	You liked to get up on stage and work Multimedia Instruction during class.			✓
8.	You found Moodle easy to operate and use, don't you?			✓
9.	You loved it when your teachers used Multimedia Instruction for their lessons, don't you?		✓	
10.	You thought that using Multimedia Instruction was more likely to make you more interested in the Chinese Speaking Skill, don't you?			✓
11.	You thought using Multimedia Instruction in Chinese Speaking Skill was more helpful for you to understand the points, don't you?			✓
	Perceived Learning Impact and Preference			

12.	Teachers had more active classes when they use Multimedia Instruction to teach, right?			✓
13.	Teachers were more likely to prompt you to communicate with them when they are using Multimedia Instruction to teach, right?			✓
14.	You found Multimedia Instruction's learning resources about Chinese speaking skills informative, don't you?		✓	
15.	You preferred Multimedia Instruction classroom to the traditional classroom, don't you?			✓

An Open-ended Question

Please give additional comments and suggestions

Wang

Item Objective Congruence (IOC) Form 2

Training Plan

Date/Time.....

Topics	Weeks	Lesson plans	Moodle Application	Multimedia Instruction	-1	0	+1
Learn and use Moodle and practice Chinese conversation.	Week 1	1.Introduce the Moodle platform and teach students how to log in and use its basic functions. 2.Learn new vocabulary and grammar through Moodle. 3.Role-playing activities where students ask and answer questions via Moodle.	1.Students practice listening and respond to questions through activities on Moodle. 2.Teachers post assignments and provide feedback via Moodle.	1.Engagement: By employing audio clips for listening exercises, multimedia can render the learning process more captivating. This enables students to practice pronunciation and intonation in a more dynamic manner. 2.Interactive Learning: Video materials that illustrate diverse scenarios can enhance role-playing activities, permitting students to practice conversational Chinese in a more immersive setting.			✓

Topics	Weeks	Lesson plans	Moodle Application	Multimedia Instruction	-1	0	+1
Discover the methods of summarising what you have heard.	Week 2	1.Learn new vocabulary and grammar. 2.Watch a video comparing weather patterns in various cities to Beijing's weather. 3.Students take notes on the key points discussed in the video and summarize them.	1.Students submit short reports on weather patterns via Moodle. 2.Teachers share video materials and collect students' reports through Moodle.	1.Visual Learning: The use of videos to compare weather patterns can help students understand abstract concepts more concretely, as they can see the actual weather conditions. 2.Note-taking and Summarisation: Multimedia can provide visual aids and structured notes that students can refer to when summarising the content, improving their ability to convey information clearly and concisely.			✓
Exploring Chinese Pronunciation and Rhythm through Song	Week 3	1.Students form groups to select a Chinese song of their choice. 2.The teacher explains Chinese pronunciation techniques and singing techniques specific to Chinese songs.	1.Students share their song performance videos via Moodle. 2.Teachers provide feedback and suggestions through Moodle.	1.Students can practice pronunciation and rhythm at their own pace by using multimedia tools to slow down or repeat song lyrics. 2.Cultural Exposure: Music provides students with an entertaining introduction to Chinese culture and language, thereby enhancing their interest and motivation to learn the			

Topics	Weeks	Lesson plans	Moodle Application	Multimedia Instruction	-1	0	+1
		3.Students practice and perform the selected song.		language. Learn and use Moodle and practice Chinese conversation.			
Shooting Chinese Short Videos	Week 4	1.Review the previous song performance and introduce the new video project. 2.The teacher explains the basics of video production, including scripting, shooting, and editing. 3.Students plan their video, write scripts, and outline their production process.	1.Students upload their video scripts and final videos via Moodle. 2.Teachers post video production guidelines and collect students' video works through Moodle.	1.Creative Expression: Multimedia provides a platform for students to express themselves creatively through video production, which can enhance their language use in a practical and meaningful context. 2.Technical Skills: Students can learn technical skills such as video scripting, shooting, and editing, which are valuable life skills and can make the learning process more engaging. 3.Collaborative Learning: The process of video production often involves teamwork, which can foster collaborative learning and communication skills among students.			
Grade: 11 Number of Students:20 Teaching Materials: With And Without Moodle application							

