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The Key English Pronunciation Difficulties for Egyptian EFL Learners: Teaching Materials and Implications for EFL Teachers

PhD Dissertation

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ABSTRACT

This research seeks to examine the key English pronunciation difficulties faced by Egyptian learners, encompassing both segmental and suprasegmental issues, through a corpus of audio and video recordings collected from English conversation and presentation skills classes taught to Egyptian university students, all of whom are native speakers of Egyptian Colloquial Arabic (ECA). The study employs both contrastive analysis (comparing the phonological systems of English, Egyptian Arabic, and Modern Standard Arabic/MSA) as well as error analysis, with the aim of identifying the phonological features that should be prioritised in English instruction for Egyptian EFL learners drawing on the Lingua Franca Core (LFC) model recommendations. Accordingly, the study aims to outline pedagogical implications to inform the design and selection of effective teaching materials and techniques targeted at addressing the identified pronunciation challenges.

The research is also an attempt to investigate issues with pronunciation learning in Egypt, from the viewpoint of Egyptian EFL students and teachers based on their responses to questionnaires that aimed to place emphasis on: opinions regarding pronunciation performances, expectations from their instructors/learners and study programmes, difficulties encountered when learning/teaching English pronunciation, target proficiency levels, perceptions of English and the content covered in their programmes, first language (L1) influence, as well as opinions on what learners and teachers would want to see implemented in classrooms and textbooks.

The study participants exhibited segmental problems including consonant alteration, vowel alteration and consonant cluster simplification. The analysis showed that most of the phonological challenges are a product of the influence of the learners' L1 on English as a foreign language (EFL) as manifested in a series of negative transfer instances in the target language practice. Nevertheless, some were caused by the lack of knowledge of the second language (L2) rules and/or the inadequacy of training available for the learners.

Based on the questionnaire responses from both students and instructors, several implications could be drawn: (1) it is essential to ensure the professional qualification and competence of educators. (2) Teaching should be conducted primarily in English to increase learners' exposure to the target language. (3) Furthermore, teacher-centred instruction should be

minimised, with greater emphasis placed on active student participation and engagement during class. (4) Efforts should also focus on creating a stimulating and motivating learning environment by avoiding traditional, outdated teaching practices that hinder meaningful communicative interaction. (5) Assessment methods ought to prioritise students' developmental progress rather than scores, seeking to improve students' critical and creative thinking skills. (6) Pronunciation should be integrated into the teaching of other language skills to promote more effective language learning. (7) Finally, it is important to ensure that the study materials are both appealing and culturally appropriate in order to fulfil the students' expectations, fit this specific EFL setting and address the actual instructional and learning objectives.

In addition, interviews with Egyptian participants rated by Hungarian listeners were conducted to gain external evaluations of intelligibility and accentedness, offering a comparative perspective on how Egyptian English pronunciation is perceived outside the local context. Despite varied proficiency levels and strong accents influenced by Arabic, overall intelligibility was high. Key issues included vowel and consonant substitutions, flat intonation, misplaced stress, and unusual rhythm. Speakers demonstrated self-correction and fluctuating fluency, with recommendations emphasising targeted instruction on segmental and suprasegmental features to improve clarity and confidence.

As an attempt to capture the complexity of pronunciation learning in Egypt, this research also aims to shed more light on key concepts such as correctness and accentedness from the pragmatic perspective of users of English for academic purposes. In view of the findings of the current study, the learners' perspectives on English pronunciation seemed to reflect the need to redefine pronunciation teaching/learning in Egypt based on the principle of correctness rather than nativeness, highlighting the role of English as a lingua franca as a more down-to-earth paradigm.

DISSERTATION DECLARATION

I declare that all the work presented in my dissertation is the result of my own original research under the supervision of Associate Professor Dr. Gyula Zsigri. I would like to state that no part of this dissertation has previously been submitted for an award of any other degree or any other qualification in my name at this university or any other institution. All the materials previously published or written by other people are clearly attributed and quoted in my dissertation. Apart from these due references, the dissertation is entirely my own work. Some parts of this text have appeared in my recent, related publications, which were done concurrently with my dissertation (i.e., Abdelreheem 2023 and Abdelreheem 2025), as well as in the books of abstracts of conferences participated in since I joined the Applied Linguistics PhD Programme. Where relevant, these parts are indicated in the text. I agree that the final version of my dissertation can become available via the university's research repository, the university, and search engines.

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List of Abbreviations

ECA	Egyptian Colloquial Arabic
EFL	English as a Foreign Language
ELF	English as a Lingua Franca
ELT	English Language Teaching
ESL	English as a Second Language
F1	First Formant
F1	Second Formant
F3	Third Formant
GA	General American
Hz	Hertz
L1	First Language
L2	Second Language
LFC	Lingua Franca Core
Ms	Millisecond(s)
MSA	Modern Standard Arabic
RP	Received Pronunciation
SLA	Second Language Acquisition
VOT	Voice Onset Time

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CHAPTER ONE: Introduction

This chapter (adapted from Abdelreheem 2023; 2025) introduces the central focus and rationale of the study, which investigates the English pronunciation difficulties experienced by Egyptian EFL learners, with particular attention to both segmental and suprasegmental features. It outlines the sociolinguistic and linguistic background of the Egyptian context, emphasising the diglossic nature of Arabic in Egypt and its impact on English language acquisition. This introductory chapter also clearly states the research questions guiding the investigation and defines the key concept of **pronunciation difficulty** as understood in this study. The chapter also sets the basis for a detailed exploration of pronunciation challenges, highlighting the roles of first language influence, teaching practices, and learner perceptions, and explains the theoretical frameworks informing the research.

1.1.**Rationale and Focus**

Second language (L2) learning and teaching contexts continue to witness phonological, lexical and spelling errors despite ESL and EFL learners' efforts to reach (near-)native proficiency (Huwari 2019: 31). When learning a second language, learners often make pronunciation mistakes because their first language interferes with the process (Elmahdi & Khan 2015: 97). When learning a language, learners often apply the principles of their mother tongue to the language they are learning, the transfer that can pose challenges in communication among speakers as well as in second language learning and teaching contexts (Ahmad 2011: 23). Some researchers, such as Gilakjani (2012) and Al-Dilaimy (2012), even argue that incorrect pronunciation creates "disgrace" and embarrassment while, on the other hand, proper pronunciation creates "respect", fosters social bonding among interlocutors and, consequently, enhances communication.

While proper EFL pronunciation instruction cannot be detached from possessing speaking proficiency or "raising students' levels of intelligibility and comprehensibility" (Hucke 2021: 2), pronunciation tends to be treated as an element overlooked in EFL classrooms among the other elements of the four skills in a language system (Fraser 2000; Macdonald 2002; Gilbert 2008), specially in monolingual exam-oriented classes where mastering written accuracy is prioritised over accuracy in pronunciation, and is considered to be one of the most challenging aspects of English Language Teaching (ELT) by both teachers and learners (Robin 2022: 26). For instance,

the findings of a study by Foote et al. (2013) depicted that time allotted for pronunciation instruction constituted only 10% of all language classes. Besides, ESL pronunciation instruction is generally perceived as "lacking in development, quality resources, and emphasis" (Hucke: 8). It is also an aspect where teaching methods/approaches, timing and focus are greatly affected by a number of factors (Hucke: 15). Teachers, as a result, may drift away from the teaching of pronunciation or any instruction beyond the surface level, due to lack of time (Hucke 2021; Gilbert 2008), qualification or preparation (Hucke 2021; Fraser 2000).

In the researcher's experience as a teacher in an Egyptian higher education institution, teaching English as a foreign language to Egyptians ranging in their proficiency levels from pre-intermediate to upper-intermediate, she has noticed that Egyptian students face problems with some aspects of English pronunciation. Arabic and English are two distinct languages that differ in terms of their language families (Semitic and Indo-European, respectively), internal phonological, morphological and syntactic systems (Na'ama 2011), as well as speech characteristics and the representation of their phonetic systems (Al-Ani 1970, as cited in Abdelaal 2017: 8). Furthermore, many consonants and vowels, Arabic or English encompasses, differ in nature from their counterparts in the other language, rendering the process of Arabic or English language acquisition as challenging for learners with the other as the first language (L1) and leading to mispronunciations and issues in respect to intelligibility.

Therefore, a significant impact of L1 transfer on the participants' pronunciation of English was expected to be the main source of errors. Generally speaking, in the researcher's experience as an EFL teacher, the influence of ECA on the learning of English in Egypt is too evident to pass unnoticed. Egyptian EFL learners tend to transfer the linguistic norms of ECA (and sometimes literally translate idiomatic expressions) to the system of English as their target language yielding productions that follow ECA patterns (in terms of vocabulary, idiomatic expressions, morphology, phonology, etc.), but rendered in a different language (English).

Another factor behind the phonological problems Egyptian EFL learners face could be the inadequacy of some study programmes in the Arab region. Despite the drawbacks underlying English Language Teaching policies of the public educational institutions in the Arab world countries and the criticism directed at the graduates of some inadequate study programmes in these institutions, the amount of literature tackling these aspects is still insufficient (Al-Issa et al. 2017).

Accordingly, this study seeks to examine the key English pronunciation challenges faced by Egyptian learners, encompassing both segmental features (individual speech sounds) and suprasegmental features (rhythm, stress, intonation and juncture). The investigation utilises a corpus of audio and video recordings, by Egyptian university students (all native speakers of Egyptian Colloquial Arabic/ECA), from English conversation and presentation skills classes. The study employs both contrastive analysis (comparing the phonetic and phonological systems of English, Egyptian Arabic, and Modern Standard Arabic) followed by error analysis. Whereas contrastive analysis assists EFL teachers in anticipating potential areas of difficulty (Al-Saqqaf & Vaddapalli 2012: 56), error analysis provides insight into the actual pronunciation problems learners encounter and their relative seriousness. Moreover, the research aims to identify the phonological features that should be prioritised in English instruction for Egyptian EFL learners, drawing on the Lingua Franca Core (LFC) model (Jenkins 2009; Walker 2010; Patsko 2013), and to outline corresponding pedagogical implications to inform the selection and design of effective teaching materials and strategies targeting these challenges.

Furthermore, this research was conducted as an effort to explore issues pertaining to pronunciation instruction in Egypt, from the perspective of Egyptian EFL learners and teachers, with an emphasis placed on views on pronunciation performances, expectations from their lecturers/students and study programmes, challenges faced in learning/teaching English pronunciation, desired proficiency standards and attitudes towards English and the specific items taught, the influence of mother tongue, as well as views on what participants would like to see applied in textbooks and classrooms (e.g. organised activities, behaviour, approaches, methods, etc.). The study also involved English teachers to examine their beliefs, attitudes and insights on some aspects, including perceived shortcomings in the courses offered to their learners. Investigating teachers' perspectives was an attempt to understand how their expectations, challenges and experiences correspond to or diverge from those of the learners. Such data were considered crucial for capturing the complexity of these issue as well as identifying and addressing potential gaps between learners' needs and the instructional support provided in their local context. Students' observations of the challenges they face in pronunciation learning, as well as of their ability to monitor their accents and to handle miscommunications when they occur, would highlight any gaps between the learners' perceptions (specifically those pertaining to suprasegmentals) and current classroom practice in pronunciation instruction (Rossiter 2001).

According to Derwing and Rossiter (2002), L2 learners' needs, perceptions of their own pronunciations and beliefs pertaining to obstacles to effective communication have not received sufficient attention in Second Language research. Perception is believed to be crucial to both the pedagogic theory and practice (Lewis 1999). As stated in Al-Issa et al. (2017: 5), such information has to be taken into consideration when designing syllabi and study materials to achieve more effective EFL programmes that address the learners' needs and are relevant to their sociolinguistic and sociocultural learning/teaching contexts as a step towards improving the existing practice.

According to Robin (2022) and Gilakjani (2017), ESL pronunciation instruction, and other related topics it entails, (e.g. attitudes towards ESL pronunciation; the effectiveness of various instructional methods, materials and curricula) is an area that is under-investigated. As noted by Hucke (2021: 2), "Given that pronunciation tends to be overlooked and undervalued as part of a general ESL curriculum, ... there is little incentive for researchers to spend much time exploring it". Teachers may choose to avoid pronunciation instruction for a number of reasons: (1) they deem it pointless to teach pronunciation to adults as the concept of critical period is generally understood by some as adults are unable to learn pronunciation (2) assessment and feedback on the learners' pronunciation are believed to be forms of criticism, which is considered inappropriate (3) pronunciation instruction needs certain expertise that educators tend to lack (Fraser 2006: 80). Furthermore, despite the notion that exploring the Egyptian EFL learners' views on pronunciation learning/instruction and the underlying sources of any challenges arise would aid drawing pedagogical implications that address the problematic aspects, with the aim of improving the existing and future teaching and learning practice in Egypt, to the best of my knowledge, the topic of pronunciation learning in this linguistic context is under-researched compared to other aspects like grammar, vocabulary and written production, and even to, according to Robin (2022: 33), aspects like pronunciation teaching techniques and teachers' views on pronunciation instruction. Besides, despite the empirical research emphasising the significance of pronunciation instruction in EFL/ESL classrooms, and the knowledge of which aspects to prioritise, more research is needed to investigate the most effective methods and materials to apply and draw conclusions that would act as the basis for relevant pedagogic decisions (Baker & Murphy 2011; Hucke 2021; Fraser 2000).

1.2. The Main Language Varieties in Egypt

The linguistic situation in Egypt involves two standardised varieties of Arabic, Modern Standard Arabic (MSA)/Literary Arabic and Egyptian Colloquial Arabic (ECA)/Cairene Arabic, and a continuum of other local dialects of Colloquial Egyptian spoken around the country varying from one another in terms of pronunciation, vocabulary and to some degree in structure. Bassiouney (2013: 1&2) states that:

> Egypt, like all Arab countries, is a diglossic community, a community in which two language codes exist, each with a different function: Standard Arabic (SA) and Egyptian colloquial Arabic (ECA). The first is used in formal domains but is not spoken as the native language of Egyptians; the second is used for informal everyday interactions.

MSA is derived from Classical Arabic, which is the language of the Quran and early Islamic literature (Javed 2013: 1). Classical Arabic is a largely archaic variety, surviving mainly in religious domains. As emphasised by Haeri (2003: 251), "Beyond its use for religious purposes, most Egyptians find speaking and writing in classical Arabic difficult, especially given the dire state of precollege education". On the other hand, MSA is the form of Arabic taught in schools, used in official written communication, official media, and in formal contexts across Arabic-speaking nations. Stadlbauer (2010: 7&8) points out that, MSA, in modern Egypt, is the variety used in mass media (e.g. Egyptian TV news, print and online forms of newspapers, e.g. Al-Ahram, Al-Akhbar, Al Gomhuria, Al-Masry Al-Youm, etc.), parliament, court, government (as the variety in which official documents are produced) and education (as the variety used in instruction, textbooks and examination in public schools). Even the few dedicated magazines, as well as all sections and subsections within state-owned as well as private newspapers, covering entertainment, celebrity news, etc. are all delivered in MSA. MSA also dominates the Egyptian religious domain as the language of prayer and religious speeches and ceremonies.

MSA is not a native variety of any people in the Arab world, and is rarely used in spontaneous conversation. However, it remains an integral part of the linguistic scene in present-day Egypt, and cannot be separated from the Egyptians' overall linguistic profile. Although it was beyond the scope of the current study, it could be argued that people with a diglossic background learn a foreign language differently from people without a diglossic background. For example, according to studies such as Sedeek (2019: 34), extensive exposure to MSA positively influences the acquisition/learning of English [θ] and [ð]. In other words, it leads to successful realisation

(perception and pronunciation) of the English interdental fricatives. Speakers with high MSA proficiency (often through formal education and/or religious training like Quranic recitation rules) succeed to acquire these sounds. As a speaker already knows how to place their tongue between their teeth for MSA, they can transfer the skill to English words with the sounds. For these reasons, references to MSA are necessary in a study on the acquisition of EFL in a context where MSA can contribute to the learners' phonological awareness, learning and reading habits, and perceptions of correct and/or formal language although this research focuses on the challenging aspects of pronunciation for Egyptian learners of English with ECA as their L1. ECA is the variety of Egyptian Arabic originated in Cairo, the capital city of Egypt, and understood across most of the Arab region. ECA is mainly a spoken variety; however, it is encountered in vernacular literature, advertisements, social media as well as informal media.

Phoneme inventories of consonants and vowels in both MSA and ECA are given below:

MSA Consonant Phonemes (adapted from Hassig 2011: 9)

	Labial	Dental	Alveolar	Emphatic	Palatal	Velar	Uvular	Pharyngeal	Glottal
Stop	b		t d	tˤ dˤ	dʒ	k	q		ʔ
Nasal	m		n						
Fricative	f	θ ð	s z	sˤ ðˤ	ʃ		x ɣ	ħ ʕ	h
Lateral			l						
Tap			r						
Glide					j	w			

MSA Short Vowels (Hassig 2011: 10)

	Front	Central	Back
Close	i		u
Mid			
Open		a	

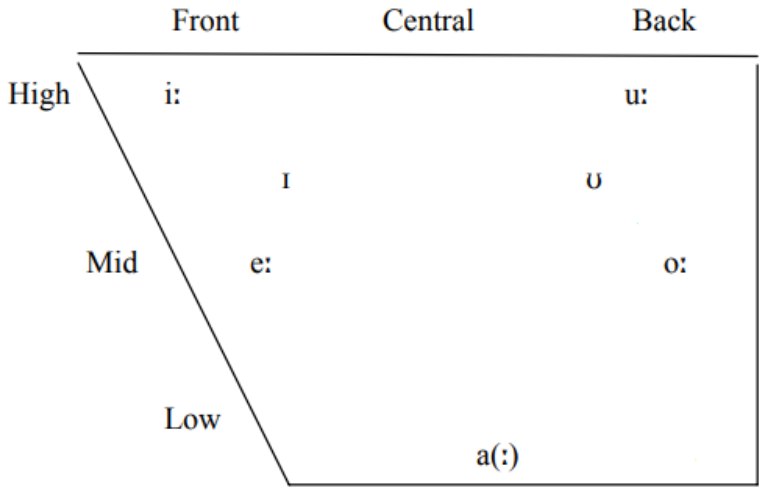
MSA Long Vowels and Diphthongs (Hassig, 2011: 10)

	Front	Central	Back	Diphthongs:
Close	i:		u:	/aj/
Mid				/aw/
Open		a:		

ECA Consonants (adapted from Youssef 2006: 19)

	Labial	Alveolar	Emphatic	Palatal	Velar	Uvular	Pharyngeal	Glottal
Stop	b	t d	tˤ dˤ		k g	q		ʔ
Fricative	f v	s z	sˤ zˤ	ʃ ʒ	x ɣ		ħ ʕ	h
Nasal	m	n						
Lateral		l						
Trill		r	rˤ					
Glide				j	w			

ECA Vowel Allophones (adapted from Youssef 2006: 14)



In addition to the above vowels, ECA also features the following diphthongs: [ɪw, ɪj, aw, aj] (Youssef 2006: 21).

1.3.Research Questions

1.3.1. What are the key pronunciation difficulties, both segmental and suprasegmental, encountered by Egyptian EFL learners?

1.3.2. What phonological aspects should be prioritised in the teaching of English to Egyptian EFL learners?

1.3.3. What are the teaching implications and suggestions for designing/choosing relevant teaching materials and techniques?

It is essential to note that, in this study, the term **pronunciation difficulty** refers to those segmental or suprasegmental features of English that Egyptian EFL learners struggle to produce consistently and accurately, as supported by frequent errors across participants, confirmed through auditory and acoustic analysis, and considered likely to affect intelligibility, communicative clarity, or listener comprehension. Additional indicators such as hesitation, increased pauses, inconsistent pronunciations of the same word or phoneme and self-correction attempts are also considered as manifestations of difficulty in pronunciation. The present study adopts the perspective of pronunciation difficulty by Derwing and Munro (2005 & 2015) and Levis (2005 & 2018) that focuses on communicative effect and prioritises features that interfere with intelligibility or increase listener processing effort. Thus, difficulty is not limited to deviations from the native-speaker norms or structural differences between the L1 and L2 as in earlier approaches to pronunciation learning that regard areas of contrast as the sole predictors of difficulty. The identification of such difficulties is based on both quantitative measurements and qualitative observation, and is mainly informed by contrasts between the phonological system of ECA as the learners' L1 phonological system and English, as well as by reference to the Lingua Franca Core (Jenkins 2000; 2009; 2012; 2015), which highlights phonological features essential for mutual intelligibility, and helps identify areas where learners are more likely to encounter challenges. Perceiving difficulty in this way, the study treats it as a measurable variable, represented in observable speech behaviours and acoustic data, rather than a vague or everyday notion. On the other hand, other indicators of pronunciation difficulty (e.g. avoidance behaviours, affective factors, etc.) were beyond the scope of the current study and represent important avenues for future research.

CHAPTER TWO: Review of the Literature

(Parts of this chapter are based on Abdelreheem 2023; 2025. They have been revised and expanded for the present work)

This chapter provides a comprehensive theoretical overview of the acquisition of second language phonology, focusing on the challenges faced by Egyptian EFL learners. Based on diverse models such as the Critical Period Hypothesis, Speech Learning Model, Perceptual Assimilation Model and Optimality Theory, the discussion explores how age, L1 influence, perception and cognitive factors influence L2 phonological development. Special emphasis is given to the interaction between L1 transfer and developmental processes, highlighting common segmental and suprasegmental difficulties. Additionally, the chapter reviews key theories underlying pronunciation teaching, tracing the shift from behaviourist methods to communicative and perception-based approaches. The section introduces the Lingua Franca Core model as a framework for prioritising pronunciation features that enhance intelligibility in global ELF contexts. In an attempt to provide a balanced and critical perspective, the chapter also addresses criticisms and limitations of some of the theoretical frameworks and pedagogical models employed (including the Lingua Franca Core model, Contrastive Analysis and Error Analysis approaches) and tackles reasons for their suitability to the context of the current study. The segmental and suprasegmental differences between (Egyptian) Arabic and English, empirical studies on English pronunciation in Arabic-speaking world as well as pedagogical implications and teaching strategies in the Egyptian context and similar EFL contexts are also reviewed to contextualise the present study, identify recurring pronunciation challenges and guide the interpretation of the findings and the development of context-sensitive pedagogical recommendations.

2.1.Acquisition of Second Language Phonology: Theoretical Overview

A comprehensive understanding of how EFL learners acquire English pronunciation requires an exploration of several interrelated theories. Second language phonological acquisition has long been recognised as one of the most persistent challenges in adult language learning, especially due to the profound influence of the L1 on the learner's perception and L2 phonological productions. This field has developed significantly, shifting from basic behaviourist

explanations of transfer, to more comprehensive multidimensional models that take into account universal developmental processes, cognitive constraints and the role of perception in mastering new phonological systems.

The **Critical Period Hypothesis (CPH)** has been one of the key theories in explaining age-related differences in second language acquisition, particularly in phonology. This hypothesis suggests that there is a biologically sensitive window for language learning, typically closing around puberty, after which the attainment of native-like pronunciation becomes increasingly unlikely (Lenneberg 1967: 176; Scovel 1988: 185). From this perspective, the cognitive approach to SLA suggests that pronunciation learning after the critical period is more complicated than in childhood as it is more challenging to change concepts than to construct new ones (as in the case of a learner's L1) (Fraser 2006: 87). Pronunciation is viewed as "one area in which to find strong support for a critical period: after all, children often seem to have an easier time with the sound system of a new language" (Odlin 2003: 468). Studies (e.g. Bialystok & Miller 1999; Flege 1999; McDonald 2000) supported these arguments showing that individuals who begin learning a second language after this period often retain a noticeable foreign accent, regardless of their overall proficiency. This view has been also confirmed by more recent large-scale research. Hartshorne et al. (2018) show that sensitivity to phonological acquisition remains robust until approximately 17 years of age, after which a sharp decline is observed. Dollmann et al. (2020) further support the importance of early exposure while also emphasising the role of social and educational contexts in shaping phonological outcomes, suggesting that both biological and environmental factors interact in determining the persistence of non-native features in L2 speech. In the Egyptian context, this means adult learners are more likely to exhibit L1-influenced pronunciation patterns, making early exposure and targeted intervention crucial for developing intelligible English pronunciation.

Optimality Theory (OT), proposed by Prince and Smolensky (1991) and further developed by McCarthy and Prince (1993) and Prince and Smolensky (1993), represents a significant shift from traditional rule-based phonological models by conceptualising phonological processes as the outcome of competing constraints rather than ordered application of rules. OT maintains that all languages share a universal set of constraints, which are violable and hierarchically ranked. These constraints fall into two main categories: markedness constraints, which regulate the well-formedness of output forms, and faithfulness constraints, which require the output to preserve properties of the input. The ranking of constraints varies across languages,

stressing the concept of cross-linguistic variation in phonological patterns. Unlike derivational models that apply ordered phonological rules, OT treats surface forms as the final satisfaction of conflicting universal constraints, emphasising the interaction among them. This framework also models language acquisition processes as the gradual adjustment of constraint rankings to fit the target language. In the context of second language phonology, OT offers a dynamic model for understanding how learners' interlanguage phonologies emerge from the interaction of universal constraints and the influence of their first language. By focusing on constraint ranking rather than fixed rules, OT provides a tool for the analysis of the variability and developmental stages observed in L2 pronunciation.

Another fundamental contribution to the field is the **Speech Learning Model (SLM)**, originally developed by Flege (1995) and more recently revised by Flege and Bohn (2021). SLM argues that L2 learners do not entirely reset their phonetic systems when learning a new language; instead, they adapt their existing L1 categories to incorporate new L2 sounds. The model introduces the concept of **equivalence classification** which refers to the tendency of L2 learners to assimilate unfamiliar L2 sounds into pre-existing phonological categories from their L1s. L2 sounds that are similar, but not identical, to L1 sounds are particularly problematic as learners tend to assimilate them to existing L1 categories. As a result, this perceptual overlap can prevent learners from forming new phonetic categories, frequently leading to fossilised pronunciation errors or non-target-like productions. Accurate perception is seen as crucial for accurate production, and the model emphasises the importance of high-quality, varied input for successful L2 phonological acquisition. For ECA speakers, this explains frequent misperceptions of English phonemes that lack contrastive equivalents in Arabic. Additionally, it means that exposure to authentic English input and opportunities for focused listening are essential for overcoming persistent L1-based pronunciation patterns.

While SLM focuses on the dynamic interaction between production and perception over time, the **Perceptual Assimilation Model (PAM)**, proposed by Best (1995), offers a complementary framework based on speech perception research. PAM suggests that the ease or difficulty with which L2 contrasts are perceived depends on how the sounds are categorised within the learner's existing phonological framework. According to PAM, learners interpret unfamiliar L2 sounds by assimilating them to the closest L1 categories. The degree of perceived similarity between L1 and L2 sounds predicts the difficulty learners will have in discriminating and

producing these sounds. Best and Tyler (2007) later extended this model into **PAM-L2**, which addresses long-term exposure. The extension of this model to adult L2 learners (PAM-L2) suggests that the ability to form new phonological categories is constrained by prior L1 experience, and suggests that with increased L2 experience, learners can refine their perceptual categories and overcome some of these early perceptual mappings. This extension is particularly important for adult learners, such as those in Egyptian university settings, who are often exposed to English in academic and professional contexts over long periods. For Egyptian learners, this means that English sounds that do not exist in Arabic may be misperceived, and consequently misproduced, unless explicit perceptual training is provided early in the learning process.

Further refinement of this perceptual view comes from Strange's (2011) **Automatic Selective Perception (ASP)** model which suggests that adult learners rely heavily on their native **perceptual routines** unless trained to shift attention to relevant pronunciation features in the L2. ASP provides a critical explanation for why increasing exposure to the L2 is insufficient for pronunciation improvement; explicit/targeted perceptual training is often required to disrupt the habitual L1-based processing patterns.

Beyond perception and production models, other models, such as Major's (2001) **Ontogeny Phylogeny Model (OPM),** were developed to address these gaps. The Ontogeny Phylogeny Model (OPM), a revision of the Ontogeny Model (OM) by Major (1987), suggests that L2 phonological development proceeds through stages that parallel both first language acquisition (ontogeny) and diachronic linguistic evolution (phylogeny). It attempts to integrate different influences on L2 phonological development. The Ontogeny Model (OM) suggests that early interlanguage development is mainly influenced by L1 transfer, while general developmental processes become more evident in the middle stages, and then decline. OPM proposes that learner output reflects an interaction of L1 transfer, developmental (interlanguage) processes and universal phonological patterns found in child language acquisition. For example, simplification strategies like cluster reduction in L2 learners may be the product of both developmental norms and L1 influences, illustrating the layered complexity of L2 phonology. The model does not clearly explain the role of L2-specific processes, lacks clear start and end points for interlanguage development, and focuses on surface-level performance rather than deeper language knowledge. It also gives little attention to the effects of similarity between languages and does not address the

concept of markedness, which has been shown to play a crucial role in predicting L2 phonological difficulty (Eckman 2008 & 2014).

First Language Transfer and Interlanguage Theories

(This subsection is adapted from Abdelreheem 2023; 2025)

Building on the Critical Period Hypothesis, Transfer Theory and the concept of interlanguage provide detailed explanation of how L1 shapes L2 phonological development. Lado (1957) states that, in the process of L2 learning, "Individuals tend to transfer the forms and meanings, and the distribution of forms and meanings of their native language and culture – both productively when attempting to speak the language and to act in the culture, and receptively when attempting to grasp and understand the language and the culture as practiced by natives" (cited in El Zarka 2013: 23). This phenomenon is referred to in the literature as **L1 (linguistic) interference**, **L1 (positive/negative) transfer**, **interlanguage, native language influence**, **the role of the mother tongue**, **language mixing**, or **cross-linguistic influence** and is regarded as a significant factor in the process of L2 learning/acquisition. Richards (1971), for instance, reported that 36% of L2 errors can be attributed to the interference of the learners' L1 (cited in Tushyeh 1996: 110). Odlin (1989: 27) states that "transfer is the influence resulting from the similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired". In addition, (negative) transfer is identified as one of the sources of errors in L2 acquisition according to Selinker's (1972) classification including: "1. language transfer; 2. transfer of training; 3. strategies of second language learning; 4. strategies of second language communication and 5. overgeneralization of TL linguistic material" (cited in Ababneh 2018: 247). El Zarka (2013: 19) notes that, in their journey of L2 acquisition/learning, learners tend to carry over the rules of their L1 to the system of the target language, which results in some sort of hybrid system that is "neither the L1 nor the L2". Such impact of interlanguage diminishes as a learner's L2 proficiency improves, and may be further influenced by other factors such as: individual differences of teachers or learners, learning/teaching approaches, techniques, procedures and materials, etc. (Jain 1974: 189, cited in El Zarka 2013: 19). On the other hand, the type of transfer, where the cross-linguistic similarities between L1 and L2 aid the process of acquisition, is considered, and referred to in the literature, as "positive transfer" (El Zarka 2013:

23). Mahmoud (2010: 127) states that "transfer may be used as a learning strategy to formulate hypotheses about the target language and as a communication strategy to test these hypotheses".

Odlin (2003: 437) notes that "language transfer affects all linguistic subsystems including pragmatics and rhetoric, semantics, syntax, morphology, phonology, phonetics, and orthography". Nevertheless, transfer is often more noticeable in certain subsystems of a language than in others; for instance, it is less evident in syntax and morphology compared to phonetics and phonology (Krashen 1982). This perspective is supported by more recent research highlighting the prominence of transfer in phonological aspects of second language acquisition. Jarvis and Pavlenko (2008) emphasise that phonological transfer remains among the most perceptible to both learners and educators. Furthermore, Trofimovich and Baker (2006) demonstrate that suprasegmental features such as stress and rhythm are especially resistant to change and heavily influenced by the L1, often to a greater extent compared to morphosyntactic features. Foote et al. (2013) confirm that both teachers and learners identify L1 accent traits as one of the most evident markers of transfer, supporting Odlin's (2003: 445) observation that "the difficulty of noticing cross-linguistic differences may be especially acute in the area of pronunciation". L1 interference plays a greater role in the acquisition of L2 pronunciation compared to other aspects of L2, and is the main cause behind possessing a **foreign accent** (Celce-Murcia et al. 1996: 20) that is acoustically similar to the learners' L1 (Avery & Ehrlich 1992). A foreign accent is regarded as a form of transfer in which a learner **subconsciously** transfers to the target language the phonological norms and concepts of their native language or any other foreign language (which may not be entirely applicable to the target language) rather than its concrete items and/or rules (Fraser 2006: 86). The process of L2 pronunciation learning/acquisition involves changing pre-existing L1 concepts, applying those concepts and recognising their role through the analysis and reproduction of sounds, which are all crucial to successful L2 practice (Fraser 2006: 82,86&87).

In contrast to **interlingual errors** brought on by the transfer of a learner's L1 rules to the target language, errors that do not result from the interference of a learner's L1 are referred to in the literature as **developmental errors** or **intralingual errors**. Overgeneralisation (Richards 1971) and simplification (cited in Thao 2020: 106) are examples of developmental errors which indicate lack of/inadequate knowledge of the rules of a second language. Fraser (2000: 22) states that:

> Though there is some validity to the 'transfer' idea, it is only useful in an elaborated form which requires a good understanding of its limitations and ramifications. A simplistic idea that learners are transferring sounds from their native language to the new language is a hindrance rather than a help. It is unfortunate that so many teachers, as well as the general public, still hold so strongly to a simple notion of transfer.

In the context of teaching English to native speakers of Arabic, El Marzouk (1993) explores the transfer of L1 vowels and norms of consonant clustering, which is evident in the vowel intrusions in English consonant clusters by Arab learners. The current study investigates the key English pronunciation difficulties of Egyptian EFL learners through a contrastive analysis (of the phonetic and phonological systems of Egyptian Arabic and Modern Standard Arabic as the two languages available to the learners before L2, and English as the target language) to see whether the errors are caused by any type of negative transfer of the learners' L1(s), and to shed light on any other factors hindering the acquisition/learning of English pronunciation.

Error Analysis and Contrastive Analysis

Any error analysis requires contrastive analysis; error analysis and contrastive analysis provide complementary perspectives for understanding the sources of learner errors in SLA. Contrastive Analysis Hypothesis (CAH) (Lado 1957; Gass & Selinker 2008) systematically compares L1 and L2 sound systems to predict areas of difficulty, emphasising the role of negative transfer. Error Analysis, on the other hand, examines actual learner productions, recognising that not all errors stem from L1 interference; some are developmental or intralingual in nature (Byram 2004). The following section explores these frameworks in more depth, and provides critical evaluations within contemporary SLA research.

Contrastive analysis can explain why certain L2 errors occur. Error analysis is concerned with shifting the focus of linguists and educators from the learner's L1 and L2 to the actual performance (produced errors) of the learner who is believed to possess the capacity to construct a language (Saville-Troike 2006: 37&38) that is independent from the learner's L1 (Mitchell & Myles 2004). Error analysis is a concept based on the notion that many errors cannot be attributed to a learner's first language; it rather focuses on the descriptions of the productions by a particular target language learner unlike contrastive analysis that aims to point out any systematic error patterns by focusing on those predictions, of the challenges that could be faced by those learners

based on their linguistic background(s) (Byram 2004). Error analysis also focuses on the comparisons of a learner's language production against the target language (Thao 2020: 102).

Contrastive analysis, on the other hand, aims to define learners' errors by the means of comparing and contrasting features of L1 and L2 (Byram 2004, as cited in Gass & Selinker 2008: 89) arriving at a set of properties of L2 which represent the problematic areas that need to be prioritised in L2 syllabi and classroom materials and study programmes (Thao 2020: 102). According to Gass and Selinker (2008: 96), contrastive analysis aims to "determine potential errors for the ultimate purpose of isolating what needs to be learned and what does not need to be learned in a second-language-learning situation".

Integrating Error Analysis and Contrastive Analysis

Traditionally, contrastive analysis and error analysis have been viewed as distinct, even competing, approaches to understanding learner errors. As illustrated earlier, contrastive analysis focuses on predicting potential areas of difficulty by systematically comparing the phonological systems of the L1 and L2, whereas error analysis centres on the actual errors produced by learners, regardless of their origin. However, more recent research in SLA recognises that these approaches are, in fact, complementary rather than mutually exclusive (Gass & Selinker 2008; Saville-Troike 2006). In addition, insights from transfer-based explanations have been integrated with models that highlight the role of typological markedness, universal constraints and structural complexity in the acquisition of second language phonology. For instance, the **Markedness Differential Hypothesis** suggests that those target language structures that are both different from the learner's L1 and typologically marked are more likely to result in learning difficulty (Eckman 2008 & 2014). In this sense, learner difficulty is not predicted solely by differences between L1 and L2. This perspective reformulates earlier contrastive approaches by suggesting that not all L1–L2 differences are equally problematic; the degree of difficulty rather depends on how structurally marked the target feature is. However, contrastive analysis remains invaluable for identifying likely sources of negative transfer and for informing the design of instructional materials that address predictable challenges, particularly in the initial stages of L2 learning while error analysis provides insight into the full range of learner errors, including those that arise from developmental processes or from the complex interaction of various linguistic and contextual factors.

Despite their enduring value, both error analysis and contrastive analysis have been critiqued for certain limitations that researchers and practitioners need to acknowledge.

Contrastive analysis, while effective in highlighting predictable areas of negative transfer, has been criticised for its deterministic assumptions that all differences between L1 and L2 will result in errors, and all similarities will facilitate learning (Saville-Troike 2006). This perspective overlooks the complexity of second language acquisition, where not all predicted errors materialise and learners sometimes produce errors unrelated to L1 influence. Similarly, error analysis, though crucial for documenting actual learner performance, has been challenged for its descriptive rather than explanatory focus and for sometimes failing to consider the underlying cognitive or developmental processes that give rise to errors (James 1998). Furthermore, both approaches have historically tended to treat errors as deficiencies rather than as evidence of active language development and hypothesis testing by learners (Thao 2020: 106). Recent perspectives emphasise that errors, whether predicted by contrastive analysis or observed through error analysis, should be viewed as a natural and necessary part of the interlanguage development process.

However, integrating both approaches in the present research, while remaining mindful of their limitations, can aid achieving a more comprehensive understanding of the diverse sources of Egyptian EFL learners' pronunciation difficulties, enabling targeted pedagogical measures that address both anticipated and emergent challenges. While this study reviews and contextualises its findings in relation to more recent models of L2 phonological acquisition presented earlier in the literature review: the Speech Learning Model (Flege 1995; Flege & Bohn 2021), the Perceptual Assimilation Model (Best 1995; Best & Tyler 2007) and the Automatic Selective Perception Model (Strange 2011), the primary analytic approach is based on Transfer Theory, Contrastive Analysis, Error Analysis and the Lingua Franca Core Model. Contrastive Analysis and Error Analysis are expected to provide a relevant framework for identifying, categorising and explaining the nature and sources of pronunciation difficulties experienced by Egyptian EFL learners while the LFC is employed to inform more targeted pedagogical interventions. On the other hand, other models still provide valuable background for understanding the perceptual and cognitive dimensions of L2 phonology, and their insights are referenced in the discussion of results to enrich the interpretation of the data and to situate the findings within the broader field of second language phonological research. As pointed out earlier, this research primarily focuses on transfer theory, error analysis and contrastive analysis as its theoretical and methodological foundations. This focus is justified by the findings of numerous previous studies investigating the pronunciation challenges faced by native Arabic speakers learning English as a foreign language. These studies

consistently demonstrate that a significant proportion of learner errors (many phonological, as well as syntactic and morphological errors among Arabic-speaking EFL learners) stem from the transfer of L1 norms and structures into the L2 context and can be traced back to differences between Arabic and English phonological and grammatical systems, resulting in negative transfer or interference. Given the linguistic differences between Arabic and English, transfer remains a dominant factor influencing learner performance, particularly in segmental and suprasegmental pronunciation features.

