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Improving Chinese Listening Ability Through Workload-Based Learning With Multimedia in Thai Universities

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***Abstract*—This qualitative research aims to examine the basics of Chinese listening ability by organizing workload-based learning with multimedia for first-year students learning Chinese as a foreign language at different universities in Thailand. As a result of workload-based learning with multimedia, Chinese listeners are better equipped to develop their listening skills. Using workload-based learning management with multimedia, the development of Chinese listening ability has been evaluated and improved by implementing workload-based learning. As interview participants, we selected 20 first-year Chinese language students randomly from several universities in Thailand. The experimental model was additionally developed and 7 Chinese teachers and experts were invited to evaluate it. According to the results, Chinese listening ability combined with workload-oriented learning management and multimedia for students has a significant effectiveness and the Chinese listening ability model with workload-oriented learning management and multimedia for high-level students has shown greater effectiveness. Chinese listening abilities are also being explored using a variety of workload-oriented learning arrangements accompanied by multimedia. The findings provide valuable insights into how multimedia can be used to enhance learning outcomes and identify ways to better support students in their Chinese language learning. The research also highlights the importance of workload-based learning management for Chinese listening ability and provides a model for how it can be implemented in the classroom.**

***Index Terms*—Chinese as a foreign language, listening comprehension, multimedia, Thai students, workload-oriented learning**

I. Introduction

Chinese is regarded as the second most studied foreign language from kindergarten to higher education in Thailand. It is also part of a government policy aimed at encouraging students and the general population to be able to speak Chinese. There have been many studies examining Chinese language learning prior to, during and after the outbreak of COVID-19 (e.g., Gong et al., 2018; Xu et al., 2022; Zhong et al., 2021). It is not surprising that the demand for the learning of the Chinese language is on the rise globally because of its economic and social importance, given that it has maintained steady economic growth for so long. It seems that there is a positive outlook regarding the increase in Chinese learners throughout the world, which suggests that research regarding Chinese language learning needs to be given greater attention. Furthermore, this rising demand for the learning of the Chinese language presents a unique opportunity to understand the complexities of the language and its culture, making it an invaluable asset to students and professionals alike. This increased demand for Chinese language learning also offers the potential for greater economic opportunities, as understanding Chinese can open up a world of business connections. In addition, improved access to Chinese culture and literature can lead to greater understanding between countries and cultures, fostering peace and collaboration. Knowing Chinese can also allow people to access a world of new technologies and advancements, giving them the opportunity to be at the forefront of innovation. It can also lead to a competitive advantage in the job market. Finally, it also serves to bridge divides between cultures, allowing people to understand one another better.

As of today, teachers can choose from a variety of teaching methods for teaching Chinese to Thai learners to suit each element of learning, i.e. learners, learning processes, and learning conditions in order to achieve the achievement of learning according to educational purposes in both cognitive and psychomotor domains. To enable learners to gain knowledge and understanding that relies on cognitive processes, and to develop practical skills in order to become proficient in doing things that may result in learning in the mind (Affective Domain) or the development of feelings finally conceived (Bloom et al., 1956). Every teaching style, however, has its own merits and limitations. For the maximum benefit of their students, teachers should choose a teaching style that is appropriate to the teaching context. Now technology has rapidly evolved, creating new materials, equipment, and techniques that can be used without boundaries in all circles, including in the educational circle. By applying these technologies to improve the efficiency of teaching, learning, and management, teachers can create more effective learning experiences for their students. It is necessary for teachers to adjust their teaching and learning practices in order to increase efficiency in learning for students. This is inevitable in light of the current state of teaching and learning. Therefore, teaching behavior must be

adapted to the changing times in order to lead students to be able to learn and to live happily in the future. To do this, it is necessary to learn about various technologies and analyze their feasibility. The technology used should be used for maximum efficiency and fit the conditions of the school and put the student at the center. As a result of information technology advancements, a stream that does not have borders or is global in nature has entered every country quickly. Electronics, computers, telecommunications and information (ECTI) are four sciences combined to form this field. ECTI enables the global community to communicate quickly anywhere in the world and receive news from a variety of movements simultaneously (Brames, 2022). As multimedia media play an increasingly important role in business and industry, multimedia technology plays an important role in learning management as well. In particular, it has been used for training and entertainment. Traditionally, multimedia has been used in the education sector as a CD-ROM or as part of a multimedia laboratory. This may be said to be an important tool in future educational institutions, even the construction of the infrastructure may also pose a threat to the use of social media for educational purposes (Yu et al., 2023). This is because multimedia can present audio, text, animation, music, graphics, photographs, printed materials, movies and videos, as well as simulation images of teaching that students can learn on their own proactively (Yu & Xu, 2022). Various forms of information, such as still images, animations, sound, video and text, have been integrated into elements for effective communication and learning (Yu et al., 2022).