No.	Item Test No.	Expert 1	Expert 2	Expert 3	Average	Congruence
1.	Your teachers were using Moodle in the classroom with great frequency.	+1	+1	+1	+1	Congruent
2.	Your teacher knows everything about Moodle.	+1	0	+1	+0.67	Congruent
3.	Your teacher regularly used Moodle's Assisted Instruction feature in his or her classes.	+1	+1	+1	+1	Congruent
4.	Your teacher regularly used Moodle's Multimedia Instruction features in their courses.	0	+1	+1	+0.67	Congruent
5.	Your teacher regularly used Moodle's Test feature in his or her classes.	+1	0	+1	+0.67	Congruent
6.	You'd had a hands-on experience with Moodle in a classroom setting.	+1	+1	+1	+1	Congruent
7.	You liked to get up on stage and work Multimedia Instruction during class.	+1	+1	+1	+1	Congruent
8.	You found Moodle easy to operate and use.	+1	+1	+1	+1	Congruent

No.	Item Test No.	Expert 1	Expert 2	Expert 3	Average	Congruence
9.	You loved it when your teachers used Multimedia Instruction for their lessons.	+1	0	+1	+0.67	Congruent
10.	You thought that using Multimedia Instruction was more likely to make you more interested in the Chinese Speaking Skill.	+1	+1	+1	+1	Congruent
11.	You thought using Multimedia Instruction in Chinese Speaking Skill was more helpful for you to understand the points.	+1	+1	+1	+1	Congruent
12.	Teachers had more active classes when they use Multimedia Instruction to teach.	+1	+1	+1	+1	Congruent
13.	Teachers were more likely to prompt you to communicate with them when they are using Multimedia Instruction to teach.	+1	+1	+1	+1	Congruent
14.	You found Multimedia Instruction's learning resources about Chinese speaking skills informative.	+1	0	+1	+0.67	Congruent

No.	Item Test No.	Expert 1	Expert 2	Expert 3	Average	Congruence
15.	You preferred Multimedia Instruction classroom to the traditional classroom.	+1	+1	+1	+1	Congruent

APPENDIX G
PRE-TEST AND POST-TEST

Pre-test And Post-test

Student ID	Pre-test Score	Post-test Score	Score Improvement
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

Student ID	Pre-test Score	Post-test Score	Score Improvement
17			
18			
19			
20			

APPENDIX H

GRAMMAR ACHIEVEMENT TEST

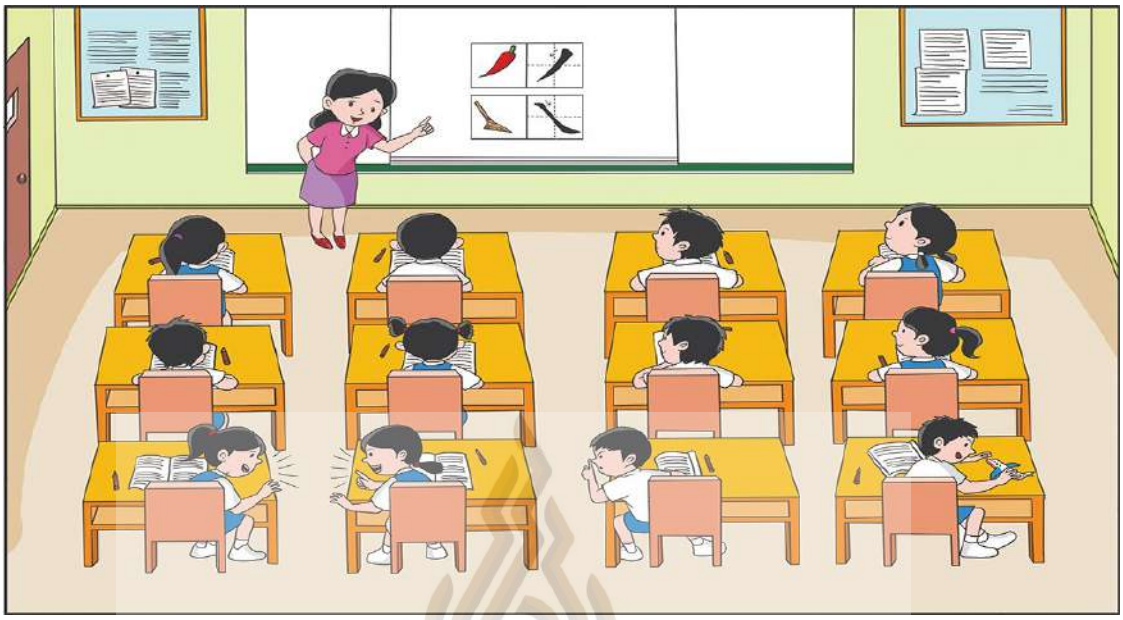
Speaking Achievement Test Pre-test & Post-test

