A Comparative Study of Chinese Words with Different Pronunciation and Polyphonic Pronunciation in Thai Chinese Language Learners

Chinnawat Sripol
chinnawat.sr@rmu.ac.th
Chinese Philology Program, School of Chinese Language and Literature, Shanxi University

Wangweimin
wangwm@jsnu.edu.cn
Chinese Philology Program, School of Chinese Language and Literature, Shanxi University

Abstract: The research aimed to analyze Chinese words with varied and numerous pronunciations among Thai Chinese learners. 2) To identify the sources of the problems, we compared single and multiple pronunciations, including varied tones, among Chinese language learners in Thailand, using a documentary research approach based on Scott's principles. The results showed that Thai phonemes replaced Chinese morphemes with Mandarin pronunciations. 2) Using the Roman alphabet for Chinese phonetic forms confuses Thai Chinese students' pronunciation. 3) Some vowels in words mix and change form, resulting in improper pronunciation by students. 4) The pronunciation of tones involves theoretical facts that students must remember. The results of this study will provide a conceptual framework for subsequent empirical research to validate the findings. This data is critical for discovering the underlying reasons for issues among Chinese language learners in Thailand by comparing single and different pronunciations.

Keywords: Chinese Words, Reading With Single And Multiple Sounds, Chinese Language Learners In Thailand

INTRODUCTION

China's rapid economic growth and position as the world's largest manufacturing hub have made it one of the key players in the global economy. Its vast consumer market, abundant labor force, and extensive infrastructure development have attracted foreign direct investment (FDI) worldwide. Additionally, China's participation in global trade agreements and organizations, such as the World Trade Organization (WTO), has further integrated it into the world economic system (Volker (Brühl, 2024; (Tseng, M. W., & R. M. M., 2003).

As a result, many countries are increasingly focusing on learning Chinese to facilitate communication with Chinese people. Thailand is one such country where the government emphasizes teaching Chinese. The Ministry of Education has announced that Chinese is the second foreign language after English. However, the current state of Chinese language education in Thailand faces several challenges, preventing the country from successfully producing graduates proficient in practical listening, speaking, reading, and writing skills (Chan et al., 2022; Wuttiphan, N. and Y. Ting, 2013).

Language is humanity's most important communication tool, and pronunciation is one of the crucial language elements. There was a strong relationship between pronunciation and language ability, making pronunciation the cornerstone of language teaching. Students must learn and understand the basics of pronunciation as

thoroughly as possible because learning any language starts with pronunciation. Pronunciation acts as the shell covering language; only when we truly understand pronunciation can we comprehend what others say. Learners must pronounce each word correctly and clearly to convey their intended meaning and ensure the listener understands them. Even if communication is otherwise complete, unclear pronunciation can make the listener uncomfortable and change the conveyed meaning at worst. This study of Chinese words with different pronunciations and polyphonic pronunciations among Chinese language learners in Thailand highlights the importance of learning correct pronunciation to convey meaning accurately. Therefore, the primary aim of teaching pronunciation should be to develop a thorough understanding of pronunciation to facilitate effective communication (Office of the Secretary of the Education Council, 2016).

