Understanding the Complexities of Chinese as a Foreign Language: Challenges and Experiences of First-time Learners in Saudi Arabia with English as a Second Language

Farooq AlTameemy – Fahd Shehail Alalwi – Saleem Mohd Nasim

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Abstract
The growing interest in Chinese as a Foreign Language (CFL) has led to a rise in Chinese language education programs worldwide, including in the Middle East, where learners navigate a unique sociolinguistic landscape with Arabic as L1 and English as L2. While Pinyin—a Romanized phonetic system—scaffolds early CFL learning, its efficacy in advancing proficiency in speaking, listening, and character literacy remains contested, particularly for learners with alphabetic L1/L2 backgrounds. This study investigates the challenges faced by 79 first-time CFL learners in Saudi Arabia, employing a 12-item, five-point Likert scale survey (1=very easy, 5=very difficult) to assess demographic factors, English proficiency, International Phonetic Alphabet (IPA) familiarity, and difficulties across CFL competencies. Correlational and regression analyses revealed moderate challenges in Chinese character literacy (reading: M=3.82; writing: M=3.73) but significantly higher barriers in oral/aural skills (speaking: M=3.32; listening: M=3.14) and Pinyin-based tasks (reading: M=2.81; writing: M=2.87). Notably, the weak correlations between English proficiency/IPA familiarity and CFL outcomes ($\beta < .20$, $p > .05$) suggest that cross-linguistic transfer from alphabetic systems inadequately addresses tonal and logographic demands. Regression models further confirmed that variables beyond L2 English/IPA—such as tonal sensitivity training—are critical for CFL success. These findings call attention to the need for pedagogical innovations, including immersive pronunciation software and hybrid Pinyin-character curricula, to bridge the gap between orthographic familiarity and phonological mastery in tonal language acquisition.
Key words: Chinese as a Foreign Language (CFL), first-time learners, English proficiency, the Middle East, Third Language Acquisition (TLA), L2 influence on L3

Introduction

Due to globalization, Asian markets, such as China, India, Pakistan, and Bangladesh, have expanded beyond their borders, which has spurred businesses and transformed the linguistic landscape in many countries. Chinese multinational enterprises, in particular, have set up cultural and business networks around the world through various projects such as the Belt and Road Initiative (BRI), which is a global infrastructure construction plan with the aim of economic development. As of 2023, the BRI was engaged in collaboration with 149 countries, including 16 from the Middle East (Green Finance & Development Centre, 2023). This unprecedented economic expansion, along with migration and diverse trade networks, has sparked a strong interest in learning the Chinese language worldwide, especially in the Arab world. For example, statistics show a significant increase in the number of Chinese language learners in Arab countries, highlighting the importance of Chinese proficiency for business interactions with Chinese partners (Yellinek, 2020; Kang, 2021; Gong et al., 2018). For this reason, the Chinese language in the Middle East has found a niche alongside Bengali, Urdu, Hindi, French, Malayalam, and Tagalog, with the simultaneous dominance of Arabic and English.

The increasing necessity for learning the Chinese language is evident in educational establishments across the globe, as these institutions are introducing Chinese programs, primarily through Confucius Institutes (CIs), which play a crucial role in promoting Chinese language education globally by providing resources, support, and cultural exchange opportunities. Other nations in the Arab world, such as Egypt, Tunisia, Bahrain, Sudan, the UAE, Jordan, and Morocco, have also founded CIs, noting the significance of Chinese. It is noteworthy that almost all nations in the Middle East have successfully established CIs. Table 1 showcases this trend.

Table 1: Confucius Institutes Around the World and in the Arab World from 2019-2023

Year	Region	Number of Confucius Institutes	Countries	Source
2019	Global	550	162 countries	Government of the PRC (2019)
2020	Arab World	15	Egypt, Tunisia, Bahrain, Sudan, Morocco, Jordan, the UAE	Yellinek et al. (2020)
2022	Saudi Arabia	4 public universities	King Saud University, Imam Mohammed Ibn Saud Islamic University, King Abdul Aziz University, University of Jeddah, Princess Nora University	Hersi et al. (2024)
2023	Saudi Arabia	1 Private university	Prince Sultan University	english.news.cn (2023)

As of 2023, over 200 million people had learned Chinese as a foreign language (CFL), with more than 30 million people worldwide actively studying it as a CFL (CGTN, 2024). This indicates a significant global interest in learning Chinese as a foreign language. In Saudi Arabia, the trend of learning Chinese has gained momentum recently (Table 2), with some universities and many schools introducing it as a CFL course. CFL classes enroll more than 28,000 students in the Mecca region of Saudi Arabia alone (Gulf News, 2023). Together, these developments highlight the growing global reach and increasing popularity of Chinese language education.