2.2.Theories Underlying Pronunciation Teaching

Key theoretical frameworks

In parallel with developments in L2 phonology acquisition theory, pronunciation pedagogy has undergone a major paradigm shift from mechanical, form-only instruction to integrative, communicative and perception-oriented approaches. This shift has been shaped by broader changes in language teaching theory and the increasing recognition that intelligible pronunciation is not only a matter of accuracy but also of perceptual training, sociocultural interaction and learner self-sufficiency. Therefore, in the researcher's point of view, effective teaching strategies must address both the cognitive and social dimensions of learning, balancing explicit instruction with meaningful communication.

Pronunciation instruction was built on the **Audiolingual Method** (Brooks 1964), heavily influenced by behaviourist psychology. Learners were trained through drilling and repetition, with little attention to meaning or individual learner needs. While this approach may have promoted accurate articulation in the short term, it failed to develop functional oral skills or foster long-term phonological awareness, particularly in EFL contexts where natural input is limited (Brown 2007). In addition, the extent to which language acquisition depends on imitation remains a debated issue within second language acquisition research. According to Lightbown and Spada (2013: 201-202), the idea that language is primarily acquired through imitation lacks strong empirical support, as learners of both first and second languages often produce original sentences that they have not previously encountered. Such creative language use indicates that learners develop an internalised understanding of linguistic patterns rather than merely memorising and reproducing fixed sentences. While some children engage in selective imitation during first language acquisition, the extent of imitation varies, and those who imitate less can acquire language just as effectively as

those who imitate more. Similarly, second language learners may use imitation as a strategy, particularly for improving pronunciation, but mechanical repetition alone, such as that emphasised in audiolingual teaching methods, is insufficient without meaningful communicative practice. Recent corpus linguistics research highlights the importance of formulaic language and chunk learning, where learners internalise frequently co-occurring words and phrases. In sum, language acquisition results from the combined effects of exposure to language input and active use in meaningful interaction, rather than simple imitation or mechanical memorisation.

Modern communicative approaches

Modern approaches have shifted focus toward intelligibility and comprehensibility (Munro & Derwing 1999; Levis 2005; Wells 2005). Instead of aiming for native-like accents, often an unrealistic goal for adult learners, contemporary pedagogy emphasises helping learners produce speech that is understandable and socially appropriate. This approach is in line with the wider principles of **Communicative Language Teaching (CLT)**, which prioritises interaction, context and meaning-making rather than strict focus on formal accuracy (Derwing & Munro 2013). Modern pronunciation pedagogy, drawing on the concepts of CLT, prioritises intelligibility over native-like accuracy (Celce-Murcia et al. 2010; Munro & Derwing 1999; Nikbakht 2011) and integrates pronunciation practice into authentic communicative activities, moving beyond imitation to foster real-world speaking skills. This approach is particularly relevant for Egyptian EFL learners, whose goal is often effective international communication rather than accent elimination.

Within this framework, **Form-Focused Instruction (FFI)** plays a key role. FFI involves drawing learner attention to specific linguistic features within a communicative context (Ellis 2015). This can be achieved through input enhancement, corrective feedback and explicit instruction, all of which encourage learners to **notice** discrepancies between their production and the target forms (Schmidt 2001). Saito (2012) found that learners receiving form-focused pronunciation instruction significantly improved in both segmental accuracy and overall comprehensibility, stressing the pedagogical value of combining attention to form with meaningful use. Research increasingly supports form-focused instruction, which draws learners' attention to specific phonological features within communicative contexts (Celce-Murcia et al. 2010; Saito 2012). Explicit instruction, including explanations, focused listening and corrective feedback, has

been shown to improve both segmental and suprasegmental accuracy, especially for sounds that are absent or markedly different in the learners' L1. More recent studies suggest that pronunciation instruction may benefit from starting with learners' L1 as a scaffold, helping them become aware of differences and similarities before moving to L2-specific features (Carey et al. 2015). Carey et al. (2015) argue for greater teacher understanding of the dynamic relationship between speech production and perception, highlighting the role of pronunciation instruction that begins with what learners already know (their L1 phonological system) rather than relying primarily on listen-and-repeat methods. There has been a debate about whether perception or production should be prioritised; most researchers agree that the relationship is interdependent, and that both skills should be developed in parallel (e.g. Saito 2012; Thomson & Derwing 2014). However, the perspective of Carey et al. (2015) contrasts with the other theoretical views that see perception and production as complex, mutually facilitating processes without a fixed sequence. They emphasise the benefits of beginning with perception, using learners' L1 as a foundation, before moving on to L2-specific production features. For Egyptian learners of English, for instance, explicit teaching of English consonant and vowel contrasts is essential for developing intelligible pronunciation. Without focused instruction, such contrasts may go unnoticed by learners, resulting in intelligibility issues. By explicitly drawing attention to the differences (providing perception practice before production), teachers can help learners build the phonological awareness necessary to avoid negative transfer from L1 and improve the learners' overall communicative effectiveness in English.

Cognitive frameworks

Cognitive approaches to pronunciation teaching emphasise the importance of perceptual training, awareness-raising and the development of a metalanguage for discussing pronunciation (Couper 2016). **Natural Phonology**, originally proposed by Stampe (1969), is a theory that conceptualises phonological acquisition as governed by innate, universal phonological processes. These processes are subconscious adaptations of speech production and perception that simplify complex phonetic forms to accommodate human physiological and cognitive limitations (Donegan & Stampe 1979). Learners initially apply these natural processes, such as substitution or deletion of difficult sounds, which are gradually suppressed as they acquire the phonological system of the target language (Stampe 1969). For example, second language learners often replace unfamiliar

L2 patterns with easier ones, reflecting universal tendencies rather than mere interference from their first language. Natural Phonology also explains variability in L2 pronunciation, including the persistence of **foreign accents** and systematic phonological variation (Donegan & Stampe 2009). This theory highlights the role of innate cognitive mechanisms, and provides a comprehensive explanation for common learner errors and developmental patterns in L2 phonology.

The **Declarative/Procedural Model** and **Skill Acquisition Theory** provide more recent cognitive perspectives on how learners internalise and proceduralise phonological knowledge. The **Declarative/Procedural (DP) Model**, developed by Ullman (2015), provides a powerful framework for understanding the neurocognitive bases of phonological acquisition and the differences between native and non-native language processing, with important implications for language teaching and learning strategies. DP is a neurobiologically based framework suggesting that the way a language is acquired, stored and accessed relies on two distinct memory systems: declarative and procedural memory. Declarative memory, associated with the hippocampus and medial temporal lobes, supports the learning and explicit knowledge of facts, including the mental lexicon-words, their meanings and phonological forms (Ullman 2015: 137-138). Procedural memory, linked to brain structures such as the basal ganglia, underlies the implicit learning and use of skills and habits, including rule-governed aspects of language like grammar (syntax and morphology) and aspects of phonology involving phonological patterns and structures (Ullman 2015: 138-139). Regarding phonology acquisition, the Declarative Procedural model suggests that declarative memory plays a crucial role in learning phonological forms of words, especially when these are learned explicitly or involve "idiosyncratic sound-meaning mapping" (Ullman 2015: 140). Procedural memory contributes to the implicit learning and automatic processing of phonological rules and patterns, enabling fluent manipulation of phonological structures during speech. However, more recent research indicates that phonological processing in second language learners may rely more heavily on declarative memory than procedural memory, as learners often depend on explicit learning strategies for new sound patterns (Ullman 2021). This contrasts with first language acquisition, where procedural memory more dominantly supports phonological rule processing. The model further explains why adult L2 learners frequently show greater reliance on declarative memory for both grammar and phonology compared to native speakers who utilise procedural memory more efficiently. This reliance on declarative memory can lead to less automatic and more effortful pronunciation and grammatical processing in L2.

Skill Acquisition Theory (SAT), based on cognitive psychology and adapted for SLA, conceptualises phonological learning as a progression from declarative knowledge (explicit understanding of phonetic features and rules) to procedural knowledge which involves automatic and fluent production and perception of L2 sounds (DeKeyser 2015: 94). Through repeated practice and feedback, learners develop more automatic control over their pronunciation, reducing cognitive load and increasing fluency. In the context of pronunciation instruction, this theory provides a useful framework for designing pronunciation instruction that balances explicit teaching with opportunities for meaningful practice, treating language learning similarly to acquiring other complex skills, such as playing an instrument or driving, and emphasising that consistent practice is key to proceduralising knowledge. This approach helps learners transition from consciously applying pronunciation rules to producing sounds more naturally and effortlessly. The theory also aligns with broader cognitive models (e.g. Anderson 1982, 1993, 2007, cited in DeKeyser 2015: 95) which describe skill acquisition as moving through declarative, procedural and autonomous stages.

Sociocultural Perspectives

The **Sociocultural Theory** highlights the role of social interaction, identity and context in shaping learners' pronunciation choices (Lantolf & Thorne 2006). Pronunciation is not merely a technical skill but is embedded in social practices and attitudes, which can affect learners' motivation and willingness to modify their speech. For Egyptian learners, creating supportive, communicative classroom environments that value intelligibility and encourage experimentation is key. Incorporating the Sociocultural Theory into pronunciation pedagogy further enhances this approach. Based on the work of Vygotsky (1978), and later developed by Lantolf (2006), this theory suggests that learning is mainly a social process, mediated through interaction as well as cultural tools. Applied to pronunciation, it supports the use of peer collaboration, guided feedback and interactive tasks to co-construct phonological knowledge. From a sociocultural perspective, Vygotsky's Sociocultural Theory (1978) emphasises the role of collaborative learning in language acquisition, and advocates for pronunciation instruction to be embedded in communicative and social contexts. In the Egyptian EFL context, pronunciation materials available to Egyptian EFL learners still isolate pronunciation from authentic communication, limiting learners' ability to apply phonological skills in real-world interactions.

Dynamic/Usage-Based Approaches

Building on cognitive and sociocultural perspectives, contemporary usage-based and complexity approaches emphasise the dynamic, context-dependent nature of phonological development. Hall et al. (2006) critique traditional views of language knowledge that treat L1 and L2 as separate, static systems. They propose a usage-based, dynamic conception of multicompetence where multilingual language knowledge is context-dependent and governed by actual language use. Usage-based approaches (Ellis & Wulff 2015: 75-90) to phonology acquisition emphasise the importance of input frequency, cognitive pattern recognition and social interaction in shaping learners' phonological knowledge. These approaches argue that phonological competence emerges from repeated exposure to language use in meaningful communicative contexts rather than from the acquisition of abstract rules. Language learning is viewed as a dynamic and adaptive process where learners gradually form mental representations of phonological patterns based on their usage experience. This perspective challenges strict distinctions between monolingual and multilingual competence, emphasises the flexible, situated nature of learners' linguistic competences, and complements sociocultural approaches by highlighting the complexity of multilingual learners' phonological knowledge and the importance of context, authentic interaction and practice in pronunciation development.

Larsen-Freeman (2006) explores SLA through the lens of **Complexity Theory,** arguing that language learning is a non-linear, dynamic mechanism shaped by multiple interacting variables. In contrast to conventional models that view SLA as the acquisition of discrete linguistic rules to be memorised, Complexity Theory suggests that learners develop linguistic competence through continuous adaptation to input and social interaction. Thus, language learning should not be treated as a static skill to be perfected; it is rather an "emergent" or ongoing process of adjustments or a "stage-like" progression (Larsen-Freeman 2006: 614-615). This means that learners do not acquire linguistic patterns in a fixed order but rather through exposure to patterns that gradually stabilise over time (Larsen-Freeman 2006: 593). This perspective explains the variability observed in L2 performance where learners may demonstrate target-like use in one context, but resort to L1-influenced forms in another. Such fluctuations are not considered indicative of failure; they rather reflect the natural process of linguistic restructuring as learners refine their interlanguage systems (Larsen-Freeman 2006: 593). Understanding that second

language acquisition is a dynamic and variable process allows educators to develop more flexible teaching methodologies that accommodate individual learning patterns and foster long-term language development. From a pedagogical perspective, Complexity Theory implies that explicit pronunciation instruction alone is insufficient; learners need opportunities for frequent, varied interactions with the target language in real-life communicative settings. Rather than drilling individual sounds in isolation, instructors should incorporate meaningful pronunciation tasks, such as storytelling, role-playing and spontaneous speech exercises, which allow learners to refine their pronunciation within natural discourse.

Global English / Intercultural Competence

A more radical shift in pronunciation pedagogy is seen in Jenkins' (2000) **Lingua Franca Core (LFC)** proposal. Jenkins argues that in global contexts where English serves as a lingua franca among non-native speakers, instruction should prioritise features essential for international intelligibility rather than native norms. These include consonant distinctions, vowel length and nuclear stress. Features such as weak forms or native-like rhythm, which often pose significant difficulty for learners without improving intelligibility, are considered less critical. A review of the Lingua Franca Core (LFC), including an examination of the principal criticisms directed against it, and a discussion of the rationale for its selection in the Egyptian context, will be presented in subsequent sections.

Alptekin (2002) advocates for expanding the scope of pronunciation teaching by moving beyond the conventional communicative competence framework, which he critiques for its reliance on native-speaker linguistic and sociocultural standards. He argues that such a model is increasingly inadequate in the context of English as a global lingua franca where native-speaker norms hold less relevance. Instead, Alptekin introduces the notion of intercultural communicative competence, focusing on learners' ability to effectively negotiate meaning and communicate across diverse cultural settings rather than simply imitating native speakers. This perspective calls for a pedagogical realignment that prioritises clarity of communication and intercultural effectiveness. The view aligns closely with Jenkins' (2000) Lingua Franca Core (LFC) approach, which emphasises context-appropriate pronunciation instruction that addresses practical communication needs (Jenkins 2000; Alptekin 2002).

Technology-Enhanced Instruction

Recent years have witnessed the rise of **technology-enhanced pronunciation instruction**, including Computer-Assisted Pronunciation Training (CAPT) tools and speech recognition software. These tools support learner autonomy, provide immediate feedback, and allow for individualised practice; those elements proven to facilitate pronunciation gains (Foote & Trofimovich 2018). However, they must be embedded within a sound pedagogical framework to be effective. Altogether, these theories and approaches presented provide a comprehensive framework for pronunciation instruction: one that is based on cognitive awareness, social interaction and communicative relevance, and that is essential for developing informed, context-sensitive methodologies suited to the needs of Egyptian EFL learners who face both segmental and suprasegmental challenges influenced by their phonological background and educational context.

Interaction between Transfer and Developmental Errors

While the influence of L1 transfer is widely recognised as a major source of pronunciation errors among Egyptian EFL learners, not all learner errors can be attributed solely to cross-linguistic interference. Developmental or intralingual errors, those arising from the learner's evolving understanding of the target language system, also play a significant role in L2 phonological acquisition. Major (2001) emphasises that learners' interlanguage is determined by a dynamic interaction between L1 transfer and universal developmental processes; certain pronunciation errors reflect patterns common to all language learners, regardless of their L1 background. For example, overgeneralisation of L2 phonological rules or simplification strategies may result in errors that are not traceable to the L1 but rather to the learner's internal hypotheses about the target language (Saville-Troike 2006: 39&41). This developmental perspective highlights that the acquisition of L2 phonology is not a linear process of replacing L1 features with L2 norms, but rather a complex process in which transfer and developmental factors interact and evolve over time. Thus, a comprehensive analysis of Egyptian EFL learners' pronunciation difficulties must consider both interlingual and intralingual sources of error, as well as the ways in which these interact during different stages of language development.

While foundational studies such as those by Lado (1957) and Richards (1971) had provided the basis for the understanding of transfer and error analysis, it is essential to balance these classic

perspectives with insights from more recent research. Contemporary studies emphasise the continued relevance of L1 transfer but also highlight the effectiveness of explicit pronunciation instruction and the importance of learner awareness in overcoming persistent errors (Saito 2012; Thomson & Derwing 2014). For instance, Saito's (2012) synthesis of quasi-experimental studies demonstrates that form-focused pronunciation instruction has the potential to significantly enhance segmental and suprasegmental accuracy, even among adult learners. In addition, the systematic review of studies on learner errors in SLA in general by Khansir and Pakdel (2018) highlights the ongoing relevance of both contrastive and error analysis in understanding learner errors and improving language teaching, while noting that error analysis can demonstrate multiple sources of errors beyond L1 interference, aligning with cognitive views of language learning. These recent contributions emphasise the need for a pronunciation instruction approach that is both guided by the relevant approaches and responsive to the needs of Egyptian EFL learners.

To sum up, the acquisition of L2 phonology among EFL learners is the result of a complex interaction of factors including age-related constraints, L1 transfer and ongoing interlanguage development, perceptual assimilation, and the need for instruction that is explicit, communicative and context-sensitive. These models move beyond simple L1 interference explanations, and, instead, offer a detailed, cognitively grounded explanation of why certain L2 contrasts are difficult, how perception and production interact, and what pedagogical interventions may be effective. Building on these theoretical perspectives clarifies the persistent pronunciation challenges faced by Egyptian learners, and provides the theoretical background to understand common difficulties in both segmental and suprasegmental features and guide the design of effective, research-based pedagogical interventions that point toward the importance of perception-based instruction and long-term exposure in fostering phonological competence.

2.3.Problematic Aspects of Pronunciation

(Parts of 2.3. are based on the subsection titled "Problematic Aspects" in Abdelreheem 2023, which has been revised and expanded for the present work)

2.3.1. Segmental aspects

Spada and Lightbown (1999) and Bongaerts (1999) emphasise that raising students' awareness of cross-linguistic differences can aid the acquisition of features they find challenging in the target language. Therefore, it is important to begin with noting the differences between the

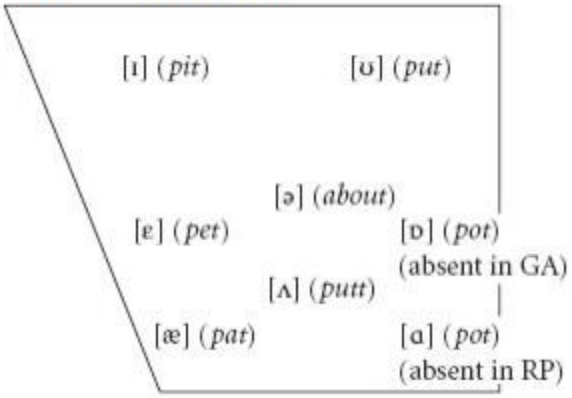
phonetic systems of English and Arabic. Egyptian Arabic contains twenty-nine consonant phonemes and only twelve vowels (three short vowels, five long vowels and four diphthongs) (Youssef 2006: 14&21). Each of the ECA monophthongs, as well as the diphthongs /aw/ and /aj/, has a plain and an emphatic allophone (Youssef 2006: 14&21). On the other hand, Received Pronunciation (RP), the primary English variety prioritised in the field of ELT in Egypt, has twenty-four consonants and twenty vowels (seven short monophthongs, five long monophthongs, and eight diphthongs). RP is the variety that was more available to the learners at early stages of EFL learning. However, the growing interest in General American (GA) pronunciation cannot be surpassed, and both British and American curricula are adopted in the different educational institutions (depending on the institutional orientation). Therefore, it is necessary to present the consonant and vowel inventories of both RP and GA. Although RP and GA differ in several phonetic and phonological features (such as rhoticity, yod-dropping patterns, the allophonic realisation of /t/ and the distribution of /r/), these differences do not constitute distinct consonant phoneme inventories. However, the two varieties differ more noticeably in their vowel systems in terms of phonemic distinctions, quality and realisation of several vowel categories. The English consonants as well as RP and GA vowel systems are given below:

English Consonants (Ladefoged & Johnson 2011: 43)

Manner of articulation \ Place of articulation	bilabial	labio-dental	dental	alveolar	palato-alveolar	palatal	velar	glottal
nasal (stop)	m			n			ŋ	
stop	p b			t d			k g	ʔ
fricative		f v	θ ð	s z	ʃ ʒ			h
(central) approximant	(w)			r		j	w	
lateral (approximant)				l				

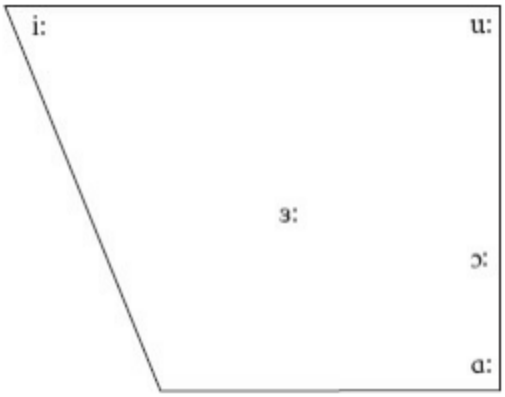
RP and GA short vowels (Carr 2013: 66)

(2) RP and GA short vowels



RP and GA long vowels (Carr 2013: 72)

(1) RP and GA long vowels



RP and GA diphthongs (adapted from Carr 2013: 74, 75 & 76)

RP and GA diphthongs ending in [ɪ]
/eɪ/
/aɪ/
/ɔɪ/
RP and GA diphthongs ending in [ʊ]
/aʊ/
/əʊ/ (RP) or /oʊ/ (GA)

RP diphthongs ending in [ə] (centring diphthongs)
/ɪə/
/eə/
/ʊə/

In Arabic (MSA or ECA), the three short vowels do not usually appear in script. They are only "graphically represented" through diacritics above or below the letters (Martin 2011: 8) in teaching contexts (e.g. textbooks, classroom instruction), religious contexts (e.g. books, speeches), Arabic language and literature written media, some formal occasions, and in written forms of everyday communication where incidents of misunderstanding are predicted or actually occur. As in English, the one-to-one correspondence between orthography and speech sounds is not always clear in Arabic (Martin 2011: 8). While English represents vowels in writing, it is not always predictable how a vowel is represented in writing (*red* vs *head*), or how letters representing vowels are pronounced (*stove* vs *love*). However, English does not have the short vowel phonemes not represented at all in script (although it does so exceptionally as in the noun suffix *-ism* /ɪzəm/). Arabic texts, on the other hand, are generally not "fully vowelized" (i.e. with no representation of the short vowels in script) (Martin 2011: 8). All short vowel sounds in Arabic are not represented through any letters. For example, the word كتب /kʊtʊb/ 'books' show in script as three consonant letters only: k ـكـ, t ـتـ and b ـبـ. Depending on the context, short vowel sounds may or may not show as diacritic marks above or below the consonant letters, but never as vowel letters.

2.3.1.1.Consonants

Egyptian speakers of English fail to realise the voicelessness of the bilabial stop /p/ and tend to substitute the consonant with its voiced counterpart /b/, the only bilabial stop in the Arabic phonemic system. As illustrated by Ladefoged and Johnson (2011), plosives are typically those consonants whose articulation, within the oral cavity, involves a sequence of closure, compression and release. In English, there are six plosives, /p, b, t, d, k, g/ (in addition to the glottal stop [ʔ] being commonly found in RP and many other Southern near-RP varieties of English), which share a group of acoustic characteristics including: (1) **stop gap duration** that refers to the silent interval that occurs during the closure phase (which is generally longer for voiceless plosives /p, t, k/

compared to voiced plosives /b, d, g/) (Lisker & Abramson 1964; Cho & Ladefoged 1999). (2) **Voicing bar** is a visible dark band in the spectrum at typically lower than 200 Hertz (Hz) (Kent & Read 2002). This feature is peculiar to voiced plosives (/b, d, g/) (as well as all other voiced sounds including vowels) and serves as a key voicing signal on a spectrogram (Kent & Read 2002). (3) A **release burst** is characterised by a prominent vertical peak (Stevens 2000). This peak is normally more robust for voiceless plosives (/p, t, k/) than for their voiced counterparts (/b, d, g/) (Stevens 2000). **Aspiration** is a voiceless period following the release of the closure. It is associated with voiceless plosives (/p, t, k/) as word-initials in stressed syllables (Ladefoged & Johnson 2011), such as the aspirated /p^h/ in *punch*, typically lasting around 30 milliseconds (Cho & Ladefoged 1999). However, aspiration also manifests to varying degrees in word-medial and final positions. However, aspiration is not the same as the **release burst** mentioned before; while all stops with an audible release exhibit a short burst, only some voiceless stops (in particular word positions) feature the longer period of aspiration (Kent & Read 2002).

Another phonological feature that EFL learners may encounter, particularly in varieties of British English, is glottal replacement. This involves the substitution of the voiceless alveolar plosive /t/ with a glottal stop [ʔ] in certain phonetic environments, most commonly when /t/ occurs between vowels or at the end of a syllable (e.g. *butter* [ˈbʌʔə]; *chocolate* as [ˈtʃɒkləʔ]; *not really* [nɒʔ ˈrɪəli]). This feature is characteristic of several UK accents, including Cockney, Estuary English and in mainstream London English, but can also be found in other UK accents to varying degrees. Although glottal replacement is not generally taught in formal EFL pronunciation models, such as RP or GA, or expected of EFL learners in production, it is important for learners to be aware of this feature for listening comprehension especially in both informal and regionally marked varieties of English where this feature is frequently used.

One of the most effective cues for measuring voice timing (mainly with initial-position stops) is what is referred to as Voice Onset Time (VOT). As defined by Lisker and Abramson (1964), VOT is a phonetic characteristic that pertains to the articulation of stop consonants. It is the duration between the plosive release and the initiation of vocal cord vibration, which signals **the onset of voicing**. This temporal interval encompasses several acoustic components: **the release burst**, a short period of fricative noise following the burst, and any aspiration present (Cho & Ladefoged 1999; Kent & Read 2002). VOT varies across different types of stop consonants: voiceless unaspirated, voiceless aspirated and voiced unaspirated stops. Voiceless unaspirated

stops typically exhibit a VOT close to zero, which means that the voicing of a subsequent sonorant begins nearly simultaneously with the release of the stop consonant (Ladefoged & Johnson 2011). By contrast, voiceless aspirated stops display a significantly higher VOT than that of unaspirated stops, resulting in what is referred to as a **positive VOT**, while voiced unaspirated stops are where the VOT is notably negative, meaning that vocal cord vibration commences prior to the release of the stop consonant (Lisker & Abramson 1964). The length of the VOT serves as an indicator of the degree of aspiration; a longer VOT corresponds to stronger aspiration (Cho & Ladefoged 1999). VOT aligns with the stop onset in the case of "fully voiced stops" while occurring during the closure phase in "partially voiced stops" (e.g., English [b, d, ɡ] in word-initial position) (Kent & Read 2002).

[b] and [p] are typically allophones of the same phoneme in the Arabic language (MSA, ECA and most other Arabic varieties) (Nasr 1997: 24). The words pea (/ˈpi:/) and bee (/ˈbi:/) can be used interchangeably, which may lead to miscommunication. Such mispronunciation of /p/ may affect other phonemes, leading to additional assimilation-related pronunciation issues. ECA is rich in many forms of assimilation, such as voicing and devoicing assimilation, which are carried over to English produced by native speakers of ECA. As a result, Egyptian students transfer it to English. For example, in the word *spin* (/ˈspɪn/), regressive assimilation occurs when /s/ is assimilated in voicing to /b/, substituted for /p/, resulting in [zbɪn].

Another feature is replacing the voiceless palato-alveolar affricate /tʃ/ with the voiceless palato-alveolar fricative [ʃ] (e.g. *chair* /tʃeə(r)/ can overlap with *share* /ʃeə(r)/). An affricate is a combination of a plosive and a fricative that are both clearly visible on a spectrogram, represented by a gap before the fricative noise. The affricate /tʃ/ does not exist in the ECA phonetic system as a speech segment. However, it can occur in some Arabic dialects at the junctures of /t/ and /ʃ/ (Mahajna & Davis 2016), and in many Arabic dialects as a separate consonant (where ECA and MSA have /k/ instead). /tʃ/ does not occur as a separate segment or at junctures in ECA.

The phonetic system of Arabic has both the alveolar nasal [n] and the velar nasal [ŋ], however they exist as allophones of the same phoneme, /n/ (Kharma & Hajjaj 1989, cited in Elmahdi & Khan 2015: 95). In many varieties of Arabic, the velar allophone of /n/ can occur before a velar stop as in [ʃaŋkal] 'hook' (Youssef 2013: 35). English words in which the velar nasal is followed by a velar stop (e.g. *finger* [ˈfɪŋgə]; *sink* [ˈsɪŋk]) pose no difficulty. However, where it is

not followed by a velar stop, as in *young* [jʌŋ] or *singer* [ˈsɪŋə], Arabic speakers tend to pronounce a [g] after it: [jʌŋg], [ˈsɪŋgə] (Ahmad 2011: 23).

Although the phonemic system of MSA encompasses the phonemes /dʒ/, /θ/ and /ð/, Egyptian learners exhibit difficulty pronouncing them since ECA does not have them. MSA and several other Arabic dialects use the voiced palato-alveolar affricate /dʒ/ in their phonemic systems. Nevertheless, it corresponds to the voiced velar stop /g/ in ECA (Javed 2013) or to the voiced palato-alveolar fricative /ʒ/ in other Egyptian dialects. Due to their familiarity with [ʒ] in loanwords such as *beige* /beːʒ/ and *garage* /ˈgar.ɑːʒ/, Egyptian learners of English are noticed to substitute /dʒ/ with [ʒ] in their pronunciation.

Similarly, the MSA voiceless dental fricative (/θ/), and voiced dental fricative (/ð/), are another example of this. MSA /θ/ corresponds to the voiceless dental stop /t/ or the voiceless alveolar fricative /s/ in ECA (e.g. MSA /ˈθaːni/ ‘second’ (an adjective) is [ˈtaːni] in ECA, while MSA /ˈθaːnija(h)/ ‘second’ (a unit of time) is [ˈsanja(h)] in ECA and MSA /ˈθaːbit/ ‘stable’ (adjective) becomes [ˈsaːbɪt] in ECA). The voiceless fricative /θ/ is often altered to /s/ in the English spoken by Egyptians. Furthermore, MSA /ð/ corresponds to the Cairene voiced dental stop /d/ or the voiced alveolar fricative /z/ (e.g. MSA /ˈðʊrah/ ‘corn’ is [ˈdʊrah] in ECA, while MSA /ʊsˈtaːð/ ‘mister’ becomes [ʊsˈtaːz] in ECA). This variation in MSA to ECA alterations could be explained in terms of inherited vocabulary versus borrowed vocabulary. There is a tendency to alter /θ/ to /t/ and /ð/ to /d/ in case of inherited words. However, when a target word is borrowed from another language or language variety, /θ/ becomes /s/ while /ð/ becomes /z/. Likewise, when learning English, Egyptians often pronounce the English voiced dental fricative /ð/ as a voiced alveolar fricative /z/. The aforementioned instances of phoneme alterations demonstrate that Egyptian learners tend to alter the manner and place of articulation while maintaining the segmental voicing quality.

The notion that a single phoneme can have different characteristics in Arabic and English while existing in the two languages can lead to some additional pronunciation issues. Although the voiceless glottal fricative consonant /h/ exists in both Arabic and English, the Arabic /h/ is articulated with harsher aspiration (or with higher intensity levels in more technical terms) compared to its English counterpart. According to Abboud and McCarus (1983: 43), Arabic /h/, like English /h/, is a voiceless glottal fricative, however, “(1) it is pronounced with more force than is English h; (2) it can be pronounced at the end of a syllable or word, while English h is

pronounced only at the beginning of a syllable; and it may be doubled (held twice as long)". In Praat, the *h* in English *him* is only 0.04 sec long (audio file obtained from Forvo 2026) while in Arabic *him* ('start'/'get to it'), it is 0,15 sec long (audio file obtained from Lisaan Masry Dictionary 2026).

Likewise, in contrast to English, the Arabic /r/ is pronounced as a voiced flap (/ɾ/) or, in some cases, as a trill (Badawi 2019: 19-21). Consequently, Egyptian learners tend to overpronounce initial /r/, post-vocalic /r/, and similar to speakers of other dialects of Arabic (e.g. Saudi learners; Elmahdi & Khan 2015: 94), English retroflex approximant is rendered as an alveolar trill in the English produced by Egyptian learners.

Similar to Arab learners of English in general, Egyptian learners are spelling-conscious. Unlike what occurs in natural order of language acquisition, the written forms of English are available to the learners before their pronunciation; an approach adopted by an exam-oriented educational system that focuses solely on written accuracy. Besides, the writing system of Standard Arabic is closely related to its phonological system, and learners seem to approach foreign languages in the same way they approach the first learnt language available before any foreign language instruction.

These could explain why word spelling can have a significant impact on how an English word is pronounced when the written word shows double consonant letters. The **doubling** or gemination of a consonant in Arabic speech is indicated in writing by a "double-consonant diacritical mark" above the geminated consonant (Javed 2013: 8&9), resulting in the realisation of double letters in English words as equivalents to geminates by Egyptian speakers of English (e.g. pronouncing *comment* /ˈkɒm.ent/ with a geminated /m/; [ˈkɒm.ment]). Some issues pertaining to the pronunciation of the final inflectional *-ed* are also influenced by the English word spelling. Final inflectional *-ed* is pronounced as either [d] or [ɪd] even in the cases when it is preceded by a voiceless consonant. In words like *fetched, aged, helped* and *mixed* (where the suffix *-ed* is preceded by an affricate or a consonant cluster), *-ed* is (mis)pronounced as [ɪd], and in words like *coughed* and *crushed*, the inflectional suffix is rendered as [d]. In the first group, *fetched, aged, helped* and *mixed*, [ɪ] is inserted to avoid adding more consonants to the final clusters. Egyptians struggle with the pronunciation of final clusters of more than two consonants as ECA allows a maximum of two consonants in a final cluster. As /tʃ/ and /dʒ/ do not exist as separate segments in ECA, such combinations of /t/ and /ʃ/ at the end of *fetch*, and of /d/ and /ʒ/ at the end of *age*, are

perceived as clusters by Egyptians. In the second group where final *-ed* is pronounced as [d], voicing assimilation, interestingly, occurs in *crushed*, but not in *coughed*. ECA has examples of regressive voicing assimilation pertaining to [ʒ], and this is carried over to the pronunciation of similar English words like *crushed*. On the other hand, both ECA and MSA allow the adjacency of [f] and [d] as a final consonant cluster (e.g. in ECA /rafd/ 'dismissal'/'firing') with no regressive assimilation taking place.

2.3.1.2.Consonant Clustering

Consonant clustering is known to be one of the most challenging aspects of pronunciation for L2 learners, in general, and specifically for those with L1s that do not allow word-initial-clusters such as Egyptian Arabic (Gass & Selinker 2008: 182). Compared with English, Arabic has far fewer consonant clusters in the initial, medial and final positions. For instance, ECA allows a maximum of two consonants in a medial or final cluster. According to Bauman-Waengller (2009), "In contrast to English, which has 78 three-segment clusters and 14 four-segment clusters occurring at the end of words, Arabic has none" (cited in Elmahdi & Khan 2015: 93). To facilitate the pronunciation of English clusters, Egyptian learners attempt to declusterise them by preceding the cluster starting with /s/ by a prothetic [ʔɪ] (e.g. *score* /skɔ:r/ and *stock* /stɒk/ become [ʔɪs.kɔ:r] and [ʔɪs.tɒk]) (Broselow 2015: 295, Khalifa 2020: 160–162), splitting the cluster between two syllables instead of one. In other cases, as an attempt to facilitate cluster pronunciation, learners tend to add short vowels in between the consonants of a cluster (Alsuhaibani 2024: 2) (e.g. initial: *flat* /flæt/ is rendered as [fɪla:t]; medial: *extra* /ˈek.strə/ as [ek.ɪs.tɪra]; final: *text* /ˈtekst/ as [tɪ.kɪst]). Such mispronunciations result in different syllable divisions whereas some mark shifts of syllable stress. Given that L1 rules of clustering allow two consonants in medial and final clusters, these deviations also imply that it is not challenging for Egyptian speakers of English to pronounce medial or final two consonant-clusters. According to Al-Jarf (2008), Arab students in general may also carry over mispronunciations of English consonant clusters into word spelling.

2.3.1.3.Vowels

Arabic has (near)equivalents for the English short monophthongs /ɪ/, /æ/, /ʌ/, /ɒ/ and /ʊ/, long monophthongs /i:/, /a:/, /ɔ:/ and /u:/, and diphthongs /aɪ/, /ɔɪ/ and /aʊ/. As a result, while English by native speakers of Arabic may still demonstrate some overlaps, the realisation of the differences among these vowels are far less challenging (Al Shoufi 2014: 47-48). However, there may be issues pertaining to perceiving and producing the vowels /e/, /ə/, /ɜ:/, /əʊ/, /eɪ/, /eə/, /ɪə/, and /ʊə/. For example, Arab learners frequently substitute /e/ with /ɪ/ since they are more familiar with /ɪ/, which may lead to overlaps between words like *sit* /sɪt/ and *set* /set/. Besides, approximating the English monophthongs and diphthongs learners are familiar with, the schwa (/ə/) receives some degree of stress and is produced with prolonged durations. In addition, word

spelling has a huge impact on the pronunciation of /ə/ by Egyptian speakers of English (e.g. a schwa is pronounced as /a/ in *around* /ə'raʊnd/, /ɪ/ in *pupil* /'pju:.pəl/, and /ɒ/ in *parrot* /ˈpær.ət/). Another vowel among the most challenging English vowels in terms of perception as well as production is /ɜ:/. /ɜ:/ is often substituted with [ɪ] (e.g. GA *bird* /bɜ:rd/ is articulated as [bɪrd]). Diphthongs are generally shortened, including /aɪ/, /aʊ/, /ɔɪ/, and /əʊ/ (or GA /oʊ/). Additionally, diphthongs such as /eɪ/ and /eə/ are monophthongised to [eː], marking no differences between the two diphthongs. As a result, the diphthongs in *spare* /speəʳ/ and *Spain* /speɪn/ could sound the same in the pronunciation of Egyptian learners of English. The diphthong /əʊ/ (or /oʊ/ in GA) is not easy to realise, and frequently substituted with the long monophthong [ɔ:] (e.g. *slow* /sləʊ/ or /sloʊ/ becomes [slɔ:]). Similarly, /ʊə/ is replaced with [u:] (e.g. *tour* /'tʊəʳ/ becomes ['tu:r]), and /ɪə/ is often substituted with [i:] (e.g. *sphere* /sfɪəʳ/ becomes [sfi:r], which can make words like *hear* and *he* sound the same when learning RP). Substituting a diphthong with a long vowel is a strategy employed to approximate the length/duration of the diphthong using the closest familiar long vowels that exist in the vowel inventory of ECA.

2.4.1. Suprasegmental Aspects

According to what previous research investigations of SL rhythm production have suggested, second language speech rhythmic patterns are rendered as non-native/target-like, which may threaten mutual comprehensibility and clarity of speech (Algethami & Hellmuth 2024: 432). Additionally, the researcher still chose to tackle suprasegmental aspects, such as intonation and rhythm, as they remain two under-investigated areas in English as a second language speech research, especially in relation to native speakers of Arabic in general. Moreover, suprasegmental elements (stress, syllable division, rhythm, intonation, etc.) are not any less important than segmentals; their nature and the ways they function in pronunciation are more difficult to be aware of compared to phonemes due to the fact that they are not represented in script (Fraser 2006: 86).