When teaching Mandarin, it is essential to start by learning the Mandarin phonetics alphabets, known as "Han Yu Pinyin" (汉语拼音, hànyǔ pīnyīn). This system is used as a tool for reading Chinese characters, employing Roman letters to represent consonants, vowels, and tones. Based on my teaching experience, I have found that although Mandarin and Thai share some similar sounds, Thai learners often struggle with reading and pronouncing the Mandarin phonetic alphabet, including its consonants, vowels, and tones. This issue has been confirmed by many studies. One such study, conducted by Zheng, Y. D. (1985) examined the use of the word "have" in the Fuzhou dialect by studying the syntactic and semantic properties of sentences containing "have." The study analyzed natural language data to gain insights into its usage. The author explores the various contexts in which the word "have" is used and discusses its implications for the grammar of the dialect. This study contributes to our understanding of Fuzhou language grammar and sheds light on the unique linguistic features of the Chinese language in this region. For example, Chen E (2006) research, "A Study of Pronunciation Errors in Thai Students Learning Chinese," found that problematic consonant sounds affecting the pronunciation of Thai students include z, c, s, j, q, x, zh, ch, sh, and r. The most problematic consonant sounds in pronunciation are c, ch, s, and sh. In terms of vowel pronunciation issues, it was found that Thai learners struggle with the sounds er, ia, ie, ian, iang, u, ua, uo, ü, üe, üan, and ün. Additionally, Ma Xinxin (2013) study, "An Analysis of the Errors of Chinese Pronunciation in Thai College Students," identified the specific consonants and vowels that Thai students find difficult to pronounce. The problematic sounds include the consonants j, q, x, z, c, s, zh, ch, sh, and r, as well as the vowels u, ü, üe, and ün. Among these, the consonants zh, ch, sh, and r, along with the vowels ü, üe, ün, and er, are the most challenging for students to pronounce. Jiang Juan (2014) study on Chinese phonetic research and teaching countermeasures for middle and high school students found that Thai learners struggle with pronouncing consonants such as j, q, x, z, c, s, zh, ch, sh, k, and h. The vowel sounds that pose difficulties include ü, er, i, ie, üe, ua, and uo. The findings from these studies indicate that Thai students have significant pronunciation problems within the Pinyin system. Consistent results were obtained regarding consonant sounds that pose challenges for students, including those in the mixed sound group like fricatives j, q, x, and fricatives (sibilant) z, c, s, zh, ch, sh, and r. Vowels also present difficulties, such as single vowels i and er, as well as mixed vowels ia, iong, uo, ua, and u, ü, üe, üan, ün, etc. These findings are similar to those of Saifon

Wansinthaphon (2011), who studied factors affecting Mandarin pronunciation among students majoring in Chinese language and Traditional Chinese Medicine at Huachiew Chalermprakiet University. A study highlighted that Thai students often struggle with consonants that lack counterparts in Thai phonetics and face challenges due to insufficient knowledge and accuracy in reading Pinyin. Confusion between reading Pinyin phonetic symbols and English Roman letters further compounds these difficulties. Similar to the research results of Tulanusorn Suphasa and Qi Xuehong (2017), students encounter difficulties in pronouncing both consonants and vowels. Consonant sounds with significant mispronunciation include ch[ʈʂ'] and sh[ʂ], while vowels that are commonly mispronounced include üe[yɛ], üan[yɛn] and er[ɚ]. This research also highlights the phenomenon of fossilization (化石化现象), which interestingly occurs in the pronunciation of advanced learners. If not corrected, this phenomenon can lead students to remember incorrect pronunciations permanently, whether they are studying Chinese in Thailand or in China. Despite the passage of time and numerous research studies on learning Chinese, issues with Mandarin phonetic pronunciation persist among Thai learners. Pronunciation plays a crucial role in facilitating clear communication and mutual understanding. Studying pronunciation in Chinese is highly important due to the language's distinct sounds and the potential for different meanings associated with slight pronunciation variations. Learning correct pronunciation helps students grasp the intended meaning of words and communicate effectively. Furthermore, there is emphasis on distinguishing between various types of sounds—such as pronunciation, Pinyin sounds, aspirated sounds, and stop sounds and practicing to achieve pronunciation accuracy akin to that found in dictionaries.

OBJECTIVE

1. To study Chinese words with different pronunciations and polyphonic pronunciations among Thai Chinese language learners.

2. To identify the primary cause of the issue through comparative analysis of single pronunciations and polyphonic pronunciations in Thai Chinese language learners.

RESEARCH METHODS

This research employs documentary research methodology, selecting secondary documents aligned with its objectives. These include academic articles, research papers, and published documents covering aspects such as Mandarin consonant, vowel, and tone pronunciation, as well as studies on teaching Chinese pronunciation to Thai students, among others.

Data analysis

The researcher analyzed data from secondary documents following the guidelines outlined by Scott (2006; 2014). These criteria for selecting relevant documents include: 1) Accuracy (Authenticity): The document must originate from a reliable source, ensuring it is accurate, complete, and contextually consistent with the period of publication. 2) Reliability (Credibility): The document should be free from errors and misinformation. 3) Representativeness: The document should provide detailed information that is representative of similar documents within the sample population., and 4) Clarity of Meaning: The document should be easily understandable and clearly align with the research objectives and significance (Mogalakwe, 2006).