Grade: 11 Subject: Chinese Skill: Speaking Total score: 20


Reading Corner 阅读角落


知识小学


A



Rubrics for Speaking Achievement Test

Criteria	5	4	3	2	1
Pronunciation	Accurate pronunciation, correct tones, no noticeable accent, able to naturally imitate standard pronunciation	Mostly accurate pronunciation, tones mostly correct, slight accent, occasional pronunciation errors	Average pronunciation, a few tonal errors, and a noticeable accent do not significantly affect understanding	Pronunciation errors, inaccurate tones, and strong accents can sometimes hinder understanding	Multiple pronunciation errors, confused tones, and heavy accents significantly hinder understanding
Vocabulary and Grammar	Accurate use of vocabulary and grammar, ability to flexibly use complex structures, no errors	Mostly accurate use of vocabulary and grammar, able to use complex structures, occasional minor errors	Average use of vocabulary and grammar, able to use simple structures, a few errors	Many errors in vocabulary and grammar, simple structures, affect understanding	Numerous errors in vocabulary and grammar, inability to use complex structures, severely affects understanding
Fluency and Accuracy	Expressions are fluent, coherence is good, speech rate is moderate, information is accurately conveyed	Expressions are relatively fluent, coherence is fairly good, speech rate is moderate, and information is mostly accurately conveyed	Expressions are average, coherence is average, speech rate is sometimes uneven, and information is generally accurately conveyed	Expressions are not fluent, coherence is poor, speech rate is uneven, and information is inaccurately conveyed	Expressions are extremely non-fluent, no coherence, speech rate is chaotic, and information is severely inaccurately conveyed
Communicative Ability	Able to communicate effectively, able to flexibly use language	A good communication effect, being able to use language for communication	Average communication effect, able to conduct basic communication	Poor communication in effect, limited language use,	Extremely poor communication effect; unable to communicate effectively; fails

Criteria	5	4	3	2	1
	for complex communication, fully achieves the purpose of communication	effectively, basically achieves the purpose of communication	but sometimes fails to fully achieve the purpose of communication	difficult to achieve the purpose of communication	to achieve the purpose of communication

APPENDIX I

LESSON PLANS

Lesson Plan 1 (session 1 and 2)

Level: Grade 11 **Number of students:** 20

Time: 100 minutes **Topic:** I like music more than you

Objectives:

A. Students will be able to listen to questions and respond appropriately.

B. Students will practice summarising the content of a dialogue.

C. Students learn to use Moodle

Procedures:

Steps	Activities	Time
Introduction	**Greeting** Teacher will introduce herself and exchange greeting with students.	**5 mins**
	Session 1 (50 mins)	
Warm up	**1. Introduce Moodle** Teacher shows students how to get in the Moodle and show the basic functions. **2. Introduce how to use the tools** Teacher shows students how to use the tools in the Moodle	**5mins** **5mins**
Lesson Development	1.Learn new words and grammar 2.Role-play activity where students ask and answer questions.	**20mins** **15mins**
Closure	Reflection on the activity and feedback.	**2mins**
Assignment	Students should practice listening and responding to questions at home with Moodle to prepare for the next class.	**1min**

Session 2 (50 mins)		
Greeting	Greeting and brief review of the previous session.	**5mins**
Lesson Development	1.Review Teachers post assignments and provide feedback via Moodle. Closure 2.Play a dialogue for students to listen to and take notes. 3.Students will summarise the dialogue using their own words. 4.Pair work where students practice retelling the dialogue to each other.	**5mins** **10mins** **15mins** **10mins**
Closure	Review the summaries and provide feedback	**3mins**
Assignment	Students to listen to a dialogue at home and prepare a summary for the next class.	**2mins**

Lesson Plan 2 (session 3 and 4)

Level: Grade 11 **Number of students:** 20

Time: 100 minutes **Grammar:** Our winter is as cold as Beijing's

Objectives:

A. students will be able to understand and discuss the main points of a video describing weather patterns in different cities compared to Beijing.

B. students will practice and refine their skills in describing weather patterns in Chinese, with a focus on clarity and completeness.

Procedures:

Steps	**Activities**	**Time**
Introduction	**Greeting and introduction to the topic of weather patterns.**	**5mins**
	Session 3 (50 mins)	
Lesson Development	1.Learn new words and grammar 2.Show a video that compares weather patterns in various cities to Beijing's weather. 3.Students take notes on the key points discussed in the video.	**20mins** **15mins** **5mins**
Closure	Summary of the key weather patterns discussed and the students' understanding of the video content.	**3mins**
Assignment	1.Students are to prepare a brief presentation on the weather patterns in their hometown compared to Beijing for the next session. 2.Students submit short reports on weather patterns via Moodle.	**2mins**

Session 4 (50 mins)		
Lesson Development	1.Review of the previous session's assignment and objectives for today's session. 2.Teachers share video materials and collect students' reports through Moodle. 3.Students take turns presenting the weather patterns in their hometown compared to Beijing, focusing on clarity and completeness. 4.After each presentation, students provide feedback on the content and language used. 5.Class asks questions to the presenters to clarify any points and deepen understanding.	**5mins** **20mins** **15mins** **5mins**
Closure	Summary of the presentations	**3mins**
Assignment	Students to record a video of their presentation to be shared with the class via the Moodle.	**2mins**

Lesson Plan 3 (session 5 and 6)

Level: Grade 11 **Number of students:** 20

Time: 100 minutes **Grammar:** Learn to sing Chinese songs

Objectives:

A. Students will collaborate in groups to select a Chinese song of their choice, during which they will acquire knowledge about Chinese pronunciation and singing techniques.

B. Students will deliver their initial singing performance, receive constructive feedback, identify areas for improvement, and implement necessary adjustments.

Procedures:

Steps	Activities	Time
Introduction	**Greeting and warm up** Greeting and brief review of the previous sessions.	**5mins**
	Session 5 (50 mins)	
Lesson Development	1.Students form groups and choose a Chinese song they like. 2.The teacher explains Chinese pronunciation techniques and singing techniques specific to Chinese songs.	**15mins** **25mins**
Closure	The instructor will facilitate a brief reflection on the group song selections, as well as the pronunciation and singing techniques that were discussed. Students will share their experiences in practicing the songs and the challenges they encountered with pronunciation	**3mins**
Assignment	1.Groups discussed their song choices and what they had learnt about pronunciation and singing. Students share their song performance videos via Moodle.	**2mins**