Table 2: Expansion of Chinese in Saudi Educational Institutions (2019–2024)

Year	Developments	Sources
2019	Confucius Institute launched at King Saud University	(Chen, 2019)
2021	Mandarin becomes mandatory for preparatory students at the University of Jeddah	(Kang, 2021)
2022	Mandarin introduced in 700+ public schools	(Hersi et al., 2024)
2024	Arrival of 175 native Chinese instructors for teaching CFL	(Alshammari, 2024)

Context of the Study

Arabic is the mother tongue (L1) of the learners who are the natives of the Gulf countries, including Saudi Arabia. They add English, the mandatory foreign language, to the curriculum and teach it for a minimum of nine years. After that, they enroll in a university for higher education and/or join the workforce after completing their education. This study focuses on learners besides the workforce, comprising Saudis and foreigners who come from different regions and learned Chinese at Prince Sattam bin Abdulaziz University. This brought diverse mother tongue (L1) speakers together; however, English was their second language (L2). This state of L1, L2, and L3 mixing leads to cross-linguistic influence (CLI), which determines whether L1 or L2 affects learning L3 (Freundlich, 2016).

Wang and Xu (2024) state that both L1 and L2 serve as facilitators or non-facilitators in language transfer in the third language acquisition (TLA). However, the proficiency

level of either L1 or L2, or both (Abtahi & Khodadadi, 2016), as well as the typological proximity between languages (Cenoz, 2003a), are major factors for successful transfer. A low proficiency in the first or the second language may affect the learners' ability to learn Chinese characters, tonal pronunciation, and unfamiliar vocabulary. In contrast, the strong foundation can facilitate learning Chinese by corresponding to the similarities in structural features, such as the use of particles and flexible word order, which aid in comprehension (Chen et al., 2019).

Research showed that most of the challenges learners experience in Chinese are novel and special illustrations of words, unique ways of pronouncing, and, above all, varied intonation patterns, which are due to the typological differences between the languages they are familiar with. Most languages, such as Urdu, Hindi, French, or Arabic, employ alphabets, whereas Chinese uses logographs, which mandate recognizing tones for understanding it (Zhang, 2020). Beyond fundamental differences, the sheer number of Chinese characters presents a major obstacle in mastering the language (Yang, 2022; Zhao & Zhang, 2007).

Furthermore, educators extensively use the International Phonetic Alphabet (IPA) for teaching and learning spelling and pronunciation in alphabetic languages, including English (Ye, 2021). The IPA, along with Pinyin, is also employed in simplifying the phonetic system for transcribing Chinese characters and syllables consisting of initials, finals, and tone marks (Ma et al., 2017). However, depending excessively on IPA or Pinyin can limit the accurate mastery of vocabulary and tones, which are critical for comprehending Chinese (Mushangwe & Chisoni, 2015; Chung, 2003). Consequently, when English learners pronounce certain letters, such as 'x' and 'q,' in Pinyin, they usually do not result in the correct Chinese pronunciation, causing misunderstanding (McGinnis, 1997).

Even though more and more institutions are making Chinese a part of their curriculum and the number of CFL learners is increasing day by day, research on Arab learners learning Chinese is scant. This study investigates the perceived challenges resulting from the unique features of Chinese, the role of English language proficiency or CLI, and language transfer, i.e., knowledge of the IPA from L2 (English) to L3 (Chinese) in learning Chinese as a third language in Saudi Arabia. This study will investigate whether the first-time learners of L3 get facilitated or interrupted by the use of L2. The results may provide a foundation for L3 learners of Chinese as an additional language.

The research questions guiding this study are as follows:

1. What are the difficulties as perceived by first-time learners of Chinese as a foreign language?
2. Is there a correlation between students' English proficiency and their perceived difficulties in learning Chinese?
3. Does knowledge of the IPA facilitate learning Chinese for first-time learners?

Literature Review

The increasing number of CFL learners has led to engaging researchers in how to learn and teach it effectively to non-native learners, particularly those from linguistically different regions like the Middle East. Several studies have highlighted the challenges usually faced by first-time Chinese learners. Many researchers also studied how knowledge of L2 impacts L3 learning (see Abbas et al., 2021). The relevant reviewed literature on these topics is presented below:

Challenges of Chinese Language Acquisition Faced by First-time Learners

CFL learners encounter many hurdles while learning Chinese. This includes character complexity, form-to-sound relationship, unique sounds, word order and syntactical pattern, tonal production, and perception, to name a few. The first challenge is the

written form of the Chinese language. Their unique logographic representation of Chinese characters, called Hanzi, uses numerous strokes that must be meticulously learned and reproduced in a specific order. Learning this order requires considerable time and effort from the first-time learners of Chinese (Lee & Kalyuga, 2011; Yang, 2018). Hanzi uses compounding two or three monosyllabic morphemes to form words, increasing its complexity (Hsu, 2012). Every morpheme is a written character with its meaning, and the learner often understands the meaning of a character by analyzing its constituent morphemes (Hsiang et al., 2022).

Furthermore, the pronunciation and tonal nature of the Chinese characters present unique challenges. Chinese uses a system of four tones (plus a neutral tone) to convey meaning, which can be particularly difficult for learners to master (Yang & Medwell, 2017). The four primary tones in Mandarin are high, rising, falling-rising, and falling, and these tones distinguish the meaning of words. For example, mā (high tone) means "mother," while má (rising tone) means "hemp," mǎ (falling-rising tone) means "horse," and mà (falling tone) means "scold." Such a complication in tones creates a big problem for those coming from a non-tonal language and can be the reason for widespread miscommunication. (Yang & Medwell, 2017). Yang & Medwell (2017) observed that in the U.K., due to unfamiliarity with the use of a tonal system, both high school and college students, native speakers of an alphabetic language, struggled with the production and perception of Chinese tones. In addition, Chinese relies on the exact pitch and tonal variation accurately, which is a significant obstacle for speakers of alphabetic non-tonal languages such as English (Shen & Xu, 2015; Luo, 2011). Another barrier to learning Chinese stems from the high volume of Chinese characters. While the Zhonghua Zihai dictionary (1994) lists 87,019 modern Chinese characters, functional literacy is generally considered achievable with knowledge of approximately 3,000–4,000 characters for general reading (Sung & Wu, 2011; Graham, 2018). However, the CIs report that the mastery of only 100 frequent characters covers about 42% of the ones used in everyday conversations, whereas the 3,000–4,000 characters provide about 99% coverage in most media. This justification comes from studies like those by Perfetti & Zhang (1995) and Hsiang et al. (2021), which found that knowledge of 3,800 characters almost completely covers 99.90% when it comes to reading materials.