Scope of secondary documents

The scope of data analyzed in this document included: 1) problems with consonant pronunciation, 2) problems with vowel pronunciations, 3) Chinese words with single and multiple sound pronunciations which differ, and 4) similarities between Thai and Chinese language components. The selection process identified relevant literature that adheres to the criteria for document selection and aligns with the research objectives. The content scope encompassed issues such as consonant and vowel pronunciation difficulties, variations in pronunciation among Chinese words, and comparative aspects between Thai and Chinese languages. The researcher has gathered pertinent literature to synthesize and compared Chinese words with single and multiple pronunciations as detailed in the article.

RESULTS AND DISCUSSION

Thai and Mandarin belong to the same language family, the Sino-Tibetan language family, and share fundamental phonemes including consonants, vowels, and tonal units. According to Liu Xun (2010), "If two languages are very different, learning may be slow, but obstacles could be small, leading to thorough understanding. However, if two languages appear very similar, learning may be fast but minor differences can pose significant obstacles, making complete understanding difficult."

The researcher studied the pronunciation challenges faced by Thai learners of Chinese, focusing on differences between monosyllabic and polysyllabic Chinese words. Analysis of related research revealed that Thai learners encounter difficulties with Mandarin pronunciation, particularly with consonants, vowels, and tones. Consequently, the author compared pronunciation methods between the two languages based on phonetic principles to investigate pronunciation issues among Thai learners of Chinese. The study analyzed causes of pronunciation errors using theories of second language acquisition (SLA) and language interaction (Interlanguage), exploring the following details.

1. Problems with consonant pronunciation

Mandarin Chinese has 23 consonant phonemes. Thai has 21 consonant phonemes. The characteristics of the sounds and positions in pronunciation are as follows:

Table 1. Characteristics and position of sound occurrence of Mandarin consonant phonemes

Characteristics of sound / Birth position	Depressed and semi-fricatives are not voiced or emitted	Depressed and semi-fricative, not voiced, puffed up	Nostrils rumbling	Fricative, not echoed	Resonant fricative	Beside the tongue and atthasarong
Lips	b [p]2	p [pʰ]	m [m]	f [f]		w [w]
Gum button	d [t]	t [tʰ]	n [n]			l [l]
Tip of tongue-teeth	z [ts]	c [tsʰ]		s [s]		
Tip of tongue - hard palate	zh[tʂ]	ch[tʂʰ]		sh[ʂ]		r [ʐ]
Gum button	j [tɕ]	q [tɕʰ]		x [ɕ]		y [y]
Soft palate	g [k]	k [kʰ]		h [x]		

Source: Praphin Manomaiwibul (2013): page 7

Table 2. Characteristics of sounds and sound positions of Thai consonant phonemes

Characteristics of sound / The location of the sound	Detain or explode without rumbling or blowing air.	Detain or explode, rumble, blow air	Detain or explode	Fricative	Nasal	involuntarily	On the side of the tongue	Amphitheatre
Labia	ป [p]	ผ ภ พ [pʰ]	บ [b]		ม [m]			ว [w]
Lips - Teeth				ฝ ฟ [f]				
Gum button	ต [t]	ท ธ ฒ (ฑ) [tʰ]	ด (ฏ) [d]	ศ ส ษ ซ [s]				
Hard palate	จ [c]	ช ฉ ฌ [cʰ]				ร [r]	ล [l]	
Soft palate	ก [k]	ค ฆ ข [kʰ]			ง [ŋ]			
Pharynx	อ [ʔ]			ห ฮ [h]				

Source: Adapted from a table showing Thai consonant phonemes by Ruangdet Pan Khuenkhat (1997): page 44.

When comparing the data from Table 1 and Table 2, it became the evidence that Mandarin has more consonant phonemes than Thai. Additionally, Mandarin includes consonant phonemes that are absent in Thai, such as z[ts] c[ts^h] zh[ʈʂ] ch[ʈʂ^h] sh[ʂ] j[tɕ] q[tɕ^h] x[ɕ]. There are also Mandarin consonant phonemes that are similar to Thai but pronounced slightly differently, such as r[ʐ] and h[x]. Numerous studies have highlighted that Thai learners encounter difficulties when attempting to pronounce these consonants.