II. Literature Review

In order to address the problem, one method is to design Chinese language instruction to allow students to have self-practice, the ability to express themselves and gain knowledge and understanding in learning. It is possible to teach Chinese language in a variety of ways, each of which involves a different algorithm. According to their importance and benefits, student-centered language courses, guidelines for teaching language for communication, integrated learning management, cooperative learning, content-based learning management, and task-oriented learning are some examples of integrated learning management that may benefit learners. In order to conduct a systematic review of the literature regarding flipped language classrooms from the viewpoints of theoretical foundations, learning activities, tools, research topics, and findings of flipped language classrooms, Zou et al. (2020) conducted an analysis of 34 published articles. The results of this study were obtained using a variety of research methods, including tests, surveys, and interviews. In the flipped language classrooms, a variety of electronic tools were also employed (e.g., video-watching tools, online learning platforms, online discussion tools, and video-making tools) according to the results. In addition to improving students' academic performance and cultivating their learning motivation, the findings of the study demonstrate that the flipped language classroom also contributed to the development of self-regulation, confidence, and higher-order thinking skills.

It was reported by Han (2018) that a semester-long study examining task-based learning in a Chinese language teacher-training program that promotes task-based language teaching (TBLT) resulted in tangible results on both counts—understanding TBLT (content) and the ability to articulate it (language). TBLT has been reported to improve the participation of beginner learners of Chinese as a foreign language in Denmark, create more opportunities for speaking, reduce anxiety, and enhance enjoyment for learners. However, TBLT encountered challenges such as a lack of practice in Chinese pronunciation, difficulties balancing learners' different preferences for learning strategies, and insufficient instructional time support (Bao & Du, 2015). As a result of the learning management that informs the goals of the tasks, task-oriented learning management study after school is higher than previously. It is explained and prepared for students to perform tasks independently. Students also express their opinions on the workload they have performed and review what they have learned, which enables them to draw conclusions based on the material learned (Cerezo et al., 2016).

There is a growing interest in the Chinese language, however, the organization of the process is imperative. The ability to teach Chinese effectively and to turn it into a career is therefore necessary. Learners of Chinese languages must be able to comprehend the following skills: listening, speaking, reading, writing, and translating. This is the first skill in learning a language. Listening skills are one of the foundations of social skills and are a vital part of success in life. The development of listening skills affects the development of intelligence as it relates to the exercise of thinking as well as reducing misunderstandings, conflicts in interactions with individuals. One thing I want to learn effectively is to train my memory and practice my focus. The learners will be less likely to learn Chinese effectively if they are not able to understand or have difficulty listening. On the other hand, if they are able to develop effective listening skills, other skills will be developed as well. As a student-centered teaching and learning method, practice-based teaching is appropriate for teaching foreign languages, as it provides students with hands-on experience (Ali, 2019). As a result of real-life experience, students will develop skills and expertise. Teachers should therefore have a thorough understanding of the practical arrangements so that they can achieve the standards and outcomes that are required for practice-based language teaching. The focus must be on the learners to fill in the gaps left by that practice. With the available language resources, it is possible to achieve clear communication results, but in teaching and learning Chinese with an emphasis on practical experience. In order to increase interest in the course for Thai learners, the above teaching and learning management model can be applied to Chinese language teaching content. As a result of a collection of learning information on practical Chinese language teaching and learning for Thai learners, very few studies and articles have

been published in Thailand in this area. More research and studies should be encouraged in this area to provide guidance on how to develop Chinese language teaching in Thailand in a more diverse manner.