Compared to the phonetic and phonological clarity of alphabetic languages, the logographic system of Chinese is a whole different cognitive burden for the first-time learners of Chinese in Saudi Arabia, especially for those whose L1 is Arabic, Urdu, or Hindi and whose L2 is English. Although Arabic script is not purely phonetic, it provides highly significant phonetic cues. Similarly, English contains a lot of irregular spelling; it relies heavily on grapheme-phoneme correspondences. Chinese, with its visual and memory-intensive Hanzi, requires a different approach altogether (Zhang, 2017).

Grammatically, Chinese is also very different from Arabic and English. Arabic is dissimilar from Chinese in terms of morphology and grammatical gender. However, English is similar to Chinese in terms of word order (SVO) but uses much more inflection. Unlike English, grammatical gender and the use of particles are the basic characteristics of Chinese. For example, employing such Chinese particles as "了" (le) and "的" (de) is grammatically confusing for first-time learners whose L2 is English due to the incomprehensible implicit markers. Nkrumah (2021) also highlighted that the structural complexity of the Chinese language is also a big barrier, considering how the mother tongue languages of some of these learners have rigid grammatical systems.

Previous Linguistic Experience and Third Language Acquisition (TLA)

Prior linguistic experience of the mother tongue (L1) and/or the second or foreign language (L2) proficiency influences the acquisition of additional language/s (L3)

(Abtahi & Khodadadian, 2016). In TLA, both L1 and L2 may act as sources of language transfer whose effects can be either facilitative or non-facilitative (Wang & Xu, 2024). Typological proximity between languages increases the occurrences of facilitative transfer (Cenoz, 2003). However, the dynamics of cross-linguistic transfer are complex. The studies provide evidence that in the process of L3 learning, L2 usually plays a more significant role than L1 (Bardel & Falk, 2007), and higher L2 proficiency correlates with more success in acquiring an L3 (Jaensch, 2009). Park and Starr (2015) hold that formal L2 learning experiences are particularly significant in their contribution to improved grammatical transfer and enhanced metalinguistic awareness. Tremblay (2006) considers L2 exposure as important as proficiency in L2. A high level of L2 proficiency may not be automated without sufficient exposure to it.

The Role of English (L2) in Chinese (L3) Learning

English (L2) proficiency has a dual impact on Chinese (L3) language acquisition. On one hand, a sturdy foundation of English can help facilitate it because of some shared features of structure and grammar, such as flexible word order and using particles (Yang, 2023). On the other hand, low proficiency in English may pose significant challenges—especially in mastering the writing system, tones, and vocabulary of Chinese. This duality is also reflected in Al-Roomy's (2022) study of Saudi students who have typically received nine years of formal English education before university. The study highlights the dual impact of prior English knowledge on Chinese acquisition, with tonal differences serving as the primary source of difficulty. In a similar vein, Hu (2023) and Bian (2024) comment that limited proficiency in English exacerbates difficulties in understanding Chinese's tonal pronunciation and complex vocabulary.

Research into L3 phonology underlines a strong influence of L2, especially in the early stages of learning (Wrembel, 2010; Onishi, 2016). Specifically, learners process L3 sounds using phonological information from both their L1 and L2. Their L2 perceptual ability further correlated with performance in L2. According to Onishi (2016), the experience in L2 promotes sensitivity to non-native sounds, which is indicative of a formative role for L2 in shaping L3 phonological development. Additionally, Freundlich (2016) shows that the transfer of prepositional phrases, adverb placement, and adjectival verbs is stronger from L2 to L3 than from L1 to L3, even when syntax is more similar between the two languages. This transfer problem is made worse by the structural differences between English and target Mandarin. In English, this problem is mostly caused by SVO word orders, while in Mandarin, it is caused by SVO and SOV word orders. Though less crucial compared to phonological or syntactic transfer, lexical transfer occurs. Inevitably, the interaction among relevant linguistic levels adds another burden to L3 acquisition complexity. A further discussion on the familiarity and proficiency of the English sound system is outlined in the section below.

Chinese Phonology, Pinyin, and the International Phonetic Alphabet (IPA)

Chinese phonology, unlike English, does not depend on spelling cues for pronunciation. For proper pronunciation in Chinese, each morpheme-based character relies on tones and syllables rather than alphabetical spelling (Shen & Jiang, 2013). Due to their large number, distinct characters representing various tones may require more cognitive effort to understand (Lee & Kalyuga, 2011). Pinyin, which uses the Roman alphabet along with the IPA, facilitates mastering Mandarin sounds and tones, improving vocabulary acquisition and learning effectively (Chang, 2018; Zhang et al., 2017). Chinese textbooks frequently use Pinyin for teaching Chinese sounds and tones for both first- and second-language learners, especially at the beginner level (Bassetti, 2006).