Tarone (1978) described the influence of the sound system of a learner's mother tongue on their pronunciation of a foreign language. In the case of Thai learners of Mandarin, the distortion in pronunciation may stem from comparing Mandarin consonant phonemes with similar-sounding Thai consonants. For instance, substituting the Thai consonants s, s, s for the Mandarin consonants x, s, and sh respectively; using the Thai consonant j instead of the Mandarin consonants j, z, and zh; and using the Thai consonant ch instead of the Mandarin sounds q, c, and ch. When considering pronunciation methods, each of these Mandarin consonants possesses distinct characteristics and articulation positions. For example, the sound z [ts] is a dental affricate with a partially fricative sound, produced without aspiration, originating from the tip of the tongue and the teeth. The sound zh [ʈʂ] is characterized by a pent-up and semi-fricative quality, produced without resonance or aspiration, originating from the tip of the tongue and the hard palate. In contrast, the sound ʈ [c] is described as a pent-up or explosive sound, also lacking resonance and air release, and originating from the hard palate. These sounds cannot be compared directly due to their distinct characteristics. Another common interference issue from the mother tongue is observed when Thai learners mispronounce Mandarin words beginning with the sound r [ʐ] as l [l]. For instance, the Mandarin phonetic spelling rè (rè) for the word "hot" (热) is often pronounced by students as lè (le), which sounds identical to the Mandarin word (乐) meaning "congratulations" or the word for "person" (人). The Mandarin phonetic spelling for "person" is rén (ren), but students often pronounce it as len, which does not exist in Chinese phonetics. Regarding the pronunciation issue of the sound RL, Ruangdet Pan Khuenkhat (1997) explained that in the nature of the Thai language (spoken language), the consonant phoneme "r" [r] at the beginning of a word or when mixed with other consonants is frequently interchanged with the consonant phoneme "l" [l]. This substitution typically does not alter the meaning of the word or cause misunderstandings in conversations. The author concludes that this phenomenon might be why Thai learners of Chinese are not meticulous in their pronunciation, leading to distortions in the pronunciation of Mandarin sounds like r [ʐ].

In addition to the issue of distorted Mandarin consonant pronunciation, Chinese language learners in Thailand also encounter problems with confusion and

memorization. This difficulty arises because Mandarin Pinyin is similar to English. Saifon Wansinthaphon study (2011) revealed instances where students confused Pinyin with English, such as alternating between reading consonants like b and p, and d and t.

Furthermore, from teaching experiences, it has been observed that learners face challenges in remembering and distinguishing certain phonetic representations, such as reading the Pinyin q [tɕʰ] as the sound [k], interpreting z [ts], zh [ʈʂ] as [z], or reading c [tsʰ] as [k], which are sounds in English. This phenomenon is attributed to language transfer issues among learners.

2. Vowel pronunciation problems

Mandarin Chinese has 38 vowel phonemes, divided into 9 single vowel phonemes, 13 mixed vowel phonemes made by combining 2 or 3 single vowel sounds, and 16 nasal vowel phonemes, as shown in the following table.

Table 3. Shows the single vowel phonemes in Mandarin

Group	1						2	3	4
Pinyin	a	o	e	-i	ê	er	i	u	ü
IPA	[A]	[o]	[ɤ]	[ɿ] [ʅ]	[ɛ]	[ɚ]	[i]	[u]	[y]
Compare sounds	อา	โอ	เออ	อือร/ อือ	เอ	เออร์	อี	อู	ยว

Source: Single vowel sound table Quote from the complete Chinese teaching manual. Mandarin Education Publishing House (2017): page 14

International Phonetic Alphabet (IPA) Quote from "General list of Mandarin vowels" Huang Borong and Liao Xudong (2017)

3. Chinese words with single and different pronunciations
1. 好事 (hǎo shì / hào shì)
Pronounced in one sound: hǎo shì (good story)
Pronunciation: hào shì (likes to interfere with people's affairs)
2. 妻子 (qī zǐ / qī zi)
Pronounced in one sound: qī zǐ (wife and children).
Pronunciation: qī zi (wife)
3. 转向 (zhuǎnxiàng / zhuànxiàng)
Pronounced in one sound: zhuǎnxiàng (change of direction)
Pronunciation: zhuànxiàng (lost direction)
4. 倒车 (dǎochē / dàochē)
Pronounced in one sound: dǎochē (connect a car/change a car)
Pronunciation: dàochē (back up the car)
5. 好学 (hǎoxué / hàoxué)
Pronounced with one sound: hǎoxué (easy to learn)

