



**DEVELOPING A LINGUA FRANCA CORE FOR BURMESE
SPEAKERS OF ENGLISH**

PYAE PYAE MIN ZAW

**DOCTOR OF PHILOSOPHY
IN
ENGLISH FOR PROFESSIONAL DEVELOPMENT**

**SCHOOL OF LIBERAL ARTS
MAE FAH LUANG UNIVERSITY**

2025

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**THIS DISSERTATION IS A PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
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**DISSERTATION APPROVAL
MAE FAH LUANG UNIVERSITY
FOR
DOCTOR OF PHILOSOPHY
IN**

ENGLISH FOR PROFESSIONAL DEVELOPMENT

Dissertation Title : Developing a Lingua Franca Core for Burmese Speakers of English

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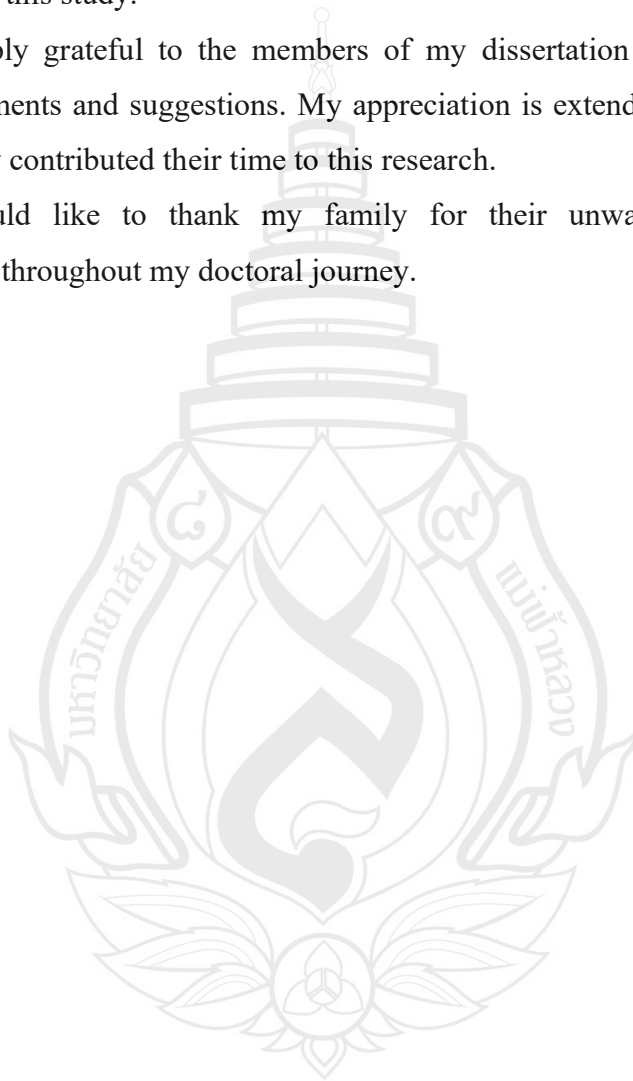
ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my supervisors for their invaluable guidance, support, and encouragement throughout the completion of this dissertation. Their expertise and constructive feedback greatly contributed to the development of this study.

I am also deeply grateful to the members of my dissertation committee for their insightful comments and suggestions. My appreciation is extended to all participants who generously contributed their time to this research.

Finally, I would like to thank my family for their unwavering support and encouragement throughout my doctoral journey.

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Dissertation Title	Developing a Lingua Franca Core for Burmese Speakers of English
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ABSTRACT

To achieve successful communication in English as a Lingua Franca (ELF) interactions, pronunciation instruction must prioritize features that enhance speech intelligibility. However, in Myanmar, there is a lack of context-specific resources to guide the teaching and learning of ELF pronunciation. This study therefore aims to establish pronunciation priorities for Burmese speakers of English by developing a localized Lingua Franca Core (LFC) model to improve international intelligibility of Burmese learners of English. Therefore, A comparative analysis was conducted between Jenkins' (2000) LFC framework and the phonological features of Burmese through systematic document analysis and initial pronunciation features that should be incorporated in the development of the Burmese Lingua Franca Core were first identified. Then, in the second stage of the research, the intelligibility assessment was carried out involving native and non-native English speakers from diverse first-language backgrounds. The findings suggest that, in the ELF context of Burmese speakers, segmental features contribute more substantially to international intelligibility than suprasegmental features. These results highlight the importance of prioritizing segmental aspects in pronunciation instruction for Burmese learners of English and therefore, in accordance with the findings of this study, a Lingua Franca Core modified for the Burmese context has been developed and suggested in the present study.

Keywords: International Intelligibility, Burmese Speakers of English, English Phonology, Lingua-Franca Core

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ABBREVIATIONS AND SYMBOLS

ASEAN	Association of South East Asian Nations
EFL	English as a Foreign Language
EIL	English as an International Language
ELF	English as a Lingua Franca
LFC	Lingua Franca Core
NNS	Non-native Speakers of English
NS	Native Speakers of English



CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The global spread of English originated in colonial expansion in the past and has since been further accelerated by today's processes of globalization, international trade, the evolution of the internet, technological advancements, etc. Therefore, in the past, the goal of English language teaching was to become near-native or perfect native-like language use, and most language instruction focused on facilitating learners to communicate effectively with native speakers (Canagarajah, 2014).

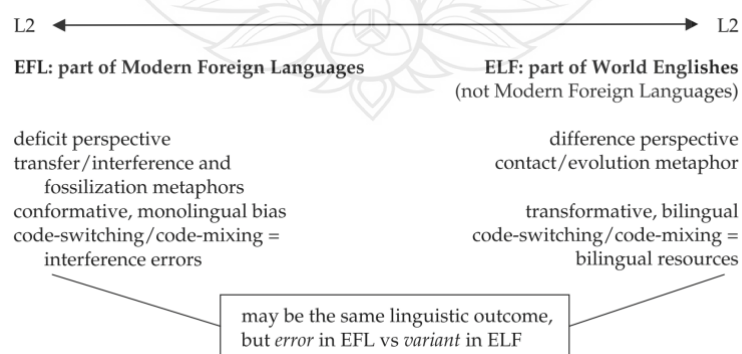
However, in the 21st century, the status of English, as well as the way people learn it, has changed due to globalization and technological advancements. Many people learn English for many different reasons, such as for work, international relations, study, travel, business, entertainment, education, socialization, and many more. Moreover, people not only communicate with native speakers but also with non-native speakers as they live in a global village nowadays. The internet and advancements in technology have spread the use of the English language even more among non-native speakers (Wyland & Wyland, 2025). Consequently, English has attained the status of an international language, with approximately 1.5 billion speakers worldwide (Statista, 2026), and it also functions as a lingua franca, enabling communication among speakers from diverse linguistic backgrounds across the globe (Walker, 2010).

English as an international language (EIL) mainly refers to the role or status of English across nations, cultures, and contexts worldwide and therefore, accompanies a broader concept, whereas English as a lingua franca (ELF) focuses on how English is used as a common means of communication among speakers who share different L1 languages in intercultural settings (Manzouri et al., 2024). English as a lingua franca centers around the diversity of English and a multilingual perspective. Although it overlaps with English as an international language (EIL), English as a lingua franca

(ELF) focuses on the communicative practice and strategies aimed at successful international communication among speakers of different transnational, multilingual, diverse, intercultural, and socio-cultural backgrounds (Cogo, 2026). The current study is also within the paradigm of English as a lingua franca.

On the other hand, beyond the paradigms of English as an International Language (EIL) and English as a Lingua Franca (ELF), English is also treated as one of the modern foreign languages in many parts of the World. English as a Foreign Language (EFL) denotes contexts where English is not used for everyday communication in a nation that has its own L1 and is primarily learned through formal instruction (Manzouri et al., 2024). English language teaching in the paradigm of English as a foreign language (EFL) is confined to native speakers' norms, especially to those of standard British and General American models. In EFL, any deviations from native norms are viewed as a deficit and L1 interference errors. Therefore, this approach positions itself toward a monolingual perspective, and it seems limited for communicating in today's interconnected multilingual world (Graddol, 2006).

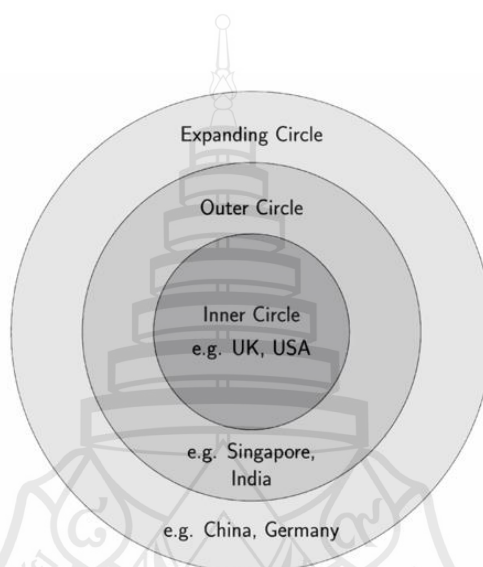
English as a Lingua Franca (ELF), on the other hand, views deviations from native-speaker norms as communicative resources rather than errors, and encourages the use of L1 resources to support learners in achieving successful international communication. It therefore adopts a multilingual perspective and is more aligned with the communicative needs of today's globalized world (Graddol, 2006). Further explanation of the differences between learning & teaching of English as a lingua franca (ELF) and English as a foreign language (EFL) is described in Figure 1.1.



Source Adopted from Jenkins (2006)

Figure 1.1 EFL vs ELF (Adapted from Jenkins, 2006)

Furthermore, English as a lingua franca (ELF) is part of World Englishes, and Kachru and Smith (2008) categorized the types of World Englishes by geographical locations called Kachru's Three-Concentric Circle, which consists of the inner circle, outer circle, and expanding circles. Different types of English spoken by different people around the world are classified geographically by Kachru's three concentric circles, as shown in Figure 2.



Source Adapted from Al-Mutairi (2019)

Figure 1.2 Kachru's Three-Concentric Circle

It is said by Walker et al. (2021) that non-native speakers of English from Kachru's expanding and outer circles, today, constitute three-quarters of the total people who speak English in the world, which is a lot higher than the number of native speakers from the inner circle countries. This is supported by statistical data indicating that around 370 million people speak English as a native or first language, while over 1 billion people speak English in addition to their first language (American TESOL Institute, 2025). Moreover, interactions in English between non-native speakers in the outer and expanding circles occur more than interactions between native speakers in the inner circle due to the effects of globalization. It has been predicted by experts that 80% of communication in English is carried out between non-native speakers rather than with native speakers. Thus, it has become genuinely important to learn different

varieties of English spoken by different non-native speaking countries to communicate well with them through lingua franca in the 21st Century (Tajeddin & Pakzadian, 2020).

Correspondingly, when considering the context of Myanmar, it is one of the Southeast Asian countries, and it is in the Association of Southeast Asian Nations (ASEAN) (CFR.org Editors, 2022). In ASEAN, there are ten countries which are Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam (CFR.org Editors, 2022). All these countries are in the expanding circle of English, except Singapore, Malaysia, and the Philippines, in Kachru's Three Concentric Circles (Kirkpatrick, 2020). In ASEAN, member countries have the free movement of goods, visa-free travel, international cooperation between ministries of the ASEAN, and some intergovernmental education, training, and conferences, such as the SAMEO training center, resulting in more interactions between the ASEAN countries (*Association of South East Asia Nations*, 2020).

Additionally, in ASEAN, English has been used officially as a lingua franca for communicating with each other (Kirkpatrick, 2020). Thus, it can be seen that using English as a lingua franca is important for Myanmar to interact with its neighboring countries in Kachru's expanding circle, as well as with the ASEAN association. Similarly, more than 2 million people from Myanmar migrated to Thailand, Malaysia, Japan, the Republic of Korea, China, and Singapore, where the countries use English as a non-native language (*Labour Migration in Myanmar*, 2014). When looking at the tourism industry, Myanmar is usually visited the most by tourists from China, South Korea, Japan, Thailand, India, etc. (*Tourist Arrival in Myanmar*, 2019). Thus, having international intelligibility to communicate well with people from non-native English-speaking countries in the ELF context for Myanmar is as essential as learning English as a foreign language (Zaw, 2022). Besides, as the world has become a global village, Myanmar should also keep up with the global trend. Thus, teaching and learning English as a Lingua Franca should be encouraged in Myanmar to interact with the ASEAN community and the globalized world.

Furthermore, according to the research carried out by Jenkins (2000) as cited in Walker et al. (2021), most communication breakdowns in ELF contexts were caused by pronunciation rather than other aspects such as grammar and vocabulary (Walker et al., 2021). Thus, English pronunciation is the most essential aspect of international

communications in the ELF context. The possible reason why most communication breakdowns in ELF contexts are caused by pronunciation is that either speakers or listeners are not trained for international intelligibility (Sewell, 2010).

International intelligibility in pronunciation within the context of English as a lingua franca can be defined as the ability to produce the English pronunciation that is understood by interlocutors from diverse first-language backgrounds, without adhering to native-speaker norms (Matsuda, 2012). Within this context, Jenkins (2000) developed the essential core criteria of pronunciation aimed at international intelligibility to enhance ELF communication, which is called the Lingua Franca Core (LFC). According to De Lima (2026), the Lingua Franca Core (LFC) can be defined as a framework comprising essential consonants, vowels, and pronunciation features that aim to ensure international intelligibility among both native and non-native speakers of English worldwide.

When teaching and learning English pronunciation in the ELF context, the Lingua Franca Core is the essential framework that can be used by teachers and learners to train for international intelligibility (Deterding, 2011). The key role of the Lingua Franca Core is to enhance students' intelligibility in pronouncing English words (Jenkins, 2006). The lingua franca core supports international intelligibility in ELF contexts by ensuring critical pronunciation features that have an enormous impact on understanding across diverse L1 speakers of English, while de-emphasizing features that have no impact on international intelligibility among different users of English (Walker, 2010). It, inevitably, reduces the unnecessary features of English pronunciation that do not affect intelligibility, and therefore, lessens the burden on both teachers and students while learners can maintain their own identities in speaking English (Ru, 2024). For example, Rahimi and Ruzrokh (2016) found in their research that the use of the Lingua Franca Core syllabus in teaching English pronunciation improved intelligibility better and faster than the use of the standard Native speakers' syllabus. In addition, Ru (2024) also proved in her research that the LFC-based pronunciation instruction improved international intelligibility in English pronunciation of Chinese learners.

However, like any other theoretical model, it has several criticisms. First of all, Trudgill (2005) highlighted that learners will not only communicate with non-native

speakers but also, communicate with native speakers. There is no way that teachers can predict the people whom learners will interact in the future with. Thus, aiming to achieve only non-native pronunciation will limit the learners from acquiring the language that they want to learn. Similarly, he went on to argue that the LFC lacks sufficient information on vowel sounds. LFC does not mention any details about the vowel sounds such as diphthongs (Trudgill, 2005).

Olea (2019) also agreed that it is a model of vagueness and imprecision. Moreover, Dauer (2005) disagreed with Jenkins about the word stress not being important. She argued that word stress plays an important role in achieving the aspiration /p/, /t/, /k/ in the syllable-initial position for intelligibility. Other scholars have also found that some features of the LFC can vary based on the specific L1 context of the learners. For example, although the LFC states that /θ/ is not necessary to teach for maintaining intelligibility, and therefore, to leave out, some languages like Burmese that have the /θ/ sound can easily acquire the sound without skipping it. Thus, LFC can be criticized as being too general (Walker, 2010). Therefore, Walker (2010) urged scholars and English language professionals to revise the Lingua Franca Core to different L1 contexts to be readily used in classrooms. Many scholars have revised and adapted Jenkins' LFC to their own L1 contexts, such as Zoghbor (2018), who developed the Arabic LFC, and Derterding (2011), who developed the Chinese LFC, etc. On the other hand, for the Burmese context, no research can be found on Google Scholar database about adapting and revising the LFC for the Burmese speakers of English at the time this study was conducted. So, following this gap in the LFC and in the Burmese context, this research will develop the pronunciation Lingua Franca Core aimed at Burmese Learners of English, essential for maintaining international intelligibility.

Moreover, regarding Trudgill's (2005) statement of teachers not being able to predict the interlocutors whom learners will interact with in the future, the researcher believes that it even makes intelligibility more important. Learning traditional models: the RP and GA will only achieve near-native speaker standards (Rahimi and Ruzrokh, 2016). However, adopting an international approach to pronunciation teaching will help learners achieve intelligibility among any speaker around the world (Seidlhofer, 2004). In addition, the Lingua Franca Core developed for specific contexts can also be used as a framework to train for accent familiarization, word recognition, and intelligibility

(Zoghbor, 2018). For example, if one must understand Arabic English accents and pronunciation, then he or she can just use the Arabic Lingua Franca Core developed by Zoghbor (2018) to understand the Arabic variety of English. Therefore, the Lingua Franca Core, designed especially for Burmese speakers, will also become the framework of reference for Burmese-English variety in the repertoire of ELF communication.

On the other hand, Pachina (2020) claimed that Burmese learners of English found English pronunciation to be the most difficult area to acquire compared to any other English language skill (Pachina, 2020). In addition, English pronunciation teaching in Myanmar has always been the native speaker's pronunciation standards (Zaw, 2022). English Teachers in Myanmar use traditional English pronunciation teaching methods and native speakers as pronunciation role models rather than non-native speakers (Zaw, 2022). Therefore, this research will provide an alternative pronunciation model in the context of ELF to traditional native speakers' models for Burmese learners of English. The empirical evidence also suggested that trying to sound exactly like a native speaker is in vain when learners reach a certain age, as language learning cognitive functions usually take place at a young age (Olea, 2019). Thus, Jenkins (2006) made clear in her paper that learning and teaching English pronunciation as a lingua franca helps students achieve an attainable learning goal in pronunciation, which also respects their identities in speaking English (Jenkins, 2006). Similarly, using existing models based on traditional pronunciation teaching approaches might not guarantee students' intelligibility (Rahimi & Ruzrokh, 2016). Accordingly, this gap also leads to the need to perform this research.

Additionally, Kirkpatrick (2012) mentioned in his paper that teaching English as a Lingua Franca is still inapplicable in real English classrooms. One factor can be the lack of English as Lingua-Franca materials available for use in real English classrooms. Moreover, Walker et al. (2021) also stated that teaching English pronunciation as an international language should still be encouraged in real English classrooms. In the context of Myanmar, there seem to be few resources for teaching English pronunciation as a lingua franca, both for teachers and students (Zaw, 2022). Thus, this research intends to also fill this gap by proposing a Lingua-Franca Core revised for Burmese learners of English.

Therefore, in conclusion, this paper will develop a Burmese Lingua-Franca Core for teaching and learning English pronunciation as a Lingua Franca in Myanmar, which would provide Myanmar teachers and students a choice in pronunciation teaching and learning, innovation in the ELT field of Myanmar, and a realistic approach to keeping up with the trends of the globalized world.

1.1.1 Research Objectives

The main objectives of this research are

1. To identify the pronunciation features that should be in the Lingua Franca Core for Burmese Speakers of English
2. To develop the English Pronunciation Lingua Franca Core for Burmese Speakers of English

1.1.2 Research Questions

1. What are the pronunciation features that should be in the Lingua Franca Core for Burmese Speakers of English?
2. What is the developed Lingua Franca Core for Burmese Speakers of English?

1.2 Scope and Limitations of the Study

The scope of this research is mainly based on Burmese learners of English who are at the post-secondary level and who have the pre-intermediate level of English. This research only tests the phonological features of speech intelligibility. It does not focus on the receptive intelligibility of Burmese learners. Moreover, the pronunciation model that this research is based on is Jenkins' Lingua Franca Core as a background framework in the context of the Lingua Franca Core. The empirical research findings, which are utilized to carry out the comparative study between Burmese and English phonologies and propose the Burmese Lingua Franca Core, are mainly from Watkins's (2005) research on Burmese Phonology.

Although Burmese is the official language of Myanmar and more than 60% of the total population in Myanmar speaks Burmese as their L1, there are ethnic learners

of English. However, this study focuses only on Burmese learners and it excludes other ethnic natives.

1.3 Significance of the Study

This research would greatly contribute to the field of English language teaching and learning as a lingua franca. The Lingua-Franca Core used in this research will provide a background framework for future researchers to further research on what contributes to Burmese learners' intelligibility. Teachers who are willing to study or teach English pronunciation as a lingua franca can use this framework readily in their classrooms. This research will also be a valuable resource that contains the pronunciation features that lead to the speech intelligibility of Burmese English speakers.

Secondly, it will provide a chance for Myanmar students and teachers to choose from the traditional approach to the international approach in pronunciation teaching while maintaining their own identity. As a result, teaching English as a lingua franca will be promoted in the language learning and teaching field in Myanmar, where few researchers have contributed before. Moreover, the practical use of English, which aims for international intelligibility, will be promoted in Myanmar. On the other hand, for teachers and learners who just want to continue using the traditional approach to pronunciation, this research will also provide the essential pronunciation features and sounds that can be potentially difficult for Burmese learners and that need to be emphasized in pronunciation teaching.

Last but not least, this research would help non-native speakers (NNS) in teaching English pronunciation confidently in their classrooms, thus increasing the quality of the language classrooms. Myanmar students will also be able to learn English pronunciation effectively and practically, instead of using the old traditional model, which achieves near-native-like English pronunciation. Thus, it would help Myanmar students improve international intelligibility, which is essential for the globalized world today.

1.4 Definition of the Terms

1.4.1 The Lingua Franca Core: It can be defined as the framework developed by Jenkins (2006) containing all the core criteria one should master in English pronunciation to produce intelligible sounds in ELF communication (Deterding, 2011). Lingua Franca Core (LFC) is made up of four areas, which are individual consonant sounds, groups of consonants (clusters), vowels, and nuclear stress placement.

1.4.2 English as a Lingua Franca: It is a paradigm where English is considered to be used in communications between non-native and native speakers of English for trading, business, and other purposes. English as a Lingua Franca, or ELF for short, is the contemporary field of language teaching derived from the World Englishes framework to address the change in the status of the English Language nowadays (Jenkins, 2006).

1.4.3 Burmese Speakers of English: It refers to individuals whose first language is Burmese, and who use English as an additional language for purposes such as education, communication, or professional activities.

1.4.4 International Intelligibility: Intelligibility, according to Munro and Derwing (1995) as cited in Becker and Kluge (2014), is the understandability of the speech/utterances produced by different L1 speakers among each other. Intelligibility can be distinguished into speech intelligibility and receptive intelligibility. Speech intelligibility can be defined as the ability to produce intelligible sounds of English that can be easily understood by other speakers in the English as a Lingua Franca Context (Becker and Kluge, 2014). The present study will focus purely on the speech intelligibility of Burmese speakers of English, measured by the understandability of non-native and native assessors.

1.4.5 Phonology: Phonology is the study of the design and structure of sounds that a language comprises. English phonology consists of segmental features that contain specific individual sounds such as consonants, vowels, etc., and the suprasegmental features involve sound patterns at the word, phrase, or sentence levels such as intonation, word stress, etc. (Giegerich, 1995). In this study, both segmental and suprasegmental features that are mentioned as essential for maintaining speech

intelligibility in the Lingua Franca Core will be examined in detail for Burmese speakers of English.



CHAPTER 2

LITERATURE REVIEW

In this chapter, to fulfill the main aim of this research, literature about the important topics: “Lingua Franca Core (LFC)”, “Intelligibility”, “Features of Pronunciation”, and “The Burmese Phonology” will be reviewed, and a conceptual framework will be developed to answer the main research question of this research.

2.1 The Lingua Franca Core and its Development

Lingua Franca Core is the framework developed by Jenkins (2000) containing all the core criteria one should master in English pronunciation to produce intelligible sounds in ELF communication. Jenkins originally came up with the LFC framework by observing the interactions in ELF communications for over 3 years, taking an inductive qualitative observational study with intermediate to low advanced learners from different L1 backgrounds. She recorded the interactions and carefully analyzed the instances where misunderstandings occurred. One important finding in her study is that most communication breakdowns in ELF are caused by segmental errors rather than prosodic ones, and not all deviations from native norms caused problems. Therefore, Jenkins (2000) concluded from her findings and came up with core features of the pronunciation that have a major impact on international intelligibility and non-core features that do not affect understanding in ELF communications (Jenkins, 2000).

Jenkins’ Lingua Franca Core (LFC) is made up of four areas, which are individual consonant sounds, groups of consonants (clusters), vowels, and nuclear stress placement. It is advised that learners must learn all four areas mentioned in the Lingua Franca Core to improve international intelligibility.