Since little is known about cognitive-linguistic skills contributing to early listening comprehension (LC) in Chinese, Fong and Ho (2017) analyzed whether the established cognitive-linguistic skills associated with LC in non-Chinese languages (i.e., working memory, vocabulary, grammatical skills, comprehension monitoring) are similar in Chinese LC, as well as identifying novel skills (i.e., morphological skills) that could be unique to Chinese LC. A total of 105 Hong Kong-Chinese children in first grade participated in the current study. The results from multiple regression showed that each of the aforementioned skills, except for grammatical skills, had an individual contribution to early Chinese LC. Morphological skill was the most prominent and unique contributor. As a result of the path analysis results, they proposed a systematic path model that illustrated the roles played by cognitive-linguistic skills, both directly and indirectly. To assess the effectiveness of classroom activities in improving the listening and speaking skills of first-year students at a university in Thailand, Sukjairungwattana (2023) employed a mixed-methods approach that included both quantitative and qualitative data. Organizing learning activities can be an effective way to enhance the listening and speaking skills of Chinese language learners, and this approach can be applied to university settings as well.

Moreover, the development of CSL students' reading comprehension is constrained by their listening comprehension, and (2) the acquisition of Chinese literacy skills may promote students' listening comprehension by enhancing their linguistic knowledge and awareness (Wong, 2021). Some related studies focus on the listening comprehension skills of Chinese students who learn English as a foreign language, for example, Liu and Yuan (2021) explored changes in and effects of foreign language classroom anxiety (FLCA) and listening anxiety (FLLA) on Chinese undergraduate students' English proficiency over a semester in the COVID-19 context, and the findings indicate that the learning environment is critical in influencing the levels of and changes in FLCA and listening anxiety and that these two types of foreign language anxiety are serious issues in the pandemic foreign language learning context. Chinese high-proficiency listeners (HLs) possessed more types of strategies and used strategies more frequently and effectively than low-proficiency listeners (LLs). HLs not only reported fewer listening problems but also had a better awareness of listening problems and use of problem-solving strategies than LLs. Both HLs and LLs agreed on the importance of listening but showed little interest in doing listening tasks. The similarities and differences between the findings of this study and those of second-language listening research and implications for planning effective instruction to enhance native language listening proficiency are discussed (Lau, 2017).

As a result of the author's experience teaching Chinese language, teaching and learning to undergraduate students in Chinese language courses, most students were unable to communicate with the instructor during the class period. Since listening to what the teacher said did not help me understand, the author is interested in studying the model for developing Chinese listening skills. The related faculties may utilize the results of this study as a guideline for developing the teaching and learning of listening skills and other skills. This will be done through a learning management system that emphasizes workload with multimedia tools. Therefore, this paper focuses on the following objectives:

1. To analyze the current situation regarding multimedia adoption to practice Chinese listening ability in Thai universities.
2. To develop a multimedia model of Chinese listening ability.
3. To examine how Chinese listening ability is influenced by learning management that emphasizes workload and multimedia media.
4. To assess and improve the Chinese listening ability development model.

III. Research Design

In this study, the author intends to evaluate how Chinese listening abilities develop. In order to prepare students for a successful start to their university careers, their faculties have developed a learning management system that emphasizes the use of multimedia in the classroom. In order to accomplish this, the following steps must be followed, as shown in Figure 1:

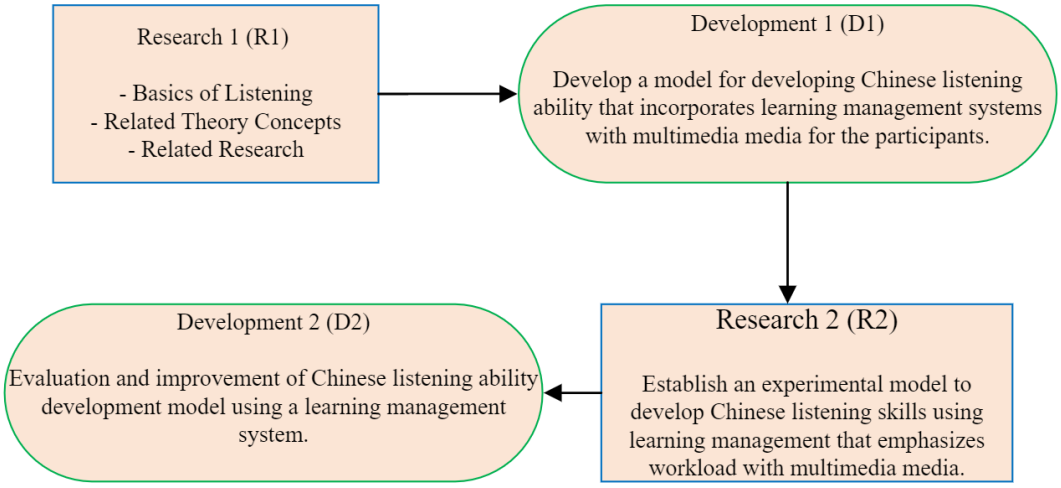

Figure 1. Research Design

A. Research 1 (R1)

The first step in the project (R1) is to conduct a baseline and needs assessment. The baseline and needs assessment analyzes the current context of Chinese listening ability. The needs assessment is complemented by a learning management system that emphasizes workload with multimedia media for the candidates.