2.4.1.1.Stress and Rhythm

Rhythm in languages is described through the classification of **stress-timed** versus **syllable-timed** languages coined by Pike (1945 cited in Algethami & Hellmuth 2024: 432). As opposed to syllable-timed languages (e.g. French, Chinese, Italian), both Arabic and English are classified as stress-timed languages (Conlen 2016: 2). Stress-timed languages are those

characterised by higher degrees of syllable structure complexity, as well as vowel reductions and vowel length distinctions (Roach 1982 as cited in Algethami & Hellmuth 2024: 433; Dasher & Bolinger 1982). However, Arabic and English differ in terms of "three phonological parameters relevant to variation in speech rhythm: degree of unstressed vowel reduction, ratio of long/short phonemic vowel duration, and syllable structure" (Algethami & Hellmuth 2024: 432). As pointed out in Algethami and Hellmuth, properties of Arabic speech rhythm (syllable structure and unstressed vowel reduction) differ from those of English. The nature of word stress in Arabic could be described as more "automatic" and "determined" (Betti & Warkaa 2018: 85). In other words, compared to unstressed syllables in English, those of Arabic are pronounced with clearer or less reduced vowels. Fraser (2001)'s observation that the pronunciation of learners of English as a foreign language is characterised by an inappropriate placement of stress holds for Egyptian speakers, too. Syllables receive more stress and emphasis, and English by Egyptian learners is produced with greater intensity rhythm. Arab learners tend to pronounce unstressed syllables in English in longer time and higher pitch (Bin-Hady 2016). Furthermore, Awaj and Mohamed (2017: 38) note that Arab learners may also struggle to grasp the "unpredictable nature of English word stress" and the way it could be employed to indicate different meanings and/or word class). For instance, in English lexical compounds (especially noun–noun compounds), primary stress is placed on the first constituent, and the second constituent often carries a weaker (secondary) stress. However, in a compound word like *networks* [ˈnet.wɜ:rks], the stress is shifted from the first syllable to the second syllable of the word ([nɪt.ˈwɔ:r.kɪs]) by Egyptian EFL learners. Nevertheless, according to Awaj and Mohamed (2017: 38), phrase and sentence rhythms should generally be less problematic for native speakers of Arabic due to their similarity in both languages.

2.4.2. Intonation

Intonation is defined as "the use of suprasegmental phonetic features to convey postlexical or sentence-level pragmatic meanings in a linguistically-structured way" (Ladd 2008: 4). Intonation, the modulation of pitch in speech, is a key prosodic feature that contributes significantly to meaning-making in spoken discourse. It also plays a crucial role in conveying grammatical structures, speaker attitudes and discourse functions. It is a language element that fulfils communicative functions through the core meanings determined by pitch movements (rising and falling). In English, intonation patterns are multifaceted and serve various functions, including

differentiating between sentence types (e.g. statements versus questions), indicating focus, and expressing emotions or attitudes. These functions are carried out through specific pitch movements, such as falling, rising and fall-rise contours. As noted by Bolinger (1986: 22), "intonation is fundamentally the opposition of up and down, with meanings clustering around the poles of the opposition in accord with metaphorical extension". For instance, rising intonation often signals questions or uncertainty, while falling intonation denotes statements or commands (Roach 2009: 48).

In the field of language teaching, intonation is believed to be an advanced speaking component that requires a lot of practice to master. Mastery of intonation of a specific language distinguishes a proficient English user from an average one. It takes tremendous efforts to grasp and internalise how an intonation system works in a target language (e.g. the uses of authentic rhythm, tones and pitch levels) and associate them to the meanings they carry for effective (near-native) communication, which is not possible "at the level of isolated chunks of language" (Sadoune 2018: 2). Intonation of the speech of the students of the current study was analysed based on Brazil's (1997) **Discourse Intonation Model** where the choice or avoidance of certain intonation patterns carries communicative significance or "interpersonal meanings". The Model focuses on prominence, pitch range, key and choice of tone (Cheng 2015), which are referred to in Brazil (1994) as **termination**. Following are the elaborations on the elements of intonation according to the Discourse Intonation Model:

2.4.2.1.Prominence

According to Cruttenden (1986), prominence is a concept associated with syllables. Syllables produced in a high voice, accented manner, taking longer time compared to other syllables of the same exchange or tone unit are considered prominent. However, prominent syllables do not only exist for adding a rhythmical effect to a speech utterance, prominent syllables may also be responsible for the formation of "different lexical meanings ..., or different grammatical classes" (Cruttenden 1986: 7). Prominence places emphasis on the information given, draws the recipient's attention to its importance, and invites a response or an action on his or her part. That is why prominence is determined by the speakers of a language not the language itself (Brazil 1994).

2.4.2.2.Pitch range

Pitch range refers to the variations of vibration on vocal cords. Those variations create an engaging speech, establish meaningful communication and serve as "regulators of information structuring" (Sadoune 2018: 24). The production of a high pitch requires tightening of the vocal cords while a low pitch is produced through loosening them (Ladefoged 1982: 226). There is also what is known as the **unmarked**, **neutral**, **level** or **mid** pitch that is used to deliver a particular message (mainly statements) in a neutral manner. According to Ladd (2008), any particular pitch signals an emotion. A high/rising pitch, in English for instance, indicates doubt, incompleteness, excitement or any positive or negative active emotions, and is mainly found in interrogatives or incomplete utterances while a low/resting/falling pitch indicates certainty, completeness, disinterest or what is referred to as passive emotions (those that are not necessarily motivating manifestations, e.g. sadness), and is mainly associated with statements. In addition, local pitch accents are employed to give the accented words weight and significance in the conversational linguistic exchanges (Bolinger 1986).

2.4.2.3.Key

Key in intonation is the pitch size or as referred to by Sadoune (2018: 100) as **pitch excursions**. According to Guessenhoven (2004: 76), key is distance or span between the lowest and the highest pitches (a valley and a peak) perceived in a speech utterance. Brazil's model specifies three levels of key: high, mid and low. A high key conveys surprise, a mid key places equal emphasis/weight/importance on the items mentioned by a speaker in an utterance, and a low key denotes an action/incident falling within the speaker's expectations (Coulthard 1985: 111).

2.4.2.4.Tone

Within Brazil's (1997) framework of the Discourse Intonation Model, tone refers to the pitch movement realised on the tonic syllable of a tone unit, and it plays a key role in conveying interpersonal and discourse meanings. Tone selection reflects how speakers present information and manage their interaction with listeners. Different tone choices (e.g. fall, rise, fall-rise) are associated with different communicative functions such as: marking finality, openness, contrast or speaker attitude.

2.4.2.5.Intonational differences between English and Egyptian Arabic

English intonation is characterised by its flexibility and complex tonal patterns, making it a central component of fluent and intelligible speech. On the other hand, ECA, like other varieties of Arabic, employs a set of rising and falling pitch movements that differ in function from those in English. Intonational patterns in all Arabic varieties, including ECA, are also closely tied to syntactic structures, with intonational boundaries typically aligning with syntactic clauses and phrases rather than being used mainly for marking pragmatic functions (Chahal & Hellmuth 2014). While English utilises a variety of pitch accents to mark prominence, ECA relies more on boundary tones to signal phrase-finality and syntactic breaks. El Zarka (2011: 8&12) further illustrates that ECA utilises three primary tonal patterns, rising, falling, and level tones, each associated with specific pragmatic functions: the rising contour is typically linked to topic articulation, the falling contour to assertion or focus, and the level tone to background or given information. Research indicates that ECA predominantly employs phrase-final lengthening and rising pitch accents on each prosodic word, leading to rhythmic and prosodic structuring patterns that differ markedly from English (Hellmuth 2006: 52-54) where pitch movement plays a more central role in marking phrase boundaries.

Focus marking differs significantly between the two languages. English commonly signals focus through pitch accent placement, with a marked rise in fundamental frequency (F0) on the focused syllable (Roessig et al. 2022). Egyptian Arabic, however, tends to mark focus through post-lexical processes such as lengthening and a change in pitch contour at the phrase level rather than on individual syllables (Chahal & Hellmuth 2014). Additionally, in Egyptian Arabic, focus can be realised through syntactic reordering (Hellmuth 2006: 284), whereas English relies primarily on prosodic means to convey contrastive or emphatic focus. This reliance on syntactic or morphological means to indicate focus in ECA, as opposed to the prosodic strategies employed in English, may pose challenges in the EFL learning and instruction and ELF communication. Moreover, while ECA marks focus through specific pitch events, the cues are less varied compared to English, which could potentially lead to difficulties in perceiving and producing the appropriate intonational patterns necessary for marking focus in English.

Another major distinction between English and ECA is the intonational realisation of questions. English employs a rising intonation for yes/no questions and falling intonation for wh questions. ECA, however, does not consistently use a rising contour for yes/no questions. Instead,

it often exhibits a final rise-fall or a high plateau (Chahal & Hellmuth 2014). This variability in question intonation is indicative of broader differences in how intonation interacts with morphosyntactic structures in Arabic versus English.

The distinct intonational characteristics of ECA and English necessitate targeted instructional strategies to assist Egyptian EFL learners in acquiring the prosodic features of English. The differences in intonational structure pose challenges for Egyptian learners of English. Arabic speakers, in general, may find it difficult to adopt the English system of pitch accents, leading to non-native prosodic patterns in their speech. The habitual use of uniform rising pitch accents in ECA may lead Egyptian EFL learners to transfer this pattern to English, resulting in speech that may sound monotonous or lacking in the intonational variation characteristic of native English speech. This may affect the learners' ability to effectively convey different sentence modalities, emphases, or emotional undertones in English.

2.4.3. Connected Speech

Glottal stops are frequently used before initial vowels in the pronunciation of Arabic, which may explain why Arab learners resort to interrupt the natural flow of English by breaking the smooth transition between a final consonant and a following initial vowel (Al-Jarf 2025). Additionally, Egyptian learners usually do not realise phonetic changes resulting from: (1) junctures producing consonant clusters, e.g. *text split*, which will consequently involve additional vowels as well, in the English by Egyptian learners, as an attempt to facilitate the pronunciation of the longer consonant cluster produced in connected speech, (2) consonant elisions (e.g. *and time* [ən taɪm]; *ask her* [ɑːsk ər]), (3) connected speech intruding /j/, /w/ and /r/ (e.g. *try out* [traɪ j aʊt], *no output* [nəʊ w aʊtpʊt], and *Victoria and Albert* [vɪkˈtɔːriə r ænd ˈælbət], used to connect a morpheme-final vowel with the subsequent morpheme-initial vowel, and (4) connected-speech-stop-glide junctures like /t/ and /j/ (e.g. next year [nekstʃɪə(r)]), or /d/ and /j/ (e.g. did you? [dɪdʒə]), which represent a case of post-lexical palatalisation where a stop assimilates in place to a following /j/, after which the triggering /j/ is dropped.

Regarding elisions and contractions, they are less common in the Egyptians' pronunciation of English. Contractions linking two words do occur in ECA (e.g. a preposition to a noun, the vocative particle to a noun/proper name, etc.), but their disctribution is more restricted than in English and they occur in different word combinations.

2.5. Studies on Pronunciation and Pedagogy for Arabic-speaking EFL Learners

Research focusing on the phonological challenges faced by Arabic-speaking learners of English drew on a range of Arabic dialects to inform both theoretical understanding and pedagogical practice. Studies reviewed below employ diverse methodologies, from the use of acoustic phonetic analysis to learner corpus studies and classroom interventions, and are investigated through various frameworks such as the Speech Learning Model (Flege 1995), Perceptual Assimilation Model (Best & Tyler 2007) and Contrastive Analysis Hypothesis (Gass & Selinker 2008). By examining both shared and dialect-specific pronunciation challenges, this literature provides insights for pronunciation teaching across the Arab world. The theoretical frameworks guiding these studies stress the influence of both L1 transfer and developmental processes on L2 pronunciation outcomes.

Mohammed (2021) investigated the English pronunciation difficulties faced by Sudanese basic school pupils. Employing a descriptive-analytical approach, the researcher collected data from pupils and teachers in various schools within a Sudanese locality through both questionnaires and interviews. The findings highlighted several significant pronunciation issues: 64% of participants identified vowels as a primary difficulty in learning English pronunciation, while 55% pointed to silent letters as a notable obstacle. Furthermore, 70% of respondents reported that their first language had a negative impact on their English pronunciation, and 60% believed that the current curriculum required substantial changes to better support pronunciation learning. Most participants also agreed that the absence of audio and video resources hindered effective pronunciation instruction. Drawing on these results, the study highlights the need for greater emphasis on teaching English pronunciation in basic education. Recommendations included increasing interactive pronunciation activities, organising regular training sessions and workshops for English teachers, employing diverse teaching strategies to boost student engagement, and integrating audio-visual aids and authentic materials to enhance pronunciation practice.

Al-Zoubi (2019) conducted a contrastive analysis of Arabic and English phonological systems to investigate how the unique features of Arabic speech sounds impact the acquisition of English pronunciation by Arabic-speaking learners. The research highlights that L1 transfer plays a significant role in shaping learners' English pronunciation, leading to systematic phonetic and phonological errors. Several segmental challenges for Arabic speakers learning English were

identified. Arabic lacks certain English consonant sounds, such as the voiceless bilabial stop /p/ and the voiced labiodental fricative /v/, resulting in substitutions like /b/ for /p/ and /f/ for /v/. The study also points out difficulties with the English affricate /tʃ/ and the velar nasal /ŋ/, which are often replaced with /ʃ/ and /n/ respectively, due to their absence or different status in Arabic dialects. Furthermore, the analysis revealed that Arabic speakers tend to transfer their native vowel system to English, which leads to confusion between English vowel sounds that do not exist in Arabic. In addition to segmental issues, Al-Zoubi discusses suprasegmental aspects such as stress and intonation. Arabic speakers may struggle to produce English stress patterns accurately, as stress in Arabic is realised differently and is less dependent on vowel reduction. Al-Zoubi concludes that many persistent pronunciation errors among Arabic learners of English can be attributed to negative transfer from their L1. To address these challenges, the study recommends that teachers should play a key role in developing learners' pronunciation by modeling accurate speech, raising learners' awareness of cross-linguistic differences, providing explicit instruction on sounds, stress and intonation, and creating a supportive classroom environment. While some students may learn pronunciation through exposure, most require clear guidance and targeted practice, especially for sounds absent in their native language. Teachers should offer constructive feedback, help students prioritise features that impact communication, and regularly assess progress to maintain motivation. More importantly, enhancing learner confidence through encouragement and celebrating progress is essential for effective pronunciation learning.

Ababneh (2018) presents a comprehensive case study of Saudi EFL learners, identifying difficulties with English segmental and suprasegmenal elements of pronunciation. The study found that Saudi EFL students frequently confuse English vowel sounds, often substituting one vowel for another. Additionally, students struggle with English consonants that do not exist in Arabic, commonly replacing them with the closest counterparts in L1. Beyond segmental errors, the learners also exhibited difficulties with suprasegmental features, such as intonation and stress (e.g. omitting stress on multisyllabic words). Furthermore, Saudi learners often pronounced the English /r/ with extra emphasis, approximating the Arabic /r/. The study attributes these challenges to the absence of certain phonemes and phonotactic patterns in Saudi Arabic.

Bin-Hady (2016) investigated the pronunciation difficulties encountered by Arab learners of English, with an emphasis on suprasegmental aspects such as stress, rhythm and intonation. Bin-Hady's review aimed to deepen the understanding of these challenges and to propose effective

instructional approaches for pronunciation teaching, particularly through the application of Gilbert's (2008) Prosody Pyramid framework. Based on secondary data, the research examined findings from existing literature to identify common pronunciation issues among Arab learners, including problems with consonant clusters, vowel articulation and the insufficient focus on suprasegmental features in conventional language instruction. The Prosody Pyramid, as outlined in the study, organises speech into hierarchical components: thought groups, focus words, stressed syllables and peak syllables, highlighting the necessity of addressing pronunciation at levels beyond individual phonemes. The review results revealed that Arab learners' difficulties stem not only from interference by their first language but also from the frequent neglect of pronunciation in classroom instruction. The study concluded that the Prosody Pyramid offers a systematic method for educators to target suprasegmental features, aiming to enhance learners' intelligibility and overall communicative effectiveness. Bin-Hady (2016) also calls for the integration of the Prosody Pyramid model into pronunciation curricula at secondary and tertiary education levels and provided practical recommendations for classroom implementation to enhance the effectiveness of pronunciation instruction for Arab students.

To address issues pertaining to placement of stress, Bin-Hady (2016) recommends employing a top-down approach to pronunciation instruction. This approach begins by familiarising learners with thought groups, facilitating their adaptation to the intonation and rhythm patterns of English, rather than allowing the transfer of prosodic features from their first language. Subsequently, instruction should progress from the level of thought groups to the identification and production of key words within these groups. At this stage, learners should be trained to recognise and articulate stressed words and to practice contraction strategies typical of connected speech. Furthermore, educators are advised to guide students in observing how the peak syllable within a focused word is lengthened and modulated through variations in pitch and melody. In the final phases of instruction, attention may be directed towards the articulation of specific phonetic elements, including grammatical endings and consonant clusters, to refine learners' pronunciation accuracy. The review also indicated that both groups studied (English majors and Arabic majors) exhibited similar types of pronunciation errors. However, students with more exposure and training in English (English majors) made fewer errors than their Arabic major counterparts. This suggests that increased training and practice can help reduce pronunciation difficulties. Less proficient students tended to rely on Arabic spelling and pronunciation rules,

while more advanced learners continued to exhibit certain substitution errors. Based on these findings, the study recommends that students should be exposed to more native-like English input in the classroom, such as interacting with native speakers or listening to authentic English recordings, to help them improve their pronunciation accuracy and reduce transfer-related errors. The study's findings align with those from Egyptian contexts, suggesting that many pronunciation challenges are shared across Arabic-speaking learners.

Elmahdi and Khan (2015) aimed to identify and analyse the specific pronunciation difficulties encountered by Saudi secondary school learners of English as a Foreign Language, with a particular emphasis on problematic consonant sounds and the acquisition of consonant clustering system. The research employed a mixed-methods design, utilising questionnaires, classroom observations and oral reading tasks to gather data from Saudi secondary school students. Through this approach, the study captured both learner-reported experiences and direct evidence of pronunciation performance. The findings revealed that Saudi EFL learners experience serious challenges with English consonants absent from their L1 phonological inventory, such as /p/ at all word positions, /r/ in word-final position, /ŋ/ in word medial position, /tʃ/ in word-medial position, and /ʒ/ in word final position, often substituting these with phonetically similar phonemes from their L1. Additionally, learners demonstrated difficulties with the production of initial two- and three-consonant clusters as well as medial and final three-consonant clusters, commonly inserting vowels to break up clusters. These mispronunciations are mainly attributed to negative transfer from the native language, as well as to differences in the prosodic features of English and Arabic systems. The study further observed that insufficient instructional focus on pronunciation, limited opportunities for oral practice and low student motivation intensify the seriousness of these issues.

In light of these findings, Elmahdi and Khan (2015) advocate for a more effective integration of pronunciation instruction into the EFL curriculum. It recommends that educators provide explicit and systematic practice with problematic sounds and clusters, employ varied techniques such as listening exercises, oral drills and multimedia resources, and offer individualised feedback to address learners' specific errors. The study also highlights the value of promoting learner awareness of articulatory processes (including mouth, teeth, lips, tongue positioning and shapes) and encouraging autonomous learning strategies, including the use of phonetic transcription and pronunciation software. By implementing these targeted pedagogical

interventions, teachers can enhance the clarity and communicative competence of Arab EFL learners with the aim of supporting their broader language development and academic success.

Almbark et al (2014) investigate how speakers of two Arabic dialects, Egyptian Arabic and Jordanian Arabic, acquire the phonetic and phonological features of English stress. Their study focuses on the acoustic correlates of stress (such as fundamental frequency/F0, duration and intensity), and examines how these differ between the Arabic dialects and native English speakers. The study finds that Arabic dialects use fundamental frequency mainly to mark word-level stress, whereas, in English, F0 is more closely associated with phrase-level accent rather than word-level stress. English relies mainly on vowel reduction (changes in F1/F2 formants) and duration to signal stress. Arabic-speaking learners of English tended to transfer their L1 phonetic patterns into their L2 speech. They specifically use F0 excessively to mark and show insufficient vowel reduction in unstressed syllables compared to native English speakers. This results in stressed vowels being marked with higher pitch but lacking the characteristic vowel quality changes that signal stress in English. The learners' productions show less differentiation between stressed and unstressed vowels in terms of intensity and vowel formants (F1 and F2), which leads to an overlap of vowel qualities across stress conditions. This contrasts with native English speakers (the control group) who display clear acoustic separation between stressed and unstressed vowels. Despite phonetic transfer effects, the learners generally place lexical stress correctly, with low rates of categorical stress errors (less than 10%). However, errors are more frequent in the assignment of phrase-level accent, such as misplaced stress on non-contrastive function words or incorrect stress within compound noun phrases. The lack of vowel reduction in unstressed syllables, a key feature of English stress patterns, may hinder native English listeners' ability to reliably identify stressed syllables in L2 speech. Previous perception studies (e.g. Taylor & Hellmuth 2012; cited in Almbark et al 2014) suggest that when vowel reduction is absent, listeners struggle to detect stress position, which could affect overall intelligibility. Therefore, the study suggests that pronunciation instruction for Arabic-speaking learners should explicitly address the use of vowel reduction in unstressed syllables to improve the naturalness and intelligibility of English stress patterns. Given that learners tend to overuse pitch (F0) to mark stress, teaching should also focus on helping students understand the different roles of pitch and vowel quality in English prosody. Attention should also be given to phrase-level accent patterns to reduce non-native-like stress placement that can disrupt the natural rhythm and flow of English speech.

Habeeb (2013) aimed to explore Kuwaiti kindergarten teachers' perceptions regarding the implementation of English as a foreign language (EFL) within the kindergarten curriculum. The investigation focused on teachers' views on early childhood second language learning, the English curriculum content, their professional needs to teach English effectively and the challenges they face. Additionally, the study examined whether these perceptions varied according to school district, academic qualifications and teaching experience, while also gathering teachers' recommendations for policymakers and curriculum designers. The research surveyed 631 kindergarten teachers across six Kuwaiti school districts using a structured questionnaire. Findings revealed that teachers generally held positive attitudes toward teaching English to young children, recognising the importance of early language learning in a globalised context. However, their agreement with the current English curriculum was moderate, indicating some reservations about its suitability for young learners. A significant finding was the strong need for specialised support, particularly the presence of English language specialist teachers in classrooms, which most teachers deemed essential. Moreover, the majority reported insufficient pre-service and in-service training related to second language acquisition theories and teaching methods, highlighting a critical gap in professional development. Challenges were mainly centred around inadequate training, teachers' limited ability to help children develop English skills as well as difficulties with curriculum intensity and technology use. While no significant differences in perceptions were found based on school district or academic qualifications, teachers with five to ten years of experience demonstrated greater support for early childhood English education than those with less experience. Teachers recommended assigning English specialist teachers, providing targeted training and workshops, reducing class sizes and developing comprehensive EFL teaching guides.

More recent research has continued to refine the understanding of pronunciation and pedagogy for Arabic-speaking EFL learners. A recent contribution to the pronunciation literature is Altakhaineh et al. (2024), who examined Arabic-speaking EFL learners' accuracy in pronouncing and spelling English words containing consonant clusters in initial and final positions. Using a mixed-methods design involving pronunciation and spelling tasks with Jordanian undergraduates, the study found that initial clusters posed significantly greater difficulty than final clusters in both spoken and written forms. Learners frequently simplified onset clusters through epenthesis or omission, reflecting the influence of Arabic phonotactic constraints which prohibit complex syllable onsets. In addition, the study revealed a strong correlation between pronunciation

and spelling accuracy, suggesting that phonological transfer from Arabic affects both aspects. The study emphasises the need for integrated pronunciation and spelling instruction (particularly focused on complex onset clusters), and for explicit awareness-raising of cross-linguistic differences in syllable structure. In Arabic-EFL contexts, such targeted instruction could help eliminate L1 transfer effects and enhance both spoken intelligibility and orthographic accuracy.

Complementing classroom-focused research, Almusharraf (2024) explores the perceptions and practices of 163 EFL university instructors in Saudi Arabia regarding pronunciation instruction. The investigation stresses the importance of pronunciation instruction as well as a significant gap between belief and practice. Although most instructors expressed confidence in their own pronunciation, many admitted lacking formal training in pronunciation pedagogy or assessment. Consequently, pronunciation teaching was often limited to corrections or brief drills rather than being systematically integrated into the curriculum. The study identified several contextual barriers (such as large class sizes, limited instructional time, curriculum overload and minimal institutional emphasis on pronunciation) that constrained more structured teaching. Pronunciation assessment was also found to be largely informal, contributing to its marginalisation in instruction. Almusharraf concluded that to bridge the gap between instructors' recognition of pronunciation's value and their classroom practice, Saudi universities need to provide targeted professional development, align curriculum and assessment frameworks with pronunciation goals, and allocate institutional support to ensure sustained and systematic pronunciation teaching. These findings and recommendations align with earlier calls for teacher professional development and curriculum integration of pronunciation. In Arabic-EFL settings the gap between recognising pronunciation issues and implementing systematic instruction remains a significant barrier.

Similar to previous work on English produced by Arabic-speaking learners of English, the current study recognises the influence of L1 on English pronunciation. However, unlike studies that adopt a broader Arabic-speaking learners perspective and/or focus on dialects other than ECA, the present study provides a detailed analysis of English pronunciation as produced by ECA speakers, taking into account the uniqueness of the case of Egyptian Arabic (the dialect-specific phonological characteristics and their impact on L2 speech). In this sense, the study complements earlier findings by providing a more detailed account of pronunciation patterns within the Egyptian context. Besides, the present study combines acoustic analysis, questionnaire findings and listener judgements within a quantitative-qualitative framework, aiming for an examination of

pronunciation patterns, not only in terms of accuracy of production, but also in terms of relevance as well as learner orientation towards different target varieties of English, purposes and/or communicative goals. In addition, by drawing on insights from research in ELF, the study prioritises features that are relevant to intelligibility and communicative effectiveness rather than relying solely on native-speaker norms.

2.6. Problems with the Current Teaching Practices, Methods and Materials

Parts of 2.6. are based on the subsections titled: "Problems with the current teaching methods and materials" in Abdelreheem (2023) and "Problems with the current teaching practices, methods, and materials" in Abdelreheem (2025).

As stated in Morley (1991), pronunciation teaching methods being time-consuming with no adequate gains made instructors question the worthiness of teaching it and made linguists consider the need to reassess the current traditional methods employed in pronunciation instruction in general. Morley, therefore, called for the necessity of using quality classroom resources (as an unbiased means to assess competence and comprehensibility) as well as more observation-based classroom research that would aid designing/choosing the teaching materials and techniques that are most effective within a given context.

Similarly, the unavailability/lack of teaching/learning resources is one of the leading causes of inadequate pronunciation instruction in the Egyptian EFL context. Evaluating English textbook series used in Egyptian primary schools, Abdallah (2016) states that both textbooks and teachers devote limited to no time to the "elaboration and practice" of the pronunciation activities presented. Besides, the books fail to comprise the necessary phonological and communicative aspects of English. In comparison with literacy skills, teaching pronunciation with its elements (e.g. sound production, rhythm, stress, intonation, etc.) is significantly de-emphasised in the Arab world (Huwari & Mehawesh 2015) and many teachers choose to disregard the aspects of pronunciation in today's ESL classroom due to the lack of time, qualification or preparation or the belief that students will naturally acquire correct pronunciation on their own through the environment rather than any form of explicit classroom pronunciation instruction (Hucke 2021: 13).

One of the principal criticisms directed at most language courses/materials is that they involve activities and practices that could be employed in numerous foreign language learning/teaching contexts without taking into consideration the uniqueness of each context.

Educators, curricula designers as well as instructors being aware of the linguistic context facilitates the anticipation of problems pertaining to language transfer and, consequently, addressing them beforehand.

A widely known book taught to intermediate to advanced EFL learners (including English language majors) in many Egyptian higher educational institutions is O'Connor (1980). The book is described by its author as a guide that "provides a thorough and a systematic introduction to the pronunciation of English" and remains one of those books targeting non-native speakers of English. The book includes a variety of practice exercises that require devoting much learning time and effort contrasting individual segments that are not confused by Egyptian learners. For example, unlike for speakers of some languages, the differences between the initials in *fought* and *thought*, *shop* and *genre* and finals in *breed* and *breathe* do not need to be highlighted for the Egyptian speakers of English. Phonological processes such as stopping (altering a non-stop to a stop; e.g. replacing /ð/ in *breathe* with /d/) that may be represented in speech by EFL learners of other native languages do not occur in the Egyptian learners' pronunciation of English. Instead, efforts should aim to design activities stressing the differences between segments such as those constituting the initials in *shoe* and *chew*, and finals in *breeze* and *breathe*, to overcome the pronunciation challenges faced by Egyptian EFL students. Moreover, in an appendix towards the end of the book, O'Connor provides tips for teachers of speakers of Arabic, Cantonese, French, German, Hindi and Spanish based on phonological facts pertaining to these languages (pp.138–139), aiming to provide the elements that should be focused on when teaching English pronunciation to these language groups taking into consideration the linguistic background of the learners. Nevertheless, written from a perspective of a non-native speaker of Arabic, many of the conclusions drawn are irrelevant in the context of teaching English pronunciation to Arabic speakers, and some could be even misleading and might not necessarily apply to Egyptian Arabic speakers. For instance, /ʒ/ is not often confused with /z/ or /ʃ/ as it simply occurs in everyday usage of loanwords from English, Persian and French. In addition, /dʒ/ is not replaced by /tʃ/; both are problematic for speakers of Egyptian Arabic and they are replaced by /ʒ/ and /ʃ/, respectively. The vowel /e/ does not replace /ɪ/ as mentioned; what happens is actually the opposite. Moreover, /ɜ:/ is not replaced by /e/ or /ʌ/; it is often replaced by the phoneme corresponding to the spelling. /e/ does not exist in any variety of Arabic and most native speakers of Arabic (especially those with lower foreign language

proficiency levels and/or with no other L1 backgrounds that are likely to positively influence EFL acquisition) are not even familiar with it.

In an effort to evaluate EFL textbooks used in the Arab region, Fareh (2010: 3603) highlighted a number of key factors that are thought to inhibit effective learning/acquisition. First, despite claims of native English-speaking authors of EFL textbooks and other teaching materials used that their works are designed to suit learners of all EFL contexts, those textbooks tend to be "culturally inappropriate", which may cause students to develop a sense of exclusion; hence, take a negative stance on the whole process of learning/acquisition of the target language. Cultural irrelevance of activities, when students are expected to reach the sought-after course objectives, especially when not "encouraged by the educational system of the country", could be a major cause why such activities are less likely to be selected by teachers and/or to be pursued by learners. When textbooks and other study materials are designed by authors with other language background(s), especially those with no sufficient linguistic, cultural or educational background on some particular EFL context, those materials fail to address the learners' needs to achieve the desired outcomes. Moreover, irrelevance of the topics, through which the language skills or items are taught/learnt, can lower the level of the students' motivation and interest in the foreign language classes.

Another crucial factor pointed out by Fareh (2010: 3603) is the gap between the level of the study materials and the level of learners. If the materials utilised are challengingly higher than the learners' proficiency level and/or too large to be covered in the time allotted for them by curriculum/lesson planners, it can frustrate the students' learning efforts, lead to loss of learner interest in the target language and even discredit teachers by their institutions and/or learner parents for failing to reach the desired outcomes. Fareh also directed criticisms in relation to the study materials designed by Arabic native-speaking authors. According to him, teaching is made pointless in some Arab countries where the process of teaching goes with no prior vision of curriculum, set objectives, or target learning results being established before textbooks are actually designed, which is the case with books written by "local authors".

Pronunciation assessment is also an issue raised in the teacher survey of this study. Fareh (2010: 3603) emphasises that assessment policies are one of the major causes of the failure of EFL school programmes in the Arab world:

> Emphasis is often on testing explicitly stated information, predicting the meaning of certain lexical items form the context and one or two test items on the cohesive device of reference. The ability to infer implicitly stated information, the ability to evaluate things, the ability to distinguish opinions from facts, the skill of identifying cohesive devices, in addition to problem solving and critical thinking are just examples of the neglected reading skills in both teaching and testing.

Unqualified teachers are found to be another challenge hindering the success of EFL learning in Egypt. In the findings of Fareh (2010: 3602) who investigated EFL practice at Arab schools, he found out that, apart from a university degree in a relevant major (e.g. degree in English Language and/or Literature, Education or Translation), many teachers had no training courses that qualified them for teaching English as a foreign language. Lack of/Insufficient teacher training leads to unnecessarily excess use of Arabic as the medium of language instruction/learning (employing traditional teaching methods such as Grammar Translation) and classroom interaction; hence, minimal exposure to English and inadequate learning outcomes. This can lead to students thinking in their native languages when trying to express their thoughts in the target language; thus, producing language items that tend to be L1-like and make no sense in English. This holds for the case of Egyptian EFL learners, as well, especially the less proficient users of English.

2.7. The Lingua Franca Core Model (LFC)

2.7.1. Overview of the Model and Pedagogical Framework

The phonological aspects to be prioritised in the Egyptian EFL classrooms and study curricula were determined according to the Lingua Franca Core Model introduced by Jenkins (2000 & 2009). In contrast with the concept of foreign accents that could be associated with lower competence levels and a general sense of "otherness"; the reasons why many learners would aim for native accents for more prestige and social integration (Morley 1991), the LFC syllabus for pronunciation instruction and assessment encompasses LFC features of pronunciation that are found to be essential for **mutual intelligibility** and **communicative effectiveness** (Poedjosoedarmo 2003; Collins & Mees 2003), and disregards others that do not hinder the ability to be understood in L2 interactions (Jindapitak 2015: 261). As noted by Fraser (2000: 7), "With good pronunciation, a speaker is intelligible despite other errors; with poor pronunciation, understanding a speaker will be difficult, despite accuracy in other areas. Pronunciation is the

aspect that most affects how the speaker is judged by others, and how they are formally assessed in other skills".

Jenkins' (2000) Lingua Franca Core (LFC) model served as the basis for selecting the key phonological elements to be emphasised in the context of EFL instruction and learning. According to Jenkins (2000: 111), the phonological core is determined by two main factors: "the relative frequency or infrequency in the world's languages and … the relative ease or difficulty of different L2 items for the majority of learners". Therefore, a less common and/or a relatively difficult item is less likely to threaten mutual comprehensibility in ELF communication. The concept of English as a Lingua Franca (ELF), according to Jenkins (2009: 202), is regarded as "non-controversial and is taken for granted by many professionals working internationally (businesspeople, technicians, and suchlike)". Wandel (2003: 72&73) also stressed the importance of English "as the global language, as a functional tool for cross-cultural communication in international settings, in transport, tourism, conferences, for surfing the internet, for scientific research". In respect of EFL pronunciation, Jenkins (2009: 202) emphasises that there is a need to differentiate between a deviation from an English as a Native Language (ENL) form and "deficiency"; "ELF does not assume that an item that differs from ENL is by definition an error". In other words, L2 productions (when formed within a systematic paradigm of SL norms) should not be equated with deficiency or incorrectness; they are rather legitimate ELF variants influenced by a learner's native language features/accent. However, "this does not mean ... that all ELF speakers are proficient" (Jenkins 2009: 202). In this regard, pronunciation and accent are two distinct concepts. Hence, educators as well as other users of the language should avoid judging any foreign accents and comparing them to a certain native model (Jindapitak 2015: 261).

Therefore, based on the principles of "systematicity, frequency and communicative effectiveness" in ELT research, a distinction should be drawn regarding what to consider **ELF variants** as opposed to **ELF errors** (Jenkins 2009: 202) "if a learner's goal is not to sound precisely like a native speaker, but mainly to communicate intelligibly with other non-native speakers" (Patsko 2013). By focusing on the concept of "acceptability for international communication" rather than "pleasantness" and "correctness", effective "pedagogic decisions" about what elements to prioritise in English language teaching/learning (Jenkins: 202). The Lingua Franca Core and Non-core features of pronunciation are the outcomes of empirical research in ELF. Patsko states that the following features of pronunciation are examples of LFC elements:

1. Avoiding consonant alterations (apart from: /θ/, /ð/ and [ɬ] as most of their alternatives are considered acceptable in ELF communication). The alteration of [ɬ] to /ʊ/ (that is also common in some native varieties, e.g. British Cockney), for instance, by ELF speakers, possibly after a schwa, as at the end of the words *little* and *people*, might also be acceptable. Due to their unfamiliarity with dark [ɬ], dark [ɬ] is often replaced with light [l] by Egyptian speakers of English in all word positions (Elmahdi & Khan 2015: 87). However, this variant of /l/ is acceptable in ELF communication as it does not affect comprehensibility of speech. On the other hand, according to the LFC Model, the GA /r/, the rhotic retroflex approximant [ɻ], is considered the most favoured variation in ELF contexts. Other variations (including RP non-rhotic /r/, French, German, Danish and Hebrew uvular /r/ [R] and trilled /r/ in many Arabic dialects, Italian and Spanish) are found to be less effective in ELF contexts for the threats to intelligibility they may pose. Inter-vocalic [t], as in *Italy,* and [t] in medial clusters, as in *centre* need to be clearly pronounced as in RP; neither as a GA flap, which makes no distinction between *latter* and *ladder* (Patsko 2013), nor as a glottal stop (e.g. *butter*) as in some English accents and regional dialects. The GA pronunciation of the intervocalic /t/ as in *bitter* involves a "rapid tap of the tongue against the alveolar ridge", rendering a variant of /t/ that sounds more like its voiced counterpart /d/ than /t/ (Walker 2010: 3). In such cases, the word *bitter* can be confused with *bidder,* which, according to the LFC, would suggest the compatibility of the RP variation of /t/ (as opposed to the GA flap /t/) with ELF contexts (Walker 2010: 3).
2. Aspiration after initial voiceless plosives (/p/, /t/ and /k/) in a stressed syllable is necessary.
3. Consonant deletions should be avoided in consonant clusters (especially initial clusters), which makes a word like *hew* /hjuː/, when dropping /h/, sound like *you* /juː/.
4. Vowel length distinction is also found to be essential for intelligibility as a feature that needs to be perceived to differentiate between minimal pairs with long vowels and their short counterparts (e.g. *sit* /sɪt/ versus *seat* /si:t/), as well as to realise that, in English, the same vowel is pronounced with different lengths depending on its position in a syllable. When the same vowels occur in open syllables or precede a lenis consonant, they are longer than when preceding a fortis consonant. For example, the vowel /i:/ in words such as *tree* (in an open syllable) and *trees* (before a lenis) is longer than the same vowel in the word *treat* (before a fortis). Besides, in ELF, speakers must maintain diphthong length, and

realise the difference in diphthong length before lenis/lax/voiced as opposed to before fortis/tense/voiceless consonants. For instance, the diphthong in *height* is slightly shorter than the vowel in *hide* though it is the same diphthong.

It could be said that the inclusion of pre-fortis clipping in the LFC model may be questioned. As an allophonic feature, it does not signal lexical contrasts and carries limited functional load, given that the voicing of the following consonant serves as the primary cue for lexical distinction. In ELF settings, such durational differences are unlikely to play a decisive role in speech intelligibility. Many non-native speakers do not consistently produce pre-fortis clipping, but remain intelligible, suggesting that its instructional emphasis may not be justified.

5. ELF speakers should refrain from using any alternatives for the long monophthong /ɜː/, as in *hurt* and *first*, as they often lead to issues pertaining to speech comprehensibility.
6. ELF speakers should also be able to place nuclear stress (particularly emphatic stress or contrastive stress) appropriately within tone units; for instance, speakers should be able to distinguish between *Let's meet <u>next</u> Saturday* and *Let's meet next <u>Saturday</u>* (Patsko 2013). To illustrate, in each spoken English tone unit, there is a stressed syllable (also referred to as nucleus or tonic; Walker 2010: 8). This tonic/prominent/accented syllable in every tone unit is marked by a pitch excursion that is lower or higher than the main pitch level of the unit, as well as by more articulation time. The message of an utterance is determined by the word/word group receiving the nuclear stress. Speakers draw listeners' attention to the part of the message they need to make prominent by placing nuclear stress on the most significant part of a tone unit (nucleus). Walker (2010: 8) elaborates on the way a position of nuclear stress can change the kind of message the speaker intends to convey. The listener's making sense of the sentence *I've rented a flat* relies on the item receiving the nuclear stress (Walker 2010: 8). In the following examples *I've rented a FLAT, I've RENTED a flat,* and *I'VE rented a flat,* three distinct parts of the message are being focused on. Although all three utterances constitute the same lexical items, the first one is directing the listener's attention to the type of accommodation rented, the second to the title of stay (not bought, for instance), and the third to the fact that the flat had been rented by the speaker (Walker 2010: 8). The type of stress on the final item in the first utterance (which is considered to be a more common stress position) is referred to as **unmarked stress** while

the type of stress in the other two utterances are referred to as **contrastive stress** (Walker 2010: 8). Another example was reported in Jenkins (2000: 50) where a speaker requested a blue marker to his conversational partners saying "Do you have a blue VUN?". Placing nuclear stress on the last lexical item *one* confused the listeners and they could not get the message requested. However, when the speaker properly placed the nuclear stress on the relevant item *blue,* the listeners understood the speaker's request despite the mispronunciation of the consonant /w/ (replacing it with [v]) due to the influence of the speaker's L1. Therefore, proper placement of nuclear stress is crucial for ELF comprehensibility. Failure to place it correctly on the relevant items can cause confusions on the listener's part regarding the type of message they are supposed to receive from the speaker.