Introducing Pinyin to beginners can reduce cognitive burden and stress. According to Lin et al. (2010), while Chinese characters are images, Pinyin is a means to understand those images for developing reading comprehension. Yu et al. (2006) observed that Pinyin is generally easier to learn than Chinese characters, which often leads learners to prioritize it during the initial stages of language acquisition. Those L2 learners who study English often before Chinese bring phonetic and syntactic skills that can support their CFL learning. Their familiarity with IPA can ease their initial Chinese pronunciation practice. Chung (2003) found that prior IPA knowledge helped learners grasp Pinyin more quickly and accurately by drawing parallels between IPA symbols and Pinyin sounds. Since the Saudi education system also typically includes phonetics and IPA, these skills may facilitate Pinyin learning for Arab learners.

Studies such as Duyen (2024) show that being better at English makes you more adaptable to Chinese phonology. Since many a rule for writing Chinese characters with Pinyin is very different from those in English, it is still not clear if IPA should be used to learn Chinese through Pinyin. Speakers of the English language frequently exploit familiar phonetic cues, which hinders learning accurate Chinese pronunciation (McGinnis, 1997). In this context, Paterson (2015) observed that while IPA aids non-tonal language learning, it is less effective for tonal languages like Chinese, which rely heavily on pitch variation. Since IPA represents consonants and vowels, it doesn't represent pitch and intonation, which are essential for tonal languages. Therefore, despite assisting learners in understanding basic Chinese sounds, IPA is less effective for mastering the tonal system, which requires auditory discrimination and pitch differentiation.

Similarly, Yang and Medwell (2017) documented how U.K. high school and college students had been struggling with both Pinyin and with Chinese tonal phonology. The unfamiliar tonal system presented English speakers with a number of significant hurdles: placing their tongues inside the mouth correctly to utter the Pinyin sounds appropriately and developing an appropriate pitch so that meaning could be adequately carried. Numerous homophones in Chinese, differentiated only by tone, made pitch adjustments to convey adequate meaning. Mushangwe and Chisoni (2015) reiterated that overreliance on Pinyin can block Chinese vocabulary acquisition, as learners often fail to recognize characters they can pronounce.

These findings further complicate how Pinyin is integrated into Chinese language education; although it serves as the most accessible starting point, its use must be balanced with the development of character recognition and tonal accuracy to achieve overall proficiency.

Research Gap

While a considerable body of research explores the challenges faced by non-native Chinese language learners, studies focusing on Chinese as a third language (L3) remain limited, particularly in Saudi Arabia. Most existing research emphasizes learners' experiences with typologically similar languages or examines bilingual contexts. However, the linguistic shift from Arabic and English (as L1 and L2) to Chinese (as L3) represents a unique scenario, characterized by significant structural, phonological, and orthographic contrasts. Additionally, the role of English proficiency and familiarity with the International Phonetic Alphabet (IPA) in facilitating Chinese acquisition remains underexplored. This study aims to fill these gaps by investigating Saudi learners' experiences and exploring the influence of English as a mediating factor in learning Chinese.

Methodology

Research Design

This study has adopted a descriptive quantitative research design in order to understand the challenges faced by first-time learners of CFL in a Saudi university and how these challenges are affected or influenced by the level of proficiency in the English language. A Likert scale survey was used to collect data from the participants who were learning Chinese for the first time. The respondents shared their experiences and perceptions in a structured way about the perceived level of difficulty related to the Chinese language skills, like speaking and reading using Pinyin and writing in Pinyin and Chinese characters. The results of the statistical analysis were used to identify trends and relationships between participants' L2 English proficiency levels, linguistic backgrounds, and familiarity with IPA symbols, providing valuable insights into the factors influencing CFL learning. These patterns would then be used to come to evidence-based conclusions about how to teach Chinese to people in Saudi Arabia who are not native speakers and first-time learners of Chinese.

Research Tool

An online questionnaire on the Likert scale developed by the researchers was distributed to participants who had taken a basic Chinese course at the Preparatory Year Deanship at Prince Sattam bin Abdulaziz University in Saudi Arabia. The questionnaire comprised three sections: demographic information collection, feedback about the course, and assessment of difficulties faced in Chinese language skills. The first part (items 1–14, many of which were on a 5-point Likert scale and some of which were short answer questions for demographic information) asked the participants about their gender, department or college, occupation, mother tongue, second language, level of English proficiency, and familiarity with IPA symbols. The second part (items 15–22 on a 5-option Likert scale, except for items 21 and 22) collected feedback about the course in general. This information was collected for administrative purposes, which included the impression of the learners about the teachers, content, days and times of the sessions, duration of the course, etc. The third and final section of the survey (items 23–34 on a 5-option Likert scale) had items for collecting information. The third part probes the level of difficulty respondents have faced regarding certain skills in the Chinese language, such as speaking, reading (Pinyin), writing (Pinyin), and writing (Chinese characters, or Hanzi).