This study was conducted among students studying Chinese language in the second semester of the academic year 2022 at universities in Thailand. They were chosen from three different kinds of courses, namely majors, minors, and electives. A simple random sampling was used in this study to select a sample of 20 students from among them. Semi-structured interviews were conducted to evaluate the students' learning and practicing progress regarding Chinese listening ability. The data collected was then analyzed to determine the effectiveness of the teaching methods used in the courses.

B. Development 1 (D1)

In D1, the development and qualitative study of the Chinese listening ability model is carried out by analyzing the data and testing and certifying the model. Specifically, seven experts in the model certification program were selected according to specific selection criteria (purposive sampling): experts in teaching and learning Chinese. The following qualifications are required: having a master's degree in education or Chinese language; and having been teaching Chinese in higher education for at least five years. The experts were required to have experience in teaching Chinese as a second language, as well as a strong knowledge of Chinese pedagogy. They were then required to complete a certification exam to demonstrate their proficiency. The experts were then certified in the model certification program.

C. Research 2 (R2)

The implementation of R2 is based on the Chinese listening ability model and a learning management system that emphasizes workload with multimedia media for the students. A study of the trial was conducted among students majoring in Chinese subjects and enrolled in the second semester of the academic year 2022. This sample group, which contains an additional 20 students, differs from those previously selected. Secondly, the test to measure knowledge must be administered both before and after the experiment. Finally, the test format should be modified. The modified test should focus on assessing students' understanding of the material, rather than testing their memorization skills. Additionally, the modified test should be administered in a proctored environment to ensure the validity of the results.

D. Development 2 (D2)

Using learning management that emphasizes student workload with multimedia media, D2 evaluated the effectiveness and improvements of the Chinese listening ability model. A focus group discussion was conducted with seven teachers and Chinese experts. The following findings show the details and results of the focus group's work.

IV. Findings

The seven selected Chinese teachers and experts contributed valuable information to this research. The researcher was greatly inspired by their discussion and suggestions. Here are three examples of transcripts of the Chinese language experts interviewed in this study:

A. Expert 1

Interviewer: *Thank you for taking the time to speak with me today. Can you please start by sharing your background and experience with teaching Chinese?*

Expert 1: *Sure, no problem. I have been teaching Chinese language and culture for over 15 years now, primarily at the university level. I hold a Master's degree in Chinese linguistics. I started teaching introductory Chinese language courses and have worked my way up to advanced levels. I've also developed Chinese language curriculum and taught Chinese for special purposes courses tailored to different majors like business, tourism, international relations, etc.*

Interviewer: *Great, thanks for providing that context. In your experience teaching Chinese listening skills, what are some of the key challenges students face?*

Expert 1: *One of the biggest challenges students face is distinguishing the tones in Mandarin Chinese. As you know, Chinese is a tonal language and the meaning of a word can change completely depending on its tone. This takes a lot of practice for non-native speakers to grasp. Students also struggle with vocabulary acquisition in the beginning. They find it hard to recognize words they've learned when spoken at native speed. Parsing longer sentences and capturing all the details is another difficulty. Chinese syntax can be very different from their native language.*

Interviewer: *What strategies or techniques have you found most effective for helping students improve their Chinese listening skills?*

Expert 1: *Some strategies I've had success with include using audio recordings even for beginning levels. Having them listen and repeat is helpful. I also like doing call-and-response drills where I say a phrase and they repeat it back. Using multimedia like videos and movies with Chinese subtitles or dubbing is engaging for students too. Repeated exposure through these means over time helps them pick up the tones and vocabulary. I also give them note-taking tasks while listening to have them focus on key details. And starting simple with short, very common phrases and building up slowly works well.*

Interviewer: *As an expert, what are your thoughts on using multimedia and a task-based learning approach to develop Chinese listening abilities as proposed in this study?*