2.2.1 Consonants in the Lingua Franca Core

For the first criterion, consonant sounds, the LFC states that all consonants except the sounds /ð/ as in “Then” and /θ/ as in “Think” are essential for achieving intelligibility. The primary concern for learners in the ELF context is that they usually substitute the sounds that are absent in English with similar sounds from their first language. This substitution effect can cause misunderstanding between both native and non-native speakers of English that greatly harm the intelligibility. Walker (2010) pointed out that the substitution of /f/ with /p/ in Korean, Malay, Tagalog, and Thai speakers led to misunderstandings between “Coffee” and “Copy”. This case can also be applied to Burmese speakers as there is no /f/ sound in the Burmese language. In the English as a Lingua Franca context, the substitution of consonant sounds plays a vital role in achieving intelligibility. Thus, the Lingua Franca Core states that learners must master all the consonant sounds in English to achieve intelligibility except the two voiced and voiceless sounds /ð/ and /θ/. The LFC also recommends giving special attention to /p/, /t/, /k/, /l/, and /r/ sounds that greatly impact intelligibility as well (Walker, 2010). Thus, the segmental features of the Lingua Franca Core regarding consonants can be summarized as follows.

1. All consonants except /ð/ and /θ/ are important.
2. It is important to say the aspiration after /p/, /t/, /k/ as it can impact intelligibility as in the difference between “Tin” and “Din”.
3. Clear /l/ which comes before the stressed vowel as in “Below” is more important than Dark /l/ which comes after the stressed vowel as in “Doll” for intelligibility.
4. Only rhotic /r/ is important when it comes to ELF pronunciation.
5. The British RP /t/ is only important to master in ELF communication rather than the GA, American /t/ as it can create confusion in words like “matter” and “madder”.

Additionally, the second crucial thing to consider for maintaining intelligibility is the consonant cluster, which means a group of consonants together. These consonant clusters can come at the beginning, middle, or end of words. The way consonant clusters group together is not the same for all languages. So, learners of English might have difficulties pronouncing the consonant clusters together. As a result, learners possibly

add or delete some of the sounds in consonants, which can seriously affect intelligibility (Sanderson, 2014). Some examples of consonant clusters in English include “pl”, “bl”, “tr”, “st”, etc.

2.2.2 The Vowels in the Lingua Franca Core

The vowel sounds in English have many more variations than any other criteria in the LFC. Vowel sounds are different even among native speakers, such as American English, British English, Australian English, etc. Thus, the LFC asks learners to work on vowel length, which affects intelligibility. It is stated by Walker (2010) that languages such as Chinese, Greek, and Malay do have lengths in vowels, and this can seriously harm the intelligibility of English. Additionally, the LFC states that vowel quality is not important for international intelligibility. However, the vowel quality used by certain L1 speakers should be consistent so as to enhance intelligibility (Deterding, 2011).

2.2.3 The Suprasegmental Aspects of the Lingua Franca Core

It is stated by Jenkins (2005) that word stress, weak forms, connected speech, and stress-timed syllables are not essential to intelligibility in ELF contexts. Only the nuclear stress placement is important. The last one is the nuclear stress placement which has two kinds, contrastive stress, and unmarked stress. Nuclear stress, also called tonic stress, is the main stress placed on words in sentences in order to emphasize or change the meaning that one wants to convey. This last criterion is also important for intelligibility as a wrong nuclear stress placement can confuse non-native speakers and native speakers (Walker, 2010). It is said that non-core features of the LFC can be left out to teach pronunciation in the ELF context. The core features and non-core features of the Lingua Franca Core have been summarized in Figure 2.1.

#	A	B	C	D
	Aspects of pronunciation	EFL targets	Influence on intelligibility	ELF targets
1	The consonantal inventory	All sounds	√ but not all	All sounds except /θ/ and /ð/
		RP non-rhotic /r/ GA rhotic /r/	√ but not all	Rhotic /r/ only
		RP intervocalic [t] GA intervocalic [t]	√ but not all	Intervocalic [t] only
2	Phonetic requirements	Rarely specified	√ but not all	Aspiration after /p/, /t/, and /k/. Appropriate vowel length before fortis/lenis consonants.
3	Consonant cluster	All word positions	√ but not all	Word initially, word medially
4	Vowel quantity	Long-short contrast	√	Long-short contrast
5	Vowel quality	Close to RP or GA	X	L2 (consistent) regional qualities.
6	Weak forms	Essential	X	Unhelpful to intelligibility
7	Features of connected speech	All	X	Inconsequential or unhelpful
8	Stress-timed rhythm	Important	X	Does not exist
9	Word stress	Critical	X	Unnecessary / can reduce flexibility
10	Nuclear (tonic) stress	Important	√	Critical

Source Jenkins, 2000

Figure 2.1 The Lingua Franca Core (LFC)

In Figure 2.1, pronunciation targets for English as a Foreign Language and English as a Lingua Franca are identified in the second column “B,” and the fourth column “D”. Different pronunciation aspects are listed in the first column “A,” and the features that are important for intelligibility are shown in the third column “C”. The aspects of pronunciation cover both the segmental and suprasegmental aspects of the English phonological system. In this study, the main pronunciation targets for Burmese speakers of English are the criteria mentioned in the English as a Lingua Franca targets, Column D.

The benefits of teaching and learning English pronunciation in the ELF context using the LFC include having clear and viable pronunciation targets for learners (Zoghbor, 2018), maintaining identity through accent variations in English pronunciation (Walker, 2010), achieving intelligibility which enhances international communication (Deterding, 2011), lighter workloads for both learners and teachers (Walker, 2010) and learners’ L1 interference will be a resource for L2 pronunciation (Walker, 2010).

2.2 Revising Lingua Franca Core and Other Empirical Research on the LFC

Since Jenkins (2000) developed the LFC framework through a systematic inductive study, scholars and practitioners seeking to enhance learners' international intelligibility in ELF communication can readily use it in their own contexts. However, Walker (2010) and even Jenkins (2005) herself mentioned in their papers that the Lingua Franca Core needs to be adapted to use in certain L1 contexts. Thus, many scholars have performed studies on the criteria of the LFC and adapted it to their own L1 contexts, which this paper also intends to do so.

The research that shows evidence of the validity of the LFC involves that of Deterding and Kirkpatrick (2006), who studied the intelligibility of speakers from the ASEAN countries. They proved that the substitution of /t/ in the place of /θ/ does not affect the intelligibility of speakers from ASEAN countries. Moreover, Rajadurai (2006) studied Malaysian English intelligibility and found out that the dental plosive /t/ and /d/ can be used in place of /θ/ and /ð/ and does not affect intelligibility. Another study by Osimk (2009) discovered that if /θ/ and /ð/ are substituted by /s/ and /z/, it is not intelligible. Additionally, Osimk and Rajadurai's (2009) study confirmed that the aspiration of the voiceless plosives is very crucial for international intelligibility as stated in the original LFC. The study by Rahimi and Ruzrokh (2016) also found that the use of the Lingua Franca Core syllabus in teaching English pronunciation improved intelligibility better and faster than the use of the standard Native speakers' syllabus.

However, although most of the criteria mentioned in Jenkins' Lingua Franca Core are proven to be important for international intelligibility, some specific features need to be added to the Lingua Franca Core based on the ELF users' L1 context. For example, the study of Rajadurai (2009) concluded that avoiding glottal stops is necessary for Malaysian speakers of ELF to achieve intelligibility which the LFC does not mention in its framework. Another investigation made by Alves et al. (2020) pointed out that Brazilian-Portuguese speakers of English should practice maintaining full syllable values of words and avoid strong vowel reduction for ELF intelligibility which the LFC doesn't mention. Thus, after examining the aforementioned empirical

data, it became clear that the LFC is made general and Jenkins herself calls for fine-tuning the LFC based on the specific L1 contexts to better understand and enhance the international intelligibility in ELF communications.

Therefore, many scholars have revised and adapted the LFC in their own contexts, such as the ASEAN LFC, the Arabic LFC, the Thai EIL Pronunciation Core, the LFC adapted for Japanese and Chinese contexts, etc. First of all, Zogbor (2018) has developed the Arabic LFC syllabus to use in ELF classrooms. His study supported features of Phonetic Requirements, Vowel Sounds, Consonant Clusters, Nuclear Stress, and Intonation in the general LFC. In terms of word stress, the LFC stated that it's not important. However, he discovered that primary word stress is required for the intelligibility of Arabic learners. Moreover, in the consonant inventory, he noticed that /tʃ/ and /dʒ/ are important, and the Arabic variety of /r/ and the Arabic variant of /t/ are crucial for Arabic learners. The detailed findings of the Arabic LFC by Zogbor (2018) have been described in Table 2.1.

Table 2.1: The Arabic Lingua Franca Core Syllabus

Contents of the LFC (General)	Contents of syllabus for Arab Learners based on the LFC (Old)	Contents of the syllabus for Arab learners based on LFC and this study (Revised)
The consonant inventory		
All sounds except /θ/, /ð/ and dark (or velarized) /ɜ/ (as in 'little')	/p/, /v/, /dʒ/, /g/ and /ŋ/.	Distinguishing between /p/ and /b/ word initial/ /t/ and /dʒ/
Rhotic GA/r/ rather than the other varieties of /r/	GA Rhotic/r/	Arabic Variety of /r/ (Trilled/r/)
The RP variant of /t/ intervocalic(t)	The RP variant of /t/ (intervocalic[t])	Arabic variant of /t/
Phonetic requirements		
Aspiration after /p/, /t/, and /k/	Aspiration after /p/, /t/, and /k/	Aspiration after /p/, /t/, and /k/
Appropriate vowel length before fortis/lenis	Appropriate vowel length before fortis and lenis	Appropriate Vowel length before fortis and lenis
Avoiding contracted and short forms.	Avoiding contracted and short forms	Avoiding contracted and short forms
Consonant cluster		
Word initially, word medially	Word initially and medially	Word initially and medially
Vowel sound		
Long-short contrast	Long-short contrast + /3:/	Long-short contrast
/3:/ to be preserved		
1,2 (consistent) regional qualities	Learner's regional quality is accepted	Learners' regional quality is accepted
Nuclear stress		
Appropriate use of contrastive stress to signal meaning	Nuclear (tonic) stress	Nuclear (tonic) stress
Word stress		
Unnecessary/can reduce flexibility	-	Primary stress is required in words with more than 2 syllables.
Intonation	-	-

Source Adapted from Zogbor (2018)

Moreover, Davis (2012) proposed pronunciation features that should be emphasized in the ELF context for Japanese English learners in accordance with Jenkins' Lingua Franca Core based on the literature review study. He suggested that the sounds /l/ and /r/ can be problematic for the intelligibility of Japanese ELF users. Moreover, the use of the /w/ sound before any vowel other than /a/, the substitution of the Japanese sound [Φ] for /f/ and /h/ before the vowel /u/, and the Japanese substitution of uvular nasal [N] for /n/ in word-final context can be detrimental for intelligibility. Other LFC features of the Japanese context are summarized in the following table based on the study of Atsuko Shimizu cited in Walker (2010).

Table 2.2 The Japanese Lingua Franca Core

Features in the Original Lingua Franca Core	Features Vital for Japanese Context
1. Consonants	• Aspirated /t/, /d/, /k/ • /f/ /v/ • /s/ before /ɪ/ or /i/ only • /ʒ/ • /ŋ/ • /j/ • /g/ between vowels
2. Consonant Clusters	No Clusters are permitted in the Japanese Language. So, it is important to practice consonant clusters in English as it affects intelligibility.
3. Vowel Lengths	Not much difficulty
4. Nuclear Stress Placements	Unnecessary pauses and difficulty in word groupings of English.

Source Walker (2010)

Looking at Thai English as an International Language Pronunciation Core developed by Suntornsawet (2019), it can be observed that the problematic features of Thai ELF pronunciations do not entirely corroborate the features of Jenkins' (2000) and

Kirkpatrick (2010). In fact, Suntornsawet (2019) performed detailed research into problematic features of Thai ELF pronunciation and came up with more features other than the ones mentioned in the LFC, which is summarized in the table adapted from Suntornsawet (2019) as shown below. Last but not least, the scholar suggested that future researchers develop a pronunciation core related to their specific L1 contexts for enhancing international communications (Suntornsawet, 2019).

Table 2.3 Thai EIL Pronunciation Core

Segmentals	Features	Examples
Consonants	Clusters:	
	Final cluster: lack Of final release	Dropping of the final segment such as [t] in “management” and [n] in “design”, etc
	Initial consonant Insertion	[dr] as [dʷ] in “dressing”
	Initial consonant Deletion	[bl] as [l] in “probably”
Consonants	Substitution of sounds in final syllable position	[l] is substituted by [w] in “environmental”
		[b] is substituted by [m] in “probably”
		[dʒ] is substituted by [s] in “management”
Consonants	Voiced pronounced as voiceless	[z] is substituted by [s] in “design”
		[ʒ] is substituted by [w] in “environmental”
Vowels	Full stress is produced on unstressed vowel (Schwa)	[ment] as [men] in “management”
	Vowel Heightening	[æ] as [e] in “management”
		[a] as [ɔ] in “genre”
		[a] as [o] in “hypothesis”
	Monophthongization	[iə] as [æ] in “lemænisim”
Syllable Structure	Reduction/omission of unstressed syllables	[iə] in “genre”
		[bə] in “probably”
		[vai] and [rən] in “environmental”

Source Suntornsawet (2019)

Furthermore, for the Lingua Franca Core in the Chinese context, Deterding (2011) came up with a list of essential features for Chinese Mandarin speakers of English in the ELF context. The findings have been summarized in Table 2.4.

Table 2.4 The Chinese Lingua Franca Core

Features in the Original Lingua Franca Core	LFC Features Vital for Mandarin Context
1. Consonants	• /tʃ/ • /f/ /v/ /z/ • /dʒ/ • /ʒ/ • /ʃ/ • /h/ • /n/ • /l/ and /r/
2. Consonant Clusters	No Clusters are present in the Chinese Language. Final Clusters are important for Chinese speakers of English.
3. Vowel Lengths	No vowel lengths are there in Chinese. So, vowel lengths should be emphasized for Chinese learners.
4. Nuclear Stress Placements	Very Important
5. Intonation	Very Important

Source Derterding (2011)

Additionally, many other scholars in this area studied and developed ELF pronunciation cores for their own contexts, such as Greek, Polish, German, Malay, Portuguese, Russian, and Spanish, etc., which can all be found in a book by Robin Walker (2010). However, few people ever contributed to or studied the problematic sounds of Burmese speakers of English that can hinder international intelligibility in ELF communications (Zaw, 2022). Therefore, this research will address this gap by addressing the core features of ELF pronunciation for Burmese speakers of English based on Jenkins' LFC.

Regarding the methods of proposing the pronunciation core of intelligibility, some scholars, first of all, came up with studying or based their studies on the differences between L1 languages and English before doing the intelligibility test. For example, Zoghbor (2018) studied the differences between Arabic and Jenkins' Lingua Franca Core by using contrastive analysis before he actually performed the intelligibility test to propose the Arabic pronunciation Lingua Franca Core syllabus. Moreover, some scholars such as Rahman and Chowdhury (2019) for the Bengali Pronunciation Core, Deterding (2011) for the Chinese context, and Espinosa (2017) for the Spanish-accented English, used secondary data from the Asian Corpus of English (ACE), VOICE (Vienna-Oxford International Corpus of English), the audio data from the Olympic in Spain and made a comparative study with that of the criteria in Jenkins' LFC. Moreover, in Suntornsawet's (2019) research, she included a comparative study between the phonological features of Thai, Thai-English, and English sound systems using empirical data in developing the Thai EIL Core.

In the present research, a comparative study between the Burmese Phonology and the Lingua Franca Core is going to be employed to identify the sounds important for international intelligibility. Since this research aims to develop the pronunciation core important for international intelligibility in the ELF context, native speakers' pronunciation models, which are from different paradigms, will not be used to perform the comparative study.

2.3 The Comparative Analysis

A Comparative analysis is the systematic comparison of features of a learner's first language (L1) and a target language (L2) to predict errors and learning challenges for students, enabling teachers to prepare to overcome those challenges in advance (Ali, 2015). Comparative analysis is usually performed to predict errors and learning difficulties caused by cross-linguistic influences, rather than by other SLA factors such as age, aptitude, and learners' characteristics (Zaw et al., 2025).

Cross-linguistic influences can be defined as how a learner's first language (L1) affects the learning of a second language (L2), and it covers both positive and negative

transfer in language learning. It is stated that similarities between the features of L1 and L2 can facilitate a positive transfer in language learning, while the differences may cause a negative transfer (Bardovi-Harlig & Sprouse, 2017). Likewise, it is advised that teachers and learners should be aware of the similarities and differences between L1 and L2 features in order to anticipate potential learning difficulties and identify areas that may require greater instructional focus. Therefore, many scholars and teachers conduct comparative analyses to examine similarities and differences between L1 and L2 in order to support and enhance the language-learning process (Zaw et al., 2025).

On the other hand, there are many criticisms of this approach. One of them includes that of Lennon (2008). He complained that a comparative analysis does not take into account the psycholinguistic aspects and does not address the developmental errors of learners. Moreover, the approach is outdated in the fact that it is based on the structural and behaviorist learning theories. It cannot best predict the errors that learners would make in real-time interactions since communication is also influenced by other factors such as cultural differences, learner attitudes, and individual learner characteristics, etc (Zaw et al., 2025).

Nevertheless, considering the pronunciation teaching and learning perspective, cross-linguistic differences have a major impact on pronunciation teaching and learning compared to other areas such as grammar, vocabulary, etc. (Zaw et al., 2025). In addition, Lennon (2008) has admitted that, despite its shortcomings, contrastive study is still a useful approach in predicting phonological errors at the segmental level.

Furthermore, Walker (2010) stated that a comparative analysis between the phonological systems of L1 and the English language is necessary in ELF pronunciation teaching and learning, since it will determine pronunciation priorities that learners should focus on in order to maintain international intelligibility in international communication. Similarities in the features of the phonological systems of English and Burmese would facilitate a positive transfer in learning the core features of Jenkins' LFC, while the comparative study will also pinpoint the differences that may interfere with those core features and thus affect international intelligibility. As Walker (2010) notes, however, not all instances of cross-linguistic difference (i.e., negative transfer) are critical in ELF pronunciation. Consequently, the comparative study will also highlight the negative transfer, also known as the L1 resource in ELF, that has no impact

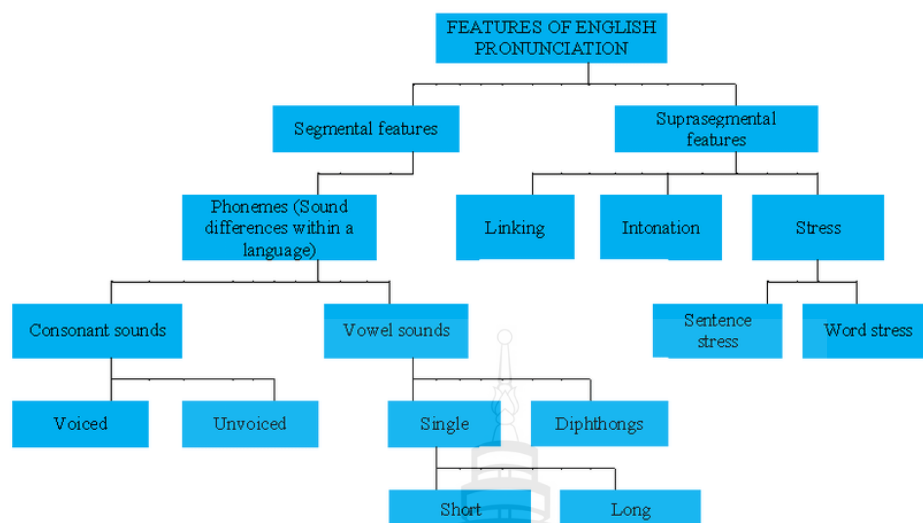
on international intelligibility. Therefore, these may be retained as regional accent variations and serve as markers of identity in ELF communication.

2.4 The Phonology of English and Burmese Languages

Building on the comparative approach discussed in the previous section, the present study also employs a comparative analysis to identify the essential criteria for developing the LFC for Burmese speakers of English, thereby addressing the first research objective of the study. In all parts of this study, the British English model (Received Pronunciation) has been utilized as the main reference for looking at the features of the English language pronunciation, because RP is the official model set by the government of Myanmar to be used as a formal language within its country since the colonial times of the British Empire (Aye, 2020). Therefore, this sub-section reviews the differences between the phonological systems of English RP and the standard Burmese language.

2.4.1 Phonology

Phonology is the branch of linguistics concerned with the systematic organization and functional use of sounds in a particular language. It examines how sounds operate within a linguistic system and how they are structured to form a language's sound inventory. Phonology is commonly divided into two main areas: segmental and suprasegmental phonology. Segmental phonology focuses on individual speech sounds, known as segments, such as consonants and vowels, whereas suprasegmental phonology deals with features that extend beyond individual sounds, including stress, rhythm, and intonation. These pronunciation features are illustrated in Figure 2.2 (Marzá, 2014).



Source Adapted from Marzá (2014)

Figure 2.2 Features of Pronunciation

2.4.2 Consonants of the Burmese and English languages

In segmental phonology, phonemes function as the smallest units of sound that distinguish meaning between words. For example, the words *letter* and *better* differ only in their initial consonant phonemes /l/ and /b/, resulting in a difference in meaning (Win & Lloyd, 2022). Although English uses only 26 letters in its written alphabet, it contains approximately 44 phonemes. These phonemes are broadly categorized into consonant and vowel phonemes. Table 2.5, adapted from Win and Lloyd (2022), presents the consonant phonemes of English along with their corresponding International Phonetic Alphabet (IPA) symbols.

Table 2.5 The RP Consonant IPA Chart

	Bilabial		Labiodental		Dental		Alveolar		Post-alveolar		Palatal		Velar		Glottal	
Plosive	p	b					t	d						k	g	
Affricate									tʃ	dʒ						
Nasal		m						n							ŋ	
Fricative			f	v	θ	ð	s	z	ʃ	ʒ						h
Approximant		(w)								r		j			w	
Lateral								l								
approximant																

Source Adapted from Roach (2004)

On the other hand, Burmese, also known as Myanmar, is the official language of Myanmar and is spoken by over 40 million people nationwide. It belongs to the Burmic branch of the Tibeto-Burman language family (Watkins, 2005). Burmese has 34 consonant phonemes, which are presented in the IPA chart adapted from Watkins (2005) and are shown in Table 2.6.

Table 2.6 The Burmese Consonant IPA Chart

	Bilabial	Dental	Alveolar	Post-alveolar	Palatal Velar	Velar	Glottal
Plosive/ Affricate	p p ^h b		t t ^h d	tʃ tʃ ^h dʒ		k k ^h	ʔ
Nasal	m m		n n		ɲ ɲ	ŋ ŋ	
Fricative		θ ð	s s ^h z	ʃ			h
Approximant	ɹ w	l			j		
Lateral approximant			ɭ ɭ				

Source Adapted from Watkins (2005)

2.4.3 Vowels of the Burmese and English languages

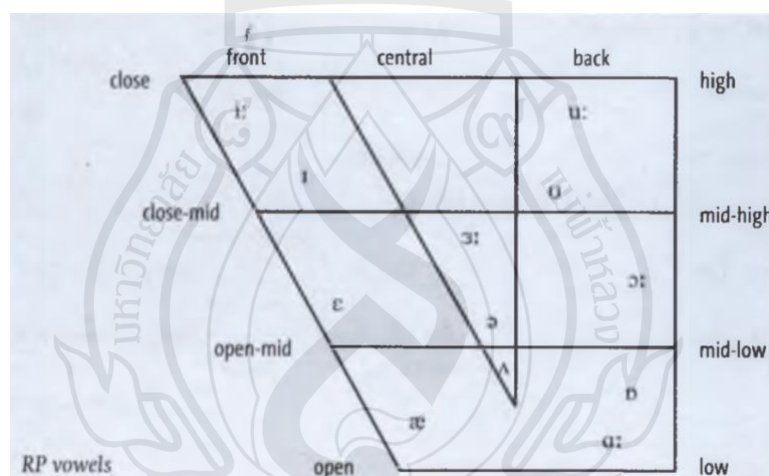
English vowels are commonly classified into monophthongs and diphthongs (Roach, 2004). In total, English has approximately twenty vowel phonemes, consisting of twelve monophthongs and eight diphthongs. Monophthongs are vowels characterized by a relatively steady sound quality during articulation, without a noticeable change in vowel quality. They may be further categorized into short and long vowels based on vowel length. Examples of monophthongs include /ɒ/ in *cot* and /ɔ:/ in *caught*. In contrast, diphthongs involve a glide from one vowel quality to another within the same syllable, as in /ɔɪ/ in *oil* and /ɪə/ in *ear* (Roach, 2004). The complete set of English vowel phonemes, together with their corresponding International Phonetic Alphabet (IPA) symbols, is presented in Figure 2.3.

i:	ɪ	ʊ	u:
e	ə	ɜ:	ɔ:
æ	ʌ	a:	ɒ
ɪə	eɪ	ʊə	ɔɪ
əʊ	eə	aɪ	aʊ

Source English Vowel Sounds (2018)

Figure 2.3 The Vowels in English

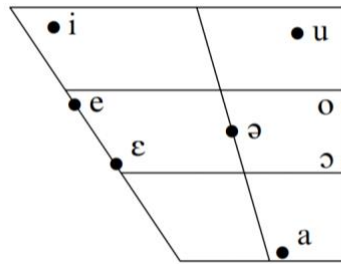
The details of where vowel sounds come from (Places of Articulation) and how they are made (Manners of Articulation) are summarized with Figure 2.4 as follows.