Session 6 (50 mins)		
Lesson Development	1.Greeting and a brief recap of the objectives for the day. 2.Each group performs their song in front of the class. 3.Students provide feedback to each group, and self-assessment is encouraged. 4.Teachers provide feedback and suggestions through Moodle.	**5mins** **15mins** **15mins** **10mins**
Closure	In the conclusion of Session 6, the teacher will summarise the initial performances, noting the improvements and the efforts made by each group to incorporate feedback. Students will discuss what they learnt from the peer and self-assessment process and how they can apply these insights to future performances.	**3mins**
Assignment	The video is uploaded to Moodle, and the teacher will share it with other teachers to collect their opinions.	**2mins**

Lesson Plan 4 (session 7 and 8)

Level: Grade 11 **Number of students:** 20

Time: 100 minutes **Grammar:** Shooting Chinese short videos

Objectives:

A. Students will summarise their previous Chinese song performance, re-form groups for a new task, and learn about video production techniques.

B. Students will present their initial video projects, receive feedback, identify areas for improvement, and make necessary adjustments.

Procedures:

Steps	**Activities**	**Time**
Introduction	**Greeting and warm up** Review the previous song performance and introduce the new video project.	**5 mins**
Session 7 (50 mins)		
Lesson Development	1.Review the previous song performance and introduce the new video project. 2.The teacher explains the basics of video production, including scripting, shooting, and editing. 3.Groups plan their video, write scripts, and outline them production process.	**10mins** **20mins** **10mins**
Closure	Groups share their video concepts and the techniques they plan to use	**3mins**
Assignment	Students upload their video scripts and final videos via Moodle.	**2mins**

Session 8 (50 mins)		
Lesson Development	Groups present their initial videos to the class. 1.Students provide feedback to each group, focusing on video techniques and content. 2.Teachers post video production guidelines and collect students' video works through Moodle.	**15mins** **15mins** **15mins**
Closure	A comprehensive summary of the video presentations	**3mins**
Assignment	The video is uploaded to Moodle, and the teacher will share it with other teachers to collect their opinions.	**2mins**

APPENDIX J

THE RELIABILITY TEST RESULTS OF QUESTIONNAIRE

个案处理摘要

		个案数	%
个案	有效	20	100.0
	排除[a]	0	.0
	总计	20	100.0

a.基于过程中所有变量的成列删除。

可靠性统计

克隆巴赫 Alpha	项数
.849	15

项统计

	平均值	标准差	个案数
TUC1	3.90	.912	20
TUC2	4.05	.887	20
TUC3	3.90	.912	20
TUC4	4.10	.788	20
TUC5	4.25	.786	20
SEI6	4.20	.834	20
SEI7	4.05	.605	20
SEI8	4.20	.894	20
SEI9	3.95	.826	20
SEI10	4.05	.686	20
SEI11	4.15	.745	20
PLIP12	4.25	.851	20
PLIP13	4.00	.858	20

	平均值	标准差	个案数
PLIP14	4.10	.852	20
PLIP15	4.25	.716	20

项总计统计

	删除项后的标度平均值	删除项后的标度方差	修正后的项与总计相关性	删除项后的克隆巴赫 Alpha
TUC1	57.50	40.474	.572	.834
TUC2	57.35	41.397	.504	.838
TUC3	57.50	40.263	.591	.833
TUC4	57.30	43.695	.348	.847
TUC5	57.15	44.871	.232	.853
SEI6	57.20	43.116	.377	.846
SEI7	57.35	44.450	.387	.845
SEI8	57.20	39.958	.635	.830
SEI9	57.45	42.471	.445	.842
SEI10	57.35	43.187	.474	.840
SEI11	57.25	44.724	.267	.851
PLIP12	57.15	40.029	.667	.828
PLIP13	57.40	41.621	.504	.838
PLIP14	57.30	39.589	.711	.826
PLIP15	57.15	43.292	.438	.842

Note: TUC = Teacher Usage and Competency; SEI = Student Engagement and Interaction; PLIP = Perceived Learning Impact and Preference

标度统计

平均值	方差	标准差	项数
61.40	47.937	6.924	15

BIOGRAPHY

Name	Wenqiang Song
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