Expert 1: *I think that approach holds a lot of promise. Using multimedia resources allows for varied input and exposes students to authentic language examples. This is important for listening comprehension development. Having structured tasks also gives them clear goals and motivation. It makes the listening practice more meaningful versus just passive listening. Assigning tasks related to note-taking, summarizing, answering questions etc. forces students to focus on details and processing of the language. The element of interaction keeps them engaged. So overall, I think combining multimedia resources with a task-based framework could really help drive improvement in students' Chinese listening skills. It merits further research and evaluation.*

B. Expert 2

Interviewer: *Thank you for agreeing to participate in this study. Could you please start by telling me about your background and experience with Chinese language teaching?*

Expert 2: *Sure, I've been teaching Chinese for over 10 years now at both the university and high school level. I hold a PhD in Applied Linguistics with a focus on Chinese as a second language acquisition. My specialization is in teaching listening and speaking skills to foreign language learners. I'm also involved in curriculum development for Chinese immersion programs.*

Interviewer: *In your experience, what would you say are some of the key challenges students face when developing Chinese listening abilities?*

Expert 2: *One major hurdle students encounter is the sheer speed of spoken Mandarin. Going from carefully articulated spoken examples to native speed conversation is a big jump. They struggle to distinguish individual words and parse the sentence structure at a quicker pace. Vocabulary breadth is also an issue - even if students know words in isolation, it's difficult to recognize them in unrehearsed speech. The tones also remain problematic for many long after beginning studies. Simply retaining what they hear in short-term memory can be challenging too due to the unfamiliar sounds and syntax.*

Interviewer: *In your Chinese courses, what approaches have you found most effective for helping students improve their listening comprehension?*

Expert 2: *I find integrating listening practice with speaking response activities very effective. For example, having students listen to a prompt and then discuss it with a partner using targeted vocabulary and sentence patterns. I also use a lot of multimedia - podcasts, radio segments, videos. I give them guided notes to complete while listening to keep them engaged. Repeated listens of the same material with incremental increases in difficulty is helpful too. And providing listening journals or reflection prompts helps strengthen retention of what they hear. Scaffolding tasks from simple to more complex over time works well.*

Interviewer: *Based on your expertise, what are your thoughts on the idea of using multimedia resources combined with a task-based learning approach for developing listening skills as examined in this study?*

Expert 2: *That approach aligns well with best practices in the field. Authentic multimedia content exposes students to real language examples and uses more visual and contextual support - which is important for comprehension. Having structured tasks with a clear objective keeps learners focused and active during listening practice. It also allows for assessment of learning. Incorporating tasks that promote interactive follow-up like discussions or role plays can help cement understanding. Overall it seems like a very promising framework that leverages technology and learner-centered techniques to help drive listening progress over time.*

C. Expert 3

Interviewer: *Thank you for taking the time to speak with me today. As an expert in Chinese language pedagogy, could you please share your thoughts on developing listening skills among Thai university students learning Chinese?*

Expert 3: *Listening comprehension is fundamental but often challenging for Thai learners of Chinese. The tonal nature of Mandarin and differences from Thai pose initial roadblocks. More exposure through engaging, meaningful tasks is key.*

Interviewer: *Could you elaborate on how a workload-based approach using multimedia could help overcome some of these listening challenges?*

Expert 3: *A workload-based model provides structure and accountability. By integrating multimedia like audio clips, video, and interactive resources into clearly defined listening assignments, students receive varied input and practice parsing authentic language. Tasks assessing note-taking, summarizing, or responding to prompts keep them cognitively engaged. This scaffolds them from receptive training to productive application of new skills.*

Interviewer: *In your view, what are some principles an effective multimedia-based model should follow?*

Expert 3: *It must incrementally increase difficulty and provide scaffolding. Start simply by isolating tones or vocabulary through audio clips. Progress to short dialogs, then longer form content. Integrate visual supports like captions which fade over time. Ensure tasks directly target listening objectives. Seek feedback to customize support. And motivate through gamification, leaderboards or collaborative elements if possible.*

Interviewer: *How might such a model help address specific pain points Thai learners face in developing listening proficiency?*

Expert 3: *Repeated, multimodal input aids tonal acquisition. Contextual clues and interactive elements support comprehension. Scaffolded tasks build confidence and metacognition. Well-designed formats keep learners engaged over time, increasing exposure and reinforcement critical for any language skill. Used properly, multimedia workload-based learning could considerably help advance listening for Thai Chinese language students.*