However, the other group of features, referred to as the Lingua Franca Non-core features of pronunciation, such as weak forms, vowel quality, stress timing, pitch movement and features of connected speech (including assimilation and elision), are not crucial in ELT as they do not impact mutual comprehensibility (Patsko 2013). Therefore, they are less likely to be considered in the process of defining the core phonological challenges and designing the contextualised pedagogical approaches and materials to address them in some EFL context unless found threatening to conversational comprehension.

2.7.2. Pedagogical and Phonological Concerns with the Lingua Franca Core Model:

Jenkins' (2000 & 2009) Lingua Franca Core has become a central reference point in debates about the priorities of English pronunciation instruction, particularly in contexts where English functions as a lingua franca among non-native speakers. The LFC proposes a set of phonological features deemed essential for mutual intelligibility in international communication, emphasising the need to prioritise these features in teaching over those associated with native-speaker norms. This pragmatic orientation has been welcomed by many scholars as a response to the realities of global English use, especially in multilingual settings where achieving native-like pronunciation is both unrealistic and unnecessary (Jenkins 2009: 205-206; Walker 2010a: 28). However, others have criticised its theoretical and empirical foundations, questioning its applicability across diverse linguistic settings. The debate surrounding the LFC reflects broader discussions about pronunciation pedagogy and the goals of English language learning.

Empirical and Theoretical Criticism

The LFC has attracted criticism concerning its empirical foundation and theoretical scope (Sobkowiak 2005: 141, describing the model as an approach that will "bring the ideal down into the gutter with no checkpoint along the way"; Prodromou 2006: 412, describing ELF as "a broken weapon" and ELF speakers as "stuttering onto the world stage"; cited in Jenkins 2009: 203). Scholars have noted that the original LFC was based on a relatively narrow and non-representative dataset, raising questions about its generalisability across diverse learner populations and contextual factors affecting English learners (Dogruöz et al. 2023). Critics argue that the model's focus on a limited set of features may oversimplify the complex realities of English pronunciation and intelligibility, particularly in interactions involving speakers from varied linguistic backgrounds. Some studies on ELF communication (e.g. Trudgill 2005; Seidlhofer 2011) emphasise that ELF communication is characterised by context-sensitive variability, where speakers continually negotiate meaning and adjust their pronunciation to suit interlocutors' linguistic backgrounds and communicative goals. From this perspective, prescribing a fixed core of phonological features may impose an artificial uniformity on a phenomenon defined by diversity and flexibility. Intelligibility can often be maintained even when speakers deviate from the recommended norms of any particular pronunciation model (Cogo & Dewey 2012; Kirkpatrick 2010), suggesting that variation itself can serve as a communicative resource rather than a hindrance.

A further point of controversy is the LFC's omission of certain phonological features, such as vowel quality distinctions and some consonantal contrasts, which may be crucial for intelligibility in specific contexts. Unlike what has been concluded in studies (e.g. Zoghbor 2011, O'Neal 2015, Deterding and Mohamad 2016, who deemed variations of vowel quality acceptable in the LFC and non-essential for ELF intelligibility), other studies, such as Jurado-Bravo (2018) conducted an intelligibility test with L1 Spanish speakers of English and found that vowel quality distinctions (e.g. *come* vs *calm*; *look* vs *Luke*) significantly affected listener comprehension. Jurado-Bravo's results showed that vowel length alone could not prevent miscommunication in minimal pairs, suggesting that vowel quality plays a critical role in maintaining intelligibility, even in ELF settings, and the need for attention to vowel articulation in pronunciation teaching. By excluding some elements, the LFC risks promoting a reductionist approach that could lead to a

less expressive and potentially unnatural-sounding form of English, which could hinder learners in more complex communicative scenarios.

From a sociolinguistic perspective, the LFC's emphasis on intelligibility aligns with the status of English as a global language. However, the model's primary focus on non-native to non-native communication has been questioned for neglecting the reality that many learners still aspire to interact with native speakers or to achieve a higher level of phonological competence (Trudgill 2005). It has been argued that the model does not sufficiently address the diverse goals, identities, and aspirations of learners including interactions with native speakers. For some, native-like pronunciation remains a desirable target, whether for reasons of social mobility, academic achievement, or personal satisfaction. Wells (2005) supports this concern, suggesting that while intelligibility is crucial, learners may benefit from broader exposure to pronunciation features that facilitate interaction with native English speakers as well. Many learners aim to engage with both native and non-native speakers, meaning that a pronunciation model designed solely to ELF interactions may not fully prepare them for all real-world situations or the sociolinguistic realities of English use worldwide or accommodate these affective and identity-related dimensions of language learning. The communicative environments in which English is used are rarely homogeneous; learners frequently interact with both native and non-native speakers, making it difficult to establish a single set of pronunciation priorities.

In terms of classroom practice, the adoption of the LFC presents both opportunities and challenges. While it offers a clear rationale for focusing on intelligibility, its implementation may be constrained by existing curricula, assessment standards, and teacher training, which often remain oriented towards native-speaker models (Tergujeff 2012). Moreover, empirical evidence supporting the long-term communicative effectiveness of LFC-based instruction remains limited, and further research is needed to evaluate its impact across various educational settings (Zoghbor 2011: 190).

2.7.3. Utility in the Egyptian EFL Context

Despite the criticisms directed at the Lingua Franca Core (LFC) model, its adoption offers several pedagogical benefits for pronunciation instruction in the Egyptian EFL context. Combined with efforts to examine how learners' goals, linguistic background and social context influence their pronunciation needs, the LFC was the framework selected to determine the phonological

aspects to be prioritised for its role in reshaping English pronunciation teaching priorities, emphasising the concept of ensuring that pronunciation instruction aligns with the nature of English as a global language and encouraging more efficient learning strategies by reducing the focus on native-speaker norms (Walker 2010a). Supporters of the LFC highlight its practicality, particularly in ELF contexts where speakers come from varied linguistic backgrounds noting that the model's emphasis on phonetic features essential for mutual understanding helps facilitate pronunciation instruction, making it more accessible for learners.

As stated earlier, the primary strength of the LFC lies in its focus on intelligibility rather than native-like accuracy as the central goal of pronunciation. For Egyptian learners, who are likely to use English predominantly as a means of international communication, this shift in focus is particularly relevant. The LFC's identification of core phonological features essential for mutual understanding (such as the maintenance of consonant distinctions, appropriate use of nuclear stress, and avoidance of certain vowel reductions; Jenkins 2009) aligns with the communicative realities faced by Egyptian EFL users.

Moreover, the LFC model provides a practical framework for prioritising instructional content. Given both the reviewed and observed challenges Egyptian learners face with specific English consonants and vowel contrasts, the LFC's targeted approach allows teachers to concentrate on those features most likely to impact intelligibility, rather than dedicating limited classroom time on less critical aspects. This is relevant to educational settings where instructional hours are constrained and where students' exposure to English outside the classroom may be limited.

Another notable advantage of the LFC is its potential to reduce learner anxiety and increase motivation. Traditional pronunciation teaching, which often emphasises native-like models, can be discouraging for learners who perceive such targets as unattainable (Jenkins 2009). By contrast, the LFC's realistic and achievable goals can foster a greater sense of accomplishment and communicative confidence, which are key factors in sustained language learning, without the need for native(-like) pronunciation. According to Jenkins (2000: 223), many non-native speakers can engage in clear, meaningful communication using the LFC's phonological priorities, particularly in multilingual environments where English serves as a medium language as well as in linguistic contexts where the EFL speakers share a common first language within national education systems where learners are more able to identify and anticipate transfer-related errors due to their

familiarity with the specific linguistic influences affecting learners. For Egyptian learners, who may already struggle with significant L1 transfer effects and fossilised pronunciation patterns, this shift in pedagogical focus may significantly enhance learner autonomy. Furthermore, in Egypt, as in many other contexts, English is increasingly used for academic, professional and social purposes in settings where native speakers are not the majority interlocutors. Thus, adopting the LFC framework ensures that pronunciation instruction remains relevant to learners' actual communicative needs, preparing them to participate effectively in international discourse (Seidlhofer 2007: 315).

For these reasons, the model is expected to serve as a practical tool for redefining pronunciation instruction as well as prioritising instructional content that aligns with both learner needs and the realities of English as a global language in the Egyptian EFL context where the main goal is often to achieve clear and effective communication in diverse international settings. However, its adoption should still be balanced with attention to learners' broader communicative needs, aspirations and the sociolinguistic complexities of global English use.

2.8. Comprehensibility in ELF Communication

Comprehensibility, the ease with which a listener can understand spoken language, has emerged as a central construct in research on ELF communication and as a concept that is distinct from accentedness (which concerns the degree to which speech deviates from a native norm) (Munro et al. 2006; Derwing & Munro 1997; Munro & Derwing 1995). Comprehensibility in ELF contexts cannot be fully understood through frameworks developed for native speaker interactions (Deterding & Kirkpatrick 2006). ELF communication is variable and adaptive in nature; it is where speakers from diverse linguistic backgrounds interact, and where comprehensibility and communicative success are often prioritised over adherence to native-speaker norms as effective communication depends on mutual understanding rather than accent elimination (Jenkins 2015; Seidlhofer 2011).

The concept of comprehensibility has been refined over the past decade, emphasising its subjective and listener-dependent nature (Munro & Derwing 2015; Saito et al. 2017). Comprehensibility is now viewed as a dynamic outcome of interaction between speaker features (such as pronunciation, fluency and repair strategies) and listener variables (such as experience, expectations and familiarity with diverse accents) (Kang & Ginther 2018). The dynamic nature of

comprehensibility is more marked in ELF settings where successful communication is often co-constructed in real time by non-native interlocutors through negotiation of meaning (Jenkins 2012). According to Saito and Plonsky (2019), this has remarkable implications for both research and pedagogy and suggests that pronunciation teaching and assessment should focus on features that most impact comprehensibility in international contexts, rather than on native-like accuracy.

2.8.1. Factors Influencing Comprehensibility

- **Phonological factors in comprehensibility**

Research on non-native speaker interactions, including interlanguage talk, indicates that segmental pronunciation issues are a major cause of misunderstanding (Deterding 2005). Based on observations of multilingual L2 English users, Jenkins (2000) argued that consonant accuracy is particularly important for intelligibility in ELF contexts for which she proposed the Lingua Franca Core. In addition, Jurado-Bravo (2018) argues that vowel quality should not be overlooked. Barrass et al. (2020) found that Mandarin-speaking L2 English users rated Korean-accented English as least intelligible when it featured epenthesis, nasal-plosive substitutions, and the [wʊ] sequence, although their study's reliance on a single assessor limits the findings. Meanwhile, research on heavily-accented English, such as Singaporean (Kirkpatrick & Saunders 2005), Mandarin (Munro & Derwing 1995) and Cantonese (Kirkpatrick et al. 2008), has shown that a strong accent does not necessarily impede comprehensibility, suggesting that prosodic elements may have a stronger influence on listener comprehension than isolated segmental errors. Kang et al. (2018) further demonstrated that both vowel and consonant deviations predict comprehensibility in ELF interactions, but the impact of specific errors still depends on the listener, speaker and situation. For such findings, scholars such as Seidlhofer (2011), argue for a shift in pronunciation assessment that prioritises intelligibility and communicative effectiveness over strict segmental accuracy.

- **Influence of instructional type on L2 pronunciation comprehensibility**

Instructional type has also been found to influence learners' comprehensibility and fluency outcomes. Alghazo et al. (2023) compared perception-based and production-based pronunciation instruction among Jordanian EFL learners and found that while both approaches enhanced pronunciation accuracy, perception-based training produced greater gains in segmental, syllabic, and prosodic features. On the other hand, production-based instruction led to higher improvements

in global comprehensibility and fluency. These results emphasise that both perceptual and productive practice contribute in distinct ways to learners' communicative effectiveness. For ELF pedagogy, this suggests that balanced instructional designs integrating both listening-based awareness and spoken practice are most crucial for promoting comprehensible speech.

- **Influence of L1 background on L2 pronunciation comprehensibility**

Research on the extent to which L1 can influence L2 pronunciation intelligibility has progressed from early frameworks like Trubetzkoy's (1939) perceptual "sieve" and Lado's (1957) contrastive analysis to more recent models, including Flege's (1995) Speech Learning Model, Eckman's (2004) Structural Conformity Hypothesis, and Optimality Approach (Prince & Smolensky 1991; 1993; McCarthy & Prince 1993; Prince & Smolensky 1993). Despite these shifts, the impact of L1 background on intelligibility and comprehensibility remains a matter of debate. Some studies have found that L1 background can significantly affect comprehensibility. For instance, in their study, Crowther et al. (2015) reported that native English listeners rated Mandarin speakers as less comprehensible than Hindi or Farsi speakers, supporting Kang's (2010) findings of greater prosodic and accent-related challenges among Chinese and Japanese speakers compared to other L1 groups. However, Derwing et al. (2008) observed that only Slavic, not Mandarin, ESL learners improved in comprehensibility over time, which suggests possible benefits from positive L1 transfer. Derwing and Munro (1997) found no significant differences in intelligibility among ESL learners from Cantonese, Japanese, Spanish and Polish backgrounds, nor did accentedness consistently hinder comprehension for raters with the same L1. These inconsistent results may be attributed to differences in participants' L1s, English exposure and rater backgrounds. Factors such as raters' attitudes, familiarity with English varieties and educational background likely contribute to the variability in how L1 influences are perceived and evaluated.

Supporting research on the role of L1 phonological transfer, Hasan et al. (2024) examined how the (mis)application of Korean assimilation rules, such as lateralisation and nasalisation, affected native listeners' comprehension of foreign-accented Korean speech. The study revealed that the non-application of these rules significantly reduced listener comprehensibility, particularly in contexts involving liquid nasalisation and obstruent-liquid sequences. This finding highlights that phonological deviations linked to L1 rule application can have direct perceptual consequences, highlighting the importance of cross-linguistic phonological awareness in promoting intelligible and comprehensible L2 speech. In ELF contexts, similar mechanisms may explain why certain

transfer-induced patterns from speakers' L1s either facilitate or hinder mutual understanding among interlocutors.

- **Speed and fluency**

Research findings support the notion that slower speech rates (e.g. Matsuura et al.'s 2014; Anderson-Hsieh & Koehler's 1988) and higher fluency levels (e.g. Thomson 2015; Kang et al. 2010) generally enhance speech comprehensibility, but listener tolerance for speech rate variability is influenced by their exposure to diverse Englishes (Derwing & Munro 1997). For instance, Orikasa (2016) investigated how 31 Japanese native speakers rated the intelligibility of various English accents: Korean, Mandarin, Vietnamese and American English. The study aimed to determine which of these varieties Japanese listeners found least or most understandable, and found that slower speech rates generally aided intelligibility, while excessively fast or slow rates could hinder understanding. Moreover, fluency, including the use of pauses, fillers and repair strategies, is reported to be correlated with comprehensibility as it can either facilitate or hinder listener understanding depending on the context and listener expectations (Iwashita et al. 2008; Derwing et al. 2004).

- **Listener experience and adaptation**

Although listener experience is a relatively recent interest in L2 research, and the findings to date have been inconsistent, there is empirical evidence that listener-related aspects (listener experience and familiarity with a number of factors including multilingual environments, exposure to diverse varieties of English, speakers and topics) are found to generally influence listener perceptions on speech comprehensibility in ELF settings (Chan 2021). For instance, Saito and Shintani (2016) showed that Singaporean raters, due to greater multilingual experience and sensitivity to lexico-grammatical cues, rated Japanese L2 English speech as more comprehensible than North American raters did. Familiarity with topics was also found to improve transcription accuracy and comprehension (Winke et al. 2013; Kennedy & Trofimovich 2008). In addition, earlier studies (e.g., Bradlow et al. 1999; Nygaard et al. 1994) showed that native listeners understand familiar speakers better.

- **Interactional and contextual variables**

As pointed out earlier, several studies have emphasised that comprehensibility in ELF is not static but contextually negotiated. Seidlhofer (2001) argues that ELF interactions are

characterised by active negotiation of meaning where speakers and listeners employing strategies such as repetition, clarification requests and paraphrasing to resolve misunderstandings. The communicative context, including topic familiarity (Gass & Varonis 1984), semantically predictable sentences, as opposed to semantically unpredictable ones (Bhandari et al. 2021) recording quality (Chan 2021), non-linguistic listener-related factors (e.g. level of fatigue; Field 2003; cited in Chan 2021) and task type (Bergeron & Trofimovich 2017), also influences comprehensibility judgments.

More recent research has also demonstrated the influence of exposure frequency on learners' pronunciation development and comprehensibility. In a controlled experiment, Uchihara et al. (2022) found that Japanese learners of English who received repeated exposure to spoken word forms achieved higher levels of form–meaning connection and improved pronunciation, particularly in comprehensibility, after six encounters with the target words. Interestingly, while repetition significantly enhanced comprehensibility, its effects on accentedness were comparatively small. These findings suggest that repeated auditory exposure may promote perceptual and articulatory familiarity that supports listener understanding, even if a foreign accent remains detectable. In ELF contexts, this highlights the idea that frequent contact with diverse English speech may improve communicative success without necessitating native-like pronunciation accuracy.

Building on the reviewed literature highlighting the complex, context-dependent nature of comprehensibility in ELF interactions, the present study situates itself within the growing research that prioritises real-world communicative effectiveness. While previous studies on ELF comprehensibility have largely focused on Asian and Western European ELF settings (e.g. Crowther et al. 2015; Deterding 2013; Kang 2010; Deterding & Kirkpatrick 2006; Munro et al. 2006), there remains a significant gap in tackling comprehensibility of English speech by native speakers of ECA and the understanding of the challenges faced by the native Hungarian speakers in such an ELF context that involves these two groups of non-native interlocutors with completely distinct linguistic backgrounds. Addressing this gap, the comprehensibility judgment task (constituting one of the data sources of this study) aimed to investigate the specific pronunciation difficulties of Egyptian speakers residing in Hungary and explores how these features are perceived and evaluated by Hungarian listeners with advanced English proficiency. It also aimed

to provide a comprehensive understanding of the features and factors influencing comprehensibility in this under-researched ELF context.

2.8.2. Methodological Approaches to Comprehensibility Research

Recent research has adopted mixed-methods approaches to capture the complexity of comprehensibility in ELF. Quantitative perceptual ratings are often combined with qualitative feedback and acoustic analysis to strengthen findings and provide a more comprehensive picture of the factors influencing listener judgments (Chan 2021). Methodologically, intelligibility is often assessed through speech transcription (e.g. Sheppard et al. 2017). Expanding on this, Saito et al. (2019) combined listener rating scales with qualitative analyses to investigate how various listener background factors influence the perception of foreign-accented speech comprehensibility, which highlights the role of metacognition and experience in forming listener judgments. As an attempt to highlight how objective acoustic data can enhance traditional listener evaluations of L2 speech, Bartelds et al. (2020) developed an acoustic-based pronunciation distance measure that closely aligns with human judgments of accent strength.

The methodological tool employed in this study reflects these current mixed-methods approaches employed in research on EFL prosodic challenges, ELF comprehensibility and EFL pedagogy. The acoustic analysis was conducted on the recorded audio and video speech samples, providing objective data on pronunciation features, which was then complemented by questionnaire responses by the Egyptian students and their teachers, as well as the semi-structured interviews with the Egyptian EFL speakers residing in Hungary to gain in-depth insights into individual listener differences and background factors influencing effective communication and comprehensibility judgments by another ELF group (the Hungarian raters), similar to the integrated approach of Saito et al. (2019) designed to explore factors influencing comprehensibility. By combining the findings from the acoustic and observational analysis of the audio and video recorded data with perceptual ratings and qualitative questionnaire data, the study seeks to provide a thorough understanding of comprehensibility despite the constraints inherent in non-interactive experimental conditions. As Chan (2021) notes, many empirical studies on comprehensibility rely on pre-recorded speech samples rather than face-to-face interactions, which limits the inclusion of non-verbal cues such as body language and interactive strategies that naturally enhance communication. In the current study, although interviews were conducted, they were recorded and later rated by the Hungarian listeners without any live, face-to-face

communication or real-time interaction between the two ELF groups involved. Pre-recorded interviews were deliberately employed due to their practical advantages in the research context and the flexibility they offered for participants, allowing them to complete the task at convenient times, which is particularly important when dealing with geographically distant participants (both interviewees and raters residing in different parts of Hungary). This approach also ensured consistency, standardisation and reliability of the ratings as all raters evaluated the same speech samples under identical conditions. Additionally, pre-recorded data were believed to facilitate thorough and repeated analysis by both the researcher and raters as an attempt to improve accuracy and transparency of the findings. While this method does not capture the dynamic, interactive features of face-to-face communication (in situations lacking the opportunity for speakers to modify their speech according to immediate listener reactions), it aimed to provide a practical balance between validity and methodological thoroughness.

2.9. Teaching Implications

(2.9. is based on the subsection titled Teaching Implications in Abdelreheem 2025, which has been revised and expanded for the present work)

Pronunciation instructors have been applying various approaches to pronunciation teaching including: the Direct Method, Total Physical Response (Asher 2012), Natural Approach (Krashen & Terrell 1988), Intuitive-imitative Approach, Analytic-linguistic Approach (Celce-Murcia 1991), Integrative Approach (Fraser 2000), traditional activities (e.g. reading aloud) (Adita et. al. 2014), Communicative Language Teaching (Tikkakoski 2015) Audiolingualism, and Oral Approach (cited in Robin 2022: 27). The Intuitive-imitative Approach, the Analytic-linguistic Approach and the Integrative Approach are considered the most commonly recognised pronunciation teaching methodologies by teachers in the Arab region. These frameworks provide a guiding basis for interpreting teachers' stated preferences and practices in this study. (1) The intuitive-imitative approach is known to be one that is based on the notion that every ESL learner, without the need of prior formal instruction or explanation of a pronunciation item, is naturally capable of acquiring pronunciation through listening and imitating pronunciation models with the help of audio and/or video materials (Kacem & Sayah 2020: 18). In light of this approach, imitation of sounds is seen to be intuitive as it relies totally on the learner's ability to initiate, manage and develop the process of acquisition. In a proper pronunciation curriculum/programme, (2) the Analytic-linguistic

Approach was believed by Kelly (1969) to be a phase following and an extension of the Intuitive-imitative Approach (cited in Kacem & Sayah: 18). In contrast with the intuitive imitation of pronunciation items that requires no prior aid, the Analytic-linguistic Approach highlights the role of explicit teaching/learning in the process of EFL/ESL pronunciation acquisition, as well as the learner's analytical capacities, through the use of tools such as phonemic charts and vocal descriptions, and the explicit presentation of the phonetic symbols, rules of articulation, stress patterns, speech anatomy and rhythm of the target language by the teachers, after which students are expected to produce the target items (Kacem & Sayah: 18&19). The Integrative Approach is a combination of the Intuitive Imitative and the Analytic-linguistic approaches; it is where the learners' enhanced communication skills, speaking proficiency and comprehensibility in a target language are considered products of the imitative practice of both segmental and suprasegmental aspects of pronunciation and the fulfilment of "meaningful task-based activities" rather than mere imitation of the target language items (Kacem & Sayah: 19).

Abdallah (2016) suggests that an efficient way to teach pronunciation features could be through presenting subsequent authentic activities as an attempt to simulate the use of English in real communication. Students should be introduced to various activities where they can be exposed to sufficient audio and video input to practice uncommon sounds, unreleased consonants in phrases like *what time* and *big cake*, reduced auxiliaries and other functional words, and consonant clusters to learn how to facilitate their pronunciation in natural speech. This could be achieved by introducing pair or group work following the pure pronunciation tasks aiming to contextualise them and integrate other linguistic and interpersonal skills. Other helpful practice activities for more advanced learners can include training on word stress and stress with compound nouns. Learning about contrastive stress would also help to notice how a change in stress can change the meaning and elicit a different response. Intonation in different types of sentences (questions, simple statements, complex sentences, etc.) may be introduced in later stages when learners are already familiar with the segmental aspects.

Al-Ahdal et. al (2015) lists a set of recommendations that seem adequate for the case of Arabic speakers generally. Curriculum designers and educators are encouraged to employ teaching methods such as: discrimination practice, imitation, concrete rules, giving immediate feedback in form of modification rather than error spotting, and to provide more room for integrating the prosodics in the syllabus: by incorporating activities like role play, poem recitation and voice over,

even when dealing with other aspects of the language (e.g. grammar, discourse or lexis). Differences between pronunciation problems that might cause misunderstandings and those that only sound non-English without challenging intelligibility and effective communication also need to be made clear when raised at any point in the teaching process. This can help further motivate the learners including those who are "unintelligible" and/or shy (Al-Ahdal et. al 2015: 104).

Similarly, according to Hucke (2021: 12), the necessity to address certain student mispronunciations (either through recasts or thorough descriptions of the pronunciation element in question) should be determined by the comprehensibility level of the mispronounced item. In case of producing mispronunciations that are challenging to learners being intelligible, negotiation of meaning could be an effective strategy to be employed by teachers to boost the learners' sense of motivation, eliminate chances of incomprehensibilty and/or maximise the ability to overcome shyness or embarrassment (Hucke: 13&14).

For effective pronunciation teaching, Derwing et al. (2012) point out the need to distribute focus rather equally between segmentals and suprasegmentals. Other productive elements of pronunciation instruction, according to them, should comprise varied activities beyond drills, explicit delivery of rules governing pronunciation in addition to instructing students to observe their own pronunciation with the purpose of noticing their own pronunciation against the target production aiming for improvement of their own performance beyond classroom (Derwing & Munro 2005).

According to Nasr (1997: 67), it is important to stress the differences between the speech segment the learners are more familiar with (as it exists in their native language) and the other segment that the learner substitutes for the problem sound simultaneously in EFL teaching. For instance, when a learner's native tongue clustering system does not allow certain numbers and/or combinations of consonants, they should be trained on all possible clusters of all word positions (initial, medial and final) in the target language. In the case of Egyptian EFL learners, three-consonant and four-consonant clusters need to be stressed. Furthermore, highlighting the rules of pronouncing final inflectional -ed is also essential in the case of native speakers of Egyptian Arabic learning EFL.

Individual phonemes of English that the phonemic system of ECA does not allow also need to be prioritised in the Egyptian EFL classrooms (Ahmad 2011: 34-35). These include the pronunciation of GA /r/ (the rhotic retroflex approximant [ɻ]), as well as the pronunciation of the

short monophthongs /ə/ and /e/, the long monophthong /ɜ:/ and the diphthongs: /eə/, /eɪ/, /ɪə/, /əʊ/ and /ʊə/. On word, phrase and sentence levels, teachers should also highlight the concept of **silent letters** and stress the notion that, unlike in Arabic, there is no one-to-one relationship between the script of a word and its pronunciation in English (e.g. *Tom**'s**, miss**ed** thing**s,*** etc.). Due to the notion that the alphabetic knowledge of a language shapes one's pronunciation **metalanguage** (Linell 1988), believing that letters in words have to correspond to the actual sounds is also something that is more likely to occur with individuals with no sufficient background in linguistics (Fraser 2006: 85).

Similarly, Morley (1991) proposed the Modes of Practice that include: (1) **Imitative Speaking Practice** with advanced or intermediate students to focus on "controlled production of selected pronunciation/speech features" (2) **Rehearsed Speaking Practice** to promote the "stabilization of modified pronunciation/speech patterns". The speaking practice can include activities such as: oral reading scripts selected and/or composed by teachers and/or students, preplanned oral presentations (with self-selected topics and immediate or postponed feedback delivery sessions), in-class pair or group work sessions employing audio-visual aids, out-of-class self-study practice sessions, one-to-one practice sessions (with speaking teachers/speech coaches).

To sum up, the reviewed literature provides insights to key tendencies in Arabic speakers' acquisition of English phonology and reveal consistent patterns of L1 transfer and persistent segmental and suprasegmental challenges as well as gaps in current pedagogical approaches. Moreover, this chapter has outlined the nature of second language phonological acquisition that highlights the complex interaction of age-related constraints, L1 transfer, perceptual assimilation and cognitive factors. It has established that EFL learners' pronunciation challenges can arise not only from negative transfer but also from universal developmental processes and contextual factors. The chapter has also tackled the LFC model that, despite its shortcomings, stands as a particularly suitable framework for Egyptian EFL learners, in specific, and Arabic-speaking EFL learners, in general, suggesting the need to shift the focus to features that are most likely to impede intelligibility rather than on native-like accuracy. In addition, the literature presented in the chapter has demonstrated growing support for integrating perception-based training and communicative activities that reflect real-world ELF contexts. Building on these findings, the present research seeks to address identified challenges, contribute to the current development of effective pronunciation pedagogy for Arabic-speaking EFL learners, in general, and Egyptian EFL learners

in specific, and to gain insights that provide a solid foundation for designing targeted, context-sensitive pronunciation pedagogy to address both segmental and suprasegmental difficulties, encourage learner autonomy and align with the sociolinguistic realities of the use of English in Egypt.

CHAPTER THREE: Methodology (Sampling, Participants and Data Collection)

This chapter (based on the methodological descriptions in Abdelreheem 2023; 2025 which have been revised and expanded for the present work) outlines the methodology employed in the study to investigate the pronunciation challenges faced by Egyptian EFL learners and to inform effective pedagogical implications. The methodological approach employed is quantitative-qualitative. The study comprises three sources of data: a collection of video and audio recordings (pre-recorded and live) by Egyptian EFL learners, questionnaire responses by Egyptian EFL learners and their teachers as well as a collection of recorded interviews with Egyptian speakers of English in Hungary. The chapter begins by detailing the procedures for collecting and analysing the semi-structured spoken data recorded under various classroom and online contexts. This speech data aimed to provide empirical evidence of segmental and suprasegmental pronunciation difficulties, informing the prioritisation of phonological features for instruction based on occurrence and L1 transfer impact. Furthermore, the inclusion of the questionnaire data was motivated by the need to complement the objective analysis of the learners' actual pronunciation performance (actual speech data from the first source) by capturing a comprehensive understanding of the perceived challenges and motivations, attitudes toward different English varieties and instructional preferences in Egyptian EFL pronunciation instruction. Finally, the chapter presents the qualitative interview methodology, focusing on ECA speakers of English in Hungary and providing insights into real-world pronunciation issues affecting intelligibility as well as critical features for effective ELF communication.

Each of the three data sources in this study was selected to address specific aspects of the research questions and build a comprehensive understanding of the issues under investigation. The audio and video recordings are meant to answer **RQ1** (providing direct record of actual pronunciation difficulties). They also provided answers for **RQ2** (informing the prioritisation of phonological aspects for instruction based on frequency and impact in light of the LFC Model). Questionnaire data aimed to offer insights into the perceptions, beliefs and attitudes of both learners and teachers, contributing to the identification of perceived teaching priorities (**RQ2**) by highlighting them, and consequently, informing pedagogical implications (**RQ3**) by exploring what is valued in the context of EFL teaching and learning. The data from the interviews with Egyptian speakers of English in Hungary were added for qualitative depth, context and personal

experience, providing insights into real-life comprehensibility and communication in ELF settings. These interviews directly informed **RQ1** (by highlighting which segmental and suprasegmental features most often led to communication breakdowns, required clarification or rewinding on the Hungarian speakers' part) and **RQ2** (by revealing which phonological aspects were most critical for successful encounters in international contexts). The interviews also offered some insights relevant to teaching implications (**RQ3**) although their primary contribution was to support and enrich the identification and prioritisation of pronunciation features that matter most for intelligibility in global English use.

3.1.Recorded Video and Audio Content by Egyptian EFL Learners

(The subsection 3.1. is based on the methodological descriptions in Abdelreheem 2023 which have been revised and expanded for the present work)

The first sample studied was a collection of 70 video and audio recordings of English conversation classes where student talk was more dominant so that there would be as much space as possible for a sufficient amount of student oral production and/or reception to be analysed. Teacher participation occurred in the forms of interruption, topic control and enforcing explicitness (Fauzan 2017: 132) and performing classroom tasks (e.g. acting as peers in role play activities). The recordings were in forms of 15 in-class teacher-student role plays, 8 student-student role plays, in addition to 20 in-class individual presentations, 5 in-class pair presentations, 16 online individual presentations and 6 online pair presentations). The total length of the recorded content is 5:44:36 hours (ranging in length between 1:06 and 14:52 minutes each).

Prior to data collection, all participants and their teachers were briefed on the purpose of the recordings and provided with clear instructions regarding the recording process, including how to operate the devices, ensure proper microphone placement, and minimise background noise. Recordings were gathered using smartphones, laptop devices or external microphones in relatively quiet classroom or home environments with minimal background noise and adequate microphone distance. Recordings were made via Zoom by the researcher, in class by the teachers or at home by the students in case of online presentations available as an alternative to traditional classroom sessions during the time of the pandemic. In classroom settings, teachers initiated and supervised the recordings using smartphones or laptops, saving the files with anonymised identifiers. For

online sessions, the researcher hosted and recorded Zoom meetings directly. In cases where students recorded presentations at home, they were asked to follow the recording guidelines. Both teachers and students were then asked to submit their files electronically via email or a secure online platform. After each session, all recordings were reviewed for audio clarity, and only usable files were stored separately. Regarding video content, the video files were first converted to audio-only format and checked for sufficient auditory quality for the subsequent PRAAT analysis.

The recordings were collected within a time span of one semester (fall semester of the academic year 2021-2022) using convenience sampling. Participants are 91 university students of the researcher's colleague teachers. The sample comprised 61 male and 30 female students, reflecting the gender distribution typical of the university's faculties of Engineering, Logistics, Computer Science and Business, where male enrolment is generally higher. The researcher's plan was to observe the speech of the student participants first, following the observation by note taking, with the students' pronunciation errors as the research agenda. The recordings were first reviewed auditorily to identify all pronunciation errors and difficulties. Notes were made on: error type, error context (e.g. initial, medial, final position) as well as word or phrase affected. The recorded content was analysed in terms of three main parameters of pronunciation: phonemic quality, accuracy of production and duration of the segments (Martin 2013: 267). The analysis was conducted on wide-band spectrograms on PRAAT as a procedure employed by previous studies involving Voice Onset Time (VOT) measurements (e.g. Abdelaal 2017: 10).

To support observational data, quantitative measures were employed to describe error frequency and phonetic-acoustic features**.** Error selection for PRAAT analysis and/or presentation and discussion in the results section was based on at least one of the following criteria: (1) their high frequency across the 91 participants (those types occurring in at least 40 out of 91 speakers; approximately 44%), (2) the likelihood of being the result of L1 transfer, and (3) their potential to affect intelligibility of speech, ensuring sufficient auditory quality of examples representing the errors. Moreover, to ensure a comprehensive analysis, covering a broad spectrum of pronunciation challenges, the selected errors represented a variety of types, including:

1. Measurable consonant alterations (involving phonological processes such as: alveolarisation, voicing, devoicing, deaffrication, palatalisation, deaspiration, dentalisation and stopping)

2. Vowel changes (involving shifts in height, rounding, backness and tenseness, and including: monophthongisation of diphthongs, diphthongisation of monophthongs, vowel lengthening, vowel shortening, and vowel deletion)
3. Cluster simplification (exemplified in declusterisation by employing epenthesis and prothesis)
4. Stress issues (misplacement of word stress and applying equal stress to all syllables)
5. Non-target-like rhythmic and intonational patterns (involving a dense pitch accent distribution)
6. Connected-speech issues (involving less fluid linking of final consonants to initial vowels and resistance to consonant elisions or contractions).

Errors and problematic features selected were phonetically transcribed and then grouped by category and assessed in PRAAT via VOT values, formant frequencies, durations, intensity, pulsing and pitch contours. Error frequencies were manually calculated for each error type and are presented in tables in the Results and Discussion Section (**Tables 3-10**). The category tables used for tagging errors were developed inductively based on close thematic observations, and refined through repeated review throughout the analysis to allow for the identification, categorisation and quantification of errors. To avoid inconsistency in labeling pronunciation errors that could lead to either overreporting or underreporting certain features, and to reduce subjectivity, the error tagging scheme was reviewed and approved by the research supervisor. Furthermore, after completing the categorisation, the researcher's supervisor reviewed the results to ensure the accuracy and consistency of the categorisation process. Furthermore, any ambiguous cases or discrepancies between the researcher's initial categorisations and her supervisor's review were discussed and resolved collaboratively, and the labelling of errors was applied consistently across the entire dataset.

Chao and Chen (2008) noted that many research endeavours have been examining voicing contrasts with Voice Onset Time (VOT) being widely recognised as a key tool for assessing voice timing, particularly in the analysis of stop consonants in initial positions. However, literature aimed to explore VOT patterns, among Arab ESL/EFL learners in general, and Egyptian EFL/ESL learners in specific, has been minimal. Therefore, for more accurate and reliable results of the current research, the researcher made a choice to combine two methods of speech analysis: the semi-structured observation of students' pronunciation errors with measuring the VOT values of

the mispronounced/problematic phonemes. For instance, the researcher chose to measure the VOT for the stops/plosives (in three words where each sound was mispronounced) with the aim of observing the degree of aspiration in the voiceless stops and comparing them with their voiced counterparts; the ability to distinguish between voiceless plosives and their voiced counterparts in terms of aspiration as a phonemic quality is believed to be essential for mutual intelligibility according to the LFC Model. The VOT values of stops by four American English speakers (1, 58, 5, 70, 21, 80 ms for /b/ /p/ /d/ /t/ /g/ /k/, respectively) reported by Lisker and Abramson (1964) were utilised as a reference for VOT by native speakers of English with which the VOT values of the student participants of the present study could be compared and contrasted. As pointed out earlier, intonation was analysed based on Brazil's (1997) Discourse Intonation Model which focuses on prominence, pitch range, key/termination and choice of tone (Cheng 2015). The presentation of results is supported by examples and transcriptions in the Results and Discussion Section.

In designing the recordings for this study, deliberate steps were taken to avoid the challenge of controlled speech, ensuring that the data reflected realistic pronunciation difficulties. As detailed earlier, the dataset included 15 in-class teacher-student role plays, 8 student-student role plays, 20 in-class individual presentations, 5 in-class pair presentations, 16 online individual presentations, and 6 online pair presentations. This diverse combination of tasks aimed to balance more structured exercises with opportunities for spontaneous speech. To further encourage natural speech, the teachers incorporated elements that required students to react to unexpected scenarios or change the direction of their responses during the task. Additionally, students were reminded to treat the tasks (especially role plays) as naturally as possible as an attempt to reduce the temptation to rehearse or control their delivery.

As far as challenges pertaining to the processing and analysis of the students' recordings are concerned, managing lengthy speech recordings, especially when dealing with a considerable number of participants (91 participants), created a significant time burden when transcribing, segmenting and tagging pronunciation issues. To address this, as a more efficient approach, the researcher chose to divide the dataset into manageable segments and break it into smaller sessions (approximately 30 minutes of recordings per session) for the identification, transcription and categorisation of errors detected. She also created category tables for common mispronunciation

issues so that she can insert the error into the relevant table instead of typing out the category/error type each time an error is encountered.