Reliability and Validity of the Tool

Validity

After the questionnaire was finalized by the researchers, it was shared with two Chinese native-speaker professors to check for inclusiveness of items and relevant aspects of language learning difficulties from the perspective of experience based on their teaching of Chinese to foreign learners of the language. The questionnaire afterwards was also shared with a panel of professors in the field of teaching languages in general. This was necessary to double-check the clarity and relevance of the statements and the relevance of the items to their sections in the questionnaire. Comments and feedback were taken into consideration to modify the questionnaire before it was sent out to participants.

Reliability

The third section of the survey (items 23–34 on a 5-option Likert scale) was used for the research purpose. The Likert items "very hard" were given 5 points, "hard" was given 4, "normal" was given 3, "easy" was given 2, and "very easy" was given 1 point for statistical calculation of the challenges for first-time CFL learners. The reliability of the research tool was calculated using Cronbach's alpha, which measures the

internal consistency of the research items. The value of 0.864 indicates a high level of internal consistency. Cronbach's alpha value was calculated to be 0.864, indicating high internal consistency among the research items.

Table 3: Reliability Statistics

Cronbach's Alpha	N of Items
.864	12

Participants

The sample of the study comprised 24 males and 55 females, totaling 79 participants. All these participants were first-time learners of Chinese. To avoid affecting the results, all learners who took Chinese courses before were excluded from the study. In other words, only those who are taking the Chinese course for the first time participated in the study. Participants were categorized into three groups: university students, faculty members, and non-teaching employees.

Two native Chinese instructors, one male and one female, who both had expertise in teaching Chinese and were fluent in English, delivered the course online over the course of one month. English was used as the medium of communication when necessary during class instruction. Detailed participant information is summarized in Table 4.

Table 4: The Respondents' Demographic Information

Characteristic	Value	Count	Percentage
Gender	Male	24	30.40%
	Female	55	69.60%
Second Language	French	2	2.50%
	English	58	73.40%
	Turkish	1	1.30%
	None	17	21.50%
	Urdu	1	1.30%
English Level	Very Weak	2	2.50%
	Weak	1	1.30%
	Acceptable	21	26.60%
	Very Good	21	26.60%
	Excellent	34	43.00%
Job	Student	32	40.50%
	Faculty Member	44	55.70%
	Employee	3	3.80%

Most participants reported English as their second language. Some participants, such as Tunisians, studied it as their third language. Their second language was French; their mother tongue was Arabic, and an additional language was English. All participants had varying levels of English proficiency; knowing their second language helped provide insight into their linguistic background, which could impact their Chinese language learning. Furthermore, to address a specific research question, the study collected data on the participants' self-reported English proficiency levels. Finally, participants came from three professional categories: students, faculty members, and non-teaching employees, with faculty members making up the majority (55.7%), followed by students (40.5%) and employees (3.8%).

Normality of the Data

For testing whether the data is normally distributed or not, the Kolmogorov-Smirnov and Shapiro-Wilk tests were used. For the Kolmogorov-Smirnov test, the p-value is

0.087, and for the Shapiro-Wilk test, the p-value is 0.096. Both values are greater than 0.05, leading to the conclusion that the data does not significantly deviate from normality and thus can be considered normally distributed. Table 5 displays these values.

Table 5: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
All items	.093	79	.087	.973	79	.096

a. Lilliefors Significance Correction

Procedure

After collecting the responses, the data was coded and fed into statistical software, SPSS version 27, that was used to look at the data and was supposed to find important patterns in the answers. To answer the first question, mean scores of the 12 items (23-34) were calculated and interpreted. These mean scores on the five-point Likert scale had values from 1-5 and were categorized into three for interpreting the participation responses. For example, if the participants had low difficulty, their means ranged from 1.00 to 2.33. From 2.34–3.66, the difficulty was considered moderate. The mean range of 3.67 to 5.00 explains a high difficulty.

To answer the second and third research questions, a correlation analysis was performed, and the results were discussed. Additionally, a regression analysis was also conducted to understand the extent to which knowledge of English and the IPA had effects on learning Chinese. These findings were also discussed with the study's recommendations.

Ethical Considerations

To maintain the interests of the respondents and institutions, many ethical norms were followed. This study primarily addressed crucial ethical problems like access to research locations, participants' willingness to respond to research questions, and maintaining secrecy. Prior to commencing the study, the researchers sought official written authorization and consent to interact with the study's respondents. To guarantee that participants comprehended the purpose of the study and the associated hazards, they were requested to read and sign a permission document. The participants in this research were also aware of the confidentiality problem.

Results and Discussion

This study set out to answer three research questions. The findings and their discussion have been presented below.

Challenges Encountered by the First-time Learners of Chinese

The results for the first question, "What are the difficulties as perceived by the first-time learners of Chinese?" have been displayed in Table 6.