Source Bieswanger and Becker (2010)

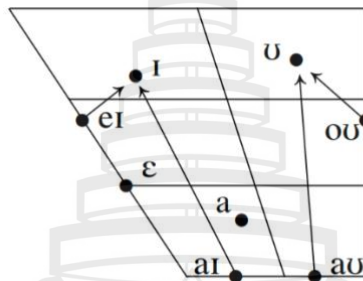
Figure 2.4 The RP Vowels IPA Chart

In contrast, the Burmese language has a relatively small vowel system, commonly described as consisting of nine basic vowel qualities. Watkins (2005) categorizes these vowels into open-syllable and closed-syllable vowels. Open-syllable vowels are non-nasalized and occur only in open syllables, whereas closed-syllable vowels are nasalized and occur in syllables closed by a glottal stop. It is shown in Figure 2.5 and 2.6.



Source Adapted from Watkins (2005)

Figure 2.5 Open-syllable Vowels in Burmese



Source Adapted from Watkins (2005)

Figure 2.6 Closed-syllable Vowels in Burmese

2.4.4 Suprasegmental Phonology of the Burmese and English languages

Suprasegmental phonology is concerned with features that extend beyond individual speech sounds, including syllable structure and prosodic features such as stress, rhythm, tone, and intonation. Syllables are the smallest phonological units of speech and typically consist of a vowel nucleus with optional surrounding consonants. In English, every word contains at least one syllable. Stress refers to the relative prominence given to a syllable or word in speech and can be categorized into word stress and sentence stress. English is generally described as a stress-timed language, in which stressed syllables tend to occur at roughly regular intervals, while unstressed syllables are shortened to accommodate rhythmic patterns (Kahn, 2015).

With regard to pitch-related features, tone refers to variations in pitch that distinguish lexical meaning in tone languages. English is not a tone language, as differences in pitch do not alter the lexical meaning of individual words. Intonation, by

contrast, involves the rise and fall of pitch across larger stretches of speech, such as phrases or sentences, and English is therefore classified as an intonation language.

Additionally, connected speech plays an important role in spoken English, as sounds often change when words are produced in continuous discourse. Key features of connected speech include strong and weak forms, assimilation (the modification of a sound influenced by a neighboring sound), and liaison, which involves the linking or insertion of sounds to facilitate smooth speech flow (Kahn, 2015).

On the other hand, Burmese is a tone language with four contrastive tones: low, high, creaky, and killed. These tones differ in pitch, phonation, and duration, and also affect vowel quality (Hill, 2012). Unlike English, Burmese is syllable-timed, with syllables carrying relatively equal weight and duration. Consequently, stress plays a limited role in Burmese compared to tonal distinctions (Hill, 2012).

2.5 Similarities and Differences in the Phonological Systems of English (RP) and Burmese Languages

A comparative study made by Zaw et al. (2025) has highlighted the essential distinctions in the features of English and Burmese phonological systems. In her study, the scholar made use of the Received Pronunciation model (RP) as the main framework to compare and analyze the cross-linguistic differences in the pronunciation features of the English and Burmese languages. The main findings regarding the consonant sounds involved the fact that the English consonants /v/, /f/, /r/, and /ʒ/ were only absent in the phonological systems of Burmese. Moreover, English vowels /ɪ/, /ʊ/, /æ/, /ʌ/, /ɒ/, /ɜ:/, /i:/, /u:/, /a:/, /ɔ:/, /ɔɪ/, /eə/, /əʊ/, /ɪə/, and /ʊə/ were absent in the Burmese segmental phonology. In terms of the supra-segmental aspect, there were many differences between the two languages. The intonation, word stress, and sentence stress in English do not exist in the system of the Burmese language, as it is a syllable-timed language. Moreover, English consonant clusters CCV, CCVC, CVCC, CCVCC, CCCV, and CCCVCCC were absent in the Burmese language suprasegmental phonology. The differences are summarized in Table 2.7.

Table 2.7 A Comparative Study of the Phonological Systems of English RP and the Burmese Language

Features of the Phonology	British English	Standard Burmese
Consonants	/p/, /b/, /t/, /d/, /k/, /g/ /tʃ/, /dʒ/ /f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, /ʒ/, /h/ /m/, /n/, /ŋ/ /w/, /r/ and /j/ /l/	/p/, /pʰ/, /b/, /t/, /tʰ/, /d/, /tʃ/, /tʃʰ/, /dʒ/, /k/, /kʰ/, /g/, /ŋ/ /ð/, /θ/, /s/, /sʰ/, /z/, /ʃ/, /h/ /p̰/, /p̰/, /ŋ̰/, /ŋ̰/, /ŋ̰/, /n̰/, /m̰/, /m̰/ /ʌ/, /w/, /ɹ/, /j/ /l/, /l/
Vowels	/eɪ/, /oɪ/, /aɪ/, /eə/, /ɪə/, /ʊə/, /əʊ/, /əʊ/, /aʊə/, /aɪə/, /eɪə/, /əʊə/, /ɔɪə/	i/, /u/, /e/, /o/, /ə/, /ɛ/, /ɔ/, /ɑ/, /eɪ/, /aɪ/, /əʊ/, /oʊ/
Suprasegmental Features	1. V 2. CV 3. CVC 4. CCV 5. CCVC 6. CVCC 7. CCVCC 8. CCCV 9. CCCVCCC Word stress, sentence stress, intonation patterns, etc.	1. V 2. CV 3. CVC 4. CGV 5. CGVC 6. CVVC 7. CGVVC Burmese is a syllable- timed language with different tones.

Source Adapted from Zaw et al. (2025)

2.6 The Intelligibility and its Measurements

2.6.1 The Intelligibility

Intelligibility, according to Munro and Derwing (1995) as cited in Becker and Kluge (2014), can be defined as the understandability of the speech/utterances produced by different L1 speakers among each other. On the other hand, Smith and Nelson (1985) cited in Levis (2018) stated that intelligibility comes on three aspects; the understandability of words, the message and the intention behind the messages. Levis (2018) also stated that speech rate and noise are crucial factors that negatively impact

intelligibility. Similarly, when it comes to intelligibility, the two important terms, comprehensibility and accentedness should be considered since the understandability of spoken language also depend on these factors (Levis, 2018). Comprehensibility can be defined as the amount of effort that a listener has to put in order to understand a message. It can be explained by the comfortableness in listening comprehension. On the other hand, comprehensibility, as assumed by Smith and Nelson (1985) cited in Levis (2018), is part of the international intelligibility where the meaning of a word or an utterance is understood by a listener. Therefore, the current study also includes examining the comprehensibility of utterances by having a follow-up interview with the assessors.

Furthermore, accentedness can be described as the degree of variations from the standard English pronunciation norms which are RP and GE models (Isaacs and Thomson, 2013). It is said by Thomson (2017) that accentedness is a perceptual phenomenon on the part of a listener that can accurately be recognized by other listeners. Flege (1999) also said that accentedness can be detected reliably by listeners within 30 seconds. The measurements of accentedness in speech mainly involve participants' perceptions of the degree of accentedness by scalar ratings from 1 (Lowest presence) to 9 (Highest presence) or 1 to 7, depending on the purpose of the research and the researcher (Thomson, 2017).

Levis (2018) highlighted that accent can interfere with the intelligibility of speech. However, it is argued by Derwing and Munro (2008) cited in Walker (2010) that a learner can have a strong accent but at the same time, she or he may have the ability to produce fully intelligible sounds. Although most research studies such as Munro and Derwing (1997) show weak correlations between strong L1 accents and intelligibility, comprehensibility of L2 speech in ELF communications depends on strong L1 accents highly to moderately (Thomson, 2017). On the other hand, there are some scholars like Pérez-Ramón et al. (2022) who claim that strong foreign accents happen on the segmental levels of pronunciation. Thomas (2017) made it clearer by stating that some individuals with strong foreign accents contribute to low intelligibility scores while the presence of a strong foreign accent on L2 speech does not guarantee unintelligibility. He explained that it all came down to individuals whether or not strong L1 accentedness affects intelligibility (Thomas, 2017).

The current study will also address accent by having an accentedness level rating for speech samples of this study. The main purpose of performing the accentedness level rating in the present study is to choose the speech samples that represent a High Burmese accent, Moderate Burmese accent, and Low Burmese accent which will best make the intelligibility findings accurate. However, in the present study, the impacts of accentedness on intelligibility will not be tested, but rather the segmental and suprasegmental features of the proposed LFC for Burmese speakers aimed at international intelligibility will be developed. In doing so, international intelligibility at the segmental level, along with comprehensibility at the semantic level and accentedness ratings of the speech samples, are all taken into account to ensure the validity and reliability of the LFC developed for Burmese speakers of English.

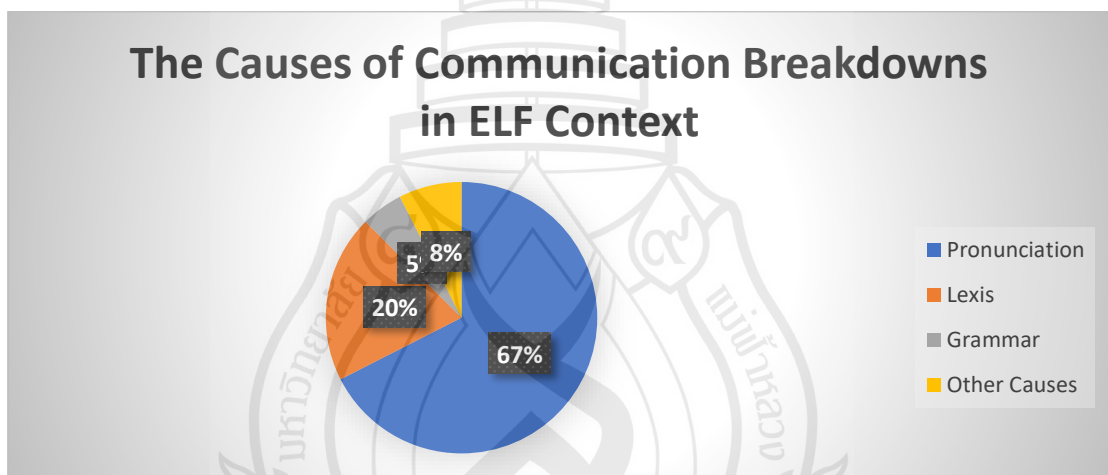
2.6.2 The Receptive Intelligibility and The Speech Intelligibility

Intelligibility can also be distinguished into speech intelligibility and receptive intelligibility (Becker & Kluge, 2014). Receptive Intelligibility can be defined as the ability to understand different non-native varieties of Englishes around the world whereas speech intelligibility can be defined as the ability to produce intelligible sounds of English that can be easily understood by other speakers in English as a Lingua Franca Context (Nagy, 2016). Nowadays, as Walker (2010) highlighted, learning and teaching English pronunciation to attain native speakers' standards is not necessary and essential anymore with the changing status and use of the English language around the world. More and more people are learning English pronunciation just to produce intelligible speech while maintaining their own identity (Walker 2010).

Thus, speech intelligibility plays an important role these days in English language learning and teaching in the ELF context. In maintaining speech intelligibility, there are key sounds that can impact understanding if wrongly pronounced. On the other hand, there are also non-key features of the pronunciation that have no impact on the understanding, even if they are wrongly pronounced. These are addressed by Jenkins (2006) in the LFC as core and non-core criteria of pronunciation. However, these core and non-core features can be slightly different based on learners' own L1 context. Thus, a lot of scholars have revised the LFC based on their own L1 contexts (Zogbor, 2018).

Moreover, many people think that intelligibility is a one-way process that is concerned only with speakers. However, it is a two-way process where intelligibility

depends on both the listener and the speaker (Walker, 2010). It is said by Bamgbose (1998), as cited in Walker (2010), that the attitude of a listener also impacts intelligibility. Other factors such as vocabulary and grammatical errors can also impact speech intelligibility besides English pronunciation features. In contrast, Ke and Cahyani (2014) argued that grammar and native norms are not crucial factors in successful intercultural communication. Additionally, Moedjito et al. (2019) stated that lexis also impacts the intelligibility negatively in ELF communication beside pronunciation. However, many researchers in the field, including Deterding (2005) and Walker (2010), agreed with Jenkins (2006) that the biggest concern for international intelligibility in ELF is pronunciation. The causes of communication breakdowns in the ELF are also shown in Figure 2.7.



Source Adapted from Jenkin (2006) as cited in Walker (2010)

Figure 2.7 The Causes of Communication Breakdowns in the ELF Context

Therefore, as Jenkins stated, the greatest factor that affects the intelligibility of ELF communications is pronunciation, she proposed the Lingua Franca Core to be used as a general framework to improve speech intelligibility in ELF interactions (Pickering, 2006). It is also said that pronunciation aimed at speech intelligibility is the first step that should be taken for learners to facilitate successful communications in ELF (Chan, 2021).

2.6.3 The Measurements of Intelligibility

Regarding the measurements of intelligibility, there is no universally agreed model of assessing intelligibility (Munro & Derwing, 1995). It is said by Smith (1992) that intelligibility is measured by three primary levels. They include word recognition, utterance comprehension, and understanding the meaning behind the utterances. These levels can be measured by different methods that are suitable for each context. For example, Deterding (2011) measured the word utterance intelligibility of Chinese speakers of English by observing the interactions in ELF communications from the Asian Corpus of English (ACE) and suggested pronunciation features that can be problematic for intelligibility in the Chinese context. Furthermore, Espinosa (2017) carried out qualitative research on the intelligibility of Spanish English by comparing the pronunciation features of Spanish English with the criteria mentioned in the LFC. In Espinosa's (2017) research, Spanish-English intelligibility has been observed using a qualitative comparative study between features of LFC and the speech by the Mayor of Madrid, Ana for the 2015 International Olympic Committee who can be the representative of the Spanish-English speaking community. In addition, Rahimi and Ruzrokh (2016) measured the improvements in their students' intelligibility by having a listening test containing cloze question types and a read-aloud test for all three levels of intelligibility measurements.

In addition, when looking back at some empirical literature on intelligibility measurements, it was found that transcriptions of phonological pronunciations can be used to measure correct intelligibility. Lane (1963), as cited in Suntornsawet (2019), used the transcription method by counting the total number of words listeners transcribed accurately. There are also other methods such as paraphrasing, answering cloze tests, picture selection, answering comprehension questions, etc. Moreover, Barefoot, Bochner, Johnson, and Vin Eigen (1993) calculated the proportions of listeners who recognized the keywords. Additionally, Fayer and Krasinski (1987), Win (1998), and Lu (2007) used the Likert Scale questionnaire to rate intelligibility directly. Suntornsawet (2019) used Orthographic Transcription and Pseudo Transcription in the study of the intelligibility of Thai English speakers. However, Zoghbor (2018) employed a semi-structured interview method with the buzzer technique where listeners

listen to the recordings of Arabic speakers and pause when they don't understand the utterance. Then, Zoghbor interpreted the intelligibility of Arabic speakers of English.

Considering the word lists and topic selection in the speech intelligibility test, some scholars used the text-dependent which is known by or in the familiar field of the listener whereas other scholars used the text-independent which is not known or unfamiliar to the listener. In addition, topics that are too predictable from the context should be avoided in the intelligibility test to prevent context-guessing (Suntornsawet, 2019). According to Hawley (1977), the characteristics of a good speech intelligibility test should exhibit some levels of difficulty to prevent context-guessing. Therefore, in this research, text-dependent topics that are familiar to the participants are chosen to avoid confusion and other mistakes in speaking, while avoiding general topics such as "Introduction About myself" to reduce context-guessing by listeners.

Last but not least, it is suggested that choosing the appropriate method of assessing intelligibility would depend on the research purposes one wants to fulfill (Suntornsawet, 2019). Boonsamritphol and Rungrojsuwan (2021) employed a cloze test to measure word recognition and utterance comprehension based on the characteristics of segmental and suprasegmental features that they wanted to measure. As cloze tests are one of the widely used question types in intelligibility tests, Buck (2001), Kachru and Smith (2008), Vandergrift and Goh (2012) also utilized cloze tests to measure students' recognition of words and utterances (Boonsamritphol and Rungrojsuwan, 2021).

Therefore, after considering the objective of this research, it has been clear that intelligibility must be measured with word recognition and understanding of the utterances. First of all, word recognition and understanding of the utterance of certain consonants and vowels will be measured by using questions of minimal pairs and other words. This is to test the specific criteria that will be proposed in the Lingua Franca Core for Burmese speakers of English in the first stage. To add additional findings to the research, the researcher also uses Zoghbor's (2018) technique, where listeners will press the button for the utterances they don't understand, and a semi-structured interview will be carried out for a better understanding of the utterances as a follow-up.

2.7 The Conceptual Framework

The main foundational theories underlying this research would be Jenkins' Lingua Franca Core and the phonological features of the Burmese language. To achieve the first research objective, which is to identify the pronunciation criteria that should be in the development of the lingua franca core for Burmese Speakers of English, it is essential to distinguish which phonological features of L1 pronunciation can potentially harm the intelligibility of L2 pronunciation. The L1 sounds, or the L1-influenced sounds that do not negatively impact international intelligibility, are the sounds that can be maintained as a regional variety of L2 (Walker, 2010). The pronunciation core features that are important for international intelligibility and non-core features that can be maintained as regional varieties have been proposed for all languages generally by Jenkins (2006) in her Lingua Franca Core. Besides, Jenkins' LFC is based on empirical research data, and it is in the ELF paradigm, unlike traditional pronunciation models of different paradigms. Thus, this research bases its study on Jenkins' Lingua Franca Core.

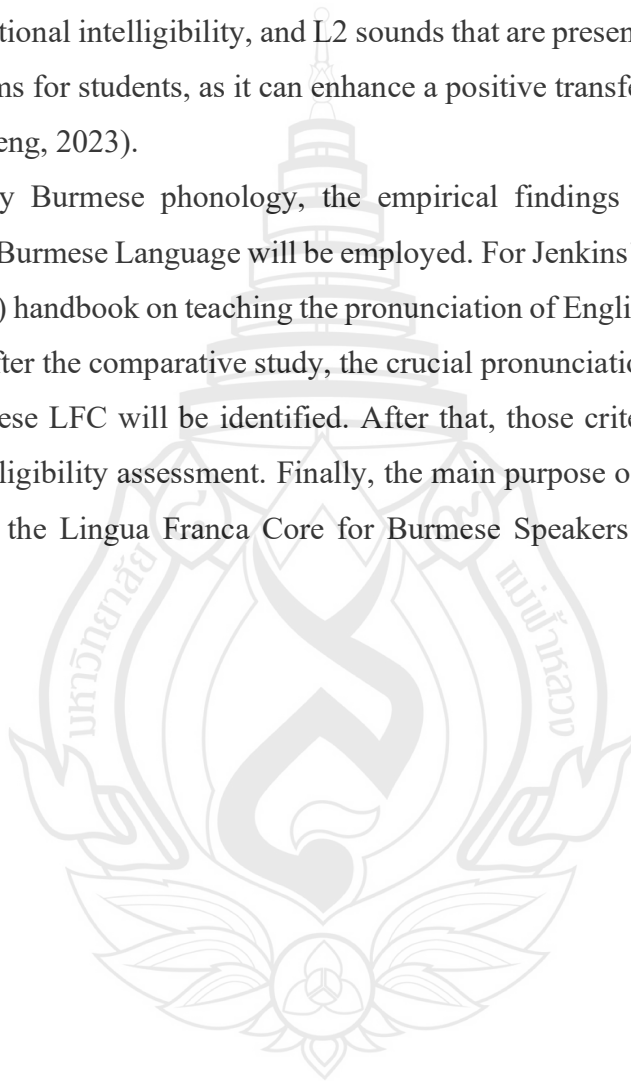
Moreover, instead of using the British Received Pronunciation (RP) model, the current study directly performs the comparative analysis between the phonologies of the Burmese language and the criteria in the original Jenkins' LFC. The rationale for this approach is that the present study seeks to identify the pronunciation features that contribute to the international intelligibility of Burmese speakers of English, rather than to develop a model based on native-speaker norms. Similarly, other scholars, such as Walker (2010) and Zoghbor (2018), have also conducted contrastive analyses grounded directly in Jenkins' LFC rather than in native-speaker standards.

Furthermore, it is said by Lado (1957), cited in Cheng (2023), that the L2 features that are absent in L1 can be problematic for students when transferring from L1 to L2 in language acquisition. On the other hand, the similarity in features of pronunciation between L1 and L2 leads to positive transfer in the second language acquisition (Cheng, 2023). In addition, Jenkins (2006) also said that problems in ELF communications are caused by the transfer of L1 sounds to L2. Therefore, Walker (2010) pointed out that by explaining the relationship between the items in the LFC and the speaker's L1 pronunciation, the potential problems for ELF intelligibility can be

observed. Hence, the comparative study between Burmese phonological features and Jenkins' LFC is performed in this study to potentially identify the Burmese Lingua Franca Core, which is essential for international intelligibility.

By doing so, the criteria that will be compared in the first research stage involve identifying the L2 pronunciation features that are absent in L1 but listed as important in Jenkins' LFC. It can be assumed that L2 sounds that are absent in L1 can be a possible threat to international intelligibility, and L2 sounds that are present or similar to L1 will have no problems for students, as it can enhance a positive transfer in second language acquisition (Cheng, 2023).

To study Burmese phonology, the empirical findings of Watkins's (2005) research on the Burmese Language will be employed. For Jenkins' Lingua Franca Core, Walker's (2010) handbook on teaching the pronunciation of English as a Lingua Franca will be used. After the comparative study, the crucial pronunciation criteria that should be in the Burmese LFC will be identified. After that, those criteria will be tested by having the intelligibility assessment. Finally, the main purpose of this research, which is "To develop the Lingua Franca Core for Burmese Speakers of English," will be achieved.



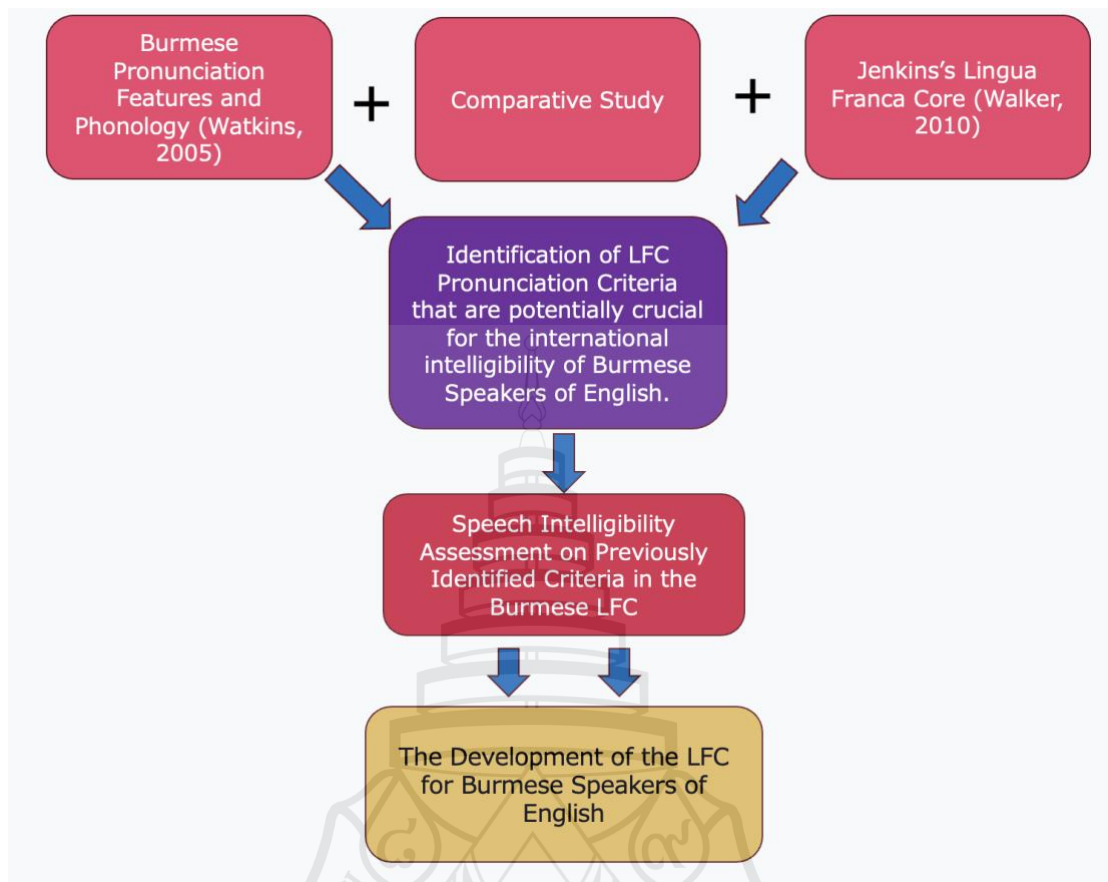


Figure 2.8 The Conceptual Framework

CHAPTER 3

RESEARCH METHODOLOGY

Since the primary purpose of carrying out this research is to develop the Lingua Franca Core that facilitate the ELF pronunciation which aims at international intelligibility for the Burmese context, it is crucial to determine and develop the pronunciation features that are important for achieving international intelligibility for Burmese-English speakers. In doing so, a deductive qualitative method is selected for this study since this method allows more structural, focused and efficient investigation over the two research questions of this study. The data collection and analysis in this study is guided by the established theoretical framework which is Jenkins' Lingua Franca Core. The deductive qualitative approach using Jenkins' LFC as the background framework ensures the strong theoretical grounding and enables the systematic examination of the data collected. Although the present study has taken a deductive approach, some flexibility is also allowed to deal with any new findings that are not included in the original LFC, ensuring new insights for the study.