Pronunciation: hàoxué (love to study/love to study)

For each of these words, the monotone and polyphonic readings have different meanings. For example, "好事" means "good things" when pronounced in one tone, and means "likes to interfere with people's affairs" when pronounced in multiple sounds. Meanwhile, "妻子" means "wife and children" when pronounced in one voice, and "wife" when pronounced in multiple voices. This different pronunciation often means that this word is used in clearly different contexts or situations.

Table 4. Comparison of examples of Thai words with Chinese words that have the same or similar initial consonant sounds

Examples of Thai words 泰语词的例子	Examples of Chinese words 汉语词的例子
ปู /pu:/	逋 /bū/
ผ้า /phâ:/	怕 /pà/
หมู /mǔ:/	模 /mú/
หวาน /wǎ:n/	玩 / wán/
ฟัน /fan/	帆 /fān/
ใต้ /tâj/	带 /dài/
ทา /tha:/	他 /tā/
หน้า /nâ:/	那 /nà/
ลา /la:/	拉 /lā/
หรู /rǔ:/	如 /rú/
สี่ /sì:/	喜 /xǐ/
จริง /ciŋ/	经 /jīng/
ชา /cha:/	叉 /chā/
ยา /ja:/	鸭 /yā/
ไก่ /kàj/	改 /gǎi/ before the sound changes to a higher level (半三声)
ขา /khǎ:/	卡 /kǎ/

Examples of Thai words 泰语词的例子	Examples of Chinese words 汉语词的例子
หู /hǔ:/	湖 /hú/
อา /ʔa:/	阿 /ā/

In Chinese, there are no final consonant phonemes or spellings as found in Thai. Instead, Chinese relies on combinations of vowel phonemes and special vowels to fulfill roles that final consonants do in Thai.

4. Similar parts of Thai and Chinese languages

As for the Thai language and Mandarin Chinese, they are similar in that they are composed of consonants, vowels, and tones. Mandarin has 21 consonants, 39 vowels, and 4 tones. The 4 tones include: Ayinping（阴平）Ayangping（阳平）Shangsheng（上声）Quusheng（去声）Pitch numbers [55] [35] [214] [51] respectively.

The current Thai language has 42 consonants, 32 vowels and symbols, including 9 individual vowels, divided into short and long sounds. The 5 tones consist of pitch numbers [33] [21] [41] [45] [14] according to sequence such as

mī（咪） "m" is a consonant, "i" is a vowel, " - " is a tone.

มี （有） "ม(m) " is a consonant,"◌ี (i) " as a vowel.

mí（迷） "m" is a consonant, "i" is a vowel, "ˊ" is a tone.

มี่ （熊） "ม(m) " is a consonant,"◌ี (i) " is a vowel,"◌̀ " is a tone.

mǐ（米） "m" is a consonant, "i" is a vowel, "ˇ" is a tone.

หมี่ （面） "ม(m) " is a consonant,"◌ี (i)" is a vowel, " ◌̀ "is a tone.

mì（蜜） "m" is a consonant, "i" is a vowel, "ˋ" is a tone.

มีด （刀） " ม(m), ด(d) " are consonants,"◌ี (i)" are vowels.

The similarity in pronunciation rules implied that Thai learners of Chinese do not typically misunderstand high and low tones. When comparing Mandarin Chinese and Thai, many phonemes are pronounced similarly. Therefore, leveraging these similarities can be advantageous. Drawing on knowledge from their mother tongue or English can aid learners in remembering sounds effectively. To facilitate positive language transfer for consonant sounds, instructors may compare certain Mandarin phonetic sounds with Thai and/or English consonants that share similar pronunciations. The author has compiled a table listing phonemes that are very similar or alike for comparison, as follows:

Table 5. shows a comparison of Mandarin phonetic characters with Thai and English consonants that have the same pronunciation

Pinyin	Thai	English
b	ป	**-**
p	พ	**p**
m	ม	**m**
f	ฟ	**f**
d	ต	**-**
t	ท	**t**
n	น	**n**
l	ล	**l**
g	ก	**-**
k	ค	**k**

For vowel sounds, although Thai has fewer vowel units compared to Mandarin, particularly compound vowel phonemes, the Thai writing system allows for combinations of sounds. This enables teachers to provide examples of sounds or words in Thai that learners are familiar with, facilitating comparisons to help students memorize vowel sounds in the Mandarin Chinese phonetic alphabet.