Table 6: Difficulties as Perceived by the First-time Learners of Chinese

Difficulty	N	Minimum	Maximum	Mean	S D
Speaking	79	2	5	3.32	0.809
Listening	79	1	5	3.14	0.916
Reading (Pinyin)	79	1	5	2.81	0.878
Writing (Pinyin)	79	1	5	2.87	1.042
Reading (Chinese Characters)	79	2	5	3.82	0.874
Writing (Chinese Characters)	79	1	5	3.73	0.902
Valid N (listwise)	79	1	5		

The first-time CFL learners faced many challenges when studying Chinese as a third language (L3). The range of the mean scores from M=2.34–3.66 indicated that there is a medium degree of difficulty for speaking, listening, reading (Pinyin), and writing (Pinyin). However, only Reading and Writing (Chinese characters) were rated as highly difficult (M = 3.82 and M = 3.73, respectively). This shows how difficult it could be to write and read the unique Chinese logographic script for the first-time CFL learners. Particularly, for those who are accustomed to alphabetic scripts like Arabic and English, a sudden switch to a system based on visuals and pictures with numerous characters presents an extra cognitive burden.

This result aligns with previous research that emphasized the challenges faced by learners from alphabetical backgrounds when adapting to logographic systems (Sung & Wu, 2011; Graham, 2018). The visual and memory-dependent nature of Hanzi script necessitates a distinct learning and teaching approach, unlike the phonetic and phonologically dependent Arabic and English. Although mastering a small set of characters can build a foundation for comprehension (Perfetti & Zhang, 1995; Hsiang et al., 2021), it remains very difficult to learn the stroke patterns of all the characters necessary for functional literacy.

In addition to writing and reading (characters), speaking and listening demonstrated moderate difficulty mean scores (M = 3.32; M = 3.14), indicating that tonal pronunciation and sound differentiation pose significant challenges for individuals learning Chinese for the first time. The non-tonal nature of Arabic and English distinguished them from Chinese tones, which bring out changes in meanings. This distinction between two types of languages highlights the complexities of tonal languages and the adaptability a learner is required to have for learning them. These results are in agreement with Yang and Medwell's (2017) findings, which highlighted the steep learning curve caused by tonal differences that learners were previously unaware of. The need for accurate tonal articulation, because mispronunciation of even a single tone may significantly change meaning, causes learners to experience increased anxiety and makes it more difficult for them to communicate.

First-time CFL students may benefit from having studied English pronunciation earlier. However, they struggle to make and understand Mandarin tones because they do not know how to recognize them. This fits with research that shows people who are learning a language that does not have tones often have trouble telling the difference between tonal changes (Chung, 2003). These problems were probably made worse by the fact that the students did not hear much native Chinese other than from their Chinese instructors, only during the study time. This shows how important intensive listening practice is.

Since learning listening and speaking skills was rated as not too difficult, it seems like these participants might find their initial oral-aural communications more comfortable than other skills. This could be due to introducing a beginner-level Chinese course for these participants, where the focus is usually on teaching basic pronunciation, conversational words, and phrases for everyday use. It is important to keep in mind, though, that this apparent easiness may change as students advance to more difficult

language patterns and communication situations, where tonal accuracy and fluency become more essential.

Additionally, the mean scores for reading and writing (M = 2.81 for reading and M = 2.87 for writing) in Pinyin also range within a moderate difficulty level; they indicate that these skills are the easiest of all. This is most likely because Pinyin sounds a lot like English and other alphabetic language systems. Being familiar with Romanized symbols (the IPA) gives first-time learners a fundamental understanding of learning how to pronounce Chinese words. Previous studies have shown that relying on Pinyin may help in the short term, but it may affect learning Chinese characters in the long term (Mushangwe & Chisoni, 2015). This emphasizes the need for educational strategies that facilitate the smooth shift from Pinyin to character-based reading.

In conclusion, first-time CFL students face many challenges in learning Chinese, particularly when it comes to mastering the Chinese characters in writing. Even though speaking and listening skills are not as difficult as reading and writing, Hanzi presents significant challenges because it requires a lot of visual and mental work. The fact that Pinyin is relatively easier to use suggests how important it is to carefully balance its use as a learning tool with the main goal of acquiring characters.

Correlations between Proficiency of English and Difficulties in Learning Chinese

To answer the second research question, a correlation analysis between English proficiency and perceived difficulty in learning Chinese was performed. The results from this analysis shown in Table 7 indicate that knowing English has a statistically significant positive medium correlation between overall English proficiency and the combined difficulties in learning Chinese (correlation coefficient = 0.267).

Table 7: Correlations between Proficiency of English and Difficulties in Learning Chinese

		Speaking	Listening	Reading (Pinyin)	Writing (Pinyin)	Reading (Chinese Characters)	Writing (Chinese Characters)	Perceived Diff. all	Profici in Eng
Level in English	Pearson Correlation	-0.039	0.18	0.21	.278*	-0.046	0.024	.267*	1
	Sig. (2-tailed)	0.736	0.112	0.064	0.013	0.69	0.835	0.017	
	N	79	79	79	79	79	79	79	79

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

A closer look at Table 7's results shows that writing in Pinyin has a moderately significant positive relationship with English proficiency (0.278). This means that people who already knew a lot of English had trouble learning this skill. Moreover, although not statistically significant, there were positive medium correlations between English proficiency and listening (0.180), reading in Pinyin (0.210), and writing in Chinese characters (0.024). Conversely, speaking and reading Chinese characters showed statistically significant but negative correlations with English proficiency (-0.039 and -0.046, respectively), suggesting that higher English proficiency may slightly reduce perceived difficulty in these areas.