Moreover, this study is guided by two main research questions: "What are the pronunciation features that should be in the Lingua Franca Core for Burmese Speakers of English?" and "What is the developed Lingua Franca Core for Burmese Speakers of English?". To address these questions, the study is structured into two main research stages. The first stage focuses on answering the first research question, while the second stage is designed to address the second research question. The two main research stages are described in Figure 3.1.

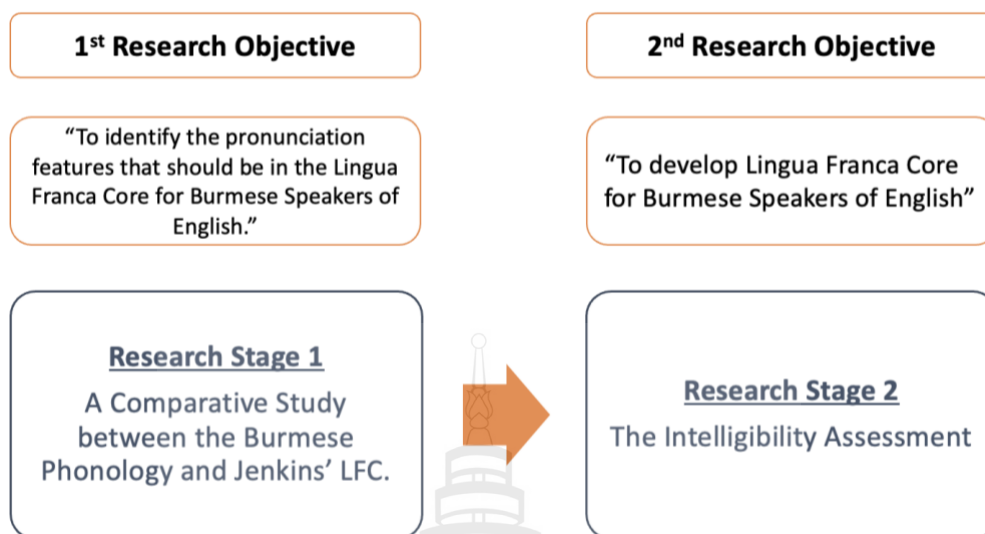


Figure 3.1 The Research Stages

First of all, to fulfill the first research objective of identifying the pronunciation features that should be in a Burmese LFC, a comparative study has been performed, following Walker (2010) and (Zoghbor, 2018). A comparative analysis between the Burmese phonology and the criteria in the Jenkins' original LFC has been made in order to see what L1 sounds can potentially hinder speech intelligibility of Burmese students.

It is based on the theory, supported by Lado (1957), Munro and Derwing (2015), Levis (2018), Flege and Bohn (2021), Saito (2021) that L2 features (English) that are absent in the phonological system of L1 (Burmese) are likely to result in pronunciation difficulties for learners. However, not all such difficulties necessarily impede international intelligibility. Consequently, those features that do not affect intelligibility may be retained as markers of regional identity within the ELF paradigm. On the other hand, pronunciation features that negatively affect the international intelligibility of Burmese speakers of English will be incorporated into the development of the core features of Burmese Lingua Franca Core.

Therefore, after identifying the core pronunciation features to be included in the Burmese Lingua Franca Core, the second research stage will conduct an intelligibility assessment involving both native and non-native assessors, thereby providing further validation of the core pronunciation criteria identified in the first stage. In this way, the second stage focuses on testing the proposed core features to ensure that the development of the Burmese LFC is more robustly validated.

3.1 The 1st Research Stage: To Identify the Pronunciation Criteria that should be in a Burmese LFC

The first research objective in the first research stage involves identification of the pronunciation features that should be in the Lingua Franca Core of Burmese speakers of English. Therefore, to identify the pronunciation criteria important for international intelligibility of Burmese speakers of English, the main theoretical frameworks, which are Jenkins' original LFC, comparative analysis and the Burmese phonology, are employed at this stage. The main goal is to establish the sounds that need to be prioritized in achieving intelligibility for the Burmese-English speakers.

In conducting the comparative analysis, Jenkins' original Lingua Franca Core (LFC) is applied directly to Burmese phonology, as the primary objective of this study is to identify the pronunciation features that influence international intelligibility. Jenkins (2000) has already provided an empirically grounded framework outlining the phonological features essential for intelligibility in English as a Lingua Franca (ELF) contexts. Therefore, a comparison between Received Pronunciation (RP) and Burmese phonology is not necessary, since the present study is situated within the ELF paradigm rather than a native-speaker model. Furthermore, previous studies, such as Zoghbor (2018) and Walker (2010), have similarly developed pronunciation syllabi by directly comparing the LFC with their respective L1 phonological systems, supporting the methodological approach adopted in this research.

The data is collected from secondary data sources, which are Watkins's (2005) study on Burmese Phonology and Jenkins' original LFC cited from Walker (2010). In the selection of these literature as the secondary data sources, the researcher has searched for those that met the credibility criteria of Brink (1993), which involved peer reviews, data triangulation, member checks, and thick descriptions. Moreover, other criteria for choosing the appropriate secondary sources are also based on the objectives mentioned in the comparative study form adapted from Zoghbor (2018). The data analysis method for the first research stage is qualitative document analysis, which allows researchers to gather meaningful insights from the secondary data. The tool for

analyzing the data at this stage involves a comparative study form adapted from Zoghbor (2018), which has been shown in Table 3.1.

Regarding data collection in the first stage, the researcher examined the segmental and supra-segmental features of Burmese (L1) in relation to the criteria outlined in Jenkins's original LFC to identify which sounds should be prioritized for enhancing intelligibility in the Burmese context. This process involved determining which L2 English sounds are absent from the Burmese phonological system but are considered essential according to Jenkins's framework.

As Cheng (2023) suggests, L2 sounds that do not exist in the learners' L1 are more likely to hinder international intelligibility, whereas sounds that are present in or similar to the L1 may facilitate positive transfer in second language acquisition. Accordingly, the researcher compared Jenkins's original LFC criteria with the phonological features of Burmese to identify areas of divergence. The LFC features that are absent from the Burmese phonological system were subsequently classified as essential targets for instruction to enhance the international intelligibility of Burmese-English speakers and were therefore identified as the sounds that should be incorporated into the development of the Burmese LFC.

The findings will be presented in tabular form, illustrating the results for the comparative analysis and the identification of pronunciation features that are critical for the international intelligibility of Burmese speakers of English. These features will be systematically categorized into consonantal inventory, consonant clusters, vowel systems, phonetic requirements, and suprasegmental features.

Table 3.1 A Comparative Study Form between Burmese Phonology and Jenkins's LFC

Contents of the LFC	ELF Targets	The Features of the Burmese Language	English Sounds that are absent in Burmese phonology but listed as important in the LFC
The Consonantal Inventory			
Consonant Clusters			
Vowel Sounds			
Suprasegmental Features			
Phonetic Requirements			

Source Adapted from Zoghbor (2018)

3.2 The 2nd Research Stage: To develop the Lingua Franca Core for Burmese Speakers of English

Once the pronunciation features that are considered crucial for international intelligibility have been identified in the first research stage, those pronunciation criteria will be further tested through an intelligibility assessment involving both native and non-native English-speaking evaluators. Features initially identified as significant will be re-evaluated in the actual intelligibility assessment: if they do not lead to any noticeable breakdown in understanding, they will be excluded from the Burmese LFC. Conversely, features that continue to affect intelligibility in the assessment will be confirmed as core components. Through this validation process, the Burmese LFC will be systematically refined and ultimately developed, thereby fulfilling the main aim of the research. In doing so, the procedures involved in the second stage of the research have been illustrated in Figure 3.2.

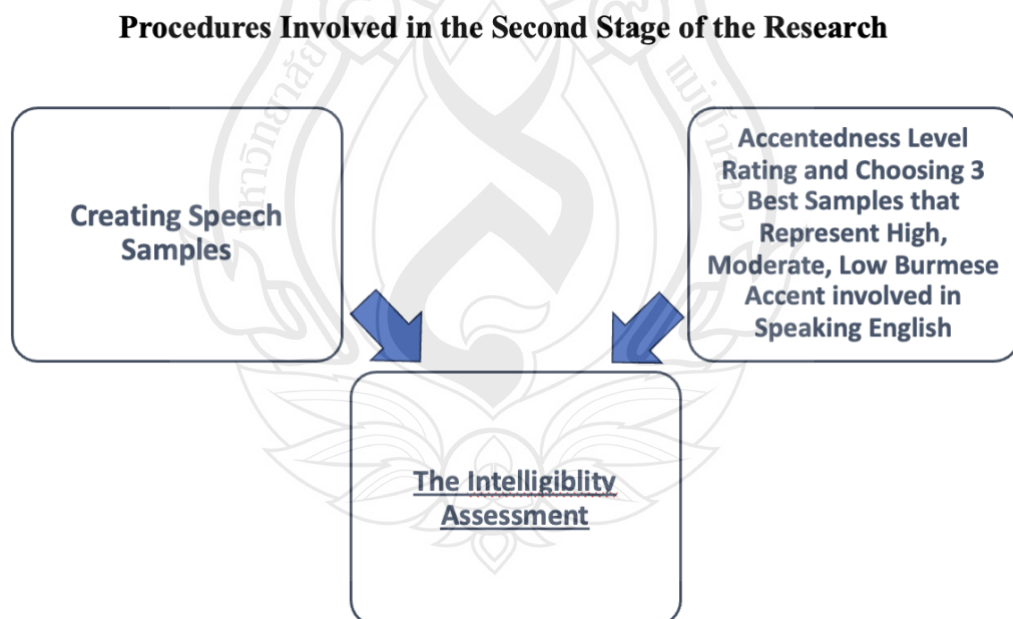


Figure 3.2 Procedures Involved in the Second Stage

3.2.1 Creating Speech Samples

First of all, speech samples are created to be used in the intelligibility assessment. While some previous studies have used existing corpora or recorded data, such resources are not readily available in the Burmese context, especially in a consistent and systematic form. Moreover, the researcher already has prior pronunciation features to be tested in the intelligibility assessment from the first research stage. Therefore, this study creates its own speech samples. To do this, recordings are collected from twelve Burmese speakers of English at the pre-intermediate level (A2). They are all native Burmese speakers who live in Yangon, Myanmar. This is ensured by having a National Registration Card shown to the researcher. Moreover, they brought placement test results or certificate proof that they are at the pre-intermediate level of English proficiency.

The primary reason why speech samples are collected from pre-intermediate level learners (CEFR A2) level is that the study focuses on intelligibility among language users rather than native-like proficiency. Learners within the A1–B2 CEFR range can be considered users of English who prioritize communicative effectiveness, meaning negotiation, and successful interaction, rather than conformity to native-speaker norms (Böhringer et al., 2009). Consequently, A2 learners are considered appropriate participants for the intelligibility assessment in this study.

Regarding the number of speech samples, Dörnyei (2007) suggested that a sample size of 6-10 should work well for an interview study in qualitative research, together with the consideration of data saturation if the sample is homogeneous. Therefore, 12 Burmese speech samples are collected using the following instruments.

1. Zoom video conferencing
2. Speech production materials, which are a list of words and speaking topics such as “My favourite weather” and “My best friend” (attached in Appendix 2).

In this study, zoom video conferencing is used to record and collect speech samples from twelve Burmese speakers of English. Zoom is a widely used and accessible platform that is familiar to Burmese learners, making it a practical and appropriate tool for data collection. Moreover, the speech production materials are adapted from Zoghbor (2018). The choice of content in speech production materials is formed based on findings of the first research stage. Moreover, to validate the research

instruments used at this stage, experts from the English phonology and pronunciation fields have been invited to assess the instruments with IOC forms, which are also attached in Appendix B.

Last but not least, regarding speech sample collection, the 12 Burmese learners are asked to read the speech production materials in English via Zoom video conferencing. In the first part of the material, the 12 Burmese learners are asked to read the list of words aloud first. Then in the second part of the speech production material, they are asked to choose a topic given in the material and talk about it for about 1 to 2 minutes. Separate recordings are made for each participant. All recordings are conducted in a quiet, sound-controlled environment using Zoom, which is equipped with noise-cancellation technology to enhance audio clarity. After that, these 12 audio recordings from 12 Burmese learners of English are used for accentedness level rating since only three audio speech samples that best represent High, Low or Moderate Burmese accent involved in speaking English will only be chosen for the intelligibility assessment. The overall procedure involved in the creation of speech samples are summarized and better explained with Table 3.2.

Table 3.2 A Summary of the Procedure Involved in the Creation of Speech Samples

Procedures in the 2 nd Stage of the Research	Purpose	Data Collection	Participant	Instruments	Theory in Reference
Collection of Speech Samples	To produce speech samples (primary data) for the intelligibility assessment.	-12 Burmese speakers of English are asked to read a list of words first. - Then, they are asked to choose one of the speaking topics and talk about for one to two minutes. - The recordings are made via Zoom, which has noise cancellation technology.	12 native Burmese speakers of English who are at the post-secondary level and have pre-intermediate level of English.	- Zoom - Speech production materials (A list of words and speaking topics)	-Dornyei (2007) -Zoghbor (2018)

3.2.2 The Accentedness Level Rating

After 12 speech samples have been collected, three speech samples that best represent High, Moderate, and Low Burmese-accentedness levels involved in speaking English are chosen as a second step, following Suntornsawet (2019). The rationale

behind this step before intelligibility assessment is that accent positively correlates with comprehensibility, meaning lower accentedness level can positively reinforce the understanding of meaning at the sentence level (Tergujeff, 2021). Therefore, the intelligibility assessment material in the present study involves testing the comprehensibility at the sentence level in the second part of the intelligibility assessment. In this study, comprehensibility is assumed the same as international intelligibility at the sentence as well as at the meaning level, in accordance with Smith and Nelson (1985) cited in Levis (2018). Subsequently, adding accentedness level rating will definitely help interpret the findings more accurately at the segmental level in the first part of the assessment and will help discover new findings that may emerge from the second part of the intelligibility assessment, aiming for more rich insights from the data.

Furthermore, the instruments used in the accentedness level rating involved the three-point Likert scale (Weak, Moderate, Strong), which has been adapted from Suntornsawet (2019) and the previously recorded 12 Burmese learners' audios. Regarding the raters of the accentedness levels, the researcher has asked 12 non-native and native speakers of English, following Dörnyei's (2007) minimum recruitment numbers for qualitative research, to listen to the recordings and rate the Likert scale form. All the participants are recruited from online advertising on social media, calling for volunteers. Last but not least, three experts from the English phonology and pronunciation fields have also been invited to validate the instruments at this stage with IOC forms.

Regarding data collection, the raters, comprising both native and non-native speakers of English, were asked to listen to the audio recordings of 12 Burmese students one after another, choosing the accentedness level (High, Moderate, Low) using the Likert scale for each. After that, all ratings for each recording were summed up both in numbers and percentages. The recording that received the highest total number of ratings among others for each accentedness category—high, moderate, or low—was selected as the representative speech sample for that level.

Out of 12 participants for accentedness level rating, 10 rated a High accentedness level for Person 2's audio recording, which was the highest number in total received compared to others. Moreover, under the category of low accentedness

level, PO 6 gained the highest total number of ratings, which was 41.7% among others. Last but not least, 75% of the participants gave PO 8's recording as the moderate Burmese accent, which is also the highest number for this category among other recordings. Therefore, the speech samples of PO2 for High Accent, PO6 for Low Accent, and PO8 for Moderate Accent were chosen to be used in the intelligibility assessment in the next section. The findings are shown in Table 3.3 as described.

Table 3.3 The Accentedness Level Ratings

12 Speech Samples of Burmese English Speakers	Number of Ratings for High Level of Accentedness	Number of Ratings for Moderate Level of Accentedness	Number of Ratings for Low Level of Accentedness
PO1 (Person 1)	66.7% (8 ratings)	25% (3 Ratings)	8.3% (1 Rating)
PO2 (Person 2)	83.3% (10 ratings)	8.3% (1 Rating)	8.3% (1 Rating)
PO3 (Person 3)	33.3% (4 ratings)	58.3% (7 Ratings)	8.3% (1 Rating)
PO4 (Person 4)	8.3% (1 rating)	66.7% (8 ratings)	25% (3 ratings)
PO5 (Person 5)	8.3% (1 Rating)	58.3% (7 Ratings)	33.3% (4 ratings)
PO6 (Person 6)	8.3% (1 rating)	50% (6 ratings)	41.7% (5 ratings)
PO7 (Person 7)	36.4% (4 ratings)	36.4% (4 ratings)	36.4% (4 ratings)
PO8 (Person 8)	25% (3 ratings)	75% (9 ratings)	0% (0 rating)
PO9 (Person 9)	33.3% (4 ratings)	50% (6 ratings)	16.71% (2 ratings)
PO10 (Person 10)	33.3% (4 ratings)	33.3% (4 ratings)	33.3% (4 ratings)
PO11 (Person 11)	66.7% (8 ratings)	25% (3 ratings)	8.3% (1 rating)
PO12 (Person 12)	41.7% (5 ratings)	41.7% (5 ratings)	16.7% (2 ratings)

3.2.3 The Intelligibility Assessment

Finally, the intelligibility assessment was carried out using the three selected speech samples that represent High, Moderate, and Low Burmese Accentedness Levels involved in speaking English. The participants recruited for assessing the intelligibility of the three selected samples include both native and non-native English speakers. Regarding the number of participants for the intelligibility assessment, the researcher could recruit nine native and non-native speakers of English, following Dörnyei (2007)'s suggestion of a sample size in a qualitative study. For recruiting non-native and native speakers, online advertisements, calls for volunteers were employed via social media platforms such as Facebook, LinkedIn, etc. A criterion sampling strategy is used here because it is suitable for choosing the proper participants for the type of investigation that the researcher wants to study to fulfill the research's main aim (Dörnyei, 2007).

The selection criteria of the participants include the fact that they must not be trained or familiar with the Burmese-English accent and they must show their passports or identity cards to check the nationality. According to Jenkins (2005), cited in Walker (2010), trained listeners or judges can predict the words and meaning from contextual clues even if the sounds are not intelligible. Moreover, the native speakers are people who are from native-speaking countries of English and who live or work abroad. The non-native speakers are the people who are from countries where English is not the native or first language. Regarding the profiles of the participants, the researcher could recruit altogether nine NS and NNS assessors, who were two Thais, two Australians, two Africans, two Cambodians, and one Filipino, for the intelligibility assessment. They were all over 21 years of age and represented a range of professions, including two psychologists, two university students, two university lecturers, two secondary school teachers, and one vocational teacher.

3.2.3.1 The Instruments for the Intelligibility Assessment

Regarding the research instruments for the second research objective, it can be divided into six main instruments, encompassing the minimal pair intelligibility test form for the 1st part of the intelligibility assessment, Zoom video conferencing, the three selected speech samples, an interview protocol for the second part of the intelligibility assessment, the reaction button on Zoom, and the video recordings of assessors with

the researcher. The whole intelligibility assessment fulfills the second research objective of this study which is to develop the Burmese LFC.

First of all, the whole intelligibility assessment is made with nine native and non-native assessors in a face-to-face mode on Zoom video conferencing as a main platform. Therefore, the first main research instrument involved would be Zoom video conferencing since it provides accessibility and flexibility where participants can join from different locations without the need to travel. It also enhances data accuracy and reliability for the present study as the researcher can revisit the recordings anytime with the assessors. Similarly, the second research instrument contains the three selected speech samples of High, Low and Moderate accented Burmese-English speech, to be listened to and assessed by the native and non-native assessors throughout the whole intelligibility assessment.

Furthermore, in accordance with the findings of the comparative study between Jenkins original LFC and the Burmese phonologies from the first research stage, the intelligibility assessment has been carried out in the second research stage, comprising of two main parts. The first part of the intelligibility assessment contains assessing segmental sounds which covers consonants, vowels, phonetic requirements, consonant clusters, etc. Therefore, these segmental sounds are tested by using the minimal pairs intelligibility test form (the 3rd instrument), which is attached in Appendix 3. The rationale behind selecting minimal pairs is that they allow the researcher to target specific segmental sounds to assess intelligibility at the word level and it is one of the foundational tools for assessing international intelligibility at the segmental level (Levis, 2018). The choice of minimal pairs is based on the pronunciation criteria identified as potentially important for the international intelligibility of Burmese-English speakers from the comparative analysis of the first research objective.

On the other hand, a key limitation of using minimal pairs intelligibility test is that it excludes the role of contextual cues and relies on highly controlled conditions (Levis, 2008). To address these limitations, the present study incorporates a follow-up semi-structured interview protocol, which covers a 1–2-minute freer speech. This second part of the intelligibility assessment examines not only additional segmental features but also suprasegmental aspects in a more naturalistic context. Therefore, the

fourth research instrument is the interview protocol, which has also been attached in Appendix C.

After the assessors listen to three selected audios of High, Low and Moderate Burmese accentedness levels and give their answers for the first part of the intelligibility assessment on Zoom, they move onto the interview protocol where they are asked to listen to the 1-to-2-minute freer talk and re-tell what they have understood. This approach is employed here to test the comprehensibility of the Burmese-English speech since the ability to rephrase the main idea of a speech reflects listeners' understanding of the intended meaning. According to Hahn (2004), as cited in Thomson (2017), such paraphrasing tasks can effectively indicate both intelligibility and comprehensibility of a speech. The topics in the 1-to-2-minute freer talk are adapted from Zoghbor (2018), which are also suitable with the pre-intermediate proficiency level (A2).

Moreover, the fifth research instrument includes reaction button on Zoom as the researcher also asks the assessors to press the reaction button on Zoom if they encounter any sounds or utterance that they did not catch or understand while they are listening to the second part of the intelligibility assessment on Zoom. If they press the reaction button on Zoom, the researcher will interview with a question of "Which sound that you find unclear or unintelligible when you pressed the reaction button? How did you hear?", which is incorporated in the interview protocol. This interview protocol is done with the purpose of finding any additional pronunciation features that may be unintelligible for the assessors, following Zoghbor's (2018) approach. Finally, the researcher will interpret the results of the whole intelligibility assessment by revisiting the video recordings with the assessors. Therefore, the last instrument involved at this stage would be Zoom Video Recordings.

The types of instruments used in the intelligibility assessments, with each of their purposes, are also summarized as follows.

1. Zoom Video Conferencing

The Platform to have the whole intelligibility assessment with the assessors.

2. High, Moderate and Low Burmese Accented Speech Samples

To be listened to by the native and non-native assessors as listening materials

3. The Minimal Pair Intelligibility Test (1st Part of the Intelligibility Assessment)

To answer the intelligibility questions by the assessors.

4. Interview protocol (2nd Part of the Intelligibility Assessment)

To let the assessors re-tell how they understood the speakers' sentences and ask assessors which certain sounds are unintelligible to them when they press the reaction button for data interpretation.