Table 6. shows a comparison of Mandarin vowel phonemes with sample sounds and words spelled in Thai

Mandarin vowel phonemes	Example words in Thai	Mandarin vowel phonemes	Example words in Thai
ai	Eye Guy Man	**iu**	Iew New Chiu
ao	Aw Lao Mao	**ian**	Ian Lien Nian
an	An Fan Pan	**in**	In Jin Nin
ang	Aang Lang Fang	**iang**	Eing Liang Chiang
ei	Ai Lei Kei	**ing**	Ing Ling Ping
en	Aen Ngen Gin	**uai**	Wai Buffalo Swing
eng	Aing Rung Phleng	**ui**	Wui Kui Lui
ong	Ong Jong Long	**uan**	Wan Kwan Guan
iao	Aew Diao Piao	**uang**	Wang Kwang Lueng

CONCLUSION

Chinese language learners in Thailand often mispronounce Mandarin phonetic characters due to their tendency to substitute Mandarin sounds with those from the Thai language. Additionally, confusion arises between Mandarin phonetic forms, which use the Roman alphabet, and the English pronunciation knowledge students have acquired. Moreover, students struggle with accurately applying pronunciation rules for vowels and tones in word combinations, leading to difficulties in mastering Mandarin Chinese phonetics. Therefore, when teaching Chinese pronunciation to Thai learners,

the initial focus should be on helping students understand the similarities and differences between the two languages. Subsequently, teachers should instruct correct pronunciation based on phonetic principles, covering consonant sounds, vowels, tones, and the reading of syllables, words, and sentences. Emphasis must be placed on ensuring students grasp the theories and rules of pronunciation accurately and practice correct pronunciation skills rigorously, both individually and in groups. Above all, teachers need to maintain strict standards, provide demonstrations, and ensure students practice repeatedly until they achieve precision in correct pronunciation. It's crucial for teachers to promptly identify and correct errors as they occur. Lastly, teachers should gather common pronunciation issues encountered by students across different study groups, analyze their causes, devise solutions, and continually enhance the quality of Chinese language instruction for Thai students.

Sun Hanping article, published in the Xiangtan Normal University newspaper in 1995, explores the similarities and differences between the Chinese and Thai languages through comparative analysis. The study comprehensively examines aspects such as phonetics, grammar, vocabulary, and cultural influences, contributing significantly to our understanding of language types and cross-cultural communication. Sun Hanping's insights are valuable for linguists, educators, and anyone interested in the comparative study of Chinese and Thai languages. This work aligns with Saifon Wansinthaphon study in 2011, which investigates factors influencing the pronunciation of consonants, vowels, and tones in Mandarin among Thai students. The research highlights how students majoring in Chinese encounter challenges due to influences from their mother tongue, Thai, where certain consonant distinctions are absent. This is corroborated by 张可可 (Zhang Keke, 2014), whose analysis of pronunciation errors in Thai students learning Chinese underscores difficulties with consonant sounds such as zh [ʈʂ], ch [ʈʂʰ], sh [ʂ], r [ʐ], z [ts], c [tsʰ], and s [s], often leading to unclear pronunciation. Furthermore, the study reflects concepts from Chénchén and lǐ qiū yáng (Chen Chen & Li Qiuyang, 2007), discussing how interference from the mother tongue shapes the learning process of second language acquisition. This phenomenon results in learners relying on native language habits when pronouncing Chinese phonemes, often leading to accents described as "洋腔洋调" (foreign accent), such as "Japanese Chinese," "Korean Chinese," and "Vietnamese Chinese."