The overall positive correlation (r = 0.267) suggests that higher English proficiency is moderately associated with an increased perception of difficulty across all aspects of the Chinese language. This means that knowing English plays double roles—as a facilitator and a source of interference—for the first-time CFL learners. This finding highlights the complex dynamics of CLI for learning L3 or TLA. In other words, high English proficiency may lead first-time learners to over-rely on their L2 knowledge, which significantly creates barriers in learning CFL. This higher proficiency,

accordingly, influences mastering Pinyin writing (r = 0.278), showing reliance on familiar phonetic patterns. This might be because being bilingual has cognitive benefits, like better metalinguistic awareness and executive functions, which indirectly help people learn a third language (Bialystok, 2001). Some parts of English and Chinese grammar are the same, like the use of particles, which may make it easier to understand and write in some situations (Zhu & Huang, 2023).

Furthermore, the researchers believe that the weak negative correlations between English proficiency and perceived difficulties in speaking and reading Chinese characters (r = -0.039 and r = -0.046, respectively) are the real challenge since these are new characters that learners practice for the first time. That's why McGinnis (1997), Everson (1998), and Lee & Kalyuga (2011) argue for starting to learn Chinese with the introduction of Pinyin prior to undertaking the difficult task of learning Chinese characters. Difficulty is eased out in reading and writing in Pinyin as English characters are used (Ma et al., 2020), and familiarity with IPA here plays a role. This hypothesis is confirmed by Chung (2003), who studied the effect of pinyin and English word knowledge on learning Chinese and found out that when using written pinyin, learners recalled correct pronunciation more and improved their speaking in Chinese.

In addition, speaking Chinese includes the tones and a new phonetic system that makes it difficult. This goes in line with Wang & Honig (2010), who believe that the most difficult aspect for the learners of Chinese is tones. The subjects of his study would use the fourth tone for the first syllable, the third tone for the second syllable, and so on. Besides the difficulty per se, awareness of the issue and the possibility of wrong meaning conveyed due to mispronounced tones lead to hindrance of speaking due to an increase in language filter, which adds to the problem.

To find out how much English language proficiency influenced the difficulties first-time learners faced in learning CFL, a regression analysis was conducted. The results are displayed in Table 8.

Table 8: Regression Results for the Effect of English Proficiency on Learning Chinese

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.267[a]	.071	.059	.66447

a. Predictors: (Constant), proficiency in English

The R-squared value of 0.071 shows that English language proficiency describes only a small portion (7.1%) of the variance in perceived difficulties. This suggests that while English proficiency has a limited effect, there are likely other significant factors influencing learners' challenges in studying Chinese, independent of their English skills. These factors may include individual learning styles, motivation, learning strategies, exposure to the target language, and instructional quality. To explore the effects of these on CFL, future research should investigate the role of explicit instruction in the differences between alphabetic languages, including English and Arabic. They should focus on the areas where negative transfer may happen, such as learning tones, pronunciation, understanding the strokes of characters, and writing and syntax patterns.

In conclusion, while higher English (L2) proficiency may affect some aspects of Chinese (L3) learning positively, it could also interfere in some areas. However, the explanatory power of English proficiency is limited. Understanding other factors may be crucial for developing effective pedagogical interventions tailored to the specific needs and challenges of the first-time learners of L3.

Does the Knowledge of the International Phonetic Alphabet (IPA) Help Learn Chinese?

The third research question of the study was to find out whether knowledge of IPA helps learn Chinese. In other words, familiarity with IPA assists learners in overcoming challenges inherently associated with Chinese. The data to understand this correlation is shown in Table 9 below**.**

Table 9: Correlation between familiarity with the IPA and difficulties learning Chinese

		Speaking	Listening	Reading (Pinyin)	Writing (Pinyin)	Reading (Chinese Characters)	Writing (Chinese Characters)	Perceived Diff. all	Famili with IP/ symb
Familiarity with the IPA symbols	Pearson Correlation	-0.013	0.106	0.093	0.192	0.015	0.08	-0.024	1
	Sig. (2-tailed)	0.912	0.353	0.417	0.09	0.895	0.484	0.834	
	N	79	79	79	79	79	79	79	79

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The results shown in table 9 above show a statistically insignificant and slight negative correlation (-0.024) between the familiarity of the IPA and all the difficulties of learning CFL. This indicates that knowledge of the IPA has minimal impact on learning Chinese. Additionally, the difficulty of learning individual skills is positively correlated with IPA familiarity, but the associations are not statistically significant. This suggests that familiarity with IPA has no strong influence on learners' perceived difficulty in most areas of Chinese language study. Notably, the correlation between IPA familiarity and speaking was negative (-0.013), while writing in Pinyin showed a slight positive correlation (0.192), though neither was statistically significant.

As the results evince, having knowledge of the IPA does not significantly increase the chances of learning Chinese without difficulties. Furthermore, a weak correlation suggests that IPA knowledge may assist learners in transcribing Chinese sounds using Romanized characters, facilitating initial pronunciation practice. This is consistent with Chung's (2003) and Mushangwe and Chisoni's (2015) observations regarding the similarities between IPA symbols and Pinyin phonetics, which help learners during the initial stages of pronunciation practice.