5. Reaction Button on Zoom

To let the assessors press the reaction button when they hear unintelligible sounds during the intelligibility assessment.

6. Zoom Video Recording with the assessors

To look back at the sound assessors pressed the reaction button for and to phonologically transcribe the unintelligible sounds by the researcher.

3.2.4 Data Collection and Analysis for the 2nd Research Objective

The second research objective: “to develop the Burmese LFC”, involves pronunciation features which accompany segmental (consonants, vowels, consonant clusters and phonetic requirements) and suprasegmental aspects. Regarding data collection, the nine NS and NNS assessors was asked to join the face-to-face Zoom meeting with the researcher, and the meeting was recorded. Initially, during the meeting, the researcher played the audio recordings of the first part of the three chosen speech samples, and the assessors were asked to fill in the correct answer in the Minimal pair intelligibility test form, which has been attached in Appendix C. The data collection at this phase mainly concerns with the segmental pronunciation aspects identified in the first research stage as potentially important for the intelligibility of Burmese speakers of English.

Regarding the data analysis, after the data had been collected using the Minimal pair intelligibility test, the findings of the first part of the intelligibility assessment (the segmental features) were phonologically transcribed and interpreted by using the answer key. Next, the phonologically transcribed words are compared with the standard

British RP pronunciations, and the differences are analyzed. Then, the sounds that were unintelligible to NS and NNS assessors were listed as harmful to the ELF intelligibility of Burmese speakers of English.

Moreover, data collection process in the second part of the intelligibility assessment involves that of the semi-structured interview protocol, which consisted of 1-to2-minute freer speech samples. During this phase, both NS and NNS assessors received an interview protocol that allowed them to press a reaction button whenever they encountered a sound, they found unintelligible. The researcher also paused the recordings after every one or two sentences that appeared meaningful and asked the assessors to restate their understanding of the utterances. The data collection process was completed smoothly with all assessors. The data collection process at this phase concerns with the additional findings for the segmental as well as for the suprasegmental aspects and nuclear stress placement.

The places in the freer talk where assessors pressed the reaction button for not being clear or where they misunderstood the words or meanings are noted down and phonologically transcribed by the researcher. Furthermore, these sounds will first be distinguished whether it is segmental or suprasegmental aspects. Then, they will be listed as crucial for international intelligibility in the development of the Burmese LFC.

3.2.5 The Development of the Lingua Franca Core for Burmese Speakers of English

Finally, using the findings gathered and analyzed from the intelligibility assessment, the pronunciation features, listed as unintelligible among NS and NNS assessors, will be the core pronunciation priorities that Burmese speakers of English must emphasize for their ELF intelligibility. Moreover, sounds identified as important for intelligibility in the LFC but found not to affect the intelligibility of Burmese speakers will be excluded from the core set. However, they will still be acknowledged as generally important features, as the model developed in this study is specifically tailored to Burmese learners. In addition, other sounds that deviate from native speakers' norms but have no effect on international intelligibility will be the area where Burmese speakers of English can develop their Burmese-English variety. Therefore, in the end, the pronunciation features of English that are important for the international

intelligibility of Burmese speakers are tested and developed, fulfilling the main aim of the present study.

3.3 Ethical Considerations

All participants are above 21 years old. Consent forms were obtained from the participants. Private information of participants, such as name, contact, and test results, will not be revealed to the public and external assessors. All participants are allowed to drop out at any time, should there be an emergency or an uncomfortable situation of their own while participating in the research. The researcher will not be an assessor to prevent any biases in data interpretation. Most importantly, the researcher has already obtained ethics approval from the MFU University Ethics Committee. Moreover, the researcher is fully aware of the research ethics and follows the educational researcher ethical guidelines of the American Educational Research Association (AERA 2002) as cited in Dörnyei (2007) as follows.

1. The researcher does not fabricate, falsify, or misinterpret other authors' findings, data, and conclusions.
2. The researcher does not use her title or her professional role for fraudulent purposes.
3. The researcher will inform all report of all her research findings to the relevant stakeholders (Dörnyei, 2007).

3.4 Reliability and Validity of the Research

One of the biggest concerns for the quality issue in qualitative research is the researcher's quality because the researcher is the instrument himself/herself for qualitative research (Dörnyei, 2007). The researcher, in this study, has been teaching English for more than ten years and has taught all areas of English, including pronunciation. Moreover, the researcher is well-prepared with the literature and theoretical backgrounds, using a range of empirical resources to help investigate the matter. Furthermore, to validate the research instruments used in this research, experts

from the English phonology and pronunciation fields have been invited to assess the instruments with IOC forms. Additionally, all the research processes taken and materials used will be made transparent so that other professional researchers and readers can see the reliability of the findings. Last but not least, the researcher tries to avoid any bias in the interpretation of the data by maintaining a degree of consistency.



CHAPTER 4

FINDINGS

This chapter is divided into two main sections, each addressing one of the two research questions of this study. The first section attempts to provide answers for the first research question of “What are the pronunciation features that should be in the Lingua Franca Core for Burmese Speakers of English?” Then, the second section contains findings related to the second research question of “What is the developed Lingua Franca Core for Burmese Speakers of English?”. The findings are illustrated in tables and figures in order to best portray the two research objectives in this chapter.

4.1 Findings for the 1st Research Objective: To Identify the Pronunciation Features that should be in the Lingua Franca Core for Burmese Speakers of English

Pronunciation features relating to consonants, vowels, phonetic requirements, consonant clusters, and suprasegmental aspects were identified in the first stage of the study through a comparative analysis of Jenkins’ LFC and Burmese phonology for inclusion in the development of the Burmese LFC. In doing so, the selected secondary data sources: Watkins’ (2005) study on Burmese Phonology and Jenkins’ original LFC cited from Walker (2010) were utilized.

4.1.1 Findings Regarding the Comparative Analysis of the Consonants

It is stated in Jenkins LFC, cited in Walker (2010), that all consonant sounds of English except /θ/ and /ð/ are crucial for maintaining international intelligibility. Therefore, it can be understood that out of twenty-four English consonant sounds in Received Pronunciation (RP) model, twenty-two consonant sounds, which include /p/, /b/, /t/, /d/, /k/, /g/, /tʃ/, /dʒ/, /m/, /n/, /ŋ/, /w/, /r/, /j/, /l/, /f/, /v/, /s/, /z/, /ʃ/, /ʒ/, /h/, are crucial for international intelligibility. On the other hand, the two consonants /θ/ and /ð/ are suggested not necessary for intelligibility in the ELF paradigm.

When looking at the consonants in the Burmese phonology, there are thirty-four consonant sounds, namely as /p/, /p^h/, /b/, /t/, /t^h/, /d/, /tʃ/, /tʃ^h/, /dʒ/, /k/, /k^h/, /g/, /ŋ/, /ð/, /θ/, /s/, /s^h/, /z/, /ʃ/, /h/, /p̰/ /p̰/, /ŋ̰/, /ŋ̰/, /n/, /m̰/, /m̰/, /w/, /ɹ/, /j/, /ɹ/, /l/ (Watkins, 2005). It is found that most consonant sounds of English (RP) are present in the Burmese phonological system, except the sounds /v/ /f/ /r/ and /z/. Therefore, based on the theoretical assumption that L2 sounds which are present in the L1 are less likely to pose difficulties in acquisition and production (Levis, 2018), it can be assumed that Burmese learners are unlikely to experience significant intelligibility problems with most English consonants, with the exception of those absent from Burmese phonology, such as /v/, /f/, /r/, and /z/. Regarding the sounds /θ/ and /ð/, which are mentioned as unimportant for international intelligibility, Burmese learners will not have any problems pronouncing them, since both sounds are present in their L1 system. The English RP consonants mentioned as important for international intelligibility in Jenkins' LFC and the Burmese phonology has been compared and explained with Table 4.1.

Table 4.1 A Comparative Study of the Consonants of Jenkins' LFC and the Burmese Language

English Consonants in Jenkins' LFC	The Consonants of the Burmese Language	English Sounds that are absent in Burmese phonology but listed as important in the LFC
/p/, /b/, /t/, /d/, /k/, /g/, /tʃ/, /dʒ/, /m/, /n/, /ŋ/, /w/, /r/, /j/, /l/, /f/, /v/, /s/, /z/, /ʃ/, /z/, /h/ (All sounds are important for ELF, except /θ/ and /ð/.) (Walker, 2010)	/p/, /p^h/, /b/, /t/, /t^h/, /d/, /tʃ/, /tʃ^h/, /dʒ/, /k/, /k^h/, /g/, /ŋ/, /ð/, /θ/, /s/, /s^h/, /z/, /ʃ/, /h/, /p̰/ /p̰/, /ŋ̰/, /ŋ̰/, /n/, /m̰/, /m̰/, /w/, /ɹ/, /j/, /ɹ/, /l/. (Watkins, 2005)	/v/ /f/ /r/ and /z/

4.1.2 Findings Regarding the Comparative Analysis of the Vowels

Concerning the comparative study of the vowel system, it was found that there are more vowel sounds in the phonological system of English compared to the vowels of the Burmese language (Watkins, 2005). In English RP, the monophthongs of /ɪ/, /ʊ/, /e/, /ə/, /æ/, /ʌ/, /ɒ/, /ɜ:/, /i:/, /u:/, /ɑ:/, /ɔ:/ and the diphthongs of /eɪ/, /ɔɪ/, /aɪ/, /eə/, /ɪə/, /ʊə/, /əʊ/, /əʊ/ can be found (Zaw et al., 2025). While the vowel system of English is made up of twenty monophthongs and diphthongs, it is found that there are only eight monophthongs and four diphthongs in the Burmese vowel system, namely /i/, /u/, /e/, /o/, /ə/, /ɛ/, /ɔ/, /ɑ/ and /eɪ/, /aɪ/, /əʊ/, /oʊ/ (Watkins, 2005). As noted by Zaw et al. (2025), Burmese learners may encounter greater challenges, and consequently more intelligibility issues, in producing English vowels than consonants, due to the significant differences between the vowel systems of the two languages.

However, for international intelligibility in ELF communication, Jenkins LFC mentioned that the vowel length plays a more crucial role than the vowel quality (Walker, 2010). Therefore, it is suggested that instead of trying to achieve a native speaker's quality in sounds of each vowel in the English phonology, a long-short vowel contrast must be given priority in ELF pronunciation. Consequently, it can be proposed that the length of the missing vowel sounds: /ɪ/, /ʊ/, /æ/, /ʌ/, /ɒ/, /ɜ:/, /i:/, /u:/, /ɑ:/, /ɔ:/ and the English diphthongs of /ɔɪ/, /eə/, /əʊ/, /ɪə/, and /ʊə/, should be identified as important for Burmese learners' international intelligibility. The comparison of the vowel systems of the Jenkins' (2000) LFC and the Burmese phonology has been described in Table 4.2.

Table 4.2 A Comparative Study of the Vowels of Jenkins' LFC and the Burmese Language

Vowels in Jenkins' LFC	The Vowels of the Burmese Language	English Vowels that are absent in Burmese phonology but listed as important in the LFC
1. Long-short differences in vowels are only important rather than vowel quality.	/i/, /u/, /e/, /o/, /ə/, /ɛ/, /ɔ/, /ɑ/, /eɪ/, /aɪ/, /əʊ/, /oʊ/ (Watkins, 2005)	Vowel length of /ɪ/, /ʊ/, /æ/, /ʌ/, /ɒ/, /ɜ:/, /i:/, /u:/, /a:/, /ɔ:/, /ɔɪ/, /eə/, /əʊ/, /ɪə/, and /ʊə/ should be practiced.
2. Vowel quantity (length) is important. (Walker, 2010)		

4.1.3 Findings Regarding the Comparative Analysis of the Consonant Clusters and the Phonetic Requirements

In terms of consonant clusters for intelligibility, Jenkins' (2000) LFC stresses the importance of the word initial and medial clusters, such as CCV, CCVC, CCVCC, CCCV, CCCVCCC in English. In contrast, the Burmese phonological system predominantly allows simple syllable structures (e.g., CV and CVC) and lacks complex consonant clusters (Watkins, 2005). As a result, English word-initial and medial consonant clusters may pose challenges for Burmese learners' intelligibility.

Moreover, regarding phonetic requirements, Jenkins' LFC claimed that the aspiration /p/, /t/, /k/ is important for international intelligibility (Walker, 2010). For the Burmese context, Win (2003) indicated that most Burmese learners of English failed to aspirate the /p/, /t/, /k/ in their speech. Therefore, in this study, the aspiration /p/, /t/, /k/ has been identified as crucial for international intelligibility of Burmese speakers of English. Moreover, clear /l/ also exists in the system of the Burmese language. Hence, the findings of the comparative analysis between aspiration /p/, /t/, /k/ and the consonant clusters are summarized in Table 4.3.

Table 4.3 A Comparative Study of the Consonant Clusters and Phonetic Requirements of Jenkins' LFC and the Burmese Language

Consonant Clusters and Phonetic Requirements in Jenkins' LFC	Features in the Burmese Phonology	Features that are absent in Burmese phonology but listed as important in the LFC
1. Clusters Word initially and Word Medially. (For example; CCV, CCVC, CCVCC, CCCV, CCCVCCC)	1. V 2. CV 3. CVC 4. CGV 5. CGVC 6. CVVC 7. CGVVC	Word Initially and Word Medially are absent in Burmese. (For example; CCV, CCVC, CCVCC, CCCV, CCCVCCC)
2. Aspiration after /p/, /t/, and /k/. Clear /l/. (Walker, 2010)	The aspirated /p/, /t/ and /k/ are absent. Clear /l/ is present. (Watkins, 2005)	The aspirated /p/, /t/ and /k/ are important.

4.1.4 Findings Regarding the Comparative Analysis of the Suprasegmental Features

Considering suprasegmental aspects of pronunciation, Jenkins' LFC only states that nuclear stress placement is important for international intelligibility (Walker, 2010). Although English word stress, sentence stress and intonations are found to be absent in the Burmese phonological system since Burmese is a syllable-timed language (Zaw et al., 2025), these features can be assumed as non-problematic for international intelligibility of Burmese speakers of English according to Jenkins' LFC as cited in Walker (2010). Therefore, although other suprasegmental differences exist between British RP and Burmese phonology, nuclear stress placement is considered a crucial factor for international intelligibility, consistent with Jenkins' Lingua Franca Core.

Table 4.4 A Comparative Study of the Suprasegmental Features of Jenkins' LFC and the Burmese Language

Suprasegmental Features in Jenkins' LFC	Suprasegmental Features in the Burmese Phonology	Suprasegmental Features that are absent in Burmese phonology but listed as important in the LFC
Nuclear stress placement is only important.	Burmese is a syllable-timed language and it is tonal.	Nuclear stress placement is important.

4.1.5 The Pronunciation Features that should be in the Development of the Lingua Franca Core for Burmese Speakers of English

Finally, in line with the first research objective of this study, the key pronunciation features that Burmese speakers of English should prioritize for enhancing international intelligibility in ELF communication were preliminarily identified through the comparative analysis in the first stage of the research and are summarized in Table 8. The consonants /f/, /v/, /r/, and /ʒ/ have been identified as particularly challenging for Burmese learners of English. As a result, the substitution of these sounds with their nearest equivalents may lead to problems with international intelligibility. aspiration following the voiceless plosives /p/, /t/, and /k/ is an important feature, as it is absent in the Burmese phonological system; therefore, it should be incorporated into the development of the Burmese Lingua Franca Core (LFC).

Similarly, consonant clusters in word-initial and word-medial positions such as CCV, CCVC, CCVCC, CCCV, and CCCVCCC, were identified as potential sources of intelligibility breakdown. In terms of vowels, attention should be given to vowel length distinctions in /ɪ/, /ʊ/, /æ/, /ʌ/, /ɒ/, /ɜ:/, /i:/, /u:/, /a:/, /ɔ:/, as well as in diphthongs such as /ɔɪ/, /eə/, /əʊ/, /ɪə/, and /ʊə/. With regard to suprasegmental features, accurate nuclear stress placement plays a crucial role in ensuring international intelligibility of Burmese speakers of English. Therefore, the important pronunciation features that should be incorporated in the Lingua Franca Core of Burmese speakers of English have been identified.

Table 4.5 Important Features Proposed for the Development of the Burmese Lingua Franca Core

Aspects of English Pronunciation	Proposed Features of the Lingua Franca Core for Burmese Speakers of English
The Consonantal Inventory	The substitutions of the consonants /f/, /v/, /r/, /ʒ/ should be emphasized.
Phonetic Requirements Aspiration after /p/, /t/, and /k/	The aspirated /p/, /t/ and /k/ are important.
Consonant Clusters	Word Initially and Word Medially. (Especially: CCV, CCVC, CCVCC, CCCV, CCCVCCC)
Vowel Sounds	Vowel length of /ɪ/, /ʊ/, /æ/, /ʌ/, /ɒ/, /ɜ:/, /i:/, /u:/, /a:/, /ɔ:/, /ɔɪ/, /eə/, /əʊ/, /ɪə/, and /ʊə/ should be practiced.
Suprasegmental Features	Nuclear stress placement is important.

4.2 Findings for the 2nd Second Research Objective: The Development of the Burmese Lingua Franca Core

The findings of this section aim to fulfill the second research objective, which is to develop the Lingua Franca Core for Burmese Speakers of English. In the second stage of the research, the pronunciation features identified in the first stage as potentially crucial for the international intelligibility of Burmese speakers of English were evaluated through an intelligibility assessment involving nine native and non-native assessors. Finally, based on the findings of this assessment, a Lingua Franca Core for Burmese speakers of English was developed. The findings at the second research stage are systematically organized based on the structure of the intelligibility assessment; the first part (minimal pair intelligibility assessment) and the second part (the freer talk).

4.2.1 Findings of the 1st Part of the Intelligibility Assessment

The findings regarding the first part of the intelligibility assessment (the minimal pair intelligibility assessment) covers the important segmental features which encompass consonants (/v/ /f/ /r/ and /ʒ/), aspiration /p/, /t/, /k/, word-initial and medial consonant clusters, and the long-short vowels. In addition, the findings are organized and presented according to three speech samples of High, Moderate, and Low Burmese accentedness levels.

4.2.1.1 Segmental Findings in High Burmese Accented Speech (PO2)

First of all, it was found that the high Burmese accentedness speech of a Burmese-English speaker (PO2) could pronounce the consonants /f/ and /r/ easily, and it was all intelligible among both native and non-native speakers. On the other hand, when it comes to pronouncing the sound /v/, PO2 substituted it with the consonant sound /b/. Therefore, the word “very” sounds like “berry” among all assessors, and it was unintelligible. Moreover, since the sound /ʒ/ is absent in the system of the Burmese language, PO2 used the nearest sound /ʃ/ in saying the word “Leisure”. It was unintelligible to 7 non-native assessors. However, the two native speakers could understand and guess the word “leisure” although it sounded /leʃə/. Regarding the testing of aspirated /p/, /t/, and /k/, PO2 could pronounce aspirated /t/ and /k/ correctly. In contrast, PO2 failed to aspirate the /p/ sound in the word “Pit,” and it confused both native and non-native assessors. The details of the findings on the consonants of the proposed Burmese LFC have been summarized in Table 4.6.

Table 4.6 Intelligibility Assessment of Consonantal Inventory in High Accentedness Speech

Consonants	High Burmese- accented English Pronunciation	Its Impact on Intelligibility Among Assessors
“Phone” (/fəʊn/) To test /f/	/fəʊn/	Intelligible
“Very” (/ˈvəri/) To test /v/	/ˈberi/	Not Intelligible

Table 4.6 (continued)

Consonants	High Burmese- accented English Pronunciation	Its Impact on Intelligibility Among Assessors
“Right” (/raɪt/) To test /r/	/raɪt/	Intelligible
“Leisure” (/ˈleɪʒə/) To test /ʒ/	/leɪʒə/	Not Intelligible
“Pit” (/pɪt/) To test aspirated /p/	Unaspirated /pɪt/	Not Intelligible
“Tin” (/tɪn/) To test aspirated /t/	/t/ is aspirated	Intelligible
“Cab” (/kæb/) To test aspirated /k/	/k/ is aspirated	Intelligible

Regarding consonant clusters, the findings revealed that word-initial clusters (CCV) as well as word medial clusters (CCCV) play a vital role in maintaining international intelligibility among both native and non-native speakers of English. For example, in pronouncing the words “Bleed” and “Screw”, PO2 failed to say the consonant clusters together both in the initial and medial positions. As a result, “Bleed” sounded like “Beed” and “Beat” for several assessors and “Lead” for some. Similarly, “Screw” was pronounced as “Scew”, creating confusion for both native and non-native speakers. Therefore, it can be understood that consonant clusters in the initial and medial positions are important to maintain international intelligibility. This is also described in Table 4.7.

Table 4.7 Intelligibility Assessment of Consonant Clusters in High Accentedness Speech

Consonant Clusters of the Proposed Burmese LFC	Pronunciation of the High Burmese-Accentedness Speech	Its Impact on Intelligibility Among Assessors
“Bleed” Word initial clusters (CCV)	“Beat”	Not Intelligible
“Screw” Word medial clusters (CCCV)	“Scew”	Not Intelligible

Furthermore, considering the vowels, it was observed that long-short vowel contrasts (the vowel length) are extremely crucial when it comes to the international intelligibility of Burmese-English speakers. For example, in the word “Feel”, PO2 pronounced /fi:l/ as /feil/, failing to say the long vowel sound /i:/ since it is absent in their L1 system. Likewise, for many English vowel sounds, especially diphthongs, PO2 substituted them with the nearest vowels from the L1 system, and they became unintelligible for both native and non-native assessors except the words “Pool” and “Toys”. PO2 pronounced /Pu:/ without /l/ in the end and “/Tɔɪ/” as “/Təɪ/”, and both native and non-native assessors were able to recognize the words without vowel sounds being correct. The findings are described in detail in Table 4.8.

Table 4.8 Intelligibility Assessment of Vowel Sounds in High Burmese-Accented Speech

Vowels of the Proposed Burmese LFC	Pronunciation of the High Accentedness Speech in the Audio	Its Impact on Intelligibility
“Hut” (/hʌt/) To Test /ʌ/	/hɑ:t/	Not Intelligible
“Heart” /hɑ:t/ To test /ɑ:/	/hɑ:t/	Intelligible

Table 4.8 (continued)

Vowels of the Proposed Burmese LFC	Pronunciation of the High Accentedness Speech in the Audio	Its Impact on Intelligibility
“Pan” /pæn/ To test /æ/	/pɛn/	Not Intelligible
“Hop” /hɒp/ To test /ɒ/	/hou/	Not Intelligible
“Short” /ʃɔ:t/ To test /ɔ:/	/ʃɒt/	Not Intelligible
“Burn” /bɜ:n/ To test /ɜ:/	/bʌn/	Not Intelligible
“Cheap” /tʃi:p/ To test /i:/	/tʃi:p/	Intelligible
“Pool” /pu:l/ To test /u:/	/pu:/ with /p/ aspirated	Intelligible
“Chair” /tʃeə/ To test /eə/	/tʃeə/	Intelligible
“Boat” /bəʊt/ To test /əʊ/	/bəʊt/	Intelligible
“Pier” /piə/ To test /iə/	/piə/	Intelligible
“Tours” /tuəz/ To test /ʊə/	/təʊz/	Not Intelligible
“Toy” /tɔɪ/ To test /ɔɪ/	/tɔɪ/	Intelligible
“Feel” /fi:l/ To test vowel length	/feil/	Not Intelligible

Therefore, according to Table 5, it can be summarized that the length of the vowels /i:/, /ʌ/, /æ/, /ɒ/, /ɔ:/, /ɜ:/, and /ʊə/ play a vital role in maintaining international intelligibility for High-accented Burmese-English speakers. On the other hand, there were no problems with the intelligibility of Burmese speakers in pronouncing the vowels /ɑ:/, /u:/, /eə/, /əʊ/, /ɪə/, /əɪ/, and /ɔɪ/. Additionally, vowel length still plays a crucial role in facilitating international intelligibility for highly accentedness Burmese-English speakers.

4.2.1.2 Segmental Findings in Low Burmese Accented Speech (PO6)

PO6 was intelligible in pronouncing /f/ and /r/ for both native and non-native speakers, except for the sounds /v/ and /ʒ/. The consonant /v/ was difficult for PO6 and sounded like /b/ as it is absent in the Burmese language. For the word “Leisure”, PO6 pronounced /ʒ/ as /ʃ/ and it was unintelligible regardless of the correct word stress placed by PO6 in the word. For phonetic requirements of low accentedness speech, PO6 could aspirate all /p/, /t/, and /k/, and it was intelligible for both native and non-native speakers.