The researcher gained valuable insights by communicating these highly qualified experts in Chinese language pedagogy. All of them have extensive experience teaching Chinese as a foreign language at university or high school levels, with credentials including master's and doctoral degrees related to Chinese linguistics and language acquisition. Through the interviews, common listening challenges faced by students were identified, such as distinguishing tones, vocabulary recognition at speed, parsing longer sentences, and short-term memory of unfamiliar linguistic features. Additionally, the experts provided endorsement for incorporating multimedia resources and task-based learning into the development of listening skills, noting it exposes students to authentic examples while keeping them engaged through structured activities with clear objectives. They also offered guidance on important principles for an effective model, such as gradually increasing difficulty levels, providing scaffolding and visual support, and ensuring tasks target specific learning objectives. The experts' perspectives validated the approach examined in the study and identified ways it could help address Thai learners' issues with tones and comprehension over time through adequate repeated multimodal input and contextualized practice. Overall, interviewing these three Chinese language teaching experts lent authoritative support to inform the research.

Finally, as a research framework, Figure 2 summarizes the suggestions for enhancing the ability to listen to Chinese with learning management that emphasizes workload with multimedia media for Chinese language students at universities in Thailand.

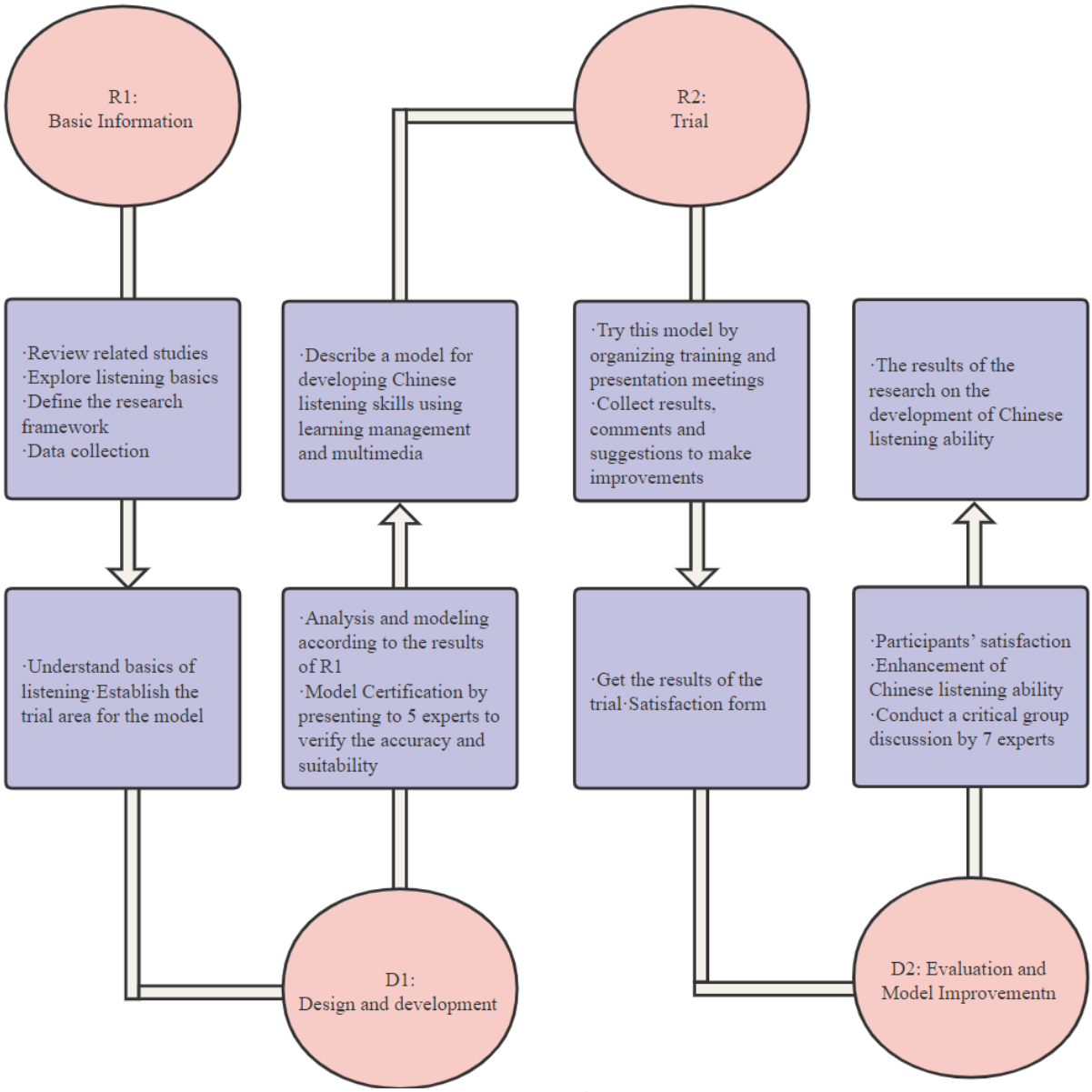

Figure 2. Framework of Suggestions

According to the framework shows in Figure 2, the results of the research on the development of Chinese listening ability can be finally achieved after conducting the previous processes of literature review, data collection, model establishment and verification, trial and suggestions, participants' satisfaction and critical group discussion of experts.

V. Conclusion

This study aimed to examine the development of Chinese listening abilities among Thai university students through a multimedia-based, workload-oriented learning management approach. Interviews with Chinese language experts provided valuable validation of the proposed approach and offered useful recommendations for effective implementation. Key findings indicate that integrating multimedia resources like audio, video and interactive materials into well-structured listening tasks can help address common challenges faced by Thai learners, such as tones and parsing language at speed. A scaffolded model that gradually increases difficulty while providing visual and contextual support aligns well with best practices. When designed and carried out properly according to expert guidelines, this student-centered approach leverages technology to meaningfully engage learners and drive listening comprehension gains over time through adequate practice opportunities.

While preliminary results are promising, further research is still needed. Larger-scale implementation and evaluation of the proposed model across different learning contexts could provide more robust evidence of its pedagogical effectiveness. Additional modifications may also be warranted based on continuous student feedback. Nonetheless, this study contributes meaningful insights into how task-based multimedia learning can potentially enhance Chinese listening outcomes for Thai undergraduates. It also highlights important considerations identified by experts to optimize