Speaking and listening skills also do not get facilitated much with the IPA, as it does not fully capture the tonal fluctuations that are essential to Mandarin since it was created mainly for phonetic representation in alphabetic systems (Paterson, 2015). This deficiency most likely explains why familiarity with the IPA plays such a small role in enabling tonal correctness, which is an essential component of speaking and listening in Chinese. This result is similar to what Yang and Medwell (2017) found, which suggests that IPA is not sufficient to cover all the different tonal pitches. This means that it cannot be used for tonal languages like Chinese. Liu (2024) and Ye (2021) also noted that the IPA falls short in addressing the pitch and intonation essential for tonal language proficiency.

Furthermore, the fact that there is no statistically significant link between knowing the IPA and being able to read and write Chinese characters suggests that knowing the IPA does not help with getting past the cognitive and memory-intensive issues that come up because of the way the Chinese script is structured. The process of character identification and generation in Chinese heavily relies on visual memory and semantic decoding rather than phonetic transcription. This reliance diminishes the utility of IPA in these cognitive processes.

To assess the extent to which IPA familiarity might impact the difficulties of learning Chinese, a regression analysis was conducted. The results are displayed in Table 10.

Table 10: Regression Results for the Effect of Knowledge/Familiarity with IPA Symbols on Learning Chinese

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.024[a]	.001	-.012	.68931

a. Predictors: (Constant), Familiarity with the IPA symbols

Conclusion and Recommendations

Chinese as a foreign language presents significant challenges in speaking, listening, reading, and writing. With the belief that their knowledge of English facilitates their learning of Chinese (L3), this study underlines the challenges faced by first-time CFL learners in a mixed-ability group whose L2, or additional language, was English. Participants who were predominantly Arabic speakers or had knowledge of Arabic also faced their difficulties, which were mainly caused by the Chinese characters (their writing, numbers, and correctness of tones). At the same time, CFL learners gain advantages from the phonetic recognition offered by Pinyin and, to a somewhat lesser degree, their previous exposure to English as a second language (the IPA).

The study's results show that it's important to use a well-rounded teaching method that considers the unique features of the Chinese language and builds on what students already know and can do. While Pinyin is effective for teaching a larger part of Chinese, the main goal is character literacy. A subtle and slow transition from Pinyin, emphasizing the gradual shift to character-based learning, aids in distinguishing between alphabetic and tonal languages during teaching. However, educators should be aware of negative L2 transfer and ease L3's development of metalinguistic awareness.

Although English proficiency holds a complex significance, this study highlights that achievement in CFL is dependent upon a range of factors, such as motivation, exposure, and strategic instruction. Integrating techniques such as mnemonics, spaced repetition, and visual aids for memorizing linguistic input can help learners overcome the cognitive demands of character memorization. Future research ought to focus on examining these aspects, emphasizing tailored and empirically supported methodologies for instructing Chinese as a third language. Teachers and researchers can help EFL students learn Chinese as a third language by focusing on their specific needs. This will help them reach their goals of functional proficiency.

Finally, the minimal effect of IPA knowledge on facilitating CFL indicates a need for an alternative training method, particularly one that is effective for phonetic training in tonal languages like Chinese. Teaching techniques and strategies, including focused tone training, systematic character instruction, and the careful application of Pinyin, can assist learners in mastering the unique features of the Chinese language. Combining modern and digital technologies like speech analysis software and tone recognition applications can assist learners with immediate feedback on their pronunciation and tones. Immersive activities, such as role-plays and conversational practice with native speakers, can further enhance learners' confidence and fluency.

Limitations

This study has many limitations that may affect its generalizability. One of these limitations is the selection of a sample from a mixed-ability group representing various backgrounds and professions. Moreover, three types of participants may have

different linguistic proficiency levels which could have been a potential factor affecting the findings.

This study assumed that the participants' second language was English, and their first language was mostly Arabic. However, this was not always the case. Many participants had different L2 and L1 backgrounds. Furthermore, conducting the classes online may have caused some disruptions, particularly affecting the quality of sounds, which is the most important aspect of tonal languages.

One aspect of this research was that the participants were assumed to have memorized all characters. However, they did not, even though the syllabus was for beginners. This added to the difficulties. In addition, the use of self-reported difficulty ratings raises the risk of bias, as students' assessments may not be accurate reflections of their actual skills.

Although several characteristics of learning Chinese were shown to be correlated with English competence, this evidence does not prove causality, as other variables may have been at work. Moreover, the limited ability of English competence to explain Chinese learning suggests that other important factors were involved. The cross-sectional design of the research does not provide a long-term view of how difficulties change over time. Finally, it is challenging to identify difficulties unique to learning Chinese without a control group for comparison. An experimental study could help clarify which aspects of Chinese are particularly difficult to learn.

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Farooq AlTameemy
English Language Department
Preparatory Year Unit
Prince Sattam bin Abdulaziz University, Al-Kharj
Saudi Arabia
f.altameemy@psau.edu.sa
ORCID: 0000-0003-0496-0343

Fahd Shehail Alalwi
Department of English Language and Literature
College of Science and Humanities
Prince Sattam bin Abdulaziz University, Al-Kharj
Saudi Arabia
f.alalwi@psau.edu.sa
ORCID: 0000-0003-3380-8113

Saleem Mohd Nasim (Corresponding author)
English Language Unit,
Deanship of Admission and Registration
Prince Sattam bin Abdulaziz University, Al-Kharj
Saudi Arabia
s.nasim@psau.edu.sa
ORCID: 0000-0001-5110-1547