Table 4.9 Intelligibility Assessment of Consonantal Inventory in Low Accentedness Speech

Consonants of the Proposed Burmese LFC	Pronunciation of Low Burmese-Accented Speech (PO6)	Its Impact on Intelligibility among Assessors
“Phone” (/fəʊn/) To test /f/	/fəʊn/	Intelligible
“Very” (/ˈveri/) To test /v/	/ˈberi/	Not Intelligible
“Right” (/raɪt/) To test /r/	/raɪt/	Intelligible
“Leisure” (/ˈleɪʒə/) To test /ʒ/	/ˈleɪʃə/ with word stress on the first syllable	Not Intelligible
“Pit” (/pɪt/) To test aspirated /p/	Aspirated /pɪt/	Intelligible
“Tin” (/tɪn/) To test aspirated /t/	/t/ is aspirated	Intelligible
“Cab” (/kæb/) To test aspirated /k/	/k/ is aspirated	Intelligible

Finally, similar to PO2, PO6 could not clearly pronounce consonant clusters in both word-initial and medial positions, and caused misunderstandings between non-native and native assessors, which is described in Table 4.10.

Table 4.10 Intelligibility Assessment of Consonant Clusters in Low Accentedness Speech

Consonant Clusters of the Proposed Burmese LFC	Pronunciation of the Low Accentedness Speech (PO6)	Its Impact on Intelligibility among Assessors
“Bleed” Word initial clusters (CCV)	/blʌd/	Not Intelligible
“Screw” Word medial clusters (CCCV)	/sku:/	Not Intelligible

When it comes to vowels, it was found that low accented Burmese speech (PO6) could pronounce /ʌ/ correctly in the word “Hut”. However, PO6 wasn’t able to pronounce the ending consonant /t/ in the word “Hut”. As a result, it confused both native and non-native speakers with the vowel sounds “/ɑ:/” and “/æ/”. However, some assessors got the word right, but it can be assumed that they guessed the familiar word, although the pronunciation was unclear. Likewise, when pronouncing the word “short”, PO6 could say the vowel /ɔ:/ clearly. However, PO6’s ending consonant /t/ is not strong enough in the word “short” and therefore, some non-native speakers confused the word with “Shot”. Moreover, for the vowel “/æ/”, PO6 pronounced it as /ɛ/, and it confused both native and non-native speakers. In addition, the word “Burn” sounded like “Bun” as a result of not being able to correctly pronounce the vowel /ɜ:/ . On the other hand, in low accentedness Burmese speech involved in saying the English vowels of /ɒ/, /ɑ:/, /i:/, /u:/, /eə/, /əʊ/, /ɪə/, /ʊə/, /ɔɪ/, it was all intelligible among both native and non-native assessors which are shown in detail in Table 4.11.

Table 4.11 Intelligibility Assessment of Vowels in Low Accentedness Speech

Vowels of the Proposed Burmese LFC	Pronunciation of the Low Accented Burmese Speech (PO6)	Its Impact on Intelligibility Among Assessors
“Hut” (/hʌt/) To Test /ʌ/	/hʌ.../	Not Intelligible
“Heart” /hɑ:t/ To test /ɑ:/	/hɑ:t/	Intelligible
“Pan” /pæn/ To test /æ/	/pɛn/	Not Intelligible
“Hop” /hɒp/ To test /ɒ/	/hɒp/	Intelligible
“Short” /ʃɔ:t/ To test /ɔ:/	/ʃɔ:t/	Intelligible
“Burn” /bɜ:n/ To test /ɜ:/	/bʌn/	Not Intelligible
“Cheap” /tʃi:p/ To test /i:/	/tʃi:p/	Intelligible
“Pool” /pu:l/ To test /u:/	/pu:l/	Intelligible
“Chair” /tʃeə/ To test /eə/	/tʃeə/	Intelligible
“Boat” /bəʊt/ To test /əʊ/	/bəʊt/	Intelligible
“Pier” /piə/ To test /iə/	/piə/	Intelligible
“Tours” /tʊəz/ To test /ʊə/	/tʊəz/	Intelligible
“Toy” /tɔɪ/ To test /ɔɪ/	/tɔɪ/	Intelligible
“Feel” /fi:l/ To test vowel length	/fi:l/	Intelligible

4.2.1.3 Segmental Findings in Moderate Burmese Accented Speech (PO8)

The findings for the moderate Burmese-accented speech in consonants suggest that there are no problems in pronouncing the consonants “/f/”, “/r/”, and “/ʒ/”, except for the sound “/v/”. PO8 could not say the sound “/v/” in the word “Very” clearly and therefore, created misunderstandings in some of the assessors. Regarding phonetic requirements, the moderately accentedness speaker could pronounce all the sounds, /p/, /t/, /k/ with aspiration.

Table 4.12 Segmental Intelligibility Assessment of Consonantal Inventory in Moderate Burmese-Accented Speech

Consonants of the Proposed Burmese LFC	Pronunciation of Moderate Burmese-Accented Speech (PO8)	Its Impact on Intelligibility Among Assessors
“Phone” (/fəʊn/) To test /f/	/fəʊn/	Intelligible
“Very” (/ˈvəri/) To test /v/	/ˈbəri/	Not Intelligible
“Right” (/raɪt/) To test /r/	/raɪt/	Intelligible
“Leisure” (/ˈleɪʒə/) To test /ʒ/	/ˈleɪʒə/	Intelligible
“Pit” (/pɪt/) To test aspirated /p/	Aspirated /pɪt/	Intelligible
“Tin” (/tɪn/) To test aspirated /t/	/t/ is aspirated	Intelligible
“Cab” (/kæb/) To test aspirated /k/	/k/ is aspirated	Intelligible

Regarding consonant clusters, PO8 could not clearly pronounce consonant clusters in both word-initial and medial positions, and therefore, instead of “Bleed”, some assessors heard “breed,” and some heard “breadth”. Moreover, for the word “Screw”, PO8 failed to say all three consonant clusters (CCC) together and thus, all assessors misheard the word “Screw” as “School”.

Table 4.13 Intelligibility Assessment of Consonant Clusters in Moderate Accentedness Speech

Consonant Clusters of the Proposed Burmese LFC	Pronunciation of the Moderate Accentedness Speech Sample (PO8)	Its Impact on Intelligibility Among Assessors
“Bleed” Word initial clusters (CCV)	/brid/	Not Intelligible
“Screw” Word medial clusters (CCCV)	/sku:/	Not Intelligible

Additionally, when looking at vowels, it is clear that the moderate accentedness speech (PO8) also had problems pronouncing the vowel /ʌ/, /ɛ/, /ɔ:/, /ʊə/, /u:/, /ɒ/, and /ɜ:/, causing misunderstandings between both non-native and native assessors as described in Table 24. Moreover, in the word “Cheap” /tʃi:p/, PO8 failed to say the long vowel /i:/ and as a result, the vowel of /i:/ sounded like /ɪ/. Some assessors confused the word “Cheap” with “Chip” /tʃɪ/. Therefore, the contrast between long vowel /i:/ and the short vowel /ɪ/ is important for international intelligibility. All other vowel sounds pronounced by PO8 were intelligible to both native and non-native assessors.

Table 4.14 Segmental Intelligibility Assessment of Vowels in Moderate Accentedness Speech

Vowels of the Proposed Burmese LFC	Pronunciation of the Moderate Accentedness Speech (PO8)	Its Impact on Intelligibility Among Assessors
“Hut” (/hʌt/) To Test /ʌ/	/ha:t/	Not Intelligible
“Heart” /ha:t/ To test /ɑ:/	/ha:t/	Intelligible

Table 4.14 (continued)

Vowels of the Proposed Burmese LFC	Pronunciation of the Moderate Accentedness Speech (PO8)	Its Impact on Intelligibility Among Assessors
“Pan” /pæn/ To test /æ/	/pen/	Not Intelligible
“Hop” /hɒp/ To test /ɒ/	/həʊ/	Not Intelligible
“Short” /ʃɔ:t/ To test /ɔ:/	/ʃɒt/	Not Intelligible
“Burn” /bɜ:n/ To test /ɜ:/	/ban/	Not Intelligible
“Cheap” /tʃi:p/ To test /i:/	/tʃi/	Not Intelligible
“Pool” /pu:l/ To test /u:/	/pu/	Not Intelligible
“Chair” /tʃeə/ To test /eə/	/tʃeə/	Intelligible
“Boat” /bəʊt/ To test /əʊ/	/bəʊt/	Intelligible
“Pier” /piə/ To test /iə/	/piə/	Intelligible
“Tours” /tuəz/ To test /ʊə/	/təʊ/	Not Intelligible
“Toy” /tɔɪ/ To test /ɔɪ/	/təɪ/	Intelligible
“Feel” /fi:l/ To test vowel length	/fi:l/	Intelligible

4.2.1.3 Conclusion of Segmental Findings Across Three Accents

In summary, regarding the segmental features of the consonant /f/, /v/, /r/ and /ʒ/, all three accents have no problems pronouncing the sounds /r/ and /f/. Therefore, the most problematic consonant sounds that have an impact on intelligibility of

Burmese speakers of English is understood to be /v/ and /ʒ/ across three accentedness speech levels. Similarly, it was found that the aspiration, especially in /p/, is important for the international intelligibility of Burmese learners. However, in moderate and low Burmese accented speech, the aspiration after /p/, /t/, /k/ is pronounced correctly. Therefore, it can be assumed that the aspiration /p/, /t/, /k/ is still important for maintaining international intelligibility as failing to aspirate /p/ still cause misunderstanding among assessors.

In terms of consonant clusters, all three accents failed to utter the correct ones in both word medial and initial positions. Therefore, it can be implied that consonant clusters in word medial and initial positions are essential, particularly for Burmese speakers of English. Finally, the findings for the vowels across three accented levels of speech indicate that the vowel length must be emphasized, especially /ʌ/, /æ/, /ɒ/, /ɔ:/, /ɜ:/, /ʊə/, /i:/, /ɪ/ and /u:/.

The Summary of the findings for the unintelligible segmental sounds across three accented speech levels are better illustrated in Table 25.

Table 4.15 The unintelligible segmental sounds across three accented speech levels

Identified Pronunciation Features	Unintelligible Sounds in Three Selected Samples		
	High (PO2)	Low (PO6)	Moderate (PO8)
Consonants /f/, /v/, /r/, /ʒ/	1. /'beri/ instead of “Very” /'veri/	1. /'beri/ instead of “Very” /'veri/	1. /'beri/ instead of “Very” /'veri/
	2. /leʃə/ instead of “Leisure” /'leʒə/	2. /'leʃə/ instead of “Leisure” /'leʒə/	
Aspiration /p/, /t/, /k/	Unaspirated P in “Pit” /pit/	Aspirated	Aspirated
Word-initial and medial consonant clusters	1. Beat instead of “Bleed” (CCV)	1. /blʌd/ instead of “Bleed” (CCV)	1. /brid/ instead of “Bleed” (CCV)
	2. Scew instead of “Screw” (CCCV)	2. /sku:/ instead of “Screw” (CCCV)	2. /sku:/ instead of “Screw” (CCCV)

Table 4.15 (continued)

Identified Pronunciation Features	Unintelligible Sounds in Three Selected Samples		
	High (PO2)	Low (PO6)	Moderate (PO8)
The long-short vowels.	1. /hɑ:t/ instead of “Hut” /hʌt/	1. /hʌ.../ instead of “Hut” /hʌt/	1. /hɑ:t/ instead of “Hut” /hʌt/
	2. /pɛn/ instead of “Pan” /pæn/	2. /pɛn/ instead of “Pan” /pæn/	2. /pɛn/ instead of “Pan” /pæn/
	3. /hoʊ/ instead of “Hop” /hɒp/	3. /bʌn/ instead of “Burn” /bɜ:n/	3. /hoʊ/ instead of “Hop” /hɒp/
	4. /ʃɒt/ instead of “Short” /ʃɔ:t/		4. /ʃɒt/ instead of “Short” /ʃɔ:t/
	5. /bʌn/ instead of “Burn” /bɜ:n/		5. /pʊ/ instead of “Pool” /pu:l/
	6. /təʊz/ instead of “Tours” /tʊəz/		6. /bʌn/ instead of “Burn” /bɜ:n/
	7. /feil/ instead of “Feel” /fi:l/		7. /təʊz/ instead of “Tours” /tʊəz/
			8. /tʃi/ instead of “Cheap” /tʃi:p/

In conclusion, the findings indicate that the voiceless plosives /p/, /t/, and /k/ are generally produced with appropriate aspiration in low and moderately accented Burmese English speech, whereas speakers with a high degree of accentedness tend to exhibit difficulties with aspiration. Across all three levels of accentedness, both word-initial and word-medial consonant clusters consistently pose challenges to intelligibility. Furthermore, vowel length contrasts involving /ʌ/, /æ/, /ɒ/, /ɔ:/, /ɜ:/, /ʊə/, /i:/, /ɪ/ and /u:/ are problematic for speakers at all levels of accentedness.

Therefore, the sections above have presented the findings from the first part of the intelligibility assessment, which examined the segmental features of high (PO2), low (PO6), and moderate (PO8) Burmese-accented speech. The analysis covered consonants, consonant clusters, the aspiration of /p/, /t/, and /k/, and the vowels identified as crucial from the comparative analysis of the first research stage. The next

sub-section will present the findings regarding the second part of the intelligibility assessment (the freer talk), covering additional segmental findings and the supra-segmental features.

4.2.2 Findings of the 2nd Part of the Intelligibility Assessment (Freer Talk)

The second part of the intelligibility assessment contains freer talks of the three chosen speech samples. The interpretations of the findings are organized based on High, Moderate, and Low accentedness levels of Burmese involved in speaking English.

4.2.2.1 Findings of the Freer Talk in High Burmese Accented Speech (PO2)

High Burmese-accented speech (PO2) delivered a freer talk on the topic “My best friend”, which lasts for about 2 minutes. The researcher paused after every one or two sentences where they make sense. The results indicate that both native and non-native assessors were able to understand the intended meaning in most of the sentences produced by PO2. For instance, in the following extracts, all assessors successfully comprehended and accurately retold the message conveyed by PO2.

PO2: *“You know, my best friends and I are really different in.... skin color, urm..... skin tone. I mean....., she is tanned...urr and I'm white. It's really different.”*

The Assessor: *“She wants to say that she and her best friend have different skin colors, her friend is tanned and she is white. Yeah..,like that.”*

On the other hand, there were altogether three times the assessors pressed the reaction button when they failed to understand a word or a sentence in PO2’s speech sample. For example, in the following extracts, it can be seen that most assessors did not understand the word “anxiety” that PO2 wants to convey. The unintelligibility was caused by the segmental pronunciation error, where PO2 mispronounced the word “Anxiety (/æŋ'zaiəti/)” as (/ænsarəti/), leading to misunderstandings among assessors.

PO2: *“I really worried about my anxiety, you know.”*

The Assessor: *“She said she is worried about.....Ummm her something... you know.. I am not quite sure. I didn’t catch that.”*

Moreover, in the phrase “When we are walking together,” the word “Walking” (/ˈwɔːkɪŋ/) sounded like “Working” (/ˈwɜːkɪŋ/) in PO2’s speech. Therefore, some assessors were confused and assumed that the correct word PO2 was conveying is “Working” instead of “Walking”.

PO2: *“When we are walking together, maybe some of the people told us, you look very different.”*

The Assessor: *“When they work together...??, I guess and urr.. people tell them they look different.”*

Last but not least, two assessors out of nine pressed the reaction button for the word “Helpful” in the following sentence.

PO2: *“She is helpful and supportive to me.”*

The correct pronunciation for “Helpful” is /hɛlpfʌl/ in British RP. However, PO2’s pronunciation sounded /hɑːfʌl/, making it unintelligible for several assessors. All other words were intelligible except the word “Helpful”.

Therefore, by considering the number of times the assessors pressed the reaction button in PO2 speech, it was found that only the segmental pronunciation errors led to the misunderstandings among all assessors. The segmental errors found in PO2 speech concerns with the length of the vowel /ɛ/, contrast between the vowels /ɔː/ and /ɜː/ and the insertion of a nearest vowel sound of L1 in the word “Anxiety”. Apart from these segmental errors, all assessors could comprehend the messages that PO2 wants to convey.

4.2.2.2 Findings of the Freer Talk in Low Burmese Accented Speech (PO6)

Low Burmese-accented speech (PO6) also chose the topic: “My best friend”, which lasts for about one and a half minutes. In PO6’s speech, there were only two places in a sentence, where all assessors did not understand the utterance. Apart from this, everything was intelligible and comprehensible by all the assessors. For example, in the following extracts from the interview, all assessors could interpret the meanings that PO6 wants to convey.

PO6: *“We meet, we go to, we went to the same university in 2015 and we have been best friends for nine years. Yeah.... We have been best friends for nine years.”*

The Assessor: *“They went to the same university and they met at the University in 2015. They have been best friends for nine years.”*

When looking at the unintelligibility occur in PO6’s speech, it was found in a sentence. This indicates that the majority of PO6’s speech was intelligible to the assessors. The sentence containing the unintelligible utterance is presented in the following extract.

PO6: *“She..... is flexible, and she is considerate.”*

The Assessor: *She.... What? I did not get that.*

It was found that all native and non-native assessors pressed the reaction button for the words “flexible” and “considerate”, as they could not catch their meanings. First of all, for the word “Considerate”, PO6 wrongly pronounced “/kənsɪdərɪ/” instead of the correct sound, “/kən’sɪdərət/”. PO6 substituted the final sound “/rət/” with “rɪɪ”. This unintelligible utterance is caused by a segmental pronunciation error rather than a supra-segmental impact.

Regarding the word “flexible,” it was observed that PO6 did not produce a necessary pause between “is” and “flexible,” resulting in the utterance being perceived as “isflexible.” Consequently, assessors interpreted it as a different lexical item and were unable to derive its meaning. For example, in the following extract, one the assessors stated that it was one word and she did not catch it.

The Assessor: *“She is.... What? There is a word, she said. But I don’t understand the word she meant.”*

As a result, this segment was unintelligible to all assessors. Therefore, the unintelligibility observed in PO6’s speech can be primarily attributed to segmental pronunciation errors, as all other sentences were successfully comprehended by the assessors.

4.2.2.3 Findings of the Freer Talk in Moderate Burmese Accented Speech (PO8)

The moderate Burmese accented speech (PO8) talks about the topic: “My Favourite Season”. The duration of the talk was approximately one minute, and the majority of assessors were able to understand the utterances and intended messages at the meaning level with minimal listening effort, indicating a high level of comprehensibility. For example, in the following extract, the assessors reported no difficulty in understanding or rephrasing the intended meaning conveyed in the utterance.

PO8: *“I would like to tell you about my favorite season. In our country, there are three seasons in Myanmar. They are the hot season, the rainy season, and the cold season. My favorite season is the cold season.”*

The Assessor: *“She wants to talk about her favorite weather and it’s the cold season. In her country has three seasons, the rain, cold and hot seasons.”*

In terms of the unintelligible utterances, it was found that there were only two places where the assessors pressed the reaction button or misunderstood the meaning. First of all, the word that they didn’t catch was “fair”. Some assessors were confused with “fail” or “feel” for the word “fair”. It can be seen that a segmental pronunciation error caused this unintelligibility, as the diphthong “/eə/” in the word “Fair /feə/” became “/e/” in PO8’s speech. This can be clearly seen in the following extracts from the interview transcript.

PO8: *“It is a fair weather.”*

The Assessor: *“It is I don’t understand. Is it feel?”*

In addition, the second misunderstanding was identified to be the word “work.” Most assessors were confused whether PO8 was referring to “work” or “walk”. Therefore, this can also be analyzed as a segmental pronunciation error, where PO8 could not pronounce the vowel sounds /ɔ:/ and /ɜ:/ clearly. As a result, the word “work /wɔ:k/” sounds like “walk /wɜ:k/” and caused misunderstandings for most assessors. This is shown with the extracts below.

PO8: *“In the cold season, the weather is not too cold or too hot. So, we...we are not very tired when we do the work. So I like the cold season.”*

The Assessor: *“The weather is not too hot, too cold in the cold season. So, when she walks, it’s not tiring. That’s why, she likes the cold season.”*

Therefore, it can be concluded that the unintelligibility and misunderstandings in Moderate Burmese accented speech (PO8) were found to be that of segmental pronunciation errors. In addition, similar to PO2, difficulties with the vowel contrast /ɔ:/ and /3:/ were found to negatively affect international intelligibility in PO8’s speech. Finally, the reduction of the diphthong /eə/ to /e/ was also observed, and this feature was found to be detrimental to intelligibility in PO8’s speech.

4.2.2.4 Findings Regarding Suprasegmental Aspects of the Freer Talk Across Three Accented Speech Levels

Across all three levels of Burmese-accented speech, no instances of misunderstanding or misinterpretation attributable to suprasegmental features were identified in either the assessors’ reports or their retellings of the meanings conveyed by the three speech samples. Consequently, there were no incidences of misunderstandings or unintelligibility reported by assessors concerning the nuclear stress placement throughout the freer talk. This can be due to the fact that the freer talks mainly contain neutral sentences. Similarly, the importance of nuclear stress placement on international intelligibility in neutral sentences or statements are less than in contrastive sentences (Demirezen, 2016).

In summary, it can be concluded from the findings of the second part of the intelligibility assessment that nuclear stress placement on key words in neutral sentences did not lead to any reported misunderstandings or breakdowns in comprehension of the meaning among all assessors of the present study.

4.3 The Development of the Burmese Lingua Franca Core

Therefore, drawing on the intelligibility assessment results from the previous sections, the finalized ELF pronunciation core criteria that must be incorporated and

trained for improved international intelligibility of Burmese-English speakers is suggested with the model described in Figure 4.1.

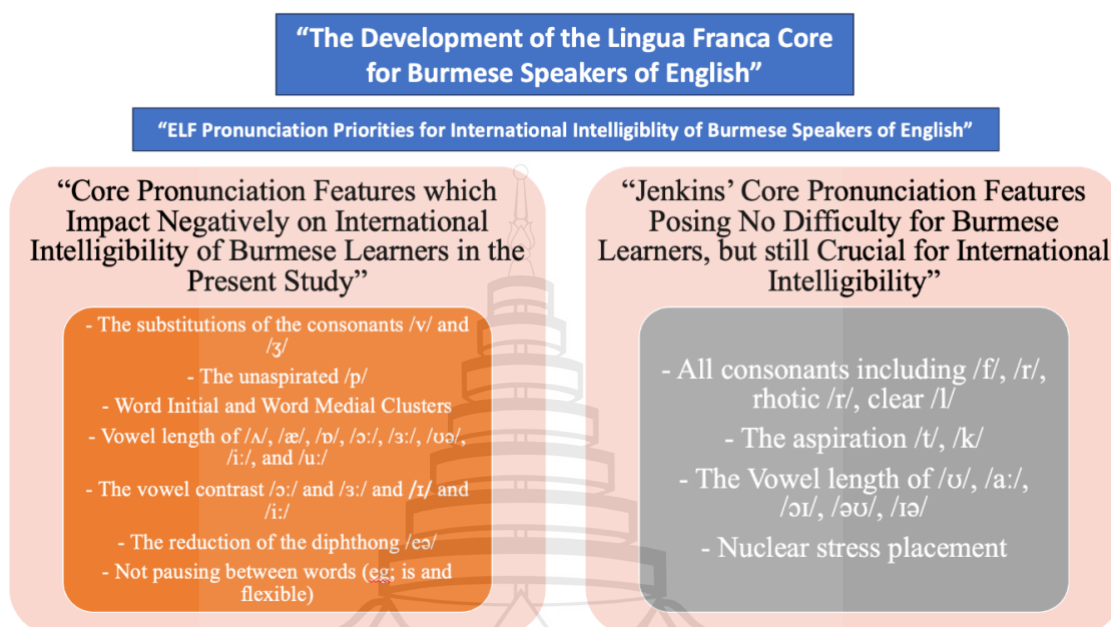


Figure 4.1 The Revised and Verified Core Model of the Proposed Burmese LFC

First, the Burmese Lingua Franca Core, presented in Figure 4.1, highlights the pronunciation features that negatively affect the international intelligibility of Burmese speakers of English, as identified from the overall results of the intelligibility assessment, and these are listed in the first column. These include the substitutions of the consonants /v/ and /ʒ/, the unaspirated /p/, word Initial and word medial clusters, the vowel length of /ʌ/, /æ/, /ɒ/, /ɔ:/, /ɜ:/, /ʊə/, /i:/, and /u:/, the vowel contrast of /ɔ:/ and /ɜ:/ and /ɪ/ and /i:/, the reduction of the diphthong /eə/ and not pausing appropriately between words (eg; is and flexible).