The process of collecting recordings from both classroom and online (Zoom) contexts presented distinct opportunities and challenges. Classroom recordings generally benefited from more stable audio quality due to the controlled environment and the presence of a teacher to facilitate the recording process. However, occasional background noise, variable classroom acoustics and particular technical limitations of some recording devices used sometimes affected the clarity of the content. On the other hand, Zoom recordings introduced additional variables including inconsistent internet connections, occasional lag and differences in audio quality among participants. Student self-, at-home-recorded presentations showed differences in recording quality depending on the strength of the microphone of the recording device used, and sometimes contained background noise from the household environment. To address these issues, clear instructions were provided to all participants regarding proper/effective microphone placement and minimisation of background noise. As extracting clean tokens for accurate acoustic analysis may have presented challenges posing threats to the internal validity of the study results, only clear and well-articulated tokens were selected for acoustic analysis. The researcher conducted preliminary checks of recording quality before including files in the dataset. However, despite these measures, a small proportion of recordings (approximately 10% of the recordings), with significant audio distortion, excessive background noise or incomplete segments due to poor audio or recording quality or technical issues, were deemed unusable and were excluded from the analysis. The exclusion rate was slightly higher for Zoom and at-home recordings compared to in-class sessions, largely due to technical disruptions and environmental factors beyond the researcher's and/or participant control.

While each recording context posed challenges as illustrated above, they also offered unique opportunities that enriched the dataset. Classroom recordings enabled the capture of more naturalistic, interactive speech, particularly during group activities and role plays, where students engaged in spontaneous communication. The presence of a teacher facilitated the organisation of activities, encouraged broader participation, and allowed for immediate feedback. On the other hand, Zoom and at-home recordings provided greater accessibility and flexibility and allowed learners to participate regardless of their physical location, which contributed to a more diverse sample and enabled the collection of speech data from a wider range of communicative

environments. Online presentations, often conducted individually, allowed for more focused and uninterrupted speech. Additionally, the technological features of Zoom, such as automatic recording, facilitated the data collection process and ensured high-quality digital audio files.

It is worth noting that, while the dataset included both spontaneous communicative activities and more formal presentations to capture a wide range of pronunciation challenges, comparison across contexts was beyond the scope of the present investigation. All recordings were analysed collectively to present a general overview of pronunciation difficulties among Egyptian EFL learners. This decision was made to ensure sufficient data for each error type, maximise the sample size for each error type and reflect the diversity of real-world English use among participants.

Another key challenge was ensuring that the quantitative data carried meaningful insights. While identifying the frequency of specific mispronunciations was straightforward, interpreting what these numbers reveal about learner difficulties and pedagogical implications proved more complex. Without contextualisation, there was a risk that the analysis could become superficial or disconnected from the learners' linguistic reality. To address this, the study consistently sought to link quantitative findings with qualitative observations, considering not just the occurrence of errors, but also their potential causes, particularly in relation to L1 interference and their impact on intelligibility. This integration ensured that the data not only represented what learners mispronounced, but also offered insights into why these patterns occurred and how they might be addressed in the classroom.

3.2.Questionnaire Responses

(The subsection 3.2. is based on the methodological descriptions in Abdelreheem 2025 which have been revised and expanded for the present work)

The collection of online questionnaire data comprised responses by 74 Egyptian male and female university students (two of whom said they are EFL teachers as well). 73% of participants had their basic education in Arabic-medium schools while 27% went to English-medium schools (or what is known in Egypt as language schools), in addition to teachers of the participating students (5 Egyptian male and female teachers, two of whom said they are also EFL learners). Four teachers reported they had received their school education in Arabic-medium schools while

only one received their basic education in an English-medium school; none of either students or teachers were graduates of other foreign-language-based schools. Questionnaire data were collected within a time span of one semester (fall semester of the academic year 2022-2023) using convenience sampling; participants are students of the researcher's colleague teachers. Instructions to answer the survey questions were given in English alongside Modern Standard Arabic to enable respondents (especially students with lower proficiency levels) to select the language through which they would be able to fully understand survey questions and/or clearly express themselves.

The qualitative data were analysed using a thematic analysis approach. Open-ended questionnaire responses were analysed inductively, aiming to identify recurring patterns in participants' perceptions and experiences, a procedure commonly used in survey-based studies of language attitudes and pronunciation (e.g. Ayaz Yilmaz & Yaman 2025; Alghofaili1 & Elyas 2017; Sa'd & Modirkhamene 2015). The process included: initial familiarisation with the data through repeated reading of all responses, followed by grouping similar responses together to identify broader themes and recurring patterns that reflected common attitudes, challenges and beliefs about pronunciation instruction and learning, noting the frequency with which particular themes occurred and reviewing the themes to ensure they accurately reflected participants' responses and addressed the research questions. The questionnaire itself was designed around the following key areas related to the research questions, which also helped guide the interpretation of the findings presented in the Results and Discussion section:

Attitudes toward different varieties of English: Given the sociolinguistic complexity of English as a global language, understanding learners' and teachers' preferences and perceptions of various English accents (such as native varieties, Egyptian English, or other non-native varieties) is crucial. These attitudes can guide learners' motivation, identity and goals in pronunciation learning, and thus provide context-sensitive pedagogical implications.

Perceptions of pronunciation difficulty and importance: By identifying which pronunciation features learners and teachers consider most challenging and/or essential, the questionnaire helps provide insight into learners' self-awareness and align teachers' instructional priorities/focus with learner needs and expectations.

Influence of L1 and educational background: Investigating participants' language backgrounds and beliefs about L1 interference provides context for the pronunciation errors observed in the recordings and informs targeted teaching strategies.

Views on pronunciation instruction and intelligibility: Eliciting opinions on the goals of pronunciation teaching (the role of native-like accuracy versus intelligibility) and perceived obstacles to pronunciation learning supports the development of realistic, learner-centred teaching approaches.

The teacher questionnaire comprised more items than the student questionnaire (thirty-six compared to twenty-seven items, respectively). Teachers had the same items designed for students to answer alongside nine additional items. Items of both questionnaires can be found in Appendix 1 (students') and Appendix 2 (teachers'). Questionnaires were constructed in the forms of likert-scale-based questions, multiple choice questions (some of which allowed selecting as many options as applicable) in addition to open-ended questions. The inclusion of multiple-choice and likert-scale formats aimed to reduce the cognitive load on respondents while open-ended questions were designed to elicit more detailed insights on the topics in concern. Participant selections on likert-scale and multiple-choice items were reported as frequencies and percentages. All questionnaire items were analysed descriptively in relation to the themes identified. Questionnaires were designed by the researcher as Google forms (where all question fields were required, unallowing respondents to skip any of the questionnaire sections as they answered the questions). Before being sent out to the respective respondents, questionnaires were forwarded to the research advisor of the researcher for review, suggestions for improvement and approval of the questionnaire final versions.

Concerning items addressed to both students and teachers, items one and two related to self-identification (academic L2 stance and educational/language background); a question on the medium language of basic education was included to take into consideration the influence/interference of any foreign languages other than English in the process of EFL learning. Items three and four concerned the significance of learning English as a Foreign Language; item five was to find out what language skill(s) is/are viewed to be most challenging; item six tackled the significance of learning EFL pronunciation; items seven and eight pertained to the phonological aspect(s) participants studied at school and the weight those aspects were given; item nine was meant to determine the difficulty level of EFL pronunciation; followed by item ten to specify the aspects of English pronunciation that are believed to be most problematic; items eleven through sixteen concerned most and least favourable accents, attitudes towards them and the accent(s) believed to be an ideal option for EFL curricula, with the elaboration on the rationale

behind the specified preferences; items seventeen through nineteen aimed to elicit the attitudes towards the Egyptian accent of English in general as well as how participants perceive their own pronunciations; item twenty investigates the influence of Egyptian Arabic as the participants' L1; item twenty-one aimed to find out the extent to which respondents believe in the importance of acquiring native pronunciation competence; items twenty-two and twenty-three were to figure out perceptions on what is considered to be crucial for proper L2 oral communication, highlighting nativeness and intelligibility as key candidates; item twenty-four pertained to views on what could be thought to be obstacles in the process of proper L2 pronunciation acquisition; items twenty-five and twenty-six concerned the question of whether or not participants believed EFL pronunciation instruction in Egypt needs improvement; item twenty-seven concluded the students' survey with an open-ended question on what was considered to be the most efficient in terms of methods, styles, techniques of the learning/teaching of EFL pronunciation and what approaches and activities they would deem crucial in Egyptian classrooms and textbooks.

As previously mentioned, teachers had nine more question items to complete (Questions 28-36). Items twenty-eight and twenty-nine pertained to a question of whether or not teachers integrate the pronunciation element in their EFL classrooms, aspects of pronunciations they tend to cover, approaches, techniques and materials they employ for pronunciation instruction and any other relevant details they would deem significant. Items thirty to thirty-three concerned pronunciation assessment issues: whether or not teachers assess their students' pronunciation, assessment methods put into practice, feedback on students' pronunciation inaccuracies (if any), elements of pronunciation teachers tend to prioritise for correction and delivery methods of such corrections. Question thirty-four addressed the matter of whether or not teachers deemed teacher and/or learner personalities, on one hand, and L2 pronunciation teaching and acquisition, on the other hand, related. Lastly, Questions thirty-five and thirty-six followed to elicit concluding comments and reactions on the drawbacks of the pronunciation courses/materials provided for their students (if there were any) as well as thorough descriptions of the challenges they might face while teaching English pronunciation.

The questionnaires were forwarded for completion as Google form links via email and Whatsapp study groups to the participating students and teachers by the Head of the English Department, who was himself one of the teacher participants assigned to one of the student groups. He was also the programme coordinator in charge of the selection of classroom activities and

compiling classroom materials. The questionnaire took approximately 20 to 30 minutes to complete. Participants were informed of the estimated time requirement before beginning.

To ensure that the questionnaire was comprehensible and appropriate for the target respondents, especially students, a pilot testing phase was conducted prior to full administration to assess the questionnaire's clarity, the relevance of questions, and the participants' ability to effectively respond to questions. The pilot testing process involved the following steps:

1- A small group of participants representative of the target population (one class of 23 learners reflecting the range of English proficiency levels and linguistic backgrounds), as well as their teacher, were invited to complete the English version of the questionnaire.

2- After completing the questionnaire, pilot participants (learners and teacher) were engaged in a brief online feedback session with the researcher to discuss their understanding of the questions, any difficulties encountered, ambiguous terms or confusing instructions. Special attention was given to complex or abstract questions, to assess whether respondents could reliably interpret and answer them. Based on the pilot feedback, the questionnaire was revised to improve wording clarity, simplify complex items, and ensure instructions were explicit.

3- Feedback from the pilot also led to the inclusion of a version in MSA along with the English version, allowing respondents to read instructions and process questions and responses in the language they found most accessible. Participants were also informed that they could respond in either language, or a combination of both (switching codes), within the same form or even individual answer, ensuring they could express their views comfortably and accurately. As an attempt to avoid literal translations that might confuse respondents or alter question intent, and to elicit meaningful data from participants with diverse language preferences and proficiency levels, both versions of the questionnaire (English and MSA) were reviewed to verify that translations were accurate and maintained conceptual equivalence.

   The nature of most of the learner responses (the brief descriptive single words and short phrases/statements which frequently combined ECA, MSA and English, and occasionally contained language errors) required careful rephrasing and summarising to accurately capture the intended meaning and focus on extracting the key patterns and concepts from

the responses without compromising clarity or readability of the thematic representation and discussion of participant perceptions and experiences.

4- Pilot data were analysed to confirm that responses could be reliably coded and interpreted regardless of response language/code.

While pilot testing confirmed that most students could understand and respond to the questionnaire items, certain questions, especially those requiring reflection on pedagogical methods (like Question 27), may be challenging for some learners. Students' perspectives on effective teaching methods may be influenced by their limited exposure to pedagogical concepts or teaching experience. Therefore, responses to such questions are interpreted as reflective of students' personal learning experiences and preferences rather than evaluations of teaching methodologies.

The students involved in the audio and video recordings, as well as in the questionnaire task, were primarily first- and second-year undergraduates, whose motivation for studying English was predominantly strong, driven by academic success and future career aspirations. Learners are aged approximately between 18 and 24 years. Before university, participants had studied English for an average of nine years, within a combination of Arabic- and English-medium (public or private) schooling systems with varying degrees of exposure to English due to the differences pertaining to the hours of formal instruction. Students had some experience studying an additional foreign language (French, German, Italian or Spanish). The duration of study varied between two and eleven years, depending largely on the type of school they attended. However, regardless of school type, their overall exposure to these languages remained limited. The study involved student participants from social/geographical backgrounds to ensure that members of as many sectors of the target population (Egyptian EFL learners) as possible are represented in the sample. To maintain confidentiality, specific regional or community details are withheld.

The students are enrolled across four different faculties: Engineering, Logistics, Computer Science and Business, where English was the language of the study programmes: instruction, examination, textbooks and study materials. Learners varied in their English proficiency levels (pre-intermediate to advanced, assessed via test scores of 20-50/50 on the Cambridge English Placement Test on: reading, writing & listening taken as a prerequisite for joining their study programmes). This proficiency range indicates that the sample included learners with basic functional English skills up to those capable of handling complex academic and professional

language tasks. Although no precise breakdown of participants by proficiency level was available, this range reflects the diversity of linguistic abilities present in the study sample. The data were analysed as a single group to ensure sufficient data for each feature under investigation and to reflect the diversity present in real-world EFL classrooms and real-world English use, in general. The students were drawn from the same academic institution, and shared similar instructional input and curricular exposure. In this sense, the group may be considered pedagogically homogeneous despite variation in proficiency scores.

In their university programmes, students were required to take English for Specific Purposes as well as English as a Foreign Language classes for three semesters (consecutive or separate) during their degree programmes. The learning environment included a combination of large lectures and smaller seminars, with access to language learning resources such as language labs and tutoring services although availability varied across faculties. Concerning their outside-the-classroom activities, participants reported differing levels of English use in daily life, including engagement with English-language media (mainly social media and online content). Access to technology for language learning (through the use of language learning applications and online platforms) was generally widespread.

To overcome any problems that might have been encountered during the research project, and to ensure the absence of any safety or ethical issues in such a study that involves observation and technical analysis, the data (recorded material and questionnaire responses) were stored and used only for the purposes of this research anonymously with no indicative details of a person, a place, etc. Both teachers and students were also thoroughly informed about this research and its objectives, and were assured that their participation was entirely voluntary and that they had the right to refuse participation for any reason(s). Such procedures were thought to help avoid threats to internal validity and other threats including face threats and trust issues to the study participants and pave the way for the research objectives and outcomes to tap into the participants' needs.

3.3.Interview Recordings

Since this research is conducted in Hungary, it was thought as beneficial to the study purpose to explore the difficulties in the English pronunciation of native speakers of Egyptian Arabic staying in Hungary, that hinder effective communication with native speakers of Hungarian (as another group of ELF speakers) in such a context where speakers of different native languages

use ELF as the only medium of communication with each other. The interview task was designed to add depth to the identification and prioritisation of pronunciation difficulties (**RQ1** & **RQ2**) by illustrating which features matter most in authentic ELF communication as perceived by Egyptian speakers themselves. This qualitative perspective aimed to support and contextualise the findings from the recordings and questionnaires, leading to more targeted teaching recommendations (**RQ3**).

As the third source of data for the study, the researcher conducted interviews in English with native speakers of Egyptian Arabic staying in Hungary, then forwarded the recorded interviews to the raters (who are all native speakers of Hungarian residing in Hungary) asking them to give their impressions on the accents they would hear, describe the remarkable aspects in those accents and the common features among speakers (if any), mention if there was any familiarity with those accents and if they were similar or different from other accents they had heard, rate the overall quality and comprehensibility of speeches heard, and point out any problematic parts or elements that were not (fully) intelligible. Participants in this task are:

Speakers of Egyptian Arabic in Hungary (interviewees)

Six male and three female Egyptian interviewees who range between sixteen and forty years of age. Participants are all native speakers of Egyptian Arabic and independent to proficient users of English, with English proficiency levels ranging between B2 and C2 on the CEFR six-point scale based on the most recent IELTS test scores attempted for the purpose of studying and/or working in Hungary. English for all interviewees was the first foreign language learnt formally in school, followed by other foreign languages (including one or more of the following: French, German, Hungarian, Italian, Spanish and Russian) learnt in school and/or at later stages in life. The participating interviewees have been residing in Hungary (for a period ranging between five months and ten years) mainly for work and/or study purposes. All interviewees started or completed their education in Egypt before moving to Hungary for the respective purposes. **Table 1** below presents the demographic and linguistic characteristics of the nine Egyptian Arabic speakers who participated in the interview task:

Participant	Gender	Age	Length of Stay in Hungary	Purpose of Stay	English Proficiency (CEFR)	Other Languages	Education Background	Topic Chosen
1	F	35	3.5 years	Study	Advanced	French (Beginner), Italian (Lower-Intermediate)	School, undergrad, part postgrad in Egypt	Aspects remarkable about Hungary
2	M	38	10 years	Work	Advanced	Spanish (Beginner), Hungarian (Basic)	All education in Egypt	Influence of technology on communication
3	M	32	3 years	Work	Advanced	German (Intermediate), Hungarian (Basic)	School & undergrad in Egypt, MSc in Hungary	Aspects of Hungary, importance of first impressions
4	M	16	4 years	Study	B2	French (B1), Hungarian (A1)	Started school in Egypt	Advantages/disadvantages of living in a large city
5	F	40	4 years	Work	B2	French (C2)	School & higher education in Egypt	Aspects remarkable about living in Budapest
6	M	27	5 months	Study	C1	Russian (Intermediate), German (Basic)	School & undergrad in Egypt, MSc in Hungary	Event that caused biggest change in life
7	F	18	1 year	Study	B2	Italian (A2), French (A2)	School in Egypt, BA in Hungary	First impressions
8	M	24	2 years	Study	C1	Hungarian (A2), French (B1)	School & undergrad in Egypt, MSc in Hungary	Technology and relationships
9	M	29	6 years	Work	C2	German (B2), Hungarian (B1)	School & undergrad in Egypt, MA in Hungary	Advantages/disadvantages of living in a large city

Table 1: Egyptian Interviewees

The interviewees were given a variety of topics (in form of questions as an attempt to elicit sufficient output for analysis) to select the one(s) they are comfortable with and willing to discuss:

- What aspects do you like and/or dislike about life in Hungary?
- What are some advantages and/or disadvantages of living in a large city?
- What influence (positive and/or negative) does technology have on today's communication and relationships?
- What event caused the biggest change in your life?
- Some people believe the first impression you get from someone says a lot, but others think it is unfair to judge so fast and that you should let time reveal a person's true character. Which way do you tend to see it?

Interviewees were not allowed any preparation time to think about their answers or write them down before speaking to ensure a higher degree of spontaneity. They were requested to do the recording themselves using their own devices (to attain the best recording quality possible) and to speak as they recorded. They were then asked to upload the files to a Google drive created for the purpose of this task. Participants were ensured anonymity and assured their recordings would be stored and used only for the purpose of this research and without any indicative details.

Native speakers of Hungarian (raters)

Hungarian raters (twenty-seven raters, including males and females) are all English majors (BA, MA or higher) who range in age between nineteen and forty, and in English proficiency levels between B2 and C2. Each rater was thoroughly informed about the nature and purpose of this research and was asked to give a general commentary on the accent of English in the played recordings, as well as a detailed feedback on the accent of each interviewee individually with the purpose of understanding how Egyptian/Arabic English would sound to the Hungarian ear. The following table summarises the characteristics of the rater group:

Number	Gender	Age Range	Academic Background	English Proficiency (CEFR)	Relevant Experience/Notes
27	Males and females	19–40	All English majors (BA, MA or higher)	B2–C2	• Native Hungarian speakers residing in Hungary • Rated each interviewee individually • Provided detailed commentary on Egyptian English in general

Table 2: Hungarian Raters

The raters were guided by a set of questions from the researcher (initiated by a few instructions on how to do the task and what was expected from them) as a way to elicit as many relevant reactions and comments as possible. The task came as follows:

Please listen to the audio files, answer the following questions and feel free to add any further information, details, impressions you find relevant even if not mentioned below:

- What is your impression on the Egyptian accent of English? How would you describe it? Anything remarkable? Any common features among all speakers? How similar and/or different is the Egyptian accent from other accents you might have heard before or are familiar with? Please answer in detail.
- How would you rate the overall quality of each speaker's English?
- Did you fully understand the speech by all speakers? Which parts or speakers did you find intelligible/unintelligible, and why? Please point out the parts/elements you found problematic. What do you think can make it better?

Raters' impressions were then collected via email or paper sheets, after the raters had listened to the recorded interviews, to classify the pronunciation problems pointed out by them. The analysis of rater responses was conducted manually. A thematic analysis was conducted through careful review of the rater reports, identification of common patterns and themes as well as integration with the findings from other data sources (with the acoustic findings and questionnaire data). Below are the procedures of the processing and analysis of the interview data:

Familiarisation and data organisation: All rater responses were first read multiple times to gain a thorough understanding of the content and to become familiar with recurring ideas and

observations. The feedback was then organised by speaker, so that all comments pertaining to each Egyptian interviewee could be considered both individually and in comparison with others.

Initial categorisation: The researcher manually highlighted key words, phrases and sentences that pointed to specific pronunciation difficulties, intelligibility issues or notable accent features (both segmental and suprasegmental).

Category development: These initial features were then grouped into two broader categories (segmental features and suprasegmental features). For instance, vowel mispronunciation, emphatic and mispronounced consonants were grouped under segmental difficulties while features related to syllable stress and monotonous intonation were grouped under the category of suprasegmental difficulties. Other concepts included overall intelligibility, fluency, influence of L1 or other languages and listener adaptation or effort. Throughout the process, detailed notes were kept on grouping decisions and the rationale for grouping certain comments, which allowed for the analysis to be traced and, if necessary, reviewed.

Review, illustration and integration: Categories and concepts were reviewed to ensure they accurately represented the range of rater impressions. Representative quotations from raters were selected to illustrate each concept or feature in the results section. For example, a rater's comment such as "she had to hit every single word" was used to exemplify issues with unnatural word stress. To enhance the validity of the analysis, categories and concepts were later compared with the features identified in the acoustic analysis of the video and audio recordings as well as the questionnaire data to provide a broader picture of the pronunciation challenges and their impact on intelligibility.

This interview task was intended to simulate real life ELF communication. Each rater listened to the recordings and provided their impressions, comments or judgments about intelligibility/comprehensibility for each speaker individually. Raters did not listen to the same recording or utterance(s) more than once unless they requested repetition (when they expressed instances of communication breakdowns, as they were listening to a speaker's recording or at the end of a recording) to be able to properly form their judgment of the speakers' intelligibility. In such cases, repeated exposure (in the form of replaying the recordings when necessary) was allowed to improve reliability. However, reflecting a more common communicative scenario, most comments were based on a single listening. The listeners' ratings and comments were described and interpreted qualitatively in the analysis which focused on identifying common themes, specific

pronunciation features noted, and any particular points of misunderstanding or communication breakdown mentioned by the raters. Comprehensibility was inferred from communicative success/failure as expressed by the explicit listener ratings and elaborations of the speakers' individual accent(s).

In the analysis of the ELF interviews, the Hungarian raters were not instructed to systematically compare or rank the comprehensibility of the different Egyptian speakers against each other. However, in some cases, raters made in their feedback spontaneous comparative remarks that are not elicited by the research design itself (e.g. that a certain speaker "is the most intelligible by far", etc.). Such comments offered further insight into how certain speakers or speech patterns are perceived as representative or unique by listeners.

This descriptive, qualitative approach is consistent with earlier ELF research, such as Jenkins (2000) and Watterson (2008), who similarly analysed listener impressions and perceptions of communication breakdowns to identify pronunciation features affecting intelligibility rather than relying solely on formal statistical rater agreement. Moreover, similar qualitative approaches have been employed in more recent ELF research, such as Zahro's (2021) study on English by speakers of Indonesian (where listeners rated interview speech on accentedness, comprehensibility and intelligibility), and Jeong et al.'s (2021) study on Swedish youths' perceptions of Global Englishes speakers (who examined listener impressions of intelligibility and acceptability). A key challenge in this approach was the inherent subjectivity of rater impressions as each rater might notice or prioritise different features. Additionally, differences pertaining to rater background, experience, familiarity or expectations with accented English (particularly Egyptian) could have influenced the nature of their comments.

To summarise, this chapter outlines the mixed-methods approach adopted, and details the procedures taken to ensure the quality and validity of data and the reliability of findings. As illustrated, the investigation was based on three data sources selected to address the research questions from complementary angles. First, the collection of video and audio recordings, drawn from classrooms and online communicative settings at an Egyptian higher education institution, aimed to offer concrete insights of segmental and suprasegmental pronunciation issues. The speech recordings were analysed using auditory observation and acoustic tools to identify recurring mispronunciations and their potential links to L1 transfer and intelligibility. Furthermore, questionnaire data collected from learners and their teachers aimed to enhance the depth of the

investigation and applicability of the findings by highlighting attitudes and beliefs about English pronunciation, instructional priorities and the perceived challenges within the Egyptian EFL context. The design, piloting and bilingual administration of the questionnaires aimed to ensure that the responses collected reflect the reality of learner and teacher perspectives. Third, the inclusion of interviews with Egyptian speakers residing in Hungary adds an additional qualitative dimension. Feedback from native Hungarian raters regarding the intelligibility and features of the Egyptian English accent contributes insights into ELF comprehensibility of the Egyptian speakers' pronunciation and the prioritisation of pedagogically relevant phonological features and practices. This methodological framework was employed with the aim of investigating pronunciation challenges Egyptian learners face as well as sources of these challenges, the way they can impact effective communication and how they could be addressed to re-evaluate current practices and inform pedagogical recommendations.

CHAPTER FOUR: Results and Discussion

This chapter presents detailed analysis of the acoustic, questionnaire and interview data and discussion of their findings. The first section examines segmental and suprasegmental pronunciation features, highlighting common consonant and vowel errors, consonant clustering difficulties and prosodic issues such as word stress and connected speech patterns. The second section explores learners' and teachers' perceptions of English pronunciation, including accent preferences, attitudes towards the diverse accents of English and the current status of pronunciation instruction in Egypt based on the questionnaire responses. The third section focuses on the evaluation of Egyptian speakers' English intelligibility by Hungarian raters, providing insights into impressions on the characteristics of English spoken by Egyptians and factors/features affecting speech comprehensibility in this ELF context. The chapter concludes with pedagogical implications informed by the data analysis and in light of the LFC model, as well as practical recommendations for enhancing pronunciation instruction and re-evaluating pedagogical priorities in relevance to the needs of Egyptian EFL learners.

4.1. Recorded Video and Audio Content:

Parts of this subsection are adapted from the findings in Abdelreheem's (2023).

4.1.1. Segmental Features

4.1.1.1.Consonants

The first feature concerning the pronunciation of consonants in the analysed corpus was found to be consonant alteration. The following table (**Table 3**) summarises the key consonantal pronunciation errors observed among the Egyptian EFL learners, providing examples of each error, categorising the type of alteration, and quantifying the number of affected speakers alongside the total frequency of occurrences:

Error / Issue	Example	Category / Type	No. of Affected Speakers	Frequency
/ð/ → [z]	*that, the, together, other, there, their, they, them, whether*	Consonant alteration (alveolarisation)	76	210
/θ/ → [s]	*something, thousand, thirty*	Consonant alteration (alveolarisation)	71	160
/dʒ/ → [ʒ]	*major, subject, stage, jolt, energy, job, just, object*	Consonant alteration (deaffrication)	58	120
/tʃ/ → [ʃ]	*questions, slouching, research, search*	Consonant alteration (deaffrication)	41	80
/v/ → [f]	***Five***	Consonant alteration (devoicing)	1	1
/p/ → [b]	*presentation, examples, important, hope*	Consonant alteration (voicing)	67	145
/ŋ/ → [ŋg]	*smiling, giving, during, upsetting, getting, listening, identifying, working, gaining, reading, morning, according*	Consonant clusterisation + stopping	82	150
/r/ → trilled [r]	*for, more, care, sure, rehearse, ensure, your, before, first, related, clear*	Consonant alveolarisation	52	112
/l/ → palatal [l]	*film, still, clearly, little, finally, literally, skills*	Consonant palatalisation	47	90
[p^h] → [p]	*Published*	Consonant deaspiration	36	60
[t] → [t̪]	*To*	Consonant dentalisation	39	58
[k^h] → [k]	*Collection*	Consonant deaspiration	32	52

Table 3: Consonantal Pronunciation Errors

The data reflected some inconsistencies regarding the pronunciation of certain consonants. Those inconsistencies included:

1. The alteration of /ð/ to [z], a mispronunciation which also occurs in the ECA-MSA transfer, in words such as: *that*, *the*, *together*, *other*, *there*, *their*, *they*, *them* and *whether*:

Both phonemes (replacing and replaced) are referred to in English as **fricative consonants**. Ladefoged and Johnson (2011)**,** Stevens (2000) and Kent and Read (2002) explore English fricatives and their acoustic differences, which can be used to highlight any alignments or deviations from the target fricative productions in the data of the current study. English Fricatives (/f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, /ʒ/, /h/) are consonants produced by a relatively relaxed constriction in the oral cavity (compared to plosives) (Ladefoged & Johnson 2011; Stevens 2000). The nine fricatives in English are divided into four pairs (each of which is constituted by a voiced fricative and its voiceless counterpart) and the glottal fricative /h/ (Ladefoged & Johnson 2011).

Fricatives can be classified as sibilants versus non-sibilants (Kent & Read 2002). Sibilants in English include /s/, /ʃ/, /z/, and /ʒ/, which, in their articulation, produce a turbulent airflow against some barrier (e.g. the teeth) (Stevens 2000). Non-sibilants, on the other hand, generate turbulence directly at the point of contact (Ladefoged & Johnson 2011). Sibilants are generally louder than non-sibilants and have higher acoustic frequencies (Stevens 2000). For example, the acoustic energy of both /s/ and /z/ can be recorded predominantly above 3,500 Hz, extending up to 10,000 Hz, while most of the acoustic energy of /ʃ/ falls within the 2,000 Hz to 10,000 Hz range (Kent & Read 2002). Turbulence noise is stronger in sibilant fricatives /s, z, ʃ, ʒ/ than non-sibilants /f, v, θ, ð, h/ (Ladefoged & Johnson 2011). Dental fricatives show higher intensity levels than labiodental fricatives (Stevens 2000). Similarly, the intensity of alveolar fricatives is stronger than that of post-alveolar fricatives (Stevens 2000). Voiced fricatives /v, ð, z, ʒ/ have longer time intervals, stronger frication, and a dark voicing band at the bottom of the spectrogram (at or below 400 Hz) (Kent & Read 2002). On the other hand, voiceless fricatives /f, θ, s, ʃ/ are characterised by weaker formants (Ladefoged & Johnson 2011). Concerning the voiceless fricative /s/, it exhibits higher frequency levels than /ʃ/ does, but both feature higher means than those of /f/ or /θ/ (Stevens 2000). In comparison with the other fricatives, /h/ displays very low acoustic energy, typically surging maximum at 1,000 Hz (Kent & Read 2002). Voiced fricatives combine elements of regular vocal fold vibrations with irregular turbulence in the airflow (Kent & Read 2002). Unlike voiceless fricatives, they are characterised by prominent lower-frequency energy bands (at around 400 Hz). English Fricatives can also be classified in terms of their place of articulation. English has two labiodental fricatives: the voiced /v/ and the voiceless /f/. /f/ typically exhibits high-frequency energy (between 3,000 and 4,000 Hz) (Stevens 2000). Similarly, its voiceless counterpart /v/ sound produces high-frequency energy levels, but concentrated above 4,000 Hz (Stevens 2000). Unlike

/f/, the voiced /v/ can be distinguished by a significantly visible **voicing bar** around 400 Hz on a spectrogram (Kent & Read 2002). Interdental Fricatives (voiceless /θ/ & voiced /ð/) involve closure between the tip of the tongue and upper teeth (Kent & Read 2002). Turbulence of air when pronouncing both interdental fricatives begins around 2,500 Hz on a spectrogram. Voiced /z/ and voiceless /s/ are called alveolar fricatives, and are articulated with contact of the tip of the tongue and the part of the ridge behind the upper teeth (Kent & Read 2002). On a spectrogram, voiced /z/ displays a voicing band that is absent in the articulation of voiceless /s/. Turbulence of air, when pronouncing both fricatives, begins above 3,500 Hz (Kent & Read 2002), generally producing spectral energy above 4,000 Hz (Hughes & Halle 1956), in the native productions of both fricatives. Voiced /ʒ/ and Voiceless /ʃ/ in English are called alveo-palatal/palato-alveolar fricatives, and are produced by the tongue touching the front part of the roof of the mouth (right behind the teeth) (Stevens 2000). Both fricatives range in acoustic energy shown on a spectrogram between 2,000 Hz and 10,000 Hz (Kent & Read 2002). However, the acoustic energy of /ʃ/ peaks between around 4,000 Hz and 8,000 Hz (Stevens 2000). The fricative /h/ is known as a glottal fricative that shows with no voicing bands at the bottom of a spectrogram (Ladefoged & Johnson 2011). Since it is voiceless, the highest intensity energy point appears around 1,000 Hz (Kent & Read 2002).

Therefore, unlike what a spectrogram would depict for the pronunciation of /ð/, the spectrogram of the sound produced at the beginning of the word *that* on PRAAT showed a louder fricative than the target fricative /ð/ with the top part of the spectrogram as the darkest/loudest and 4719.6 Hz as a mean score of five formants (as opposed to around 2500 Hz expected for the target fricative as mentioned earlier). In a native-like pronunciation of the target phoneme, the strongest (darkest) band is concentrated at the bottom/baseline of the spectrogram. The highlighted part of the diagram below is the spectrogram of the fricative /ð/ in the word *that*:

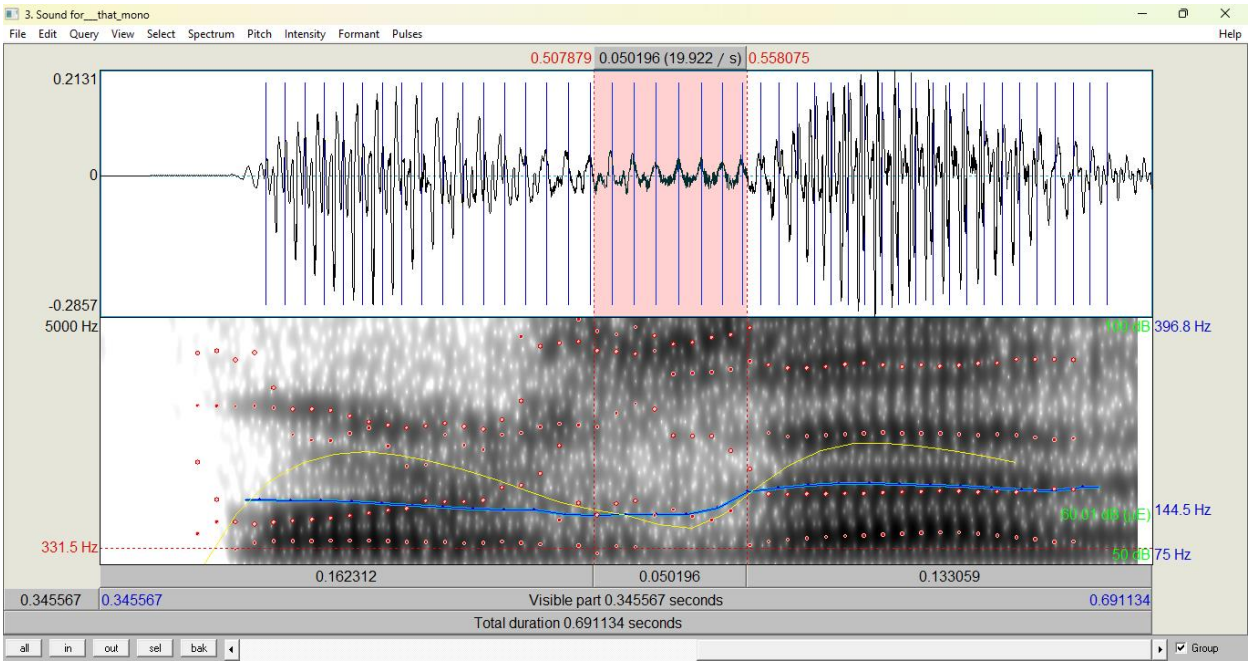


Figure 1: Spectrogram of the fricative in the word *that*

However, in words such as: *rather*, *then* and *than*, /ð/ is pronounced properly while *this* was pronounced correctly at times and mispronounced at others (e.g. twice compared to five times, respectively, by one of the speakers). Unlike what had been reported in Barros (2003) where data by Egyptian speakers were studied, no instances of articulating /ð/ as /d/ were found.

2. The alteration of the interdental fricative /θ/ to the alveolar fricative [s], a mispronunciation which also occurs in the ECA-MSA transfer. While /θ/ was altered to [s] in words like *something*, *thousand* and *thirty*, it was noticed to be pronounced properly in *thing* and *three*. As a sibilant, the spectrogram of the replacement sound [s] in the mispronounced word *thirty*, showed weaker formants resulting from a louder fricative than the target fricative /θ/. After the high-frequency fricative section, the formants are faint and somewhat masked by the loud fricative noise, likely due to the intense energy of the [s], with the top part of the spectrogram as the darkest/loudest. As mentioned earlier, the spectrogram being darkest in the higher frequency bands (above 4,000 Hz) is typical of the fricative [s], not the target fricative /θ/. Below is highlighted the spectrogram of [s]:

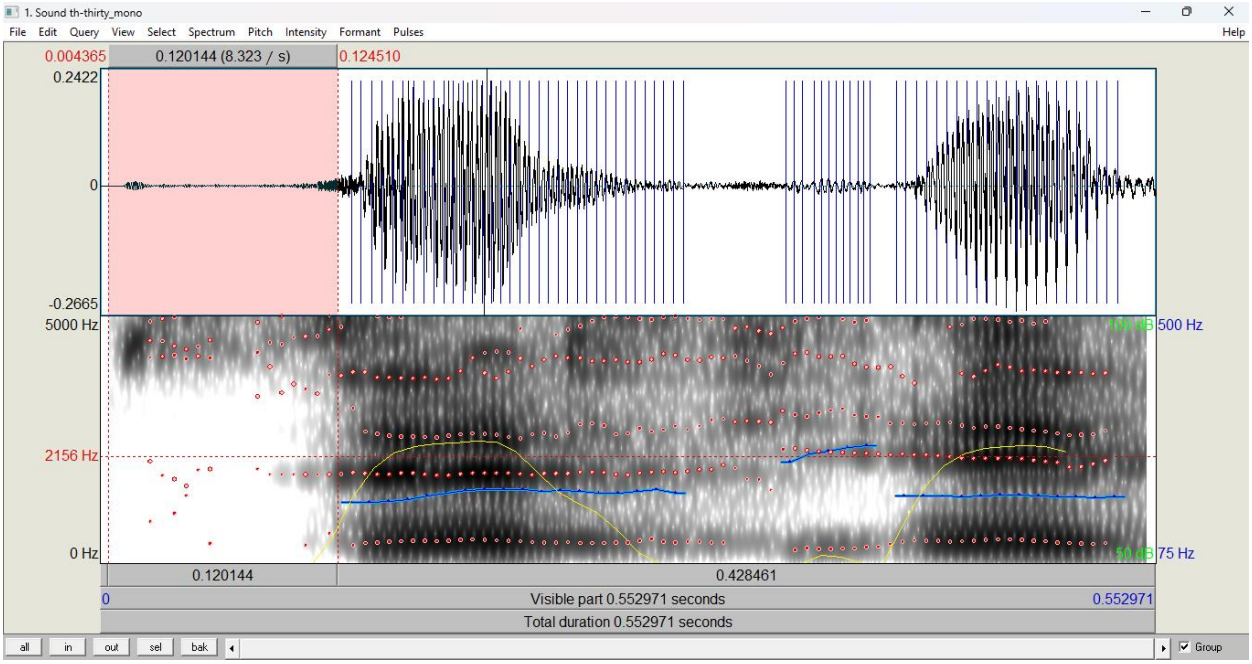


Figure 2: Spectrogram of [s] in the word *thirty*

The consonant alteration examples above included the phonological process referred to as alveolarisation. It occurs when a non-alveolar phoneme is replaced by an alveolar. The voiced interdental /ð/ and its voiceless counterpart /θ/ were replaced by the alveolar [z] and [s], respectively.