SUGGESTIONS

This article was conducted as documentary research by synthesizing literature on the comparative study of Chinese words with single-tone and multi-tone pronunciations among Thai language learners. It outlined fundamental concepts derived from the relevant literatures. To validate these concepts within the Thai context, future research could expand into quantitative studies using confirmatory factor analysis or qualitative studies aimed at developing a grounded theory on this comparative study concept.

Furthermore, the literature review revealed the various studies of comparing Chinese words with single-tone and multi-tone pronunciations. Therefore, the future research could explore Chinese words with different single-tone and multi-tone pronunciations, especially in Chinese language learners in Thailand, thus enriching the comparative study of Chinese words.

REFERENCES

Brühl, V. (2024). The Economic Rise of China – An Integrated Analysis of China's Growth Drivers. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4794168

Chan, J., Woore, R., Molway, L., & Mutton, T. (2022). Learning and teaching Chinese as a foreign language: A scoping review. *Review of Education*, *10*(3). https://doi.org/10.1002/rev3.3370

Chen Chen, & Li Qiuyang. (2007). Comparative study of Chinese and Thai phonetics and analysis of phonetic error markers. *Journal of the School of Chinese Language and Literature*, *4*, 22–30.

Chen E. (2006). *A study of pronunciation errors to Thai students in the process of learning Chinese language (Doctoral dissertation*. Yunnan Normal University.

Huang Borong, & Liao Xudong. (2017). *Modern Chinese* (6th Edition). Higher Education Press. https://www.roundtheclockmall.com/products/1451760290816

Jiang Juan. (2014). *Chinese phonetic research and teaching countermeasures for middle school and high school students* [Master dissertation]. Sichuan Normal University.

Liu Xun. (2010). *Introduction to Teaching Chinese as a Foreign Language*. Higher Education Press.

Ma Xinxin. (2013). An Analysis of the Errors of Chinese Pronunciation in Thailand's College Students. *Modern Chinese*, *3*(160).

Mandarin Education Publishing House. (2017). *Complete Chinese Language Teaching Manual*. Mandarin.

Mogalakwe, M. (2006). The Use of Documentary Research Methods in Social Research. *African Sociological Review / Revue Africaine de Sociologie*, *10*(1), 221–230.

Office of the Secretary of the Education Council. (2016). *Research Report to Develop Chinese Language Teaching Management System in Thailand at the Primary Level*.

Praphin Manomaiwibul. (2013). *Basic Chinese 1* (8th Edition). Mahachulalongkornrajavidyalaya University Printing House.

Ruangdet Pan Khuenkhat. (1997). *Thai Linguistics*. Mahachulalongkornrajavidyalaya University Printing House.

Saifon Wansinthaphon. (2011). A Study of Factors Affecting the Pronunciation of Consonants, Vowels, and Tones in Mandarin Chinese. *Journal of MCU Academic*, *14*(28), 97–108.

Scott, J. (2006). *Documentary research*. London: Sage.

Scott, J. (2014). *A matter of record: Documentary sources in social research*. John Wiley & Sons.

Sun Hanping. (1995). Comparing the similarities and differences of the Chinese and Thai languages. *Xiangtan Normal University Newspaper*.

Tarone, E. (1978). *The phonology of interlanguage. In G. Ioup & S. Weinberger (Eds.), Interlanguage phonology: The acquisition of a second language sound system*. Newbury House Publishers.

Tseng, M. W., & R. M. M. (2003). *China: competing in the global economy*. International Monetary Fund.

Tulanusorn Suphasa, & Qi Xuehong. (2017). A Study of Chinese Pronunciation Problems of Students in the Business Chinese Program, International College, Chiang Mai Rajabhat University. *Journal of Graduate Research*, *8*(1), 115–124.

Wuttiphan, N. and Y. Ting. (2013). The study of Thailand Chinese teaching policy in Chinese teaching of the Faculty of Education, Khon Kaen University. *Journal of Education Khon Kaen University*, *36*(1), 16–22.

Zhang Keke. (2014). Several analyzes on Thai students' pronunciation errors. *Thailand Youth Institute (TYI)*, 55–55.

Zheng, Y. D. (1985). *Fuzhou fangyan de 'you'zi ju [On the sentences with 'have' in Fuzhou]*. Fangyan.