Secondly, the core pronunciation features from Jenkins’ LFC that Burmese learners generally produce without difficulty, but failure to facilitate the correct realization of these features can still negatively affect international intelligibility, are listed in the second column. These features include substitutions of consonants including /f/, /r/, rhotic /r/, clear /l/, the aspiration /t/, /k/, vowel length of /ʊ/, /a:/, /ɔɪ/, /əʊ/, /ɪə/, Nuclear stress placement.

Therefore, the Burmese Pronunciation Lingua Franca Core has been developed, highlighting key features for improving international intelligibility of Burmese speakers of English, which also fulfilled the main objective of this study. The Burmese Lingua Franca Core developed in this study not only identifies problematic features that require pedagogical attention but also those that, while generally unproblematic for Burmese learners, remain essential for maintaining international intelligibility in ELF communications.



CHAPTER 5

DISCUSSIONS

This chapter presents a discussion of the developed Lingua Franca Core for Burmese speakers of English proposed in this study. The findings regarding consonants, consonant clusters, the aspiration of /p/, /t/, and /k/, the vowels and the nuclear stress placement of the developed Lingua Franca Core for the Burmese context are discussed, with particular reference to their implications for international intelligibility.

5.1 Consonantal Inventory for the International Intelligibility of Burmese Speakers of English

Regarding consonants, results from the intelligibility assessment highlighted that the substitutions of the consonants /v/ and /ʒ/ have a negative impact on the international intelligibility of Burmese speakers of English and therefore, they are included in the development of the Burmese Lingua Franca Core. For instance, the substitution of the consonant sound /v/ with /b/ or /w/ was unintelligible in the speech of PO2 and PO6. Similarly, the substitution of /ʒ/ with /ʃ/ in the word “Leisure” also harms intelligibility among non-native and native speakers of English. Therefore, the findings of this study agree with Jenkins’ LFC cited in Walker (2010) that the substitutions of the consonant sounds are crucial for the intelligibility of Burmese speakers of English, regardless of the high, low, or moderate Burmese accentedness levels involved in speaking English.

Regarding the sounds /f/ and /r/, although they are absent in the phonological system of the Burmese language, the high Burmese-accented English (PO2), low Burmese-accented English (PO6), and moderate Burmese-accented English (PO8) did not encounter any issues pronouncing them, and they were therefore intelligible to both assessors. This can be explained by the fact that the sounds /f/ and /r/, including rhotic /r/, are easy to articulate for Burmese speakers of English, as the closest sounds of

aspirated bilabial sounds /p^h/ and /b^h/ exist in the Burmese language (Watkins, 2005). However, the substitutions of the consonants /f/ and /r/, including other core consonants from Jenkins' LFC can harm the international intelligibility of Burmese learners. Hence, particular attention should be given to the substitutions of the consonants /v/ and /ʒ/ when training for the international intelligibility in the Burmese context, while it is also important to note that /f/ and /v/, including other core consonants, can lead to unintelligibility in ELF communication.

5.2 Aspiration /p/, /t/, /k/ for the International Intelligibility of Burmese Speakers of English

The findings of this study indicate that if the plosives, /p/, /t/, /k/, are not aspirated, it changes the meaning of the utterance that the Burmese-English speaker wants to convey and harms the intelligibility in ELF communication. For example, /p/ was unaspirated in the word "Pit" in PO2's speech. As a result, it sounded like "bit" and therefore, unintelligible for international communication. Therefore, this study agrees with Jenkins (2006), who emphasized the importance of these plosives' aspiration, as they significantly affect intelligibility. Additionally, other researchers such as Osink (2009) have demonstrated that the aspirations of /p/, /t/, and /k/ are crucial because they influence the meaning of words in international intelligibility.

On the other hand, speakers at all three levels of Burmese-accented speech were able to produce aspiration after /t/ and /k/. This suggests that aspiration in /t/ and /k/ is comparatively easier for Burmese learners of English to acquire than aspiration in /p/ when aiming for ELF pronunciation and improved international intelligibility. However, the absence of aspiration in /p/, /t/, and /k/ may still negatively affect the intelligibility of Burmese speakers of English.

5.3 Essential Vowels for the International Intelligibility of Burmese Speakers of English

The findings of the present research indicate that maintaining vowel quantity plays a significant role in ensuring intelligibility. For instance, the long vowel /i:/ was realised as /i/ in PO2's speech, resulting in misunderstandings among both native and non-native assessors. In contrast, PO6 and PO8 successfully produced the long vowel /i:/ in the word *feel*, and consequently, all assessors correctly understood the utterance. This finding agreed with Jenkins' original LFC.

In addition, it is suggested in the developed Burmese LFC that the vowel length of /ʌ/, /æ/, /ɒ/, /ɔ:/, /ɜ:/, /ʊə/, /i:/, and /u:/ should be given priority in training for international intelligibility of Burmese learners. This finding also agreed with Jenner (1989), as cited in Walker (2010), that the vowel length (quantity), rather than vowel quality (shape), is critical for achieving international intelligibility. Similarly, Walker (2010) further emphasized the importance of vowel length, noting that distinctions in vowel quantity can change the intended meaning of a word and consequently lead to misunderstandings among ELF users.

Moreover, unintelligibility among Burmese learners was found to arise from difficulties in distinguishing the vowel contrasts /ɔ:/–/ɜ:/ and /ɪ/–/i:/. These contrasts are therefore included in the developed Burmese LFC of the present study as core pronunciation features for ELF intelligibility. This is consistent with Morgan (2016), who emphasizes that the ability to differentiate vowel length is essential for maintaining intelligibility in ELF communication. Last but not least, the findings of the present study also revealed that the reduction of the length of diphthong /eə/ also impacts the international intelligibility of Burmese speakers of English negatively. This is due to the fact that if the length of diphthongs is shortened, it might be confused with other short vowels, leading to misunderstandings among ELF users (Gardiner, 2019).

With respect to other English vowel sounds that do not exist in the Burmese phonological system, this study also examined their impact on international intelligibility. Although these vowels (/ʊ/, /a:/, /ɔɪ/, /əʊ/, /ɪə/) are likewise absent in Burmese phonology, speakers across all three levels of Burmese-accented English in

this study were able to produce the appropriate vowel length (quantity) for these sounds. Since Jenkins (2006) emphasized that it is vowel length rather than exact vowel quality that is crucial for international intelligibility in ELF communication, teachers and learners in Myanmar may, therefore, prioritize vowel length over the precise articulation of vowel quality for the vowels examined in this study within the Burmese context.

5.4 Consonant Clusters and Making Appropriate Pause for the International Intelligibility of Burmese Speakers of English

With respect to the consonant clusters, all levels of Burmese-accented English speech exhibited difficulties pronouncing the word-initial clusters (CCV) and the word-medial clusters (CCCV). In the word “Screw (CCCV)”, all participants failed to pronounce the three consonant sounds together. As a result of not being able to utter one consonant sound in the cluster, CCCV, the assessors were confused and did not understand the utterance. Likewise, the word “Bleed” to test the cluster CCV, was also failed to be pronounced by all three levels of Burmese-accented speech, and therefore, it was not intelligible among native and non-native speakers of English.

This can be explained by the fact that these consonant clusters do not exist in the system of the Burmese language (Zaw et al., 2025). Jenkins (2006), as cited in Walker (2010), also claimed that the deletion of the consonant sounds in the consonant clusters is harmful to international intelligibility in the ELF context. Therefore, focused attention on word-initial and word-medial consonant clusters is essential when training Burmese speakers of English to achieve greater intelligibility in ELF communication.

Furthermore, this study has found that saying words without proper pauses can harm the intelligibility in ELF communications. For example, in the previous findings of this study, PO6 did not make an appropriate pause between the words “is” and “flexible”. As a result, even though appropriate vowel length is achieved in the pronunciation of the word “flexible”, it was not intelligible because there were no pauses made between these two words. Scholars such as Lege (2012) also found in their studies that pauses can either deteriorate or facilitate the international intelligibility of

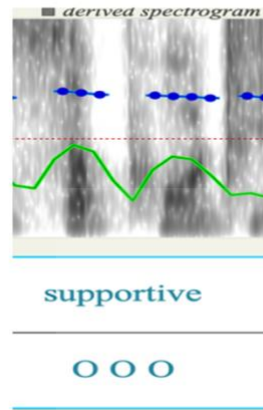
ELF communications. In addition, it is also prominent that appropriate pauses can be used as an ELF communication strategy to maintain international intelligibility in both NNS-NNS and NNS_NS interactions (Lege, 2012).

5.5 Nuclear Stress Placement and Other Findings Related to Suprasegmental Aspects

Although no misunderstandings or unintelligibility were found regarding nuclear stress placement in the second part of the intelligibility assessment, the researcher extracts each sentence from the freer talk of all three speech samples that represent High, Low and Moderate Burmese-accented levels and analyzed them in PRAAT software for the places that speakers put the nuclear stress placement. After that, these sentences are compared with that of a native-speaker model (RP in this case). This comparison method enables the researcher to identify differences between the suprasegmental features produced by Burmese learners and those associated with standard RP pronunciation (Al-Kinany & AlDighaishi, 2025).

Regarding High Burmese accented speech, PO2's sentence, "She is helpful and supportive to me" was analyzed in PRAAT software and compared it with that of standard RP pronunciation. It was observed that PO2 produced all key words with equal stress and a relatively flat intonation contour in the sentence. In contrast, RP pronunciation would typically place the nuclear stress on the final content word, "supportive." Despite this deviation in nuclear stress placement, none of the assessors reported any misunderstanding in meaning, apart from the unintelligible segmental pronunciation of "helpful". This comparison is better illustrated with Figure 5.1.

High Burmese Accented English Speech
with Equal Stress.



Nuclear Stress Placement in Standard RP
Pronunciation.

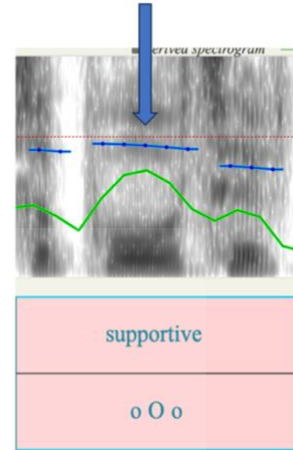
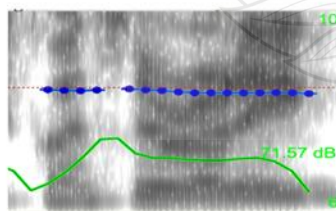


Figure 5.1 Pitch Contour and Intensity Analysis between High Accented Burmese Speech and Standard RP Pronunciation

Likewise, a comparison of nuclear stress placement patterns between low Burmese-accented English speech (PO6) and standard RP pronunciation has been given in Figure 5.2. The blue line (pitch) of Figure 14 spectrogram indicates that PO6 speaks English with equal stress on all words and uses flat intonations most of the time in the freer talk. However, the intelligibility breakdowns reported by assessors regarding PO6 speech were not concerned with the suprasegmental deviations.

Low Burmese Accented English Speech
with Equal Stress.



Nuclear Stress Placement in Standard RP
Pronunciation.

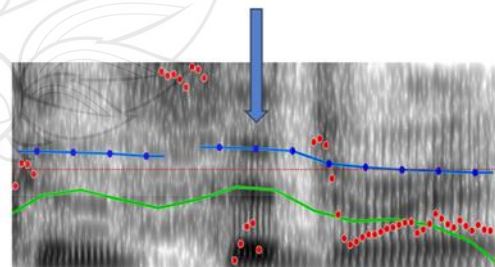


Figure 5.2 Pitch Contour and Intensity Analysis between Low Accented Burmese Speech and Standard RP Pronunciation

Moreover, in moderate Burmese accented speech (PO8), a sentence: “I would like to tell you about my favorite season”, was extracted and further analyzed for nuclear stress placement in PRAAT software. Consequently, it was also found that PO8 put equal stress on all key words in a sentence whereas the standard British RP pronunciation put nuclear stress placement on the last content word, “Season”, which can be observed in Figure 5.3. Nevertheless, this did not impede the assessors’ comprehension of the intended meaning in the present study. This can be explained by the fact that ELF listeners often use contextual and segmental cues to make sense of the meaning (Thir, 2020).

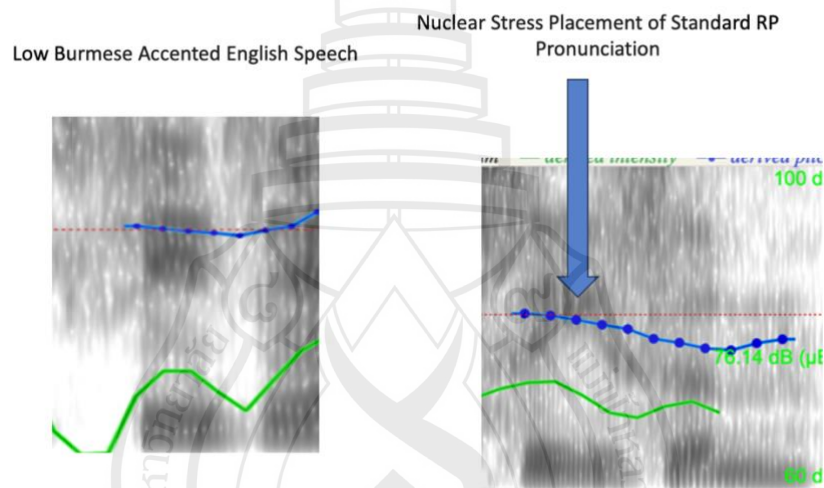


Figure 5.3 Pitch Contour and Intensity Analysis between Moderate Accented Burmese Speech and Standard RP Pronunciation

However, it is worth noting that the nuclear stress placement in this study only covered neutral sentences. In neutral sentences or statements, nuclear stress placement plays a less critical role on international intelligibility since the intended message can be comprehended from other contextual clues (Demirezen, 2016). Therefore, the correct placement of the nuclear stress when a speaker intends to contrast information in meaning is still essential for international intelligibility in ELF communication.

When considering the word stress and intonation patterns, this study has discovered that Burmese-English speakers of all three accentedness levels tend to speak words in English with equal stress placement and rich tones with mostly flat

intonations. However, these did not impact the understanding of meaning in the utterances in this study. This finding is in accordance with the studies of both Jenkins (2006) and Walker (2010) that word stress and intonations are not essential for international intelligibility, and hence, it is categorized as a non-core feature of the LFC. Therefore, the feature of Burmese-English, which is putting equal stress and flat intonations, can be maintained as a regional Burmese-English variety in the context of ELF communication, as this does not harm the international intelligibility.



CHAPTER 6

RECOMMENDATIONS & CONCLUSIONS

This chapter presents recommendations for applying the Lingua Franca Core (LFC) for Burmese speakers of English developed in this study. It outlines implications for classroom practice, pedagogical approaches, and directions for future empirical research. Finally, the concluding section of this chapter discusses the strengths and limitations of the current study and offers suggestions.

6.1 The Implications of the Burmese Lingua Franca Core for Classroom Practice

The Burmese Lingua Franca Core developed in this study highlights a set of pronunciation features that Burmese learners should prioritize to improve international intelligibility in English as Lingua Franca communications. Therefore, this model serves as an alternative pronunciation framework in the context of ELF for English language teachers and learners in Myanmar, offering an option alongside native-speaker models such as Received Pronunciation and General American. Additionally, it can be used to teach ELF pronunciation together with communicative English language courses for facilitating international intelligibility of Burmese learners of English.

Furthermore, the pronunciation features included in the Burmese Lingua Franca Core model of this study were specifically tailored for Burmese learners of English. Hence, using this model to foster the ELF pronunciation of Burmese learners in the English language classes will enhance international intelligibility and thereby facilitate more effective international communication. Moreover, the model eliminates unnecessary attention to pronunciation aspects that are not vital for ELF communication of Burmese-English speakers and thus, it also eases the pronunciation teaching burden for both English teachers and students in Myanmar. Teachers and students in Myanmar who aim to improve international intelligibility can only emphasize the potential

pronunciation criteria that might harm their intelligibility in general, saving time and resources.

Finally, the Burmese Lingua Franca Core developed in this study can serve as an ELF-oriented pronunciation curriculum for English language schools and institutes seeking to incorporate ELF pronunciation training alongside their existing communicative English language programs. It also provides a reference framework for teachers and researchers in Myanmar who wish to adapt and refine the ELF pronunciation core for use in their own classrooms or with specific learner groups.

6.2 Pedagogical Implications of the Burmese Lingua Franca Core

In this section, the pedagogical implications of each pronunciation features incorporated in the Burmese LFC model of this study are recommended for applying the model in practice by English language teachers and learners in Myanmar.

6.2.1 The Implications & Recommendations on Segmental Features of the Burmese Lingua Franca Core

First of all, among the consonants /f/, /v/, /r/, and /ʒ/, the plosives /f/ and /r/ sounds were considered to be potentially difficult for Burmese-English learners according to the comparative analysis. However, based on the results of the intelligibility assessment, Burmese-English speakers can pronounce /f/ and /r/ more easily and intelligibly than the sounds /v/ and /ʒ/. Therefore, teachers and students in Myanmar should pay particular attention to /v/ and /ʒ/ in training for improved international intelligibility. concerning effective pedagogies for teaching segmental features of English pronunciation, Lowe (2020) argues that explicit instruction, such as teaching articulatory phonetics and incorporating focused drilling, can significantly support learners' acquisition of targeted consonant sounds. Providing learners with articulatory explanations of sounds /v/ and /ʒ/ enables them to understand how these sounds are physically produced, including the roles of the speech organs (lips, teeth, and tongue). This explicit awareness not only facilitates more accurate pronunciation but also contributes to improved intelligibility in ELF communication (Lowe, 2020).

In terms of phonetic requirements, the aspirations /p/, /t/, /k/ can seriously harm the intelligibility of Burmese students and therefore, must emphasize teaching them during class. The effective teaching strategy of the aspirated /p/, /t/, /k/ suggested by Walker (2010) includes the method called demonstration. It is said by Walker (2010) that a teacher could demonstrate how /p/, /t/, /k/ are aspirated by showing how a paper is fluttered while the puff of air passes through in front of the lips pronouncing these consonants. It is even more effective when students are asked to contrast with the voiced consonants from the Burmese language to see the difference in the production of two different sound systems, leading to effective acquisition of the aspiration after /p/, /t/, and /k/ (Walker, 2010).

On the other hand, on account of the consonant clusters of the Burmese LFC, teachers must pay attention to word-initial and medial clusters, since the evidence from the intelligibility assessment shows that they greatly impact the intelligibility of Burmese speakers of English. Jenkins (2006) highlighted two main approaches called deletion and vowel insertion that learners usually make when they are not able to pronounce two or more consonant clusters together. Learners usually delete one of the consonant sounds in a cluster or insert a short vowel sound before a consonant in a cluster, which can damage international intelligibility in ELF communications. Therefore, teachers must pay attention to these two approaches and prepare to teach the clusters by letting students acquire one consonant sound at a time (Walker 2010). This will allow students to process one sound at a time and build confidence. In addition, teachers can also use the “prolong” strategy proposed by Walker (2010), where students prolong the first consonant sound until they are ready to acquire the next sound in a cluster. Additionally, when teaching consonant clusters, teachers can also employ a range of strategies such as minimal pair exercises, pronunciation drills for targeted words, and sound chaining activities, etc. (Permata et al., 2025).

Last but not least, the important features regarding vowels of the Burmese LFC include the vowel length of /ʌ/, /æ/, /ɒ/, /ɔ:/, /ɜ:/, /ʊə/, /i:/, and /u:/, the vowel contrasts of /ɔ:/ and /ɜ:/, /ɪ/ and /i:/ and the reduction of the length of diphthong /eə/. Learners and teachers in Myanmar should work on the vowel length of these aforementioned vowels, rather than working on the exact vowel quality of native speakers, since vowel length has a great impact on ELF intelligibility. Walker (2010) pointed out one strategy

that teachers and learners can follow to improve the length of the vowels, called the discrimination exercise. It involves practicing long and short vowel pairs to perceive the difference in the length of each vowel.

For the vowel contrasts of /ɔ:/ and /ɜ:/, /ɪ/ and /i:/, Permata et al. (2025) also encourage teachers to employ minimal pair exercises to practice long and short vowel contrasts. Furthermore, for other vowels that are not included in the revised LFC, it is advised by Walker (2010) that teachers and students are required to maintain a consistent set of vowel sounds for ELF intelligibility. In doing so, teachers and learners in Myanmar should adopt and consistently use a single native-speaker variety, ideally British RP, since it is the official reference model used in schools and government institutions. Additionally, teachers can draw on the Burmese vowel system as a foundation for introducing English vowels that are similar, using this cross-linguistic transfer to promote more consistent production of English vowel quality (Walker, 2010).

6.2.2 The Implications & Recommendations on Nuclear Stress Placement and Making Appropriate Pauses

It can be assumed that the role of pausing at an appropriate length plays a vital role in the ELF intelligibility of Burmese speakers of English. Böhringer et al. (2009) stated that appropriate pauses in ELF speech contribute to international intelligibility by giving ELF listeners time to process information, segment the speech, and interpret the meaning of the message. Moreover, Tanaka et al. (2011) also highlighted that pauses help ELF listeners recognize the units of meaning, despite differences in the speakers' accents or rhythm. Therefore, teachers and students in Myanmar should work on making appropriate pauses in ELF speech by listening to short spoken sentences or texts, where they pay attention to the appropriate pauses made. Walker (2010) reminded us that noticing pauses will facilitate students in using them effectively to convey messages in ELF conversations.

On the other hand, though both Jenkins (2006) and Walker (2010) emphasized nuclear stress placement as a key contributor to ELF intelligibility, this study has found that using equal word stress on sentences by Burmese speakers of English does not affect the overall meaning of a sentence or the message that a speaker wants to convey in ELF conversation. This can be due to the fact that the contrasting information, such

as comparing two meanings in a sentence, was not included in this study. Therefore, it is always useful to teach the use of nuclear stress placement for learners in Myanmar in order to be able to convey or alter different meanings in English.

As asserted by Van Di Dang (2024), misplaced nuclear stress can change the intended meaning that a speaker wants to convey in a sentence, causing confusion to the ELF listeners. Therefore, teachers in Myanmar could teach their students nuclear stress placement by having minimal pair exercises that focus on teaching contrastive stress, word chunks, and back-chaining exercises, etc. In addition, using visual charts to teach nuclear stress placement and communicative tasks that accompany the contrasting information gaps also facilitates the enhancement of nuclear stress acquisition in Burmese learners (Van Di Dang, 2024).

6.2.3 Recommendations for Treating Non-core Features of the LFC

The previous section has presented the core features of the Burmese LFC that teachers and students in Myanmar should prioritize to enhance their ELF intelligibility. Regarding the non-core features, Walker (2010) classifies those that negatively influence ELF intelligibility and those that have no effect on it. The non-core features with a negative impact on intelligibility include vowel reduction, schwa, and weak forms. Although they are not one of the core features of the LFC, it is always useful to introduce vowel reduction, schwa, and weak forms in developing receptive intelligibility. As these features contribute to the intelligibility with native speakers, learning to listen and understand these forms will help communication between ELF users with native speakers in the context of international communication. In terms of speech intelligibility, instead of teaching vowel reduction and weak forms, learners can learn to shorten unstressed vowels in weak forms while maintaining the vowel quality (Walker 2010).

Furthermore, regarding the non-core features that have no impact on intelligibility, it is suggested by Jenkins (2006) that teachers and learners can maintain their regional variety toward these features. These non-core features include intonation, word stress, certain features of the connected speech, such as linking, assimilation, exact vowel quality, etc. Additionally, teachers can make students aware of these non-core features, but they should not be prioritized for instruction or correction as they have no impact on ELF intelligibility. Finally, Sifakis et al. (2018) reminded all teachers

that the approach of tolerance and optionality can be adopted, where learners accept and tolerate the variation in pronunciation of the non-core features that have no impact on intelligibility, and learners are allowed to have autonomy in choosing whether or not to master them during class.

Finally, it is suggested by Boonsuk (2025) that in order to be an efficient ELF user, teachers and learners should also emphasize acquiring ELF communication skills that highly enhance international intelligibility. First of all, receptive intelligibility is a crucial first step if a learner wants to improve speech intelligibility in ELF. Therefore, teachers should get their students exposed to as many non-native English accents as possible in order to accommodate the receptive ability in ELF. Moreover, it is also important for teachers to prepare students to master the accommodation skills in ELF communications, which include the ability to adapt one's own speech according to the interlocutor. Similarly, repetition and rephrasing are also useful ELF strategies to convey clear messages to non-native users of English (Boonsuk, 2025). Last but not least, the awareness of the pronunciation priorities of the revised and verified Burmese LFC will definitely help with the speech intelligibility of Burmese speakers of English in ELF communications.