3. The alteration of /dʒ/ to [ʒ] (an example existing in ECA loanwords):

Both the English voiced affricate /dʒ/ and voiceless affricate /tʃ/ exhibit turbulence above 2,000 Hz, with voiceless /tʃ/ producing longer fricative noise than voiced /dʒ/ (Kent & Read 2002; Stevens 2000). Many participants tended to simplify /dʒ/ to [ʒ] in words like *major*, *subject*, *stage*, *jolt*, *energy*, *job* and *just*. For instance, analysing the word *object*, [ʒ] showed on the spectrogram without the stop phase after the first syllable coda /b/. The spectrogram lacks the stop closure phase (the brief period of silence or significantly reduced energy on the spectrogram preceding the fricative noise) associated with [dʒ], indicating the absence of the initial plosive [d]. The replacing fricative showed a mean energy intensity of 47.94 dB, a significantly lower score compared to the intensity mean values recorded where the affricate /dʒ/ was properly pronounced in words like *language* (71.21 dB) and *psychology* (68.65 dB) by other participants.

As previously mentioned, the voiced postalveolar fricative /ʒ/ is not found as a separate phoneme in words of Arabic origin. Nevertheless, it is worth noting that the voiced fricative /ʒ/

exists as an allophone of the voiceless fricative /ʃ/ in ECA, in some sound combinations, produced as a result of a process referred to as **regressive voicing assimilation** (where a following phoneme influences a preceding one in the voicing quality). Some examples of regressive voicing assimilation in ECA pertaining to [ʒ] are: /ʕʊʃb/ 'herb' becoming [ʕʊʒb], /jʊʃbʊk/ and /tʊʃbʊk/ 'to connect', present simple third person masculine singular and present simple third person feminine singular, respectively, becoming [jʊʒbʊk] and [tʊʒbʊk], /aʃgaːn/ 'sorrows', 'branches' or the feminine given name becoming [aʒgaːn], and /rʊʃdɪ/, the masculine given name, becoming [rʊʒdɪ]. This type of assimilation, in the case of /ʃ/ altered to [ʒ], familiarised native speakers of ECA with the foreign [ʒ], and consequently, facilitated the borrowing of words containing the phoneme and the integration of the foreign phoneme into the phonemic system of ECA.

4. The alteration of /tʃ/ to [ʃ] (an example existing in ECA loanwords):

Similar to the previous instance of consonant alteration, /tʃ/ was found to be simplified to [ʃ] in some words like *questions*, *slouching*, *research* and *search*. For instance, analysing the word *search*, [ʃ] showed the sound on the spectrogram (please see highlighted below) without the affricate onset after the post-vocalic /r/. The spectrogram of the replacing phoneme produced lacks the stop closure phase (the brief period of silence or significantly reduced energy on the spectrogram preceding the fricative noise) associated with [tʃ], indicating the absence of the initial plosive [t]. The replacing fricative also showed a mean-energy intensity of 59.55 dB (close to the mean noise amplitude of 66.4 dB as reported for [ʃ] in Jongman et al. (2000: 1259), and only two pulses: 0.18 and 0.19 (expected for voiceless phonemes, in general, and indicative of a short period of voicing at the onset or offset). Process of changing the affricates /dʒ/ and /tʃ/ to the fricatives [ʒ] and [ʃ] in the examples of 3 and 4 is known as deaffrication, a process in which an affricate is replaced with a fricative (or a stop), rather than a weak or reduced affricate.

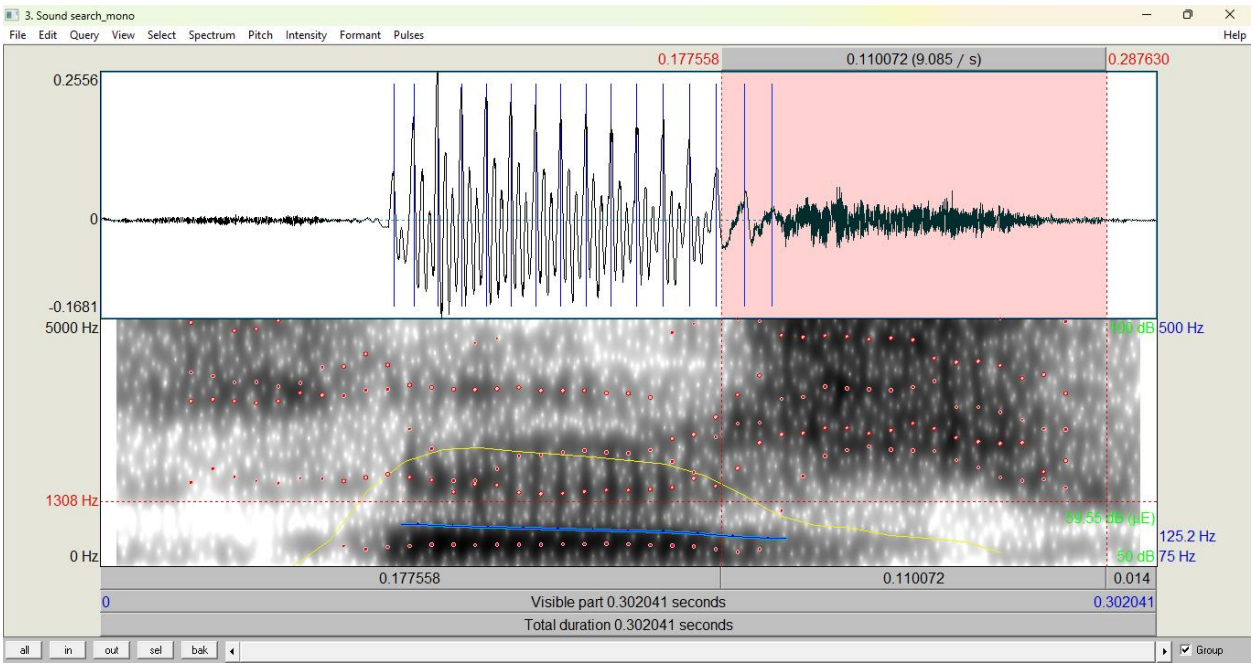


Figure 3: Spectrogram of [ʃ] in the word *search*

On the other hand, some participants were able to pronounce the affricate correctly in *approachable* and *achieve*. Figure 4 below shows the spectrogram of the word *achieve* where the speaker produced a fully realised affricate /tʃ/. In the correctly produced /tʃ/ token (the highlighted section), the spectrogram shows the expected two-part affricate structure: a stop closure interval of reduced energy (with a mean energy intensity score of 50.38 dB), lasting approximately 84 ms, followed by a higher-intensity fricative release with mean noise intensity reaching approximately 59.83 dB and lasting approximately 88 ms. This shift in intensity and the presence of two separate phases indicate that the segment was produced as a complete affricate, unlike the deaffricated tokens where the stop closure is missing and only the fricative component is present. In addition, the affricate [tʃ] in *achieve* exhibits turbulence above 2,000 Hz; in line with the values presented in Kent & Read (2002) and in Stevens (2000) for English affricates by native speakers.

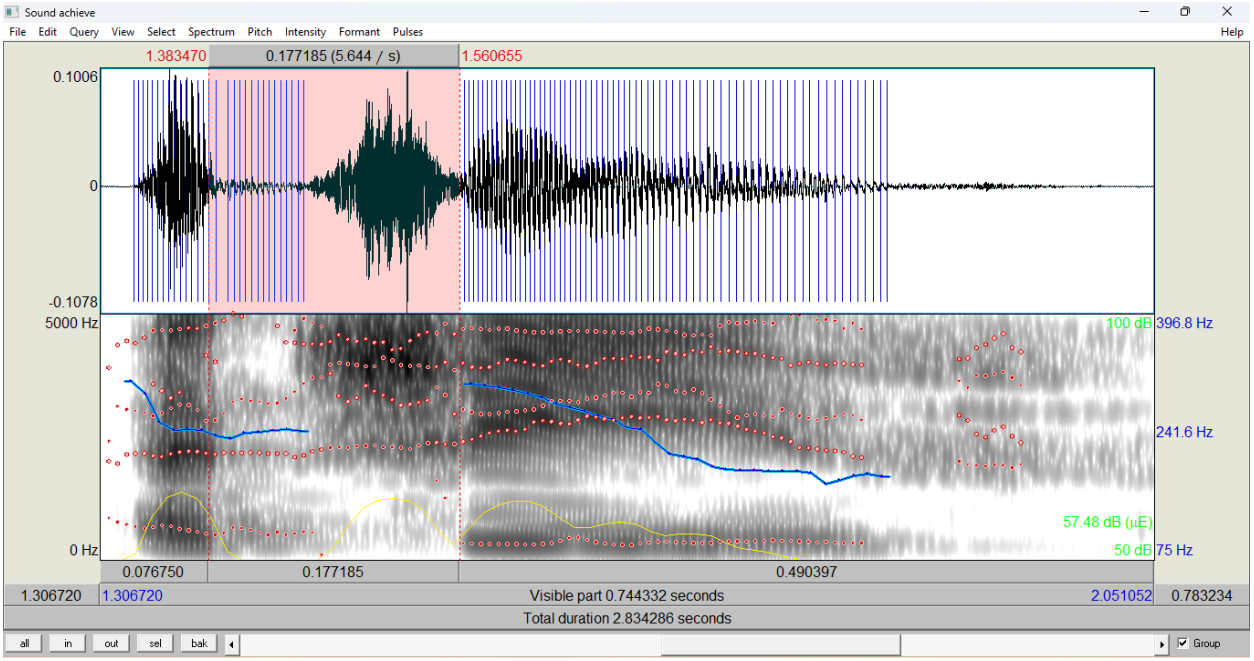


Figure 4: Spectrogram of [tʃ] in the word *achieve*

5. The alteration of /v/ to [f], which involves devoicing, a process in which a voiced consonant or a vowel is substituted with a voiceless consonant:

[faɪf] for *five*, as an example, was a rare occurrence (one occurrence). As a voiceless consonant, the replacing consonant [f] showed more randomised formants on the spectrogram, no voice bar, lower acoustic energy (less pressure) and pulsing scores (marking the absence of vocal fold vibration) than the target voiced counterpart.

6. Voicing in the alteration of the voiceless stop /p/ to its voiced counterpart [b] (phonemes that are considered as allophones/ "submembers" of the same phoneme in Arabic, Nasr 1997: 24):

By some participants, /p/ was pronounced as [b] in initial position (e.g. *presentation*), medial position (e.g. *examples*; *important*) as well as final position (e.g. *hope*). On the other hand, it was realised as [p] in all word positions by the same speakers in *purpose*, *percent*, *please* and *people*, as well as other speakers in *part*, *points*, *problem*, *steps*, *stopping*, *spot*, *speech*, *typical* and *drop*), but with less or no aspiration. For some other speakers, it was articulated as [b] in all positions.

In English, the labial plosives (the voiceless /p/ and the voiced /b/ are articulated by obstructing airflow at the lips (Ladefoged & Johnson 2011**)**. The voiceless /p/ is characterised by the absence of vocal fold vibration, making it a voiceless plosive (Kent & Read 2002). Labial

plosives can exhibit variations in English based on their phonetic context (Ladefoged & Maddieson 1996). When the voiceless /p/ occurs at the beginning of a stressed syllable, as in words like *penalty*, it is typically aspirated, represented as [p^h] (Ladefoged & Johnson 2011**)**. When it starts an unstressed syllable (e.g. *copy*), or comes in a word-final position (e.g. *cup*), it is optionally aspirated. However, when /p/ is preceded by the /s/ sound, as in *speak*, aspiration is generally absent (Kent & Read 2002). The high-intensity associated with /p/ and /b/ typically falls within the frequency range of 3,000–5,000 Hz (Stevens 2000). Additionally, there is an unreleased form of /p/ that occurs as syllable final, represented as [p|] (Ladefoged & Maddieson 1996).

As the plosive /b/ is a phoneme that exists in the linguistic system of Arabic with all its varieties, and does not vary across the different Arabic dialects, Egyptian EFL learners displayed no issues with the pronunciation of /b/, which suggests an instance of positive transfer where the acquisition of an item of ESL/EFL is aided by transferring the rules of a learner's native language to the system of the target language. On the other hand, /p/ appeared to be among the problematic sounds for Egyptian EFL learners. For instance, the VOT mean value of the initial plosive in the word *published* by one of the students in the present study showed a considerably lower VOT score than the English native values, more randomised formants on the spectrogram and lower acoustic energy (less pressure). Although the replacing plosive in *published* did not exhibit any strong bands at the bottom of the spectrogram as a voiceless stop involving no vibration of the vocal cords, typical to what it would show on a spectrogram of a native-like version of the sound in this respect, the VOT score for the initial plosive in *published* was 12.6 ms, roughly half way between the negative VOT of Egyptian Arabic pre-voiced [b] and the positive VOT of English aspirated [p^h], and to the VOT value by the Egyptian EFL learners reported in AlDahri (2012) (14 ms), lacking aspiration and suggesting a considerable deviation from the native VOT values (58 in Lisker and Abramson (1964), and 46 in Flege and Port (1981) as cited in Abdelaal (2017)). Plosives like /p/ are typically voiceless, meaning they do not have a fundamental frequency (F0) during the closure and burst phases. Therefore, the reported pitch of 230.03 Hz for the replacing phoneme in *published* reflects the F0 of [b] rather than the /p/. Moreover, consistent with the attributes of voiced [b], the replacing plosive also recorded one glottal pulse value of 0.28). Glottal pulses show in voiced plosives unlike in voiceless plosives like /p/. The highlighted section below shows the spectrogram of the sound /p/ in *published*:

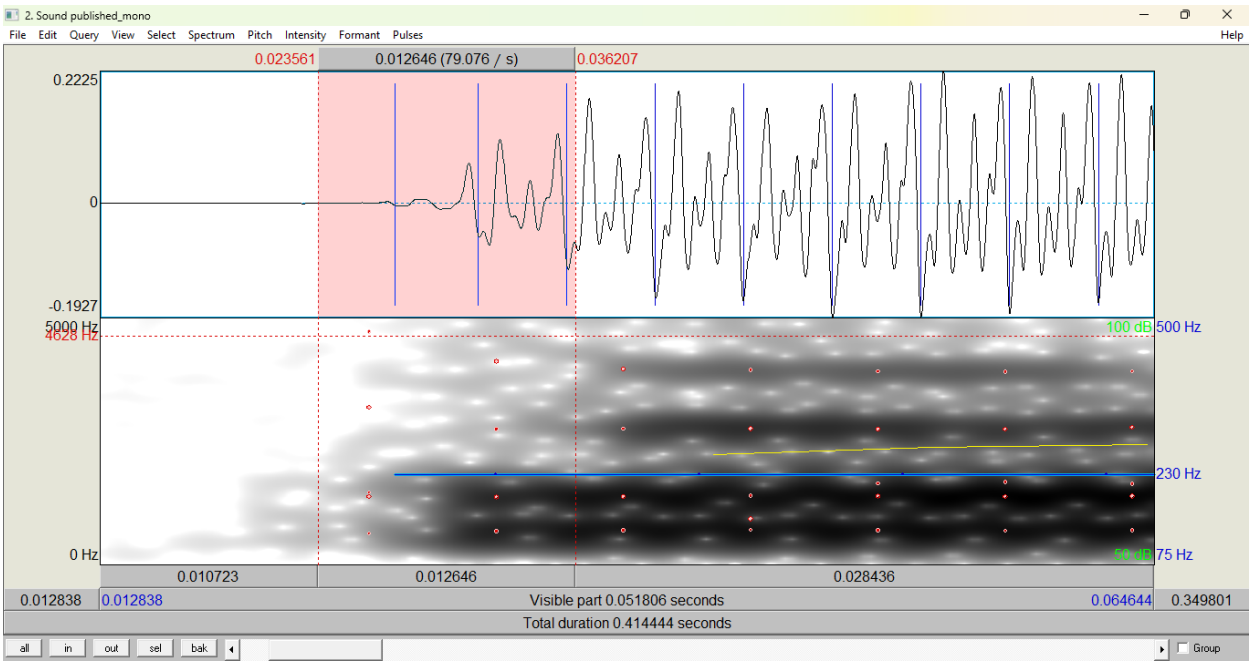


Figure 5: Spectrogram of the bilabial stop /p/ in the word *published*

The previous list of pronunciation inconsistencies can be explained within the framework of the concept **mistakes** versus **errors** by Bartram and Walton (1991: 25). To help identify and overcome the pronunciation problems for the learners, Bartram and Walton (1991) highlighted the difference between errors and mistakes, noting that "mistakes are caused by the learners not putting into practice something they have learned while errors are caused by the learner trying out something completely new and getting it wrong" (Bartram & Walton 1991: 25). On the other hand, errors are a product of the learners' lack of knowledge. Therefore, those examples of inconsistent pronunciations of the same phoneme, sometimes by the same speaker(s), fit in the category of mistakes (knowing the rules of pronunciation, but failing to apply them in practice at times).

7. Moreover, the data also showed consistent occurrences of consonant alteration pertaining to the velar /ŋ/. While pronouncing the three English nasal consonants (the bilabial /m/, the alveolar /n/ and the velar /ŋ/), the "constriction" takes place in the mouth, but a nasal passage remains open allowing the airflow and the phoneme acoustic energy through the nasal cavity not the mouth (which is more capable of transferring acoustic vibration from the inside of the cavity to the outside) as in the case of stops (Ladefoged & Maddieson 1996). As a result, nasals tend to exhibit a distinct loss of produced energy, and they are marked by formant transitions (Kent & Read 2002).

Since all nasals are voiced, they exhibit a prominent voicing bar on a spectrogram, however, with formants that are typically weaker than those in vowels (not exhibiting the same degree of darkness as in vowels on a spectrogram), and more evident than in obstruents (Stevens 2000). For instance, values of F1/first formant and F2/second formant for [n] and values of F3 for [ŋ] are relatively low, but F2 value of [ŋ] is higher than its F3 (Kent & Read 2002) due to their different places of articulation.

The velar /ŋ/ in the analysed corpus, was changed to a combination of the velar nasal and the velar stop [g] in words where the velar nasal corresponds to the letter combination of n and g (e.g. the *–ing* suffix in: *smiling*, *giving*, *during*, *upsetting*, *getting*, *listening*, *identifying*, *working*, *gaining*, *reading*, *morning*, *according*). Analysing the *–ing* suffix in the word *working*, for example, the spectrogram displays a prominent voicing bar and a subsequent burst of low-frequency energy. The spectral division visible between the portion marking the nasal and the stop closure (represented by the bottom part of the spectrogram as the darkest/loudest as the syllable coda) points to a combination of the nasal [ŋ] and the velar plosive [g] sequence, not a single velar nasal. The highlighted part in the diagram below is the spectrogram of the *–ing* suffix in the word *working*:

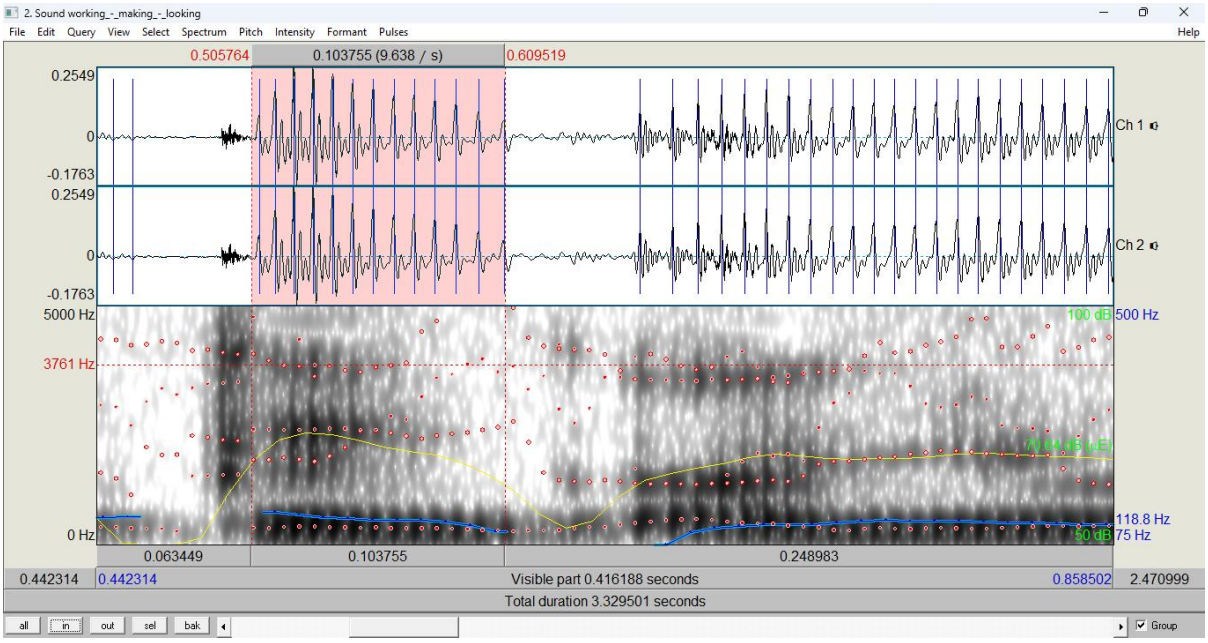


Figure 6: Spectrogram of the *–ing* suffix in the word *working*

This example of alteration did not involve a change in the place of articulation (since both /ŋ/ and /g/ are velars). Checking the F2s of /ŋ/ at the beginning, in the middle and at the end of the

highlighted part, the F2 was higher at the end compared to the beginning, which makes it a velar nasal. However, it involved (1) clusterisation: a two-consonant cluster of the alveolar /n/, which shares the same manner of articulation (nasalisation quality), and the velar /g/ which shares the same place of articulation (velarisation quality) with the target phoneme velar [ŋ], as well as (2) stopping (ending the cluster with the stop /g/).

8. Another category of mispronunciations included features pertaining to consonants differing in nature between Arabic and English while existing in both languages. For instance, an overpronunciation of initial and post-vocalic [r] was a noticeable feature in the corpus. As detailed in Kent and Read (2002: 135–137), first formant frequency for the English alveolar approximant /r/ is typically associated with lip rounding; lower F1 values indicate lip rounding. Moreover, on a spectrogram, the retroflex nature of English /r/ is depicted through a very low F3/third formant value (between 1,500 Hz and 2,000 Hz) (Delattre & Freeman 1968: 35; Kent & Read 2002: 136). On the other hand, the [r] in the studied data resembled that of Arabic (trill) rather than an English approximant in words like: *for*, *more*, care, *sure*, *rehearse*, *ensure*, *your*, *before*, *first*, *related* and *clear*. In Arabic, unlike in some other languages (e.g. Spanish where a word with tap [r] and another with a trill [r] could constitute a minimal pair), the differences between a tap, a rhotic and a trill [r] are not contrastive. The highlighted section below represents the spectrogram of the sound [r] in the word *search*:

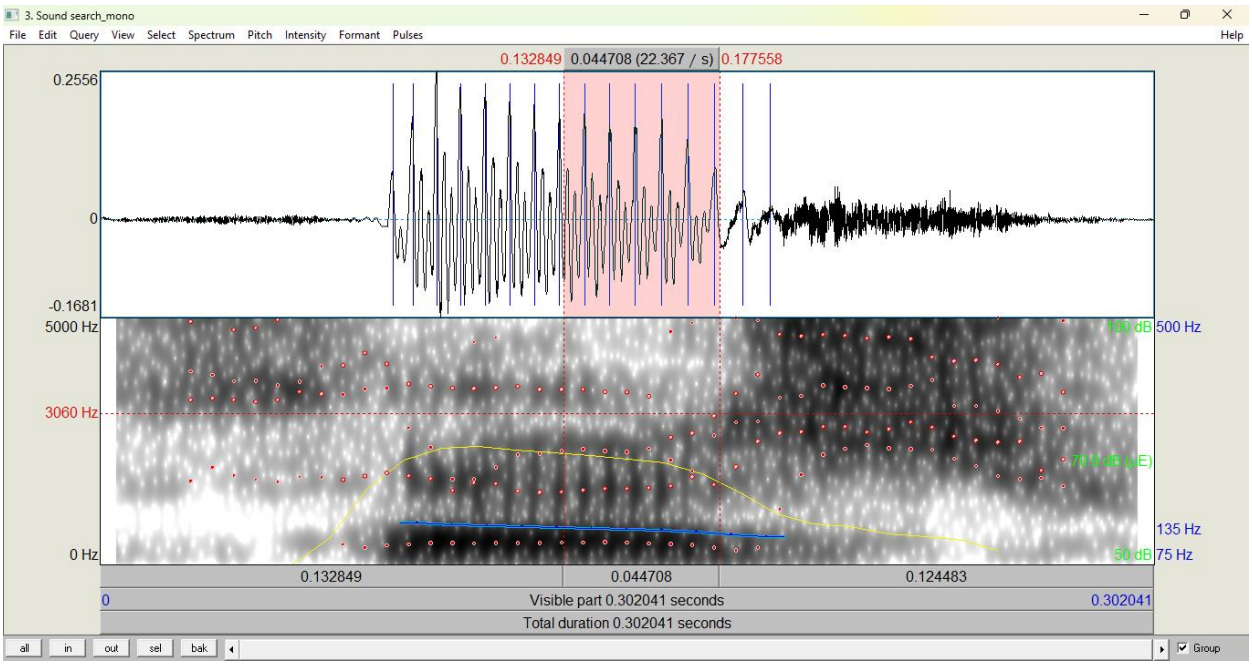


Figure 7: Spectrogram of [r] in the word *search*

The spectrographic analysis of the [r] sound in the learner's pronunciation of *search* demonstrates several acoustic features that point to the production of a trill rather than an English approximant. The highlighted portion of the PRAAT spectrogram shows multiple rapid, periodic bursts of energy, with seven distinct taps of the tongue against the alveolar ridge producing a trilled [r], aligning with the description of the trilled [r] in Ladefoged and Maddieson (1996: 218) as consisting of multiple rapid closures and openings of the articulators although the number of closures in a trill can vary. The duration of this segment is approximately 44 ms **(**falling within the range of about 50 ms for a single trill closure cycle; according to Ladefoged and Maddieson 1996: 218), which is relatively long compared to the typically briefer and smoother waveform of the English approximant /ɹ/ reported in Ladefoged and Maddieson (1996: 234). Additionally, the formant pattern lacks the continuous and stable structure expected in approximants; instead, it displays disrupted, fluctuating formants. The interrupted airflow is in line with the description of a typical trill in Ladefoged and Maddieson (1996: 218). The energy distribution shows evenly spaced intensity bursts, supporting the interpretation of this sound as a voiced alveolar trill transferred from the phonological system of the learner's L1.

Similarly, the spectrogram analysis of the word *for* showed another post-vocalic trilled [r] (with a duration of 58 ms and a mean energy intensity of 4547.34 Hz). Trills may differ in durations

based on language and context, but the duration of 58 ms recorded for the post-alveolar trilled [r] in *for* falls within the expected range for such articulations (about 50 ms for a trill closure cycle; Ladefoged & Maddieson 1996: 218). The mean energy intensity, the frequency at which the energy of the sound is most concentrated, is recorded at 4547.34 Hz. This frequency is higher than the typical F3 value for the English approximant /ɹ/, which is usually between 1,500 Hz and 2,000 Hz (Kent & Read 2002: 136; Delattre & Freeman 1968: 35). The higher energy concentration supports the identification of the sound as a trilled [r] as trills can exhibit energy peaks at higher frequencies due to rapid tongue vibrations. This example of mispronunciation involved alveolarisation, reflected the non-retroflex nature of the Arabic geminated R and represented a change in the place of articulation, rendering the target rhotic palatal that is originally untrilled as an L1 alveolar tap/trill.

In addition, the Egyptian Arabic-like pronunciation of [l] (palatal) was dominant in all phoneme positions over the English nature of the phoneme (alveolar) in words such as: *film, still, clearly, little, finally, literally* and *skills*. The alveolar lateral approximant /l/, the only lateral sound in English, has two distinct (non-contrastive) allophones in many accents. It is realised as a **clear [l]** when it precedes a vowel, and is articulated as an "alveolar lateral approximant [l]" with the tongue in a neutral position. The second allophone of English /l/ is realised as a **dark [l]**, when it precedes consonants or in a word-final position, and is articulated as a "velarized alveolar lateral approximant [ɫ]", with the tongue curled, raising the back part **(**Ladefoged & Maddieson 1996: 182–183; Reetz & Jongman 2009: 112**)**. On a spectrogram, one distinction between clear [l] and dark [ɫ] in English is primarily based on the F2 value; the F2 frequency of clear [l] is higher than that of dark [ɫ] (ranging from: approximately 950 to 1,500 Hz, reaching its lowest values for back vowels, versus 650 to 850 Hz, respectively) (Sproat & Fujimura 1993: 299; Reetz & Jongman 2009). On the other hand, the first formant value for [l] is typically low (ranging from 200 to 400 Hz, increasing across most vowel contexts except for high front vowels), which it typically ranges between 350 to 550 Hz for [ɫ] (Reetz & Jongman 2009). Regarding F3 value, it is typically lower for [ɫ] (where high intensity is evident) compared to [l] (2,200 to 2,700 Hz versus 2,700 to 3,200 Hz, respectively) (Reetz & Jongman 2009).

Substituting the target alveolar lateral /l/ with the learners' L1-like palatal [l] is a process referred to as palatalisation. For instance, the expected post-vocalic dark [ɫ] (recording around 92 ms) in the word *skills* was palatalised. Low F2, indicating a backer position of the tongue while

pronouncing a dark /l/ in English, is absent in the spectrogram of the palatal [l] produced in this example. Palatal [l], in *skills*, displays an F2 mean value of 1603.5 Hz, a considerably higher value than an F2 expected for an English dark [ɬ]. Below is highlighted the spectrogram of the palatal [l] rendered in *skills*:

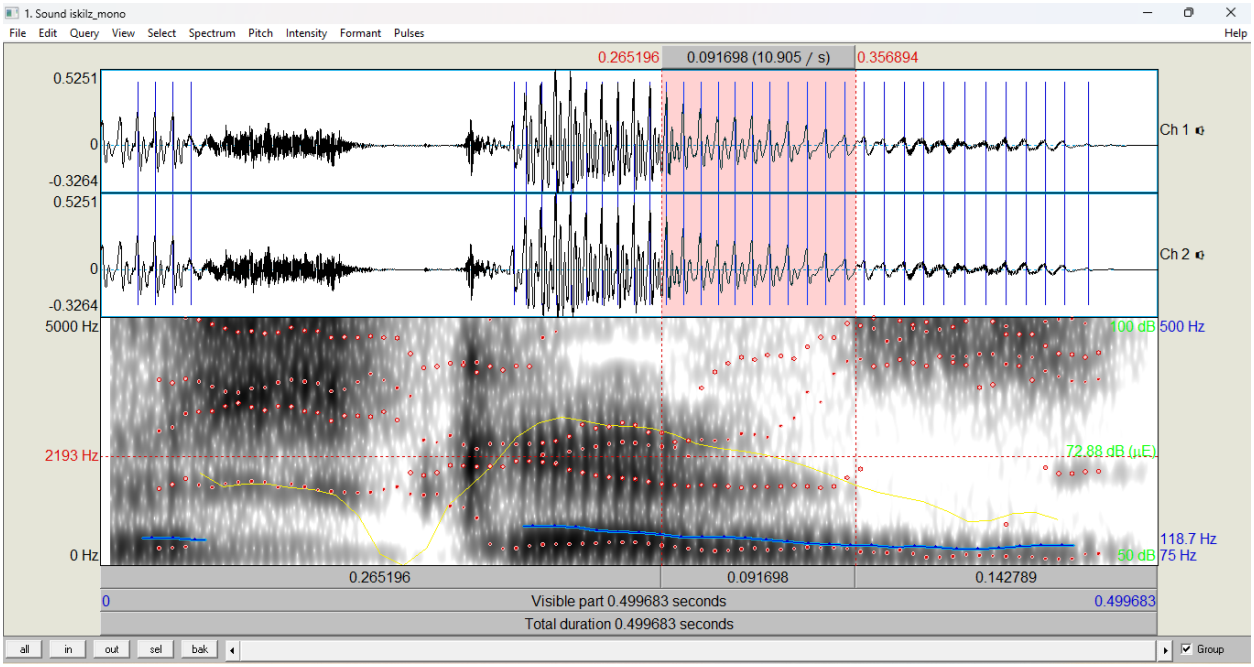


Figure 8: Spectrogram of the palatal [l] in the word *skills*

The phonemes /t/ and /d/ were also pronounced as denti-alveolar rather than alveolar consonants and with slight or no aspiration. In English, the alveolar plosives, voiceless /t/ and voiced /d/ are pronounced by creating a closure with the tongue against the alveolar ridge (Ladefoged & Maddieson 1996: 36). The voiceless word initial /t/ (e.g. *tap*) and syllable initial /t/ (e.g. *attend*) is aspirated, represented as [t^{h}]. In contrast, when /t/ is preceded by the /s/ sound, as in *stay*, it is unaspirated, and when it is in ambisyllabic position (e.g. *pity*) or syllable-final position (e.g. *pilot*), it is optionally aspirated (Ladefoged & Johnson 2011). In addition, a third form of /t/, the unreleased/held form [t̚], occurs as syllable final (Ladefoged & Maddieson 1996). Other variants of /t/ include flapped /t/ (e.g. before syllabic /l/; *metal*) and glottalised /t/ ([ʔt]) (e.g. in syllable-final position; *chocolate; water*). As pointed out earlier, the phoneme /d/ exists in both English and Arabic. As /d/ produces slightly higher VOT scores in English compared to Arabic, the VOT score of /d/ in a word-final position in the word *published* from the data showed some deviation from the mean score recorded in Lisker and Abramson (1964) (10 and 5 ms respectively).

However, this deviation did not render the pronunciation of /d/ unintelligible, or problematic for the study participants. Aligning with the findings of Abdelaal (2017) concerning the aspiration of /t/ and /d/, Egyptian students pronounced them with the same degree of aspiration.

Regarding the VOT values for /t/, participants of the study exhibited a lower mean VOT value of /t/ compared to the native values presented in Lisker and Abramson (1964). To produce such a highly aspirated consonant of English, at least a VOT value range of 70 (Lisker & Abramson 1964; Cho & Ladefoged 1999) to 90 (Abdelaal 2017) is expected. Such values are typically associated with stressed syllables and careful speech. The VOT value of [t] in a word-initial position in the preposition *to,* produced by one of the students participating in the current study, was 44 ms (with a mean energy intensity score of 51.33 dB and one glottal pulse value of 0.09, lower acoustic energy and pulsing scores than its voiced counterpart). This VOT value, although a considerably lower VOT score than the English native values reported for the plosive in initial position, does not necessarily indicate non-target-like production, as reduced aspiration is common in weak forms in connected speech in native productions as well. However, the mean energy intensity score of 51.33 dB for the voiceless stop /t/ suggests that the phoneme may have been produced with strong articulatory pressure as a result of hyperarticulation, which commonly occurs in emphatic, careful or exaggerated speech. The high intensity could also be explained by contextual factors (the plosive being in word-initial position). The glottal pulse value of 0.09 reflects the lack of vocal fold vibration expected for a voiceless stop like /t/. The sound approximated that of the MSA /t/ (49 ms) as reported by AlDahri (2012), and it only resembled the English-like /t/ in the sense that it did not exhibit any strong band at the bottom of the spectrogram as a voiceless stop involving no vibration of the vocal cords. The highlighted section below shows the spectrogram of the stop /t/ in the word *to*:

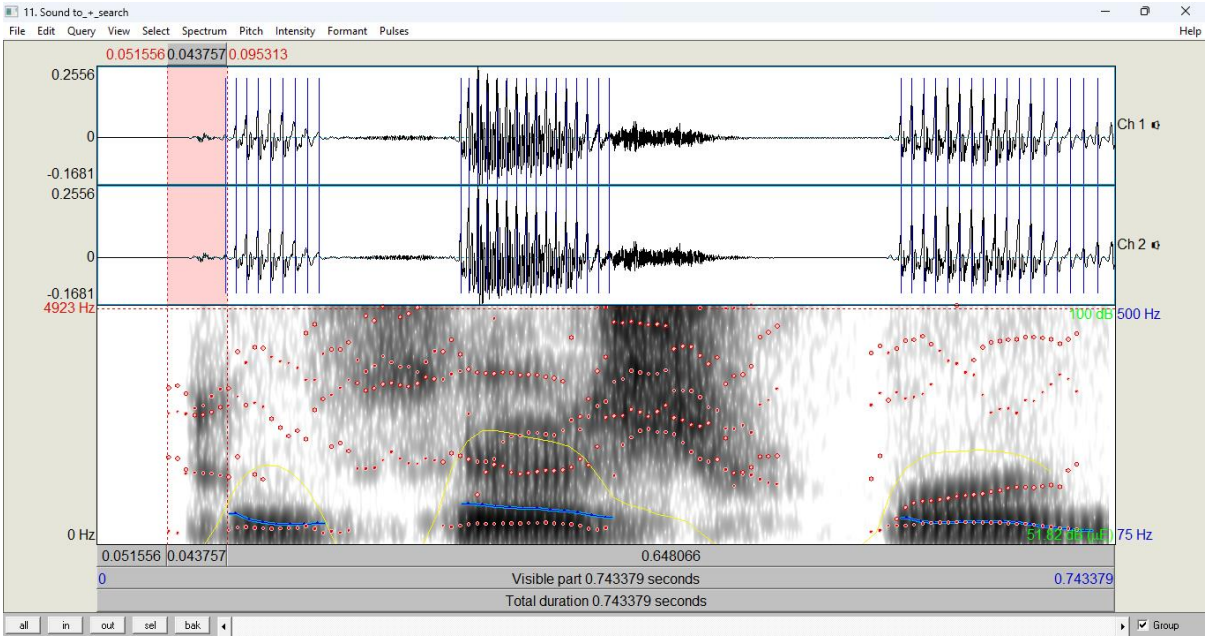


Figure 9: Spectrogram of the stop /t/ in the word *to*

Similar to the production of the plosive /p/ by Egyptian EFL learners of the present study, the aspiration quality of /t/ was not realised, leading to a production of the far less aspirated Arabic (MSA and ECA) counterpart instead; corresponding to the lower VOT values compared to native English values reported in the literature. Conforming with the current findings, Khattab (2000) reported lower VOT scores for monolinguals (18 to 30) in contrast with 45 to 110 VOT scores for bilinguals, which suggests that the amount of exposure to the target language correlates with the production of higher VOT values of /t/ (i.e. facilitates internalising the target-like qualities of phonemes that exist in a learner's native language, but with different nature). Failure to perceive that English /t/ differs in nature from its Arabic counterpart by Egyptian EFL learners could be regarded as an instance of negative transfer.

Velar plosives in English, the voiceless /k/ and the voiced /g/, are articulated by constricting the back of the tongue against the soft palate (velum) (Ladefoged & Maddieson 1996: 39). The voiceless /k/ is aspirated when it occurs at the beginning of stressed syllables (e.g. *kind)*, represented as [k^h]. On the other hand, /k/ is unaspirated when it follows the sound /s/ (e.g. *sky*).

As noted in the Literature Review section earlier, the consonant /g/ does not exist in the phonetic systems of MSA or all other dialects of Arabic (except for Egyptian and Sudanese). The sound /g/ exists in the sound system of ECA, and as an instance of positive transfer, Egyptian learners of the present study did not show any problems with the pronunciation of /g/ due to their

familiarity with it, unlike what has been reported in the case of Arab speakers of English (no specifications of nationalities or regional dialectical backgrounds of Arabic were provided) in Abdelaal (2017: 12&13) where participants exhibited significant deviations from the VOT values by American native speakers (34.2 as opposed to 18, respectively). Production of the voiced velar stop /g/ by participants of the present study exhibited an instance positive transfer from ECA. The velar stop /g/ in the word *goals*, for instance, showed a VOT value of 25 ms (see the highlighted section of the spectrogram below), resembling the findings of VOT values for /g/ in Lisker and Abramson (1964) (21 ms).