usage of this approach. With ongoing refinement and assessment, this learning framework shows potential to help more learners of Chinese achieve higher proficiency in comprehending the language.

In today's globalized world, the ability to communicate effectively in multiple languages has become increasingly valuable. Chinese, being one of the most widely spoken languages, presents numerous opportunities for personal growth and career advancement. Thai students are recognizing the importance of learning Chinese. The Chinese language, with its rich cultural heritage and economic significance, offers numerous benefits and opportunities for Thai students. China's position as a global economic powerhouse cannot be ignored. As the second-largest economy in the world, China presents vast opportunities for trade, investment, and job prospects. Learning Chinese gives Thai students a competitive edge in the job market, particularly in industries such as finance, tourism, hospitality, and international trade. Speaking Chinese opens doors to lucrative career options and enhances employment prospects. The importance of learning Chinese for Thai students cannot be overstated. From economic opportunities to cultural exchange, learning Chinese equips Thai students with valuable skills, broadens their horizons, and enhances their personal and professional growth. As Thailand strengthens its economic ties with China, the demand for Chinese language proficiency will only increase. Therefore, Thai students should embrace the opportunity to learn Chinese and seize the numerous advantages it offers in today's globalized world.

While developing overall proficiency in Chinese is essential, improving listening skills holds particular significance. Listening is the foundation of communication, and it is essential for any language learner. This is especially true for Chinese, where the tones and the characters require careful listening. Improving listening skills will also help learners better understand and speak the language. Therefore, it is important to focus on listening exercises to better understand and communicate in Chinese. The findings of this study suggest that multimedia learning can be an effective tool for improving Chinese listening ability. Further research is needed to explore the impact of multimedia on language learning. Additionally, the results can be used to inform the design of language learning strategies. Given the results, multimedia learning appears to be an effective tool for Chinese listening comprehension, prompting the need for further research into its impact on language learning. Furthermore, the findings can provide insight into the development of successful language learning strategies. For instance, using multimedia to provide meaningful contexts for language learning activities could help learners better understand the language and increase their learning outcomes. Educators can also use multimedia to promote learner engagement and motivation. By providing learners with an engaging and stimulating learning environment, they can be more motivated to learn and retain more of what they learn. Additionally, multimedia can be used to create immersive language learning experiences.

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