6.3 Strengths & Limitations of the Study

The Burmese Lingua Franca Core of this study pinpointed the essential features of pronunciation that mainly contribute to the international intelligibility of Burmese speakers of English in ELF communication. Therefore, teachers and students in Myanmar can focus their attention on both segmental and supra-segmental pronunciation priorities that they should target to achieve ELF intelligibility effectively without being overwhelmed by unnecessary pronunciation targets that can have a burden on both teachers and students. Moreover, the Burmese lingua franca core framework recommended by this study acts as a quick solution for English teachers in Myanmar who would like to focus their pronunciation lessons on ELF intelligibility. Last but not least, this study has developed the pronunciation core criteria specially adapted for the Burmese context, which aim at improving ELF intelligibility of

Burmese speakers of English. Therefore, English teachers and students in Myanmar can utilize the framework developed by this study as an ELF pronunciation learning and teaching resource for international intelligibility.

However, like every research study, the current study also has some limitations. First of all, Myanmar is a diverse country with over 100 languages spoken throughout the country. Therefore, the current study covers people whose L1 is the Burmese language only, and it doesn't take into account other ethnic learners. Moreover, the priorities of the core pronunciation features that are proposed by the Burmese LFC of this study might seem one-size-fits-all approach. This study does not consider the Burmese individual learners' learning characteristics and other SLA factors, which might also impact the speech intelligibility in the ELF context. Last but not least, the aspects of receptive intelligibility and other ELF strategies were not studied in this research. Moreover, the Burmese LFC proposed in this study has not yet been implemented in real classroom settings with teachers and students to evaluate the effectiveness of the model in practice.

6.4 Recommendations for Future Research

As the current study adopts a deductive qualitative approach grounded in Jenkins' LFC and Burmese phonology, future research would benefit from conducting in-depth qualitative investigations of ELF interactions between Burmese speakers and other NNS interlocutors. Such inductive analysis could reveal additional intelligibility-related features that would further refine and enhance the model proposed in this study. Likewise, the Burmese LFC developed here may serve as a foundational framework for constructing LFC models for other ethnic minority groups in Myanmar, allowing for a more comprehensive understanding of pronunciation features across diverse linguistic communities.

Regarding nuclear stress placement, the present study focuses only on neutral sentences and declarative statements. Future research could therefore examine nuclear stress placement in contrastive sentences to explore its effects on Burmese learners' production and intelligibility. Lastly, the receptive intelligibility of Burmese learners,

the accommodation skills, and ELF communication strategies should be examined, as these factors are essential contributors to successful communication in ELF contexts, alongside ELF pronunciation.

6.5 Conclusion

In conclusion, this research has successfully addressed the two main research questions of “what are the pronunciation features that should be in the Lingua Franca Core for Burmese Speakers of English?” and “what is the developed Lingua Franca Core for Burmese Speakers of English?” Finally, the main research aim of this study has also been fulfilled by the development of the Lingua Franca Core for Burmese Speakers of English through the intelligibility assessment with NNS and NS assessors.

Drawing on the findings of this study, teachers and learners in Myanmar can prioritize and target key pronunciation features, thereby supporting more efficient acquisition of ELF pronunciation for international intelligibility in the Burmese context. Similarly, the Burmese LFC framework developed by this study will serve not only as an alternative framework alongside native speaker’s pronunciation models but also as a useful resource for teaching and learning English ELF pronunciation for Burmese learners. In other words, the Burmese LFC proposed in this study can serve as a practical initial guide for ELF-oriented pronunciation teaching and learning in Myanmar. Finally, the Burmese LFC developed in this study can provide a foundational framework for future researchers who wish to investigate the international intelligibility of other learner groups within Myanmar.

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APPENDIX A

INFORMED CONSENT FORM

The following is an informed consent form obtained from one of the participants in this research. For privacy reasons, the participant's name and signature have been covered in this document. The consent forms were obtained from all the participants of this research.

Informed Consent Form

I, _____, have decided to participate in "Development of the Pronunciation Lingua Franca Core for Burmese Speakers of English". I have received information and explanations about this research, and I have had the opportunity to ask questions and receive satisfactory answers. I have had sufficient time to read and understand the Information provided in the documents thoroughly and have decided to participate in this research.

I understand that I have the freedom to choose not to participate in this research, and I can withdraw from this research at any time without any impact on my care or rights that I am entitled to.

By signing this document, I do not waive any rights that I am entitled to under the law, and after signing, I will receive a copy of the information sheet and the informed consent.

Participant's Signature _____ Date _____

Signature of the person requesting consent _____ Date _____

APPENDIX B

SPEECH PRODUCTION MATERIALS

Speech Production Materials (Part 1 and Part 2) together with the IOC Scores from the Invited Experts

Description: The following includes speech production materials for 12 Burmese speakers, consisting of two parts: the read-aloud test and the free speaking topics. Additionally, the total IOC scores from the invited experts of this research are also given below.

Speech Production Materials (Part 1 and Part 2)

Evaluation Result for the Alignment between Test Items and Objectives of Speech Materials

1. This form examines the alignment between test items and objectives to verify the proposed Lingua Franca Core for Burmese English speakers.
2. Please consider each item's appropriateness according to the testing objective. Mark X in the box that corresponds to your opinion with the following criteria.
 - +1 Means you think the evaluated item is aligned
 - 0 Means you are not sure about the item
 - 1 Means you think the evaluated item is not aligned
3. This evaluation form consists of segmental aspects of the proposed LFC for Burmese English in the first section and freer-speaking material in the second section. The freer-speaking material is used here for additional findings and additional verification of the segmental items and suprasegmental aspects proposed in the LFC for Burmese.
4. After considering the evaluated items, please provide additional comments and suggestions in the comments and suggestions section.

Best Regards,

Pyae Pyae Min Zaw

Test Items	Purpose	Levels of Agreement from The Experts			Total Score
		1 st Expert	2 nd Expert	3 rd Expert	
1. Phone /fəʊn/	To test the consonant “/f/”	+1	+1	+1	+3
2. Very /'veri/	To test the consonant “/v/”	+1	+1	+1	+3
3. Right /raɪt/	To test the consonant /r/	+1	+1	+1	+3
4. Leisure /'leɪʒə/	To test the consonant /ʒ/	+1	+1	+1	+3
5. Pit /pɪt/	To test the aspirated /p/	+1	+1	+1	+3
6. /tɪn/ /tɪn/	To test the aspirated /t/	+1	+1	+1	+3
7. Cab /kæb/	To test the aspirated /k/	+1	+1	+1	+3
8. Line /laɪn/	To test Clear /l/	+1	+1	+1	+3
9. Fault /fɔ:lt/	To test consonant clusters (final cluster)	+1	+1	+1	+3
10. Bleed /bli:d/	To test consonant clusters (initial cluster)	+1	+1	+1	+3
11. Screw /skru:/	To test consonant clusters (medial cluster)	+1	+1	+1	+3
12. Hut /hʌt/	To test the vowel “/ʌ/”	+1	+1	+1	+3
13. Heart /hɑ:t/	To test the vowel “/ɑ:/”	+1	+1	+1	+3
14. Pan /pæn/	To test the vowel “/æ/”	+1	+1	+1	+3
15. Hop /hɒp/	To test the vowel “/ɒ/”	+1	+1	+1	+3
16. Short /ʃɔ:t/	To test the vowel “/ɔ:/”	+1	+1	+1	+3
17. Burn /bɜ:n/	To test the vowel “/ɜ:/”	+1	+1	+1	+3
18. Cheap /tʃi:p/	To test the vowel “/i:/”	+1	+1	+1	+3
19. Pool /pu:l/	To test the vowel “/u:/”	+1	+1	+1	+3
20. Chair /tʃeə/	To test the vowel “/eə/”	+1	+1	+1	+3
21. Boat /bəʊt/	To test the vowel “/əʊ/”	+1	+1	+1	+3
22. Pier /piə/	To test the vowel “/iə/”	+1	+1	+1	+3

23. Tours /tuəz/	To test the vowel “/ʊə/”	+1	+1	+1	+3
24. Toy /tɔɪ/	To test the vowel “/ɔɪ/”	+1	+1	+1	+3
25. Feel /fi:l/	To test the vowel length and quantity	+1	+1	+1	+3

The objectives of the materials here are linked with the proposed LFC for Burmese.

Please see the Proposed LFC for the Burmese English Speakers for details.

Test Items	Purpose	Levels of Agreement by the Experts			Total Score
		Expert 1	Expert 2	Expert 3	
Free Speaking on the following topics for 2 minutes. 1. My Best friend 2. My Favorite Kind of Holidays 3. Describing towns and cities 4. My Favorite Food 5. Last weekend 6. Transportation within Cities 7. My Hometown 8. My Favorite Season 9. Healthy Food 10 My Favorite Sports	The freer-speaking material is used here for additional findings and additional verification of the suprasegmental aspects proposed in the LFC for Burmese.	+1	+1	+1	+3

APPENDIX C

THE INTELLIGIBILITY ASSESSMENT

Description: Appendix 3 contains the sample intelligibility assessment used by the non-native and native assessors in this research, which has two parts. The first part concerns assessing the segmental aspects of pronunciation, which made use of items from speech production materials part 1. The second part of the intelligibility assessment is an interview protocol that made use of the items from the speech production materials part 2.

The Intelligibility Assessment Part 1

Question 1

The 1st student is saying _____.

A. Phone B. Bone

Question 2

The 1st student is saying _____.

A. Berry B. Very

Question 3

The 1st student is saying _____.

A. Right B. Light.

Question 4

The 1st student is saying _____.

A. Leisure B. Ledger

Question 5

The 1st student is saying _____.

A. Pit B. Bit

Question 6

The 1st student is saying _____.

A. Tin B. Din

Question 7

The 1st student is saying _____.

A. Cab B. Gab

Question 8

The 1st student is saying _____.

A. Line B. Nine

Question 9

The 1st student is saying _____.

A. Fault B. Fall

Question 10

The 1st student is saying _____.

Question 11

The 1st student is saying _____.

Question 12

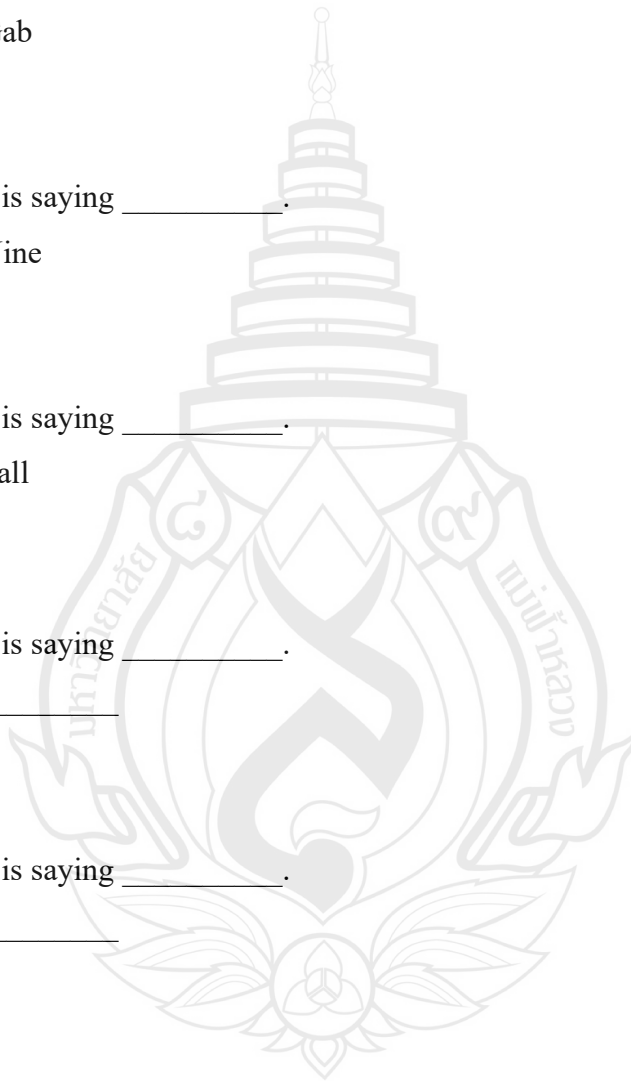
The 1st student is saying _____.

A. Hut B. Hat

Question 13

The 1st student is saying _____.

A. Heart B. Hat



Question 14

The 1st student is saying _____.

A. Pan B. Pen

Question 15

The 1st student is saying _____.

A. Hop B. Hope

Question 16

The 1st student is saying _____.

A. Short B. Shot

Question 17

The 1st student is saying _____.

A. Burn B. Bun

Question 18

The 1st student is saying _____.

A. Cheap B. Chip

Question 19

The 1st student is saying _____.

A. Pool B. Pull

Question 20

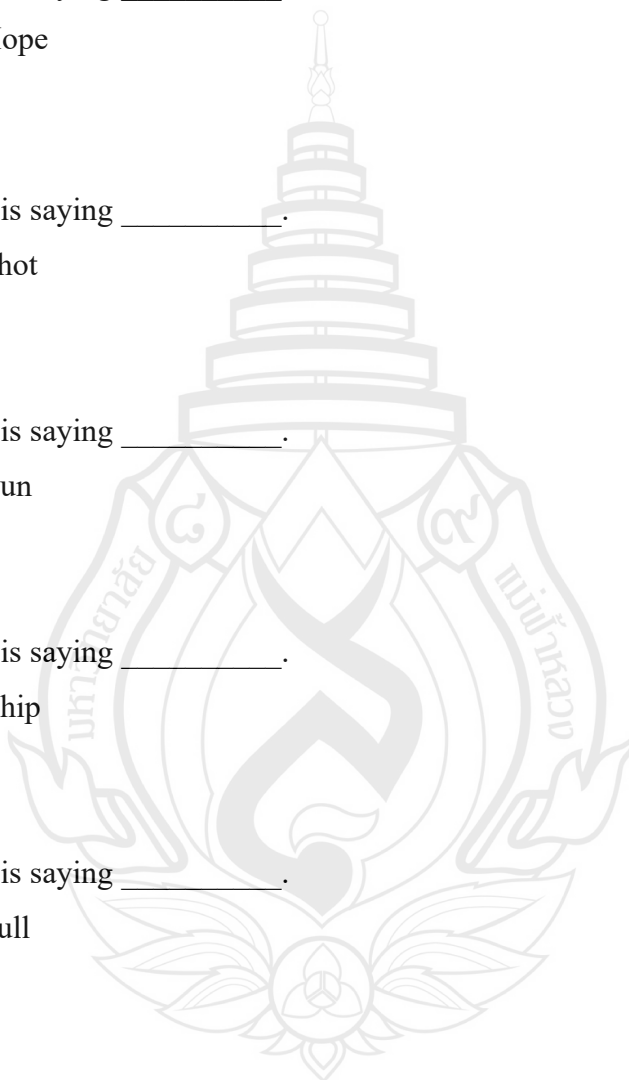
The 1st student is saying _____.

A. Chairs B. Cheers

Question 21

The 1st student is saying _____.

A. Boat B. Bought



Question 22

The 1st student is saying _____.

A. pier B. Pea

Question 23

The 1st student is saying _____.

A. Toes B. Tour

Question 24

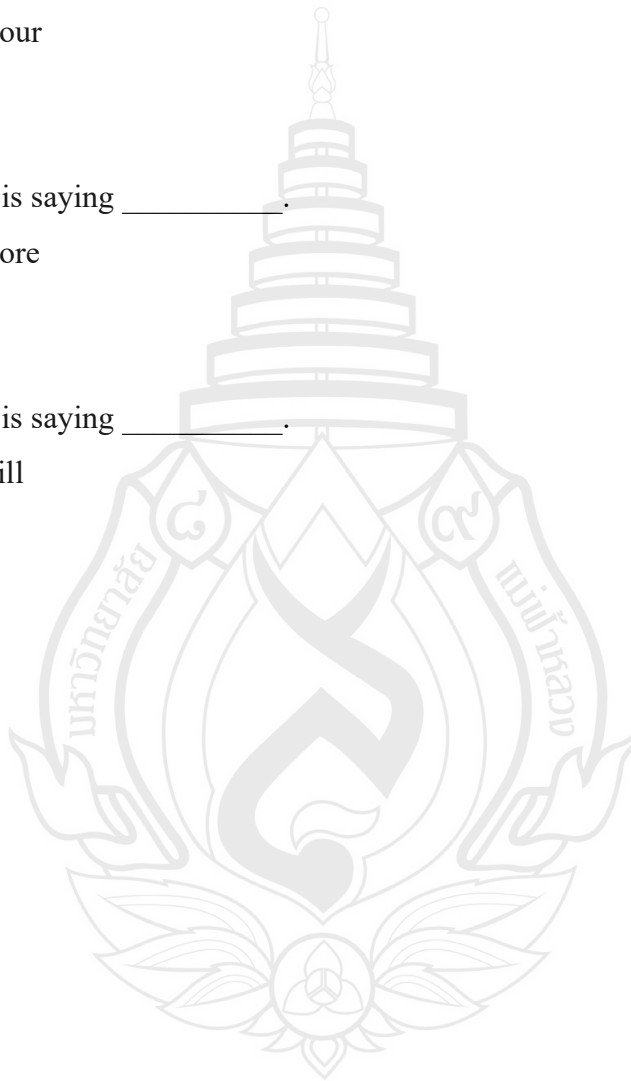
The 1st student is saying _____.

A. Toy B. Tore

Question 25

The 1st student is saying _____.

A. Feel B. Fill



The Intelligibility Assessment Part 2

Sheet 2: The Interview Protocol with the Assessors Adapted from Zogbor (2018)

Reason for Interviewing	Questions
To follow-up on the sounds they didn't understand when they press the reaction button regarding freer talk and to find out the sounds they heard instead of.	Q1: Which sound that you find unclear or unintelligible when you pressed the reaction button? How did you hear?

IOC Sheet 2: The Interview Protocol with the Assessors, together with the IOC Scores

Purpose	Item	Level of Agreement			Total Score
		Expert 1	Expert 2	Expert 3	
To follow-up on the sounds they didn't understand when they press the reaction button regarding freer talk and to find out the sounds they heard instead of.	Q1: Which sound that you find unclear or unintelligible when you pressed the reaction button? How did you hear?	+1	+1	0	+2

APPENDIX D

THE ACCENTEDNESS LEVEL RATING

The Accentedness Level Rating Form Adapted from Suntornsawet (2019)

Please tick the corresponding column to rate each Burmese English speaker's accentedness level from ratings 1 to 3.

(Rating 1: Low level of Burmese accent in Speaking English)

(Rating 2: Moderate Level of Burmese accent in Speaking English)

(Rating 3: High Level of Burmese accent in Speaking English)

Criteria for Evaluating Low, Moderate, and High

Low represents the weak presence of an L1 accent in speaking English which does not deviate too much from a native speaker's pronunciation.

Moderate represents the tolerable presence of an L1 accent in speaking English, which deviates from a native speaker's pronunciation but is understandable and bearable.

High represents the strong presence of an L1 accent in speaking English which deviates very much from a native speaker's pronunciation and is not bearable.

Participants	Rating1: Low	Rating 2: Moderate	Rating 3: High
PO1			
PO2			
PO3			
PO4			
PO5			
PO6			
PO7			
PO8			
PO9			
PO10			
PO11			
PO12			

APPENDIX E

SAMPLE TRANSCRIPTS

Transcript of the High Burmese-accented Speech PO2

“I wanted to talk about my best friend who meet in the university,..... at the university. She is helpful and supportive to me. This is why she become one of my best friends. Umm... You know, my best friends and I are really different in skin color, skin tone.....”

“I mean....., she is tanned and I'm white. It's really different. Urr... When we are walking together, maybe some of the people told us, you look very different. One is black and one is white, like that. I found it is okay, you know, because also we have a similar personality regardless of our skin colors.”

“And then....., and also....., I love her because of..... most of the time, I can share some of my secrets. And I feel like..... she is really..... give me a lot of ideas and thought. And sometimes I feel I really worried about my anxiety, you know.”

Transcript of the Moderate Burmese-accented Speech PO8

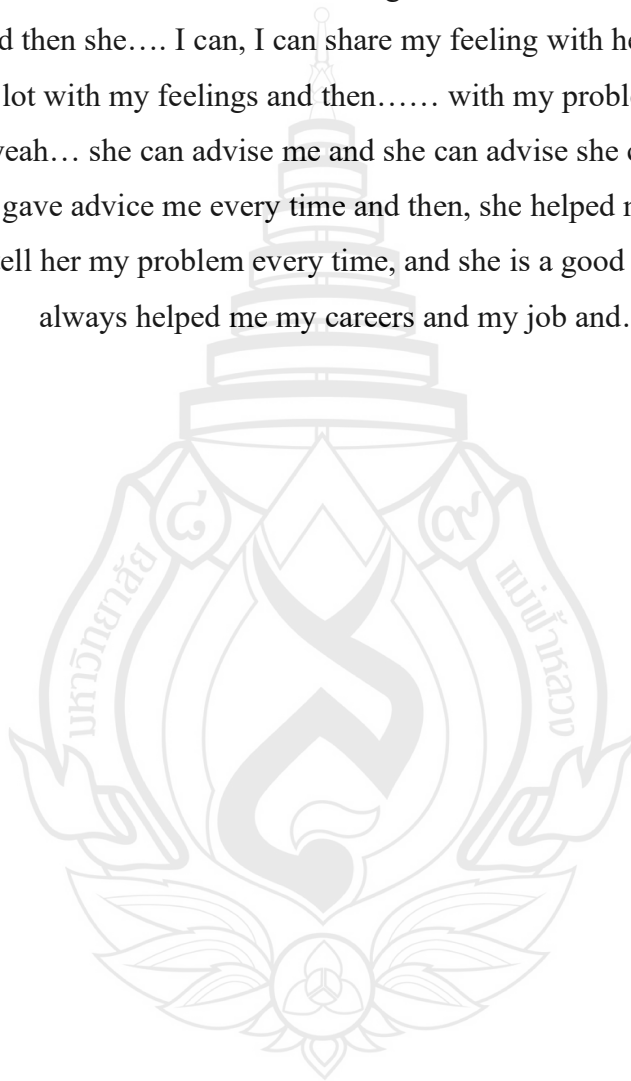
“I would like to tell you about my favorite season. In our country, there are three seasons in Myanmar. They are the hot season, the rainy season, and the cold season. My favorite season is the cold season.”

“It starts from October to January. It is cool. It is a little cold in Yangon, but I like the most because when I go to the work, it is not too hot, too cold. It is a fair weather. In the cold season, we...we will go to the picnic with my family, with my friends.”

“In the cold season, the weather is not too cold and too hot. So, we...we are not very tired when we do the work. So I like the cold season.”

Transcript of the Low Burmese-accented Speech PO6

“Yeah, my best friend name is Thuza and..... we meet,..... we go to,...uh.. we went to the same university in 2015 and..... we have been best friends for nine years..... We have been best friends for nine years and then..... She.....is flexible and she's considerate.” “She has a good sense of... she has a good sense of humors and then she.... I can, I can share my feeling with her and I can..... she help me a lot with my feelings and then..... with my problems.” And she can advise..... yeah... she can advise me and she can advise she can get she she gave advice she gave advice me every time and then, she helped me a lot. And then I can... I can tell her my problem every time, and she is a good listener, and then she always helped me my careers and my job and.....”



CURRICULUM VITAE

NAME Pyae Pyae Min Zaw

EDUCATIONAL BACKGROUND

2025	Master of Arts Education (TESOL) Passed with Distinction University of Derby, UK
2021	Master of Business Administration Passed with Merit University of Chichester, UK
2017	Bachelor of Arts (English) Dagon University, Yangon, Myanmar.
2016	CELTA (Cambridge Examinations, UK)

WORK EXPERIENCE

2014 – 2015	Outbound Tour Leader Mr. Myanmar Travel and Tours
2016 – 2025	Founder, Principal, and English Language Teacher The Experts English Language Centre

PUBLICATIONS

Zaw, P. P. M. (2022). An Analysis of Common Pronunciation Errors Made by Adult Burmese EFL Learners: A Study Taken at the Experts English Language Center in Yangon, Myanmar. *Journal for Research Scholars and Professionals of English Language Teaching*, 6(29). <https://doi.org/10.54850/jrspelt.6.29.01>

Zaw, P. P. M., Bamroongkit, S., & Rungrojsuwan, S. (2025). A Comparative study of the phonological systems of English and Burmese: The Implications for Teaching and Learning English Pronunciation. *Journal of Education and Learning*, 15(1), 255. <https://doi.org/10.5539/jel.v15n1p255>