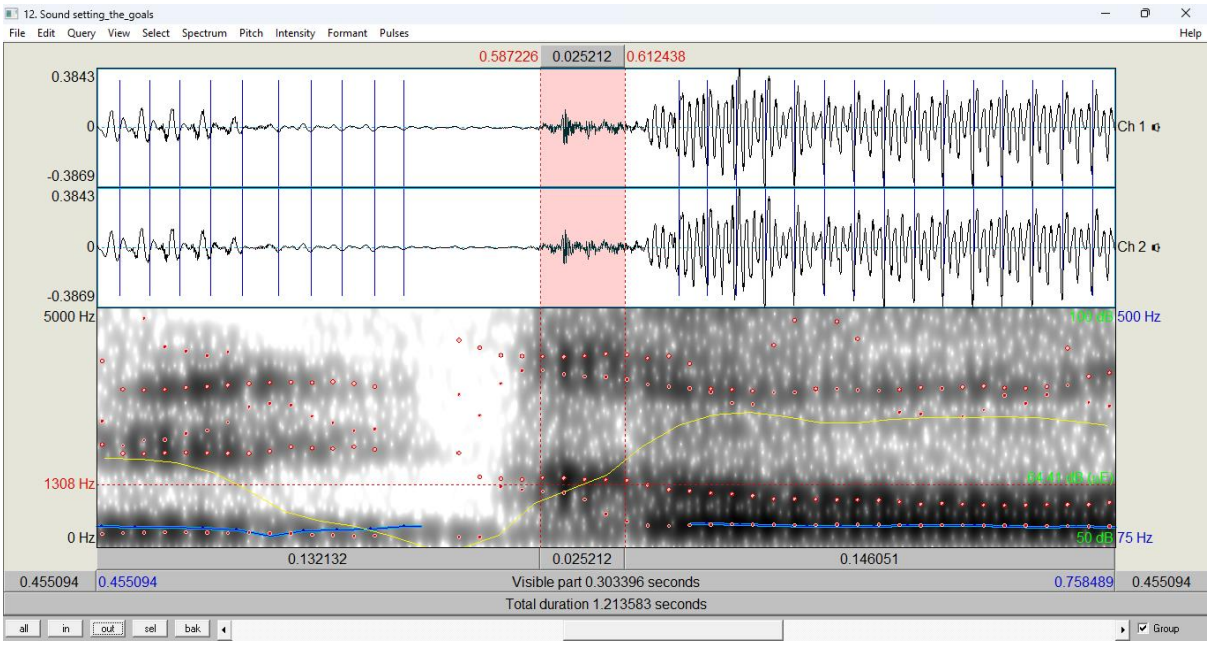


Figure 10: Spectrogram of the velar stop /g/ in the word *goals*

However, the VOT value for the voiceless counterpart /k/ in the word *collection* was found to be 50, in line with the VOT values by bilingual speakers (Arabic and English), ranging between 50 and 100 in Khattab (2000) and also with the MSA mean value reported in AlDahri (2012), 52. The stop [k] in *collection* also displayed a mean energy intensity score of 67 dB and nine pulses ranging between 0.37 to 0.41 seconds. The stop [k] in *collection*, showing a mean energy intensity score of 67 dB, is an indicator of a forceful articulation with a strong burst release. This high intensity could suggest hyperarticulation, possibly due to L1 influence and/or careful speech. The presence of the nine glottal pulses **(**atypical for [k] as no vocal fold vibration is expected for a voiceless stop) suggests that the voicing occurred immediately after the release due to the presence of the following vowel. As mentioned previously, /k/ by Egyptian learners of the current study

approximated that of the MSA /k/ (52 ms) as reported by AlDahri (2012). However, /k/, as pronounced by participants of the present study, generally recorded VOT values that are significantly lower than those in Lisker and Abramson (1964) by American native speakers of English, 80 ms, suggesting a lower degree of aspiration which reflects an instance of L1 interference. The pronunciation of /k/ in the corpus of the current study only resembled the English-like /k/ in the sense that it displayed lower acoustic energy and pulsing scores that its voiced counterpart and that it did not exhibit any strong band at the bottom of the spectrogram as a voiceless stop involving no vibration of the vocal cords. Highlighted below is the spectrogram of the word-initial position /k/ in *collection*:

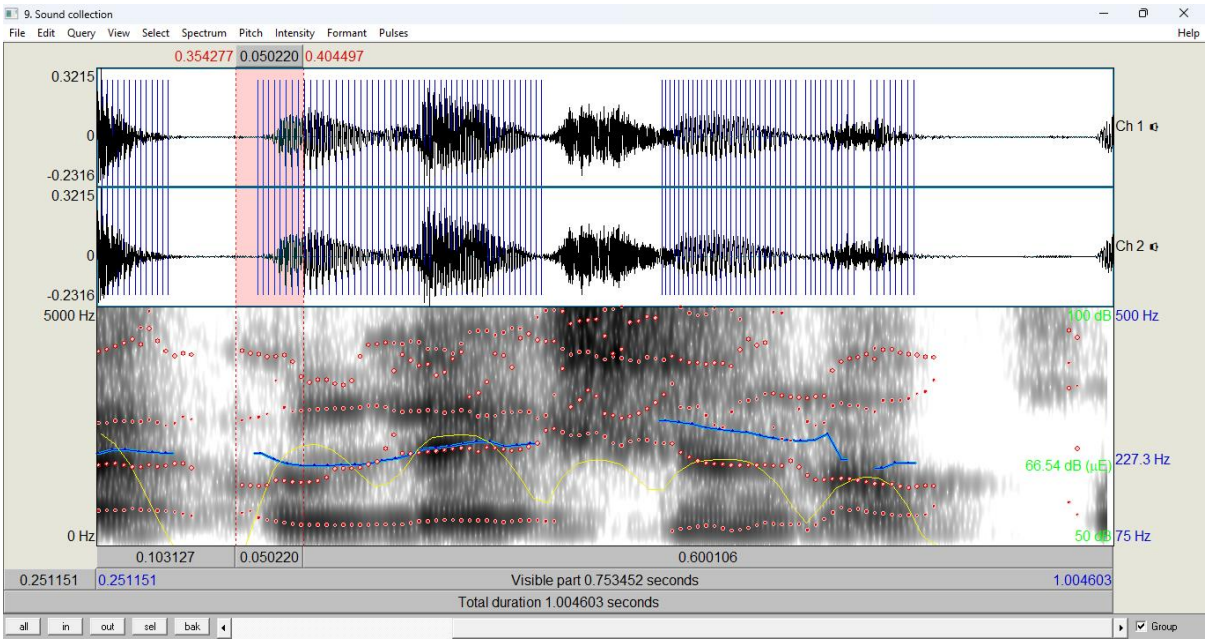


Figure 11: Spectrogram of the word-initial velar stop /k/ in the word *collection*

Based on the VOT values of the Egyptian EFL learners of the current study, it seems they find the pronunciation of some consonants problematic. Broadly speaking, the findings of the current study exhibited clear deviations from the VOT values by native speakers of English. This refutes the findings of Abdelaal (2017: 8&13) that Arab learners of English are capable of: (1) perceiving the quality of aspiration and producing it appropriately with the relevant sounds (2) realising the difference in voicing (e.g. between /p/ and /b/), making the case of Egyptian speakers of ESL/EFL (as well as ESL/EFL learners belonging to any particular dialect of Arabic) unique and worth exploring independently from native speakers of other Arabic dialects and without

casting generalisations. The conflicting results are attributed to the issue that the different dialects of Arabic were not controlled for as a variable in Abdelaal's study.

4.1.1.2.Consonant Clustering

According to Watson (2002: 56), "most eastern Arabic dialects exhibit a fairly limited range of syllable types. Three basic syllables are attested in Cairene … CV, CVV, and CVC". Besides, CVCC represents another syllable type, but it is limited to word-final position (Watson 2002: 58). This could explain why Egyptian EFL learners find it challenging to grasp the syllable patterns possible in English. As a result, in the analysed corpus, the learners resorted to two main repair strategies, involving both improper syllable divisions, as well as phoneme changes with the aim of reducing the number of consonants in a cluster to facilitate cluster pronunciation. **Table 4** below summarises the common consonant cluster simplification errors, examples, affected speaker counts and frequency of occurrences:

Error / Issue	**Example**	**Category / Type**	**No. of Affected Speakers**	**Frequency**
Epenthesis	Initial /pr-/ in *presentation*, final two and three-consonant clusters: /-tʃt/ in *reached*: [ˈriːt.ʃɪd], /-nθs/ in *months*: [ˈmʌn.sɪz], /-rnd/ in *learned*: [ˈlɪr.nɪd], /-rst/ in *first* [ˈfɪ.rɪst], /-kst/ in *next*: [ˈnɪ.kɪst], /-rks/ in *networks*: [ˈnɪtˈwɔːrˈkɪs], and [a] in final -nl in: *personal*: [ˈpɪrˈsɔːˈnal], -znd in *thousand*: [ˈθaʊˈzand]	Vowel insertion within clusters	48	201
Epenthesis	*your skills*	Vowel insertion between words	41	95
Prothesis	*Statistics*	Preceding sC- clusters with the prothetic [ʔɪ-]	37	82

Table 4: Consonant Cluster Simplification Errors

- Declusterisation by **inserting short vowels** in between the consonants in a cluster (e.g. [ɪ] in initial pr- cluster in *presentation*, final two and three-consonant clusters: /-tʃt/ in *reached*:

[ˈriːt.ʃɪd], /-nθs/ in *months*: [ˈmʌn.sɪz], /-rnd/ in *learned*: [ˈlɪr.nɪd], /-rst/ in *first* [ˈfɪ.rɪst], /-kst/ in *next*: [ˈnɪ.kɪst], /-rks/ in *networks*: [ˈnɪtˈwɜːrˈkɪs], and [a] in final -nl in: *personal*: [ˈpɪrˈsɔːˈnal] (when the target pronunciation of the second syllable has syllabic [l̩]), as well as -znd in *thousand*: [ˈθaʊˈzand] (when the target pronunciation of the second syllable has syllabic [n̩]). However, if the target pronunciation of the final syllables of the words *personal* and *thousand* has /ə/, they are considered examples of vowel substitution/lengthening.

Vowel insertion also involved inserting short vowels in a cluster produced across word boundaries in connected speech (e.g. inserting [ɪ] with an extra speech segment of: a duration of 50 ms, a mean pitch score of 120 Hz, a mean-energy intensity score of 72.6 dB, a mean of five formants score of 5036 Hz, and a number of six pulses ranging from 0.47 to 0.51, in between /–r/ and /sk–/ produced from the pronunciation of the phrase *your skills* in connected speech). The insertion of a short vowel segment here was not only marked by its brief duration of 50 ms, but also by a set of acoustic features that identify it as a distinct vowel sound. The mean pitch of 120 Hz indicates voicing, while the high mean energy intensity score of 72.6 dB suggests the segment was clearly articulated, rather than a weak transitional sound. Furthermore, the mean of five formants at 5036 Hz points toward a high-front or central vowel, consistent with an intrusive [ɪ]. The presence of six glottal pulses (between 0.47 and 0.51 seconds) confirms vocal fold vibration throughout the insertion, marking the voicing of the segment as a vowel. This insertion (as a strategy to resolve consonant clusters) is a phenomenon in phonology referred to as epenthesis (inserting a vowel in between two consonants in a cluster), a strategy known to be employed even by children acquiring English as their first language (Young-Scholten 2011: 15). Unlike in some varieties of Arabic (e.g. Tunisian and Moroccan), "CVCC is restricted to … utterance-final position in Cairene" (Watson 2002: 58) (e.g. *kabt* 'suppression'; *bɪnt* 'girl'/'daughter'). This could explain why Egyptian EFL learners have more issues with final consonant clusters of more than two consonants, as well as with other syllable-position clusters, compared to speakers of some other varieties of Arabic whose native dialects allow more consonants in (final) clusters and/or possess a wider range of consonant clusters of any other syllable positions.

- **Prothesis:**

this entailed preceding the cluster starting with /s/ by a prothetic, a combination of a glottal stop [ʔ] and a vowel, usually [ɪ], (e.g. [ʔɪs.ta.tɪs.tɪks] for *statistics*). The sC- cluster only triggers the addition of a prothetic vowel, not the glottal stop. However, the glottal stop is added for another

phonotactic reason: words must start with a consonant in Arabic. In other words, what happens is a two-step process: the cluster triggers the addition of a prothetic vowel, and then the onsetless new syllable triggers the addition of an inital glottal stop (which is only there in utterance-initial position or if the previous word ends in a vowel).

Based on the researcher's observation of English produced by native speakers of other varieties of Arabic (e.g. Iraqi speakers) whose native varieties, similarly, do not allow s+stop clusters, it is worth noting that, unlike native speakers of ECA, they resort to vowel insertion instead of prothetic addition as a declusterisation strategy. On the other hand, prothesis is the strategy adopted by ECA speakers to preserve the adjacency of the fricative+stop combination. The uniqueness of the Egyptian case in this regard could be attributed to the fact that the fricative+stop cluster, although not permitted word-initially, is a tightly bound medial combination usually preceded by a word-initial [ʔɪ] in many ECA words (e.g. /ʔɪs.kɪn.dɪˈrɪj.ja/ 'Alexandria'; /ʔɪsˈtan.na/, /ˈʔɪsˁ.bʊr/, /ˈʔɪs.kut/ imperative for a singular male addressee 'wait', 'be patient' and 'keep silent', respectively). In addition, in Egyptian Arabic, s+stop onset clusters in loanwords are repaired not by inserting a vowel between /s/ and the following stop, but by adding a prothetic [ʔɪ] before the entire cluster. Some everyday examples of loanwords in ECA include: /ɪsˈtand/ 'stand' (rack), /ʔɪsˈtan.lɪs ʔɪsˈti:l/ 'stainless steel', /ʔɪsˈta.jɪl/ 'style', /ʔɪz.baˈgɪt.tɪ/ 'spaghetti', /ʔɪzˈbe:r/ 'spare part' and /ʔɪsˈte:k/ 'steak'. Therefore, in ECA, s+stop forms a fixed unit that must remain intact, so the adaptation only allows fixing its position with prothesis, not breaking it with internal epenthesis. This prothetic pattern is robust in careful speech, but, in connected speech, reduction, resyllabification or devoicing can occur, which may result in impressionistic variation. Therefore, it is expected that ECA speakers apply the same strategy in their pronunciation of English. The pronunciation of *statistics* as [ʔɪs.ta.tɪs.tɪks] follows the ECA norms and repair pattern, whereas a hypothetical [sɪ.ta.tɪs.tɪks] would actually be less natural for a native speaker of ECA and also non-adherent to the target forms.' In the word *stand*, for instance, there was a prothetic of 100 ms length (a significant duration for a prothetic segment that is long enough to be clearly perceptible), 41.76 dB (as a mean energy intensity), and 5133.50 Hz (as a mean of 5 formants) preceding the cluster. The low articulatory force indicated by the mean energy intensity value of 41.76 dB suggests the presence of an unstressed/reduced segment. In addition, the high mean value of 5133.50 Hz for the five formants marks the presence of a high-front vowel ([ɪ]) in the prothetic segment.

According to El Zarka (2013: 33), prothesis is "a common repair strategy employed by native speakers of Arabic learning English" as well. It is worth stating that simplification is also a common strategy when it comes to cluster pronunciation by native speakers of English although they resort to techniques that differ from those employed by non-native English speakers (e.g. reducing the number of consonants in a cluster by eliding consonants, as in months -ns instead of –nths in the word-final cluster (Gass & Selinker 2008: 44&45). In addition, the findings of the current study are in line with Goad's (2011) conclusion that those clusters analysed as left-headed clusters (initial obstruent + sonorant clusters; e.g. *br-*, *kl-*, etc.) are broken up by anaptyxis while those analysed as right-headed clusters (initial *s* + stop clusters) are resyllabified with prothesis.

4.1.1.3.Vowels

Similar to the segmental consonant pronunciation, one main feature characterising the pronunciation of vowels by the Egyptian EFL learners was found to be vowel alteration. It is worth noting that most manifestations of vowel substitution included alterations induced by the word spelling, as well as others caused by the differences between the vowel systems of Egyptian Arabic and English. **Tables 5** and **6** below present an overview of the common vowel pronunciation errors, illustrating specific monophthong and diphthong alterations, examples of affected words, categorisation of the types of vowel changes, the number of affected speakers and frequency of each error:

Error / Issue	**Example**	**Category / Type**	**No. of Affected Speakers**	**Frequency**
/ə/ → [ʌ]	**Final syllables of:** *structure, maximum, focus, colour, introduction* **-er endings in nouns:** *user, designer, computer, better, deliver, answer, after, later*	Alteration (height)	76	234
/ə/ → [a]	**-tion/sion endings in:** *presentation, connection, conclusion, education, section, relation, perception, recognition, optimisation* *focus*	Alteration (height, backness, tenseness)	61	148

	First syllable of *statistics* **Final syllable of** *importance, common*			
/ə/ → [ɪ]	*Current*	Alteration (height and backness)	36	42
/ə/ → [ɒ]	*compose, continue, today, consideration, comfortable, condition, connection, introductory*	Alteration (lowering, rounding, backing), spelling influence	83	189
	Proper	Alteration (harmony, lowering, rounding, backing, lengthening)	1	1
/ə/ → [ʊ]	*Successful*	Alteration (raising, backing and rounding), spelling influence	44	85
/ə/ → [a]	*about, additional*	Alteration (lowering and fronting), spelling influence	91	312
/e/ → [ɪ]	*less, stress, steps, get, better, next, best, hesitate, networks, identified*	Alteration (vowel height)	91	283
/e/ → [ɒ]	*Technology*	Alteration (height, backness and roundedness)	3	5
/ɑː/ → [ʌ]	*start, paragraph*	Alteration (backness, length and tenseness)	79	277
/ɔː/, /ə/ or /ʊ/ → [uː]	*Your*	Alteration (raising) and/or lengthening	83	134
/ɜː/ → [ɪ]	*first, serve, thirty*	Alteration (height, backness, length and tenseness)	87	338
/ɜː/ → [ɔː]	*Network*	Alteration (lowering, backing and rounding)	54	82
/ɪ/ → [aɪ]	*Determine*	Diphthongisation	8	8

/ə/ → [(ɪ)a]	*social*	Diphthongisation, spelling influence	87	215

Table 5: Monophthong Errors

Error / Issue	**Example**	**Category / Type**	**No. of Affected Speakers**	**Frequency**
/eɪ/ → [eː] or [eː(h)]	**[eː]:** *state, take, make, space, stage, weight, straight, face, raise, presentation, consideration, dictate, update, relation, hesitate* **[eː(h)]:** *okay*	Monophthongisation	86	279
/eɪ/ → [iː]	***take, mate***	Monophthongisation	2	2
/ʊə/ → [uː]	*Ensure*	Monophthongisation	82	214
/aɪ/ → [ɪ]	***Website***	Monophthongisation	1	1
/əʊ/ or /oʊ/ → [ɔː]	*focus, social, so*	Monophthongisation	91	233
/əʊ/ or /oʊ/ → [ɒ]	***Compose***	Monophthongisation	1	1
/aʊ/ → [æʊ]	*how, now*	Diphthong modification (fronting)	77	223
/aɪ/ and /aʊ/ followed by a consonant in the same syllable → /aıı/ and /aʊı/	*identified, about*	Vowel addition	52	169

Table 6: Diphthong Errors

4.1.1.3.1. Monophthongs

- Failure to produce the schwa:

Egyptian learners found the pronunciation of the vowel /ə/ very challenging. Consequently, the vowel was replaced by other vowels that were more familiar to the students. Instances of replacing vowels included:

[ʌ] in

- the final syllables of: *structure*, *maximum*, *focus*, *colour* and *introduction*.
- the nouns ending in –er: *user*, *designer*, *computer*, *better*, *deliver*, *answer*, *after* and *later*.

  These examples involve alphabetical pronunciation and/or pronouncing the nearest stressed vowel to schwa ([ʌ]).

[a] in

- the nouns ending in *-tion* or *-sion*: *presentation*, *connection*, *conclusion*, *education*, *section*, *relation*, *perception*, *recognition*, *optimisation and focus*.

  The second syllable of the word *focus*, for instance, displayed the vowel [a] with a duration of 60 ms. As a fronted vowel, [a] recorded a higher mean F2 score (1824 Hz) and a higher pulsing rate (seventeen pulses ranging between 0.71 and 0.74) compared to what the schwa as a short mid vowel would show on the spectrogram. In the second syllable of *focus*, the vowel [a] was produced with a duration of 60 ms, indicating a vocalic segment that, though brief, is longer than the duration a reduced/weak vowel like the schwa would show. Its mean F2 value of 1824 Hz points to a fronted tongue position, which contrasts with the lower F2 typical of the centralised schwa (around 1500 Hz; Russel 2005). Additionally, the presence of seventeen glottal pulses indicates stronger voicing, suggesting that the vowel was articulated with more vocal effort and clarity than a reduced vowel would normally receive. The selected segment below is the spectrogram of the vowel [a] replacing the schwa the word *focus*:

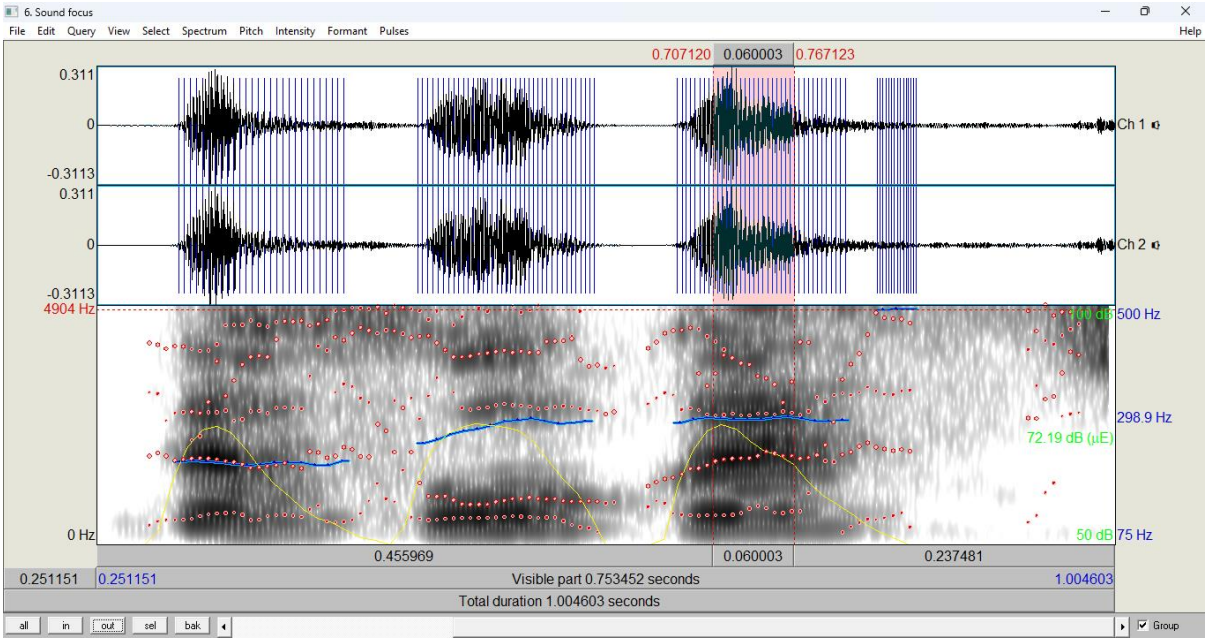


Figure 12: Spectrogram of the vowel [a] replacing the schwa in the word *focus*

- the first syllable of *statistics*.
- the final syllables of *importance* and *common*.

[ɪ] in

- the second syllable of *current*

All syllables of *comfortable* [ˈkɒmˈfɒrˈteːˈbɒl]

This instance of spelling-based mispronunciation involved realisation of dark /l/ as a combination of vowel and a clear [l], as well as misplaced stress (stress equally placed on all syllables). According to Kenworthy (1987: 18), the stress shift in comfortable could cause the word *comfortable* to be confused with the phrase/sentence “come for a table”, which may lead to threats to mutual intelligibility and effective communication (cited in El Zarka 2013: 32).

In the word *proper*, the expected mid-central schwa was replaced by a fully articulated [ɒ], a back rounded vowel. This substitution was acoustically marked by a lower F2 value of 1075 Hz, confirming a backer tongue position than the one typical for schwa (1500 Hz; Russel 2005). The vowel also exhibited a slightly extended duration of 55.6 ms and a relatively high pitch of 246.7 Hz, indicating prominence. A mean intensity of 68 dB and the presence of eight glottal pulses within 20 ms confirm stronger voicing and vocal energy. These features suggest that the produced segment was a fully realised vowel rather than a reduced/weak vowel. This example involved

vowel alteration, vowel harmony (shifting from the unfamiliar weak vowel to [ɒ], the same vowel of the first syllable of the word), and misplaced stress (stress was placed on the second syllable instead). The highlighted part below is the spectrogram of the replacing vowel:

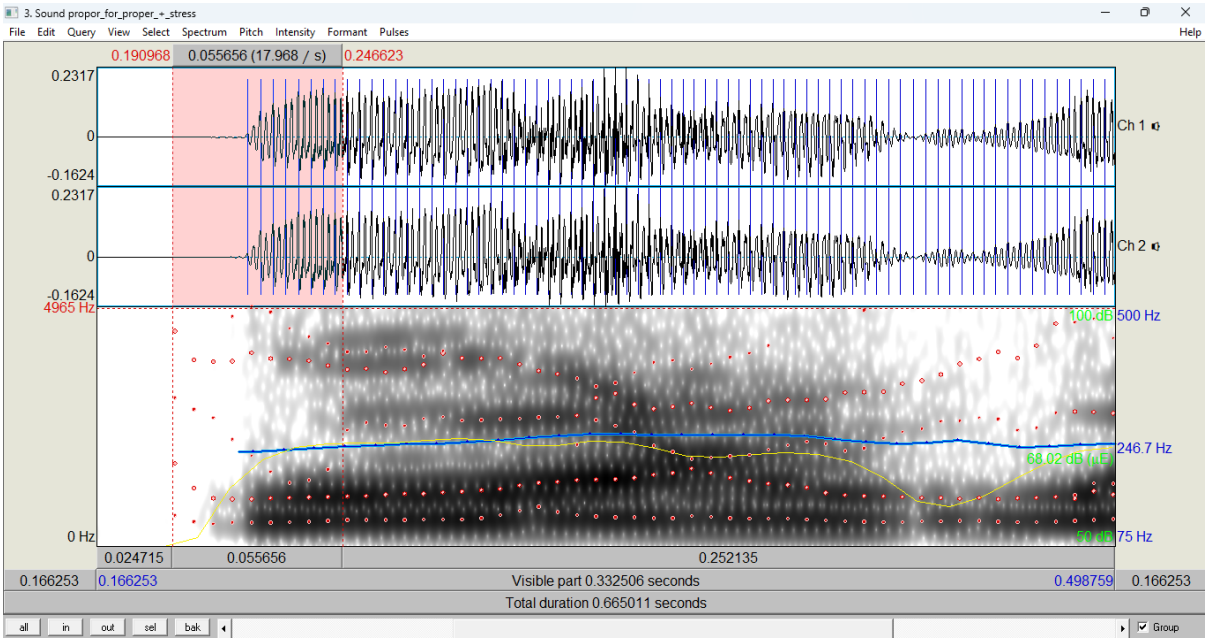


Figure 13: Spectrogram of the vowel [ɒ] replacing the schwa in the word *proper*

Not only did the previous examples exhibit vowel change in terms of height, rounding, backness and tenseness, but they also involved vowel lengthening. The data also showed failure to realise **the schwa resulting from vowel reduction in connected speech**: (e.g. *to leave; to search*). In *to search*, the schwa was replaced by the close back vowel [u]. The duration recorded for the replacing vowel was 68 ms, a longer duration than the one expected at the production of the target weak vowel on a spectrogram. The replacing vowel [u] also recorded a mean-energy intensity score of 64.5 dB, a mean of four formants of 4088 Hz (with the darkest part of [u] noise is concentrated at the bottom of the spectrogram), starting with a lower frequency (F1 mean score of 346 Hz), typical to a close vowel rather than a mid vowel, and higher pulsing (a number of eight pulses ranging from 0.10 to 0.15). The vowel [u], used in place of a target mid vowel, was acoustically marked by the low F1 value of 346 Hz that confirms the high tongue position of the vowel produced, a characteristic of close vowels. The overall formant structure, reflected in the mean of four formants at 4088 Hz, and the concentration of acoustic energy in the lower frequencies of the spectrogram indicated a back and rounded vowel quality. Moreover, the mean-energy intensity score of 64.5 dB the presence of eight glottal pulses over 50 ms confirmed stable

voicing as well as a clearly articulated vowel, rather than a reduced or centralised vowel like schwa. The highlighted part below is the spectrogram of the mispronounced schwa in the phrase *to search*:

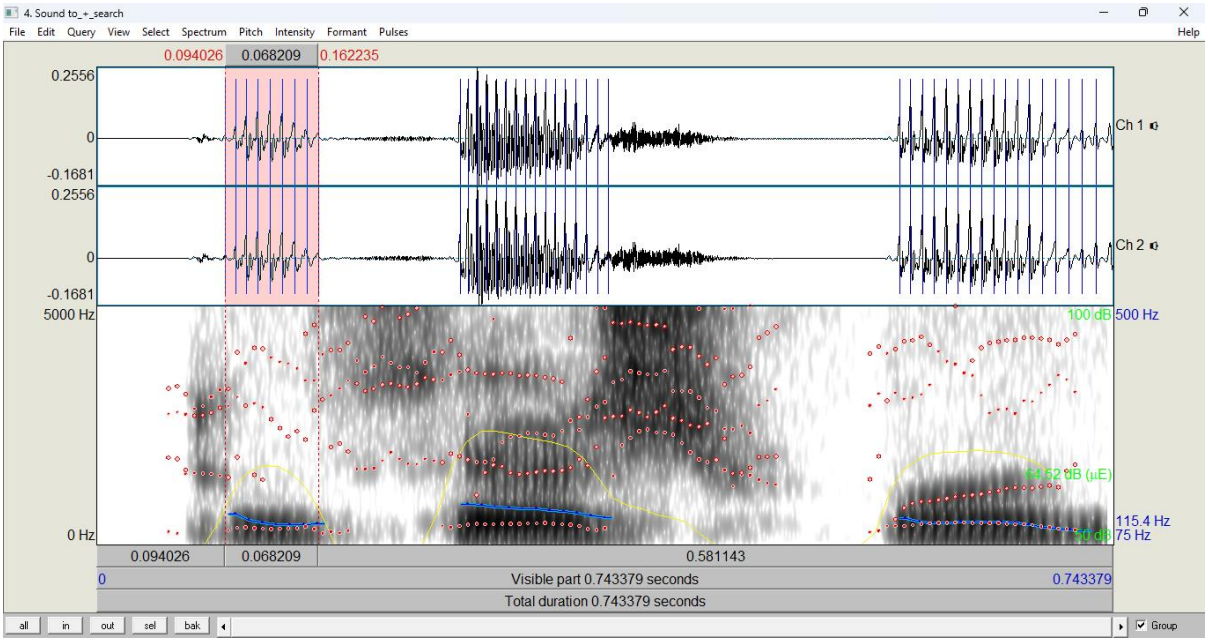


Figure 14: Spectrogram of the vowel [u] replacing the schwa in the phrase *to search*

- The alteration of /e/ to:

[ɪ]: (e.g. *less*, *stress*, *steps*, *get*, *better*, *next*, *best*, *hesitate*, *networks*, *identified*).

For example, in the second syllable of *identified*, the /e/ is altered to [ɪ]. Compared to the frequency the target vowel /e/ would exhibit on a PRAAT spectrogram, the replacing vowel [ɪ] recorded a higher F2 mean value (2196 Hz) as a more front vowel, a duration of 26 ms, a mean pitch score of 199 Hz, a mean-energy intensity score 60.5 dB, and a number of six pulses ranging between 0.21 to 0.23. While the duration of 26 ms indicates a reduced or unstressed realisation. the replacing vowel showed a higher F2 mean value of 2196 Hz, which is consistent with the classification of [ɪ] as a more fronted vowel than /e/, reflecting the tongue's more advanced position during articulation. The voicing during such a brief vowel segment is supported by the mean pitch score of 199 Hz as well as the presence of six glottal pulses ranging between 0.21 and 0.23 seconds. Moreover, the mean-energy intensity score of 60.5 dB suggests moderate vocal effort, typical of reduced/unstressed vowels in conversational speech.

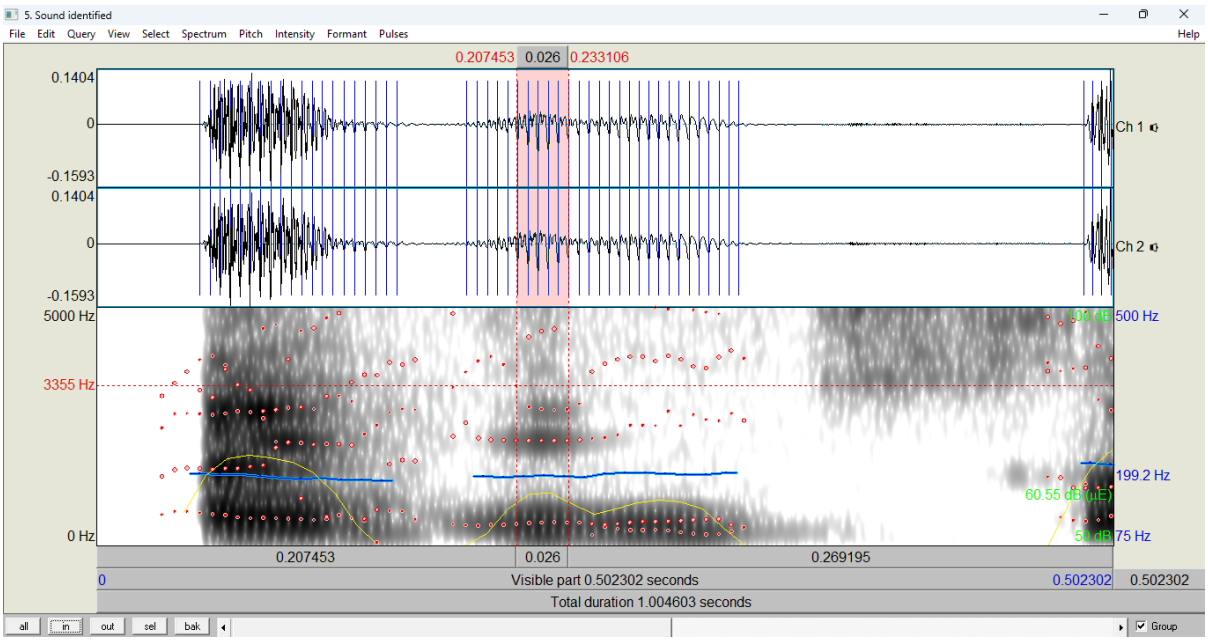


Figure 15: Spectrogram of the replacing [ɪ] in the word *identified*

[ɒ]: (e.g. *technology*, a mispronunciation that can be regarded as an influence of how the word is pronounced in its adaptation in ECA).

- The alteration of RP [ɑː] or GA [æ] to [ʌ]: (e.g. the vowel in *start*; the final syllable of *paragraph*, providing instances of vowel shortening).

The open back vowel [ɑː] was shortened to the central open-mid vowel [ʌ]. The spectrogram of the vowel produced in *start* (in **Figure 16** below) illustrates a vowel segment of approximately 414 ms, with steady voicing indicated by the continuous glottal pulses and regular pattern in the waveform. This significantly longer duration above the typical range of 139 to 199 ms observed for stressed vowels with high emphasis (approximately 199 ms) and those with intermediate and low emphasis (averaged 153 ms and 139 ms, respectively) in American English (Jacewicz et al. 2007: 5), could be attributed to the careful articulation and syllable emphasis. A mean pitch of around 236 Hz supports the presence of voicing, consistent with an emphatically produced vocalic segment. While the visible F1 and F2 paths are generally stable, they show slight fluctuations, which could be caused by how the speaker aims for a different vowel quality.

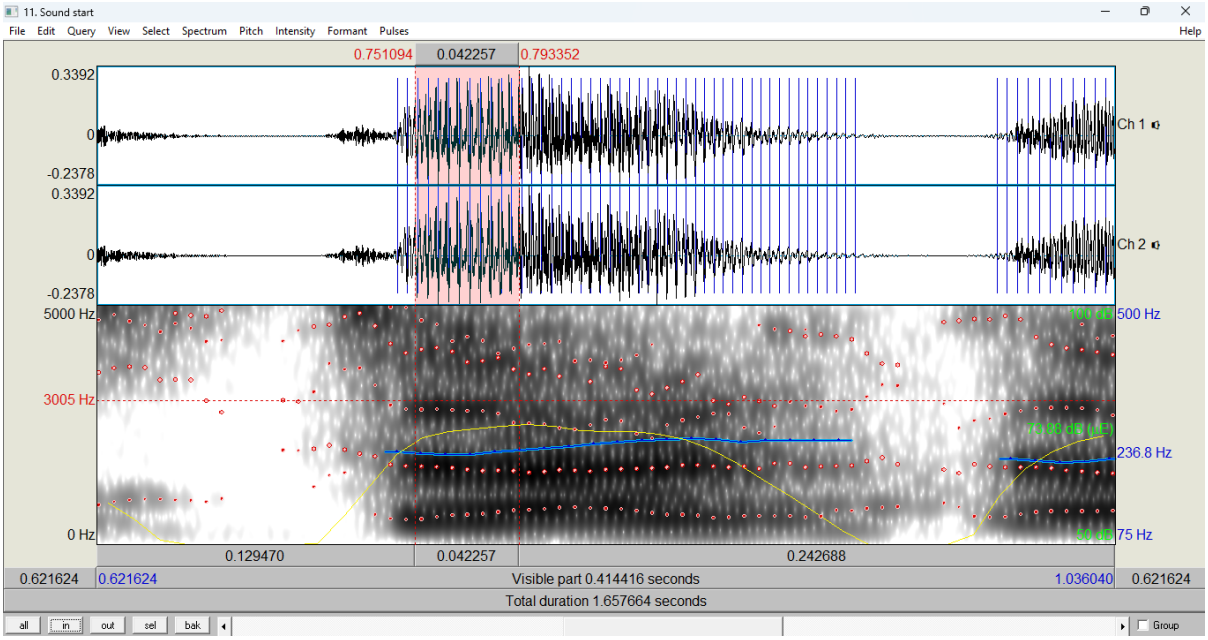


Figure 16: Spectrogram of the replacing [ʌ] in the word *start*

- The alteration of RP /ɔ:/ or GA /ɔ/ or /ʊ/ to [u:] in *your*:

This example of mispronunciation is a common practice and a typical characteristic of English spoken by Egyptians. It involves vowel raising, and could be attributed to confusing the vowel in *your* with that of *you* (/u:/) and overapplying familiar pronunciation rules to words that are similar in form and/or meaning. Below is highlighted the spectrogram of the back, high and rounded vowel [u:] replacing RP [ɔ:] or GA [ʊ], the standard target vowels:

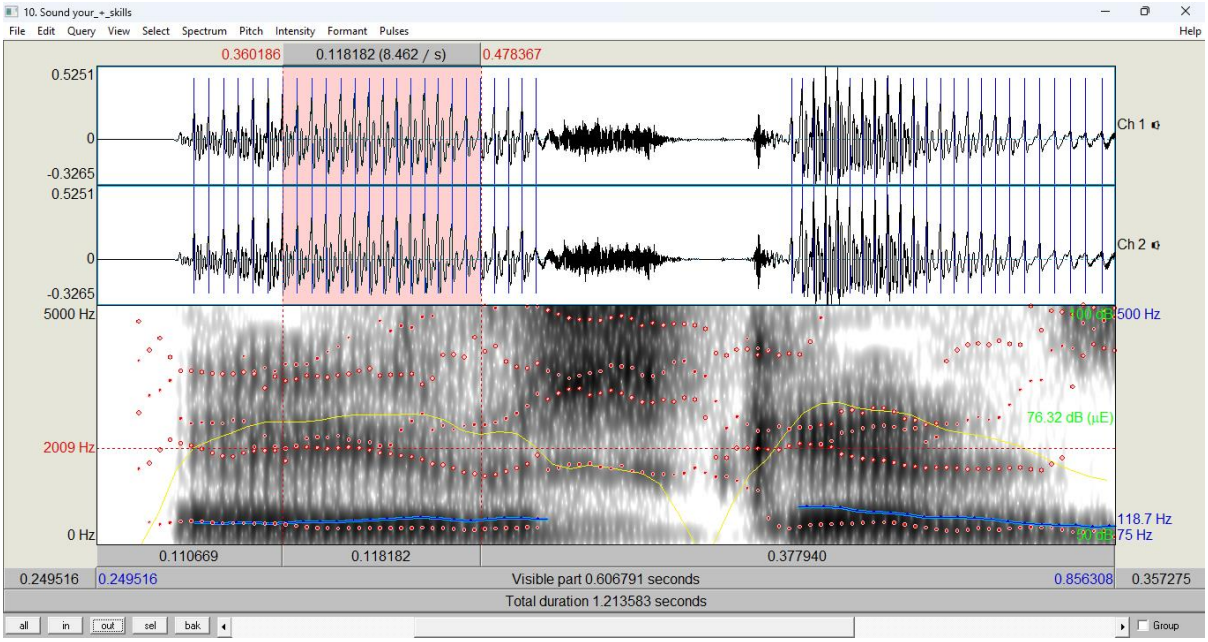


Figure 17: Spectrogram of the replacing [u:] in the word *your*

- The alteration of /ɜ:/ (usually according to the letter corresponding with the phoneme in word spelling):

[ɪ]: (e.g. *first*; *serve, thirty*)

In the word *thirty*, for instance, the vowel /ɜ:/ was replaced with the [ɪ]. As a front close vowel, [ɪ] displayed the strongest/darkest band (most of its energy) concentrated at F2 (mean of 1795 Hz) and a number of eleven pulses ranging between 0.59 to 0.65. The target vowel /ɜ:/ is a mid-central, somewhat rounded vowel typically associated with a lower second formant (F2) around 1436 Hz to 1695 Hz depending on the speaker (Deterding 2007: 52). Replacing the target vowel with [ɪ], a close front unrounded vowel, introduces a noticeable acoustic shift particularly in the F2 value. The strong energy at the second formant band in the spectrogram, as well as an F2 mean of 1795 Hz, the replacing vowel exhibits, are consistent with the articulatory placement of [ɪ] as a high front vowel. In addition, the presence of eleven regular glottal pulses over 60 ms suggests stable voicing and aligns with the duration expected of a shorter vowel like [ɪ]. Highlighted below is the spectrogram of the replacing vowel [ɪ] in *thirty*:

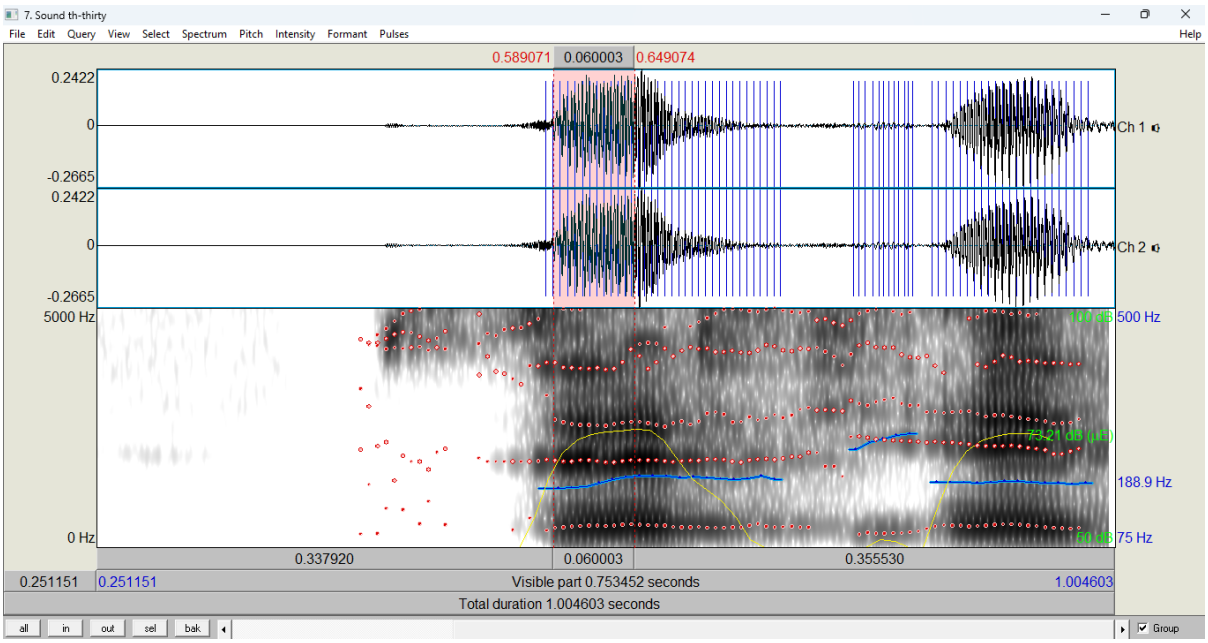


Figure 18: Spectrogram of the replacing [ɪ] in the word *thirty*

[ɔ:]: (e.g. *network*)

- The alteration of /ɪ/ to **[aɪ]**: (e.g. *determine* /dɪˈtɜː(r)mɪn/ to [dɪˈtɜː(r)maɪɪn])
  - As in the spectrogram of the final-syllable vowel in concern highlighted below, the replacing vowel in *determine* shows on the spectrogram as the diphthong [aɪ] instead of a single vowel /ɪ/, signalling transitions between the open vowel [a] and the close front vowel [ɪ] constituting the diphthong combination, with an F1 mean value of for the diphthong (722 Hz), starting on a higher frequency than that starting on the replaced close front vowel [ɪ]. Moreover, the diphthongisation of the target vowel exhibited a far longer duration (117 ms) on the spectrogram than that expected at the pronunciation of the monophthong /ɪ/. Vowel change through the diphthongisation of the monophthong (alteration of a monophthong/single phoneme to a diphthong) here is not unusual; it is a common mispronunciation that could be regarded as an instance of overapplication due to familiarity with the different meanings and word classes of *mine*. This mispronunciation could also be the result of a stress-related issue (misplaced stress). The letter "i" in such positions is normally pronounced as [aɪ] when the syllable is stressed (e.g. *define*, *refine*, *divine*, etc.).

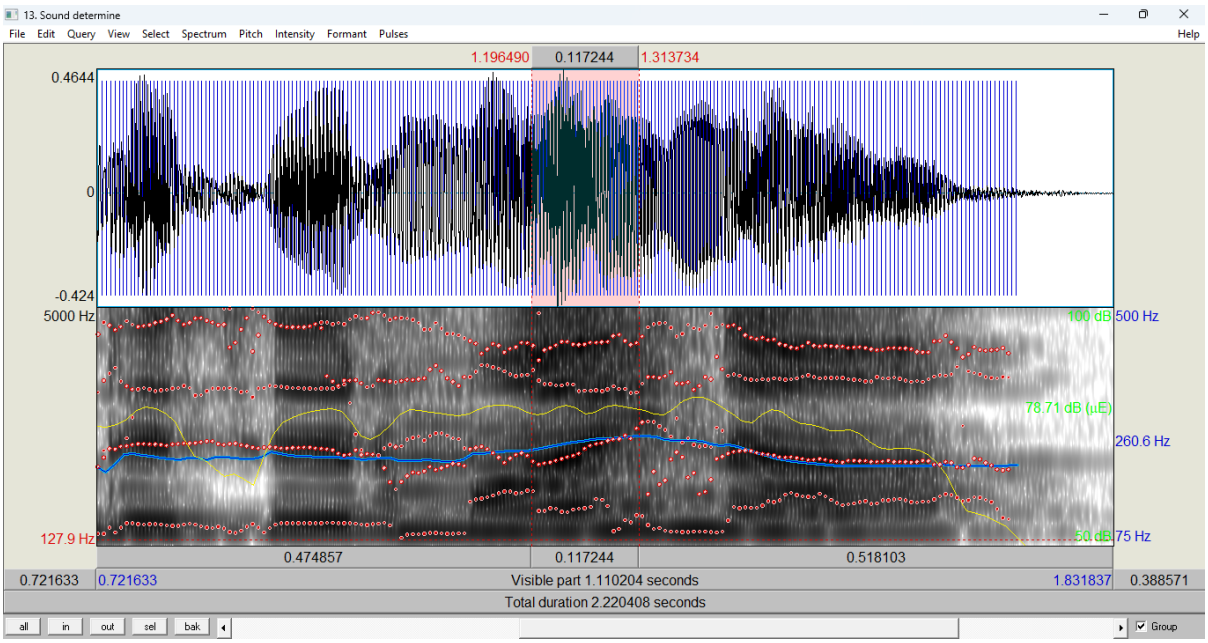


Figure 19: Spectrogram of the replacing diphthong [aɪ] in the word *determine*

Apart from vowel change, the data also reflected other characteristics regarding the accuracy of monophthong production: vowel deletion (e.g. omitting the second vowel in *hesitate*) and change of vowel length. Some short vowels were made shorter (e.g. /æ/ in *stand* and GA *chances* pronounced as [a]), other short vowels were made longer (e.g. /ɪ/ in *live* pronounced as [i:]) and long vowels were made short: (e.g. /i:/ in *fifteen* becomes [ɪ]).

4.1.1.3.2. Diphthongs

Learners failed to produce some diphthongs and tended to simplify their pronunciation through approximating them to the closest single phonemes whether short or long. Some examples of monophthongisation (rendering a diphthong as a monophthong/single phoneme) included:

- The alteration of /eɪ/ to:

  [e:**]** in medial position (e.g. *state*, *take*, *make*, *space*, *stage*, *weight*, *straight*, *face*, *raise*, *presentation*, *consideration*, *dictate*, *update*, *relation*, *hesitate*) and to **[e**:**(h)]** in final position (e.g. *okay*).

  [i:] (rare occurrence): (e.g. [ti:k] for *take* and [mi:t] for *mate*).

- The alteration of /ʊə/ to [u:]: (e.g. *ensure*)

Unlike the other examples where the English diphthongs were not realised, this example does not constitute a mispronunciation. The failure to produce the RP diphthong /ʊə/ is rather a segmental pronunciation challenge. Pronouncing the verb with the long monophthong [u:] is a variation of the diphthong in some varieties of English.

- The alteration of /aɪ/ to [ɪ]: (e.g. *website*; one occurrence).

The replacing vowel [ɪ] showing a lower F1 (511.6 Hz) as a more closed vowel than that of the target diphthong replaced /aɪ/, yet a similar F2 mean score (providing information on vowel frontness/backness)) to the target diphthong as they are both front vowels. The highlighted section on the spectrogram below indicates the monophthongisation (and shortening) of the diphthong /aɪ/ in the word *website*:

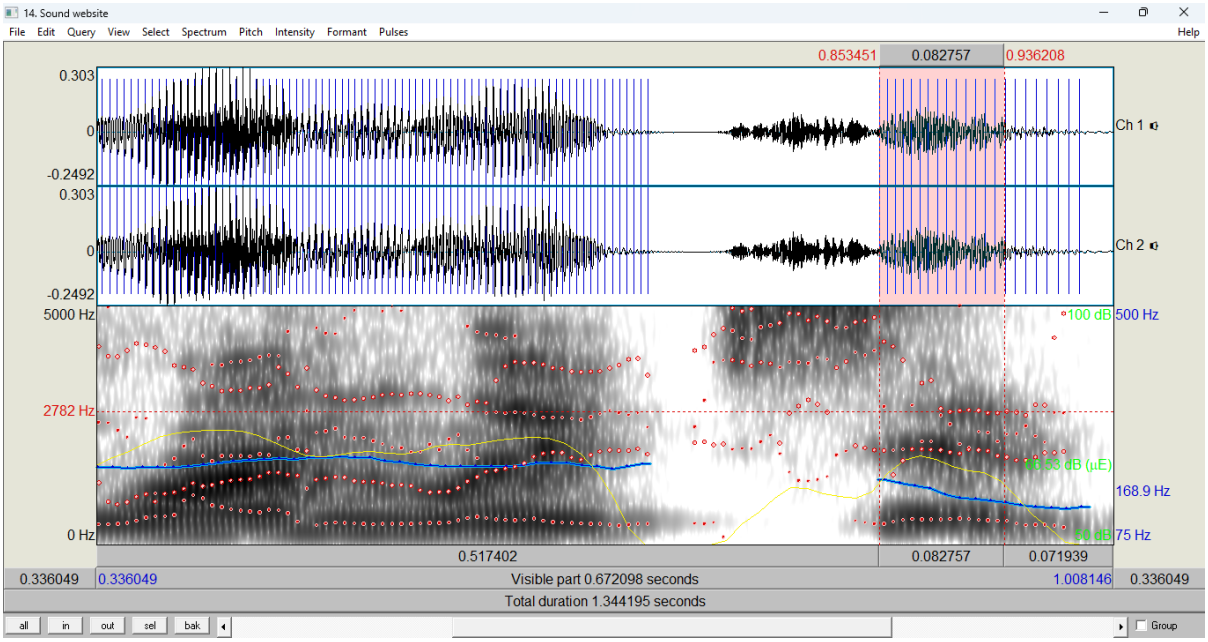


Figure 20: Spectrogram of the replacing monophthong [ɪ] in the word *website*

- The alteration of RP /əʊ/ or GA /oʊ/ to [ɔ:]: (e.g. *so*, *social*, *focus*)

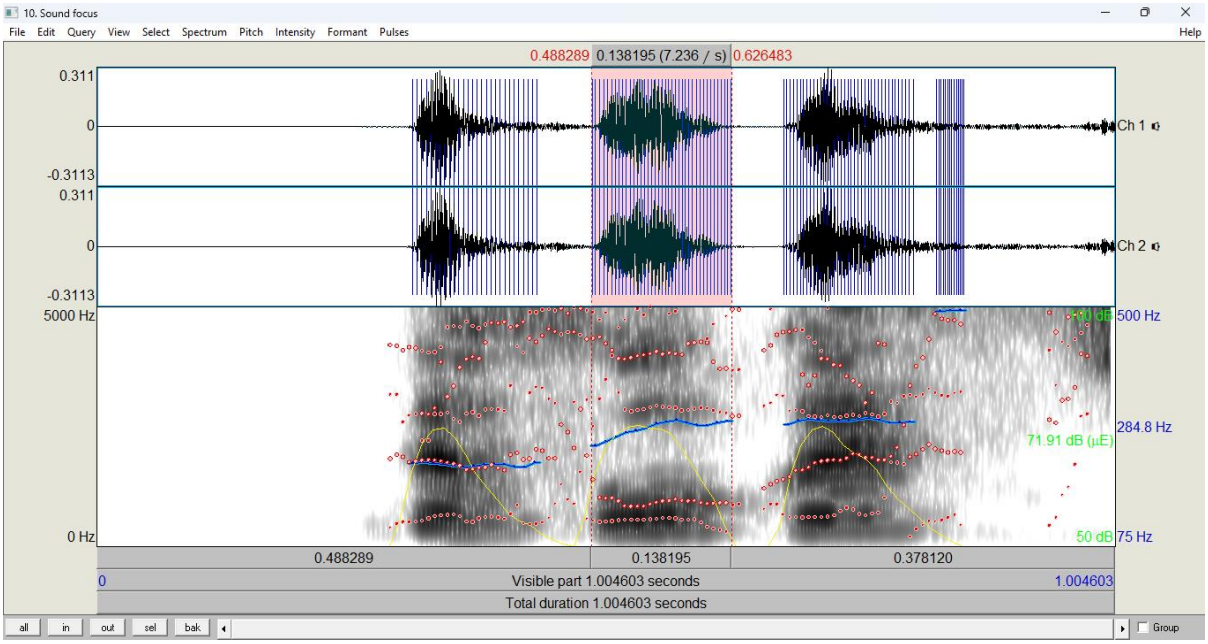


Figure 21: Spectrogram of the replacing long monophthong [ɔ:] in the word *focus*

As highlighted above in the two spectrograms of the parts of the words *website* and *focus* in concern, the first-syllable vowel in *focus* and the second-syllable vowel in *website* show on the spectrograms as a single vowel; no shifts like those between the vowels constituting a diphthong combination are indicated. Moreover, in the case of the diphthong in *website* (as monophthongised to a short vowel), it exhibits a far shorter duration on the spectrogram than those of the diphthongs. The diphthong in *website* had a duration of 83 ms, which is noticeably shorter than the typical range of 166 to 210 ms (depending on various factors including phonetic context, speech rate and individual speaker characteristics) reported for American English dialects by Jacewicz et al. (2007: 19). On the other hand, the duration of the monophthong replacing the vowel in *focus* (being a long monophthong) was 138 ms, which indicates that durations differed remarkably depending on whether the target diphthong is simplified to a long or a short monophthong.

- Replacing the /a–/ of the diphthong /aʊ/ with the near-open/low front unrounded English ash vowel [æ]: (e.g. *how*; *now*).

  Egyptian learners' tendency to pronounce the English diphthong /aʊ/ with an [æ]-like onset in these examples can be explained by their familiarity with the vowel within similar phonetic environments. Although /æ/ or /æ:/ do not exist in ECA as separate phonemes, [æ:] exists in

similar sound combinations in ECA words as a variant of [a:] (e.g. [næ:wɪ] ‘willing’; [hæ:wɪ] ‘amateur’).

- Another feature in relation to the production of diphthongs was vowel insertion. Learners tended to insert: [ɪ] in between the combination of a diphthong followed by a consonant (e.g. between /aʊ/ and /t/ in: *about*, between /aɪ/ and /d/ in: *identified*, increasing the duration of the coda, the diphthong and final consonant, to 48.5 ms of length, as well as the number of pulses). The reported duration of 48.5 ms suggests that the inserted vowel added a perceptible segment to the end of the syllable. While short, this duration is enough to be detected on a spectrogram and to impact syllable timing. It reflects a modification of the coda, disrupting native-like fluency and syllable structure. Furthermore, the presence of glottal pulses indicated the presence of stable voicing, confirming that a fully voiced segment had been added to the syllable, not a simple release or schwa-like transitional segment.

Word spelling had an evidently remarkable influence on the production of certain consonants and vowels. Some examples of spelling influence included:

- An example of devoicing pronouncing *of* as *off*
- Pronouncing the plural morpheme –s in words like *friends*, *sounds* and *trends* as [s], providing examples of devoicing of the voiced /z/ in the plural suffix.
- Voicing reflected in the pronunciation of the final inflectional –ed as either [d] or [ɪd], but never as /t/:

  (e.g. final –ed as [d] in *based*, resulting in what is known as **regressive assimilation**, [be:zd] instead of /beɪst/), exhibiting stronger acoustic energy levels on the spectrogram than the target form due to the vibrating of the vocal cords in the two mispronounced phonemes.
- Vowel shortening in articulating the vowel in *boost* as [ɒ], marking a change in the manner of articulation (lowering and opening of the high close /u:/).
- Devoicing examples in articulating *compose* with [s].
- Changing the velar /ŋ/ to a combination of the velar nasal and the velar stop [g] in words where the velar nasal corresponds to the letter combination of n and g (e.g. the *–ing* suffix in: *smiling*, *giving*, *during*, *upsetting*, *getting*, *listening*, *identifying*, *working*, *gaining*, *reading*, *morning*, *according*).

- Pronouncing the weak vowel schwa depending on the letter representing the phoneme. This was exemplified in:
    - An alteration of /ɪə/ to [ɪʊ]: (e.g. in *podium*).
    - An alteration of /ə/ to a short o, [ɒ], (e.g. first syllables of: *continue*, *today*, *consideration*, *comfortable*, *condition*, *connection*; second syllable of *introductory*).
    - An alteration of /ə/ to [a] (e.g. *about* and *additional*) or to [(ɪ)a] (e.g. *social*).
    - An alteration of /ə/ to a short u, [ʊ], in all occurrences of words with the suffix –ful (e.g. *successful*).
    - An alteration of /ə/ to /ɔː/ in the second syllable of the word *comfortable*.
    - An alteration of both /ə/ and the diphthong in *compose* to a short o [ɒ].

The influence of spelling was also systematically evident in the gemination of sounds corresponding to the letters doubled in word-medial position words, between two vowels, such as: *affect*, *appear*, *annoy*, *hello* and *additional*, *connection*, *collection*. For instance, in the word *collection*, the consonant [l] was sustained for 107 ms, as shown in the spectrogram (highlighted below in **Figure 22**). This extended duration, accompanied by continuous voicing throughout the segment, presents a clear visual stretch, indicating the orthographically driven phonetic addition to the target single consonant [l].

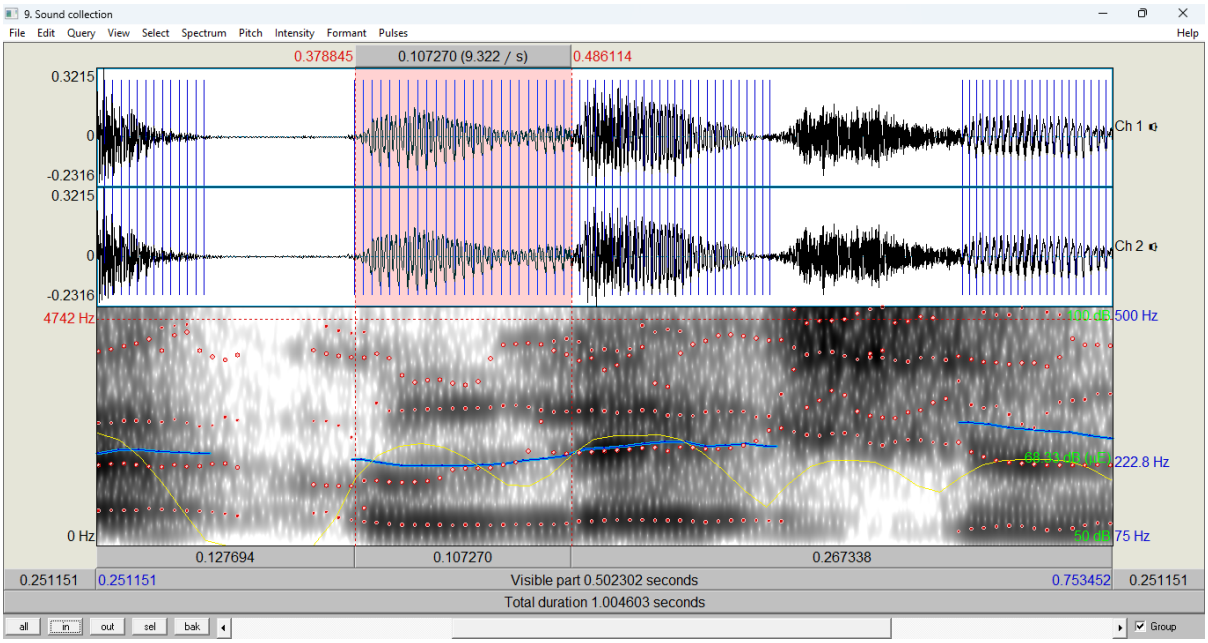


Figure 22: Spectrogram of doubled [l] in the word *collection*

Table 7 below summarises the common spelling-induced mispronunciations in the data, detailing specific error types, examples, number of affected speakers and error frequencies:

Error / Issue	**Example**	**Category / Type**	**No. of Affected Speakers**	**Frequency**
/v/→ [f]	"of" → [off]	Devoicing of voiced consonants	56	72
/z/ → [s]	Plural morpheme "-s" in *friends, sounds, trends*		69	160
/-st/ → [-zd]	*based* → [be:zd]	Voicing of final -ed where voiceless	66	144
/u:/ → [ɒ]	*boost* → [bɒst]	Vowel shortening, lowering	17	28
/ə/ → [ɔ:]	*Comfortable*	Vowel alteration (lowering, rounding, backing, lengthening), spelling influence		
/ɪə/ → [ɪʊ]	*Podium*	Vowel alteration (raising, backing and rounding)	33	65
Gemination of Consonants	*affect, appear, annoy, hello, additional, connection, collection*	Consonant doubling	67	120
/ŋ/ → [ŋg]	*smiling, giving, during, upsetting, getting, listening, identifying, working, gaining, reading, morning, according*	Consonant clusterisation + stopping	82	150

Table 7: Spelling-induced Mispronunciations

Although it is beneficial for teachers to be aware of some pattern that would enable them to predict any probable mispronunciations based on the errors or mistakes their learners tend to produce in a foreign language, the data depicted a group of mispronunciations that are considered unusual for the Egyptian EFL learners and cannot be explained in a contrastive analysis framework. The following examples (appearing once each in the data) are some mispronunciations

that involve phoneme alteration, vowel length change, phoneme insertion and misplaced stress: [rɪuːˈsɪum] for *resume*, [reˈle:vant] for *relevant*, [ɪnˈdʌktori] for *introductory*, [ˈannɔ:ɪdɪd] for *annoyed*, [ˈanɪstɪd] for *instead*, [ˈʌnˈtʌrˈrʌpt] for *interrupt* and [ˈsaʊsant] for *thousand*. **Table 8** below outlines these unusual pronunciation errors observed in the data, highlighting the deviation aspects/categories for each word:

Actual Production	**Target Word**	**Category / Type**
[rɪuːˈsɪum]	***Resume***	Vowel alteration, vowel insertion, vowel deletion
[reˈle:vant]	***Relevant***	Stress misplacement, vowel alteration
[ɪnˈdʌktori]	***Introductory***	Vowel substitution, vowel deletion, consonant deletion
[ˈannɔ:ɪdɪd]	***Annoyed***	Vowel substitution (lengthening), gemination, consonant insertion, vowel insertion
[ˈanɪstɪd]	***Instead***	Vowel substitution, vowel insertion
[ˈʌnˈtʌrˈrʌpt]	***Interrupt***	Vowel substitution, gemination, stress overuse
[ˈsaʊsant]	***Thousand***	Consonant substitution and vowel substitution

Table 8: Miscellaneous/Unusual Errors

4.1.2. Suprasegmental features:

Keeping correct segmental patterns of English pronunciation appeared to be more problematic than the suprasegmental elements in the corpus studied. However, the learners also exhibited other issues pertaining to some suprasegmental elements such as word stress as well as features of connected speech.

4.1.2.1.Word Stress, Intonation and Rhythm

Table 9 below summarises errors pertaining to word stress, intonation and rhythm among participants, highlighting the aspects affected, types of issues, error frequency and the number of speakers affected:

Error / Issue	Example	Category / Type	No. of Affected Speakers	Frequency
Word stress	*ideas* [ˈaɪˌdɪəz], *universities* [juːnɪvɜːˈsɪtiz])	Misplacement of stress	68	154
Word stress	*proper, Facebook, interested*	Equal stress on all syllables	58	134
Intonation & rhythm	Intonational high pitch accent on every prosodic word	Dense pitch accent distribution/pitch accent overuse	46	90
Intonation & rhythm	Flat tone in declaratives or lists	Monotonic intonation	62	140
Intonation & rhythm	Rising tone in statements and on non-contrastive elements	Misuse of emphatic tone	52	128

Table 9: Issues with Word Stress, Intonation and Rhythm

Issues with proper placing of stress for native speakers of Arabic in general is attributed to "the differences of both syllable structures and stress patterns in Arabic and English", and the way the stress is shifted "reflects the native stress pattern" (El Zarka 2013: 49). In the present data, pronunciation inaccuracies related to word stress included**:**

- **Misplacement of stress:**

(e.g. *ideas* [ˈaɪˌdɪəz], *universities* [ˌjuːnɪvɜːˈsɪtiz])

- **More stress to the unstressed syllables:**

Stress was placed equally on all syllables in *proper, Facebook* and *interested.*

- **Non-target-like rhythm and intonation:**

Moreover, the data showed a tendency to transfer the enthusiastic nature of Arabic speech to the articulation of English, which influenced the rhythm and melody of the learners' English. In accordance with Avery et al. (1992: 74), describing the rhythm of English speech uttered by Arab learners of English in general as "staccato-like", the pronunciation of the Egyptian EFL learners in the current study was also characterised by heavier rhythm. Intonation, in Egyptian EFL classrooms, is not regarded as an investment of the time of teachers and learners as it is not needed for the LFC in the Egyptian EFL context at pre-advanced stages. In addition, ECA, like

MSA, is a stress-accent language "with post-lexical intonational pitch accents" falling into the category of "accent on every word languages" (Hellmuth 2006: 2&11) as opposed to the other languages using pitch to mark higher-level words "in the Prosodic Hierarchy" (Hellmuth 2006: 13). Resembling intonation patterns of ECA where a rising pitch accent was placed on all content words (verbs, nouns, adjectives and adverbs) (Hellmuth 2006: 11), the prosodic structure of the speech of students of the current study exhibited an intonational high pitch accent placed on rather every prosodic word including function words (e.g. auxiliaries, prepositions, etc.) in all sentence types (declaratives and questions). Students' speech was characterised by density of pitch accent distribution. This could be attributed to the notion that one of the features of ECA pitch movements is a "relation between phonological tone and prosodic prominence" (Selkirk 2004b as cited in Hellmuth 2006:10).

Brazil (1994: 4) argues that, instead of focusing on accuracy of production of certain sounds, efforts and time need to be devoted to the inclusion of intonation and other components of pronunciation prosody that serve as integral factors of message formation for situations where the message is the element that matters the most to interlocutors. However, this recommendation does not seem to be practical in the Egyptian EFL context. Participating students missing the native intonation patterns, and transferring the ECA intonation conventions to their English in the studied corpus, did not seem to challenge ELF (mutual) intelligibility; no instances of miscommunication due to the adaptation of the ECA patterns of intonation were recorded in the data (the presentations given, the role play activities or even the recorded interviews). To achieve intelligibility, other suprasegmental elements such as proper placement of nuclear stress should be prioritised. However, this does not imply that intonation-related issues should be entirely overlooked. Instruction to address these issues may include the requirement of explicit instruction of English intonational patterns and their communicative functions. Helping learners become aware of the differences between ECA and English intonation systems can also be beneficial. Practical exercises that focus on listening discrimination and production of different intonation patterns can help the learners develop prosodic competence. Moreover, using visual tools, such as pitch contours, and providing exposure to authentic English speech can improve the learners' understanding and use of English intonation.

4.1.2.2.Connected Speech/Juncture

Table 10 below outlines the key connected speech issues depicted in the data, highlighting common resistances to consonant-vowel transitions, elisions, contractions, coalescence failures, consonant gemination across word boundaries, and missing intrusive sounds, along with the number of affected speakers and frequency of occurrences:

Example	Category / Type	No. of Affected Speakers	Frequency
stand out	Resistance to consonant-vowel transitions	65	224
and today, and welcome, and good	Resistance to elisions/ contractions (vowel insertion)	61	162
team mate, good day	Resistance to elisions/ contractions (gemination across boundaries)	69	144
don't you, around you	Failure of coalescence	77	207
interest, drop	Resistance to changes produced from the /r/ frication in /tr/ and /dr/	78	132
you are	Missing intrusive /w/ or /j/	91	198

Table 10: Connected Speech Issues

- **Lack of smooth junctures that involve linking a final consonant with a following initial vowel across word boundaries** (e.g. *stand out*).

Analysing the phrase *stand out*, there was an extra speech spectrogram of 93 ms, with a mean pitch score of 138.68 Hz, a mean energy intensity score of 60.82 dB, and a pulsing ranging between 0.33 and 0.42 in between the final consonant of *stand* /d/ and the onset of following initial diphthong au in *out*. The extra 93-millisecond segment between /d/ and the diphthong suggests the presence of an inserted pause or transitional sound, which reflects disconnected articulation. In natural connected speech, a tight juncture is expected at the transition between the two parts of the phrasal verb; the final /d/ of *stand* should smoothly link into the onset of *out*. Although the mean pitch value of 138.68 Hz indicates normal voicing, it suggests a consistent/flat pitch or less prosodic variation that is common in non-native speech. Such a high mean energy intensity score of 60.82 dB could also be an indication of overarticulation and/or a production of an intrusive vowel-like transitional segment. Pulsing values within the range of 0.33 and 0.42 also support the

presence of voicing carry-over to the intrusive segment, rather than a smooth consonant-vowel transition.

Linking issues could be attributed to the nature of connected speech in English compared to that of Arabic. Kenworthy (1990: 9) states that connected speech in English is characterised by smooth movements due to the use of linking while, in connected speech of Arabic, pauses between words are far more frequent (cited in Mubarak & Rahi 2017: 30). Furthermore, glottal stops are very common before initial vowels in ECA and MSA, which can influence the smoothness and rhythm of speech in the production of English by native speakers of Arabic. Another remarkable difference is that linking in Arabic is both phonological as well as orthographical (reflected in script) while, in English, it is only phonological (Mubarak & Rahi 2017: 35). These differences in the nature of juncture in English and Arabic explain why Egyptian learners in the current study tended to miss out the aspects of smooth linking in English. Nevertheless, it is worth noting that such a feature does not fall into the category of errors/mistakes. It is rather a non-native norm which could also manifest in speech by native speakers of English in certain contexts.

- **Resistance to changes produced from the:**
  - **consonant elisions/contractions occurring across word boundaries:**

(e.g. *and today*; *and welcome*; *and good*; *team mate*; *good day*).

Native speakers of Arabic do not allow the meeting of two different consonants across word boundaries in articulation, and in most cases, they tend to link the two consonant sounds by inserting short vowels in between (Mubarak & Rahi 2017: 35). In the data of the present study, a short vowel ([ɪ]) was inserted between the two different consonants across word boundaries in phrases such as: *and today*, *and welcome*, and *and good*. In addition, in English phrases such as *team mate* and *good day*, where a word-final consonant meets with the same consonant, following in a word-initial position, across word boundaries, Egyptian EFL learners tend to reject any contractions or reductions possible. The two identical consonants across word boundaries in *team mate* and *good day* are realised as a single long consonant (geminated [mː] or [dː]). Consonant geminations (for which Arabic has a diacritic, the shaddah, placed above the geminated consonant when it appears in writing) are common in both MSA and ECA, and learners tend to carry gemination over in their pronunciation of English where two identical consonants appear in script.

- **coalescence** (substituting /t/ and /d/ with [-tʃ-] and [-dʒ-], respectively) in phrases such as: *don't you* and *around you*.
- **frication of /r/** in /tr/ and /dr/ (where /t/ and /d/ are retracted [t̠] and [d̠], and the /r/ is a fricated post-alveolar voiceless approximant in /tr/ and a fricated post-alveolar voiced approximant in /dr/: [t̠ɻ̊˔], [d̠ɻ˔]) (e.g. *interest, drop*).
- **connected speech intruding [j], [w], [r]** (e.g. the non-realisation of the [w] linking a word-final vowel with a following initial vowel in *you are* [ju: a:r]).

The learners' inability to use consonants as linking sounds in connected speech seems to be a result of the transfer of the native patterns of Arabic. Although both Arabic and English employ linking "to make ... pronunciation fluent and natural", the types of sounds inserted to facilitate the production of an "uninterrupted speech" are different (Mubarak & Rahi 2017: 34). According to Mubarak & Rahi (2017: 35) "the linking sounds in English are consonant sounds while in Arabic are vowel sounds". Unlike in English where consonants such as [j], [w], or [r] are used, Arabic uses vowels as linking sounds in connected speech. The meeting of two consonants leads to "slurred speech" in Arabic that is avoided by speakers either by omission or by insertion using "harakāt" (short vowels) [a], [i] or [u] (Mubarak & Rahi 2017: 35).

4.1.3. Summary of Findings: Audio and Video Recordings

The analysis of 70 audio and video recordings from Egyptian EFL learners yielded a detailed profile of pronunciation challenges that directly provides data-driven answers to all three research questions through the identification of the most frequent pronunciation difficulties among Egyptian EFL learners as well as the development of guidance for teaching practice:

In response to **Research Question 1 (What are the key pronunciation difficulties, both segmental and suprasegmental, encountered by Egyptian EFL learners?)**, the data revealed that learners frequently exhibited segmental errors such as voicing and devoicing of consonants, deaffrication, palatalisation, stopping and dentalisation. The VOT measurements demonstrated that Egyptian learners often failed to maintain appropriate aspiration levels. Vowel-related issues included shifts in height, backness, rounding, tenseness and length, with frequent monophthongisation and diphthongisation. In addition, cluster simplification, through epenthesis and prothesis, was common, reflecting L1 transfer from ECA. At the suprasegmental level, learners often misplaced word and sentence stress, applied even stress across syllables, and

produced non-target-like rhythm and intonation patterns. Connected speech native features, such as linking and elision, were less frequent, resulting in more segmented speech. Most of the pronunciation errors identified in the recordings were driven by L1 transfer from Egyptian Arabic.

Addressing **Research Question 2 (What phonological aspects should be prioritised in the teaching of English to Egyptian EFL learners?)**, the analysis of error frequency highlighted the need to focus on:

- Mastery of consonant contrasts and accurate Voice Onset Time (VOT)
- Proper formation of consonant clusters, particularly in word-initial positions
- Distinction of vowel quality and length
- Accurate placement of word and sentence stress
- Raising awareness of the communicative functions of English rhythm, intonation and connected speech features.

Based on the analysis of the audio and video recordings, several phonological aspects appear as priorities for English pronunciation instruction for Egyptian EFL learners. First, the frequent occurrence of segmental errors pertaining to consonant production indicates a need to focus on accurate production of consonant contrasts, particularly with regard to unfamiliar consonants (L2 consonants that do not exist in L1 or that are different in nature from that of L1) as well as consonantal features such as aspiration and VOT values. Second, the presence of many vowel-related issues, including shifts in height, backness, rounding, tenseness and length, as well as monophthongisation and diphthongisation, suggests that instruction should target both vowel quality and quantity. Instruction on segmental aspects (in relation to both consonants and vowels) should devote special attention to contrasts that are not present in ECA. In addition, cluster simplification strategies employed highlight the importance of placing pedagogical emphasis on the teaching consonant cluster production, especially in word-initial positions (where it is mostly problematic). At the suprasegmental level, the widespread misplacement of word and sentence stress, the application of even stress across syllables, and non-target-like rhythm and intonation patterns indicate that explicit instruction in English stress rules and prosody is necessary. Furthermore, the limited use of connected speech features, such as linking and elision, points to the benefit of raising learners' awareness of these aspects for more natural and speech. As shown by the qualitative observation and PRAAT analysis, these priorities arise directly from the most

problematic error types observed in the recordings, as well as their potential impact on listener comprehension.

Concerning **Research Question 3 (What are the teaching implications and suggestions for designing/choosing relevant teaching materials and techniques?)**, the findings offer pedagogical implications and practical suggestions for the design and selection of relevant teaching materials and techniques. The observed error patterns support the use of targeted practice, explicit instruction in the problematic features and increased exposure to natural English speech. The results also highlight the importance of prioritising instruction on high-frequency errors (particularly those that are critical for intelligibility) and addressing the considerable influence of L1 transfer. Pedagogically, these findings support the integration of acoustic analysis tools like PRAAT to raise learner awareness, the balancing of controlled and spontaneous speech tasks to reflect real communicative challenges and the explicit integration of contrastive activities that address differences between English and Egyptian Arabic phonology. Furthermore, the findings demonstrate the value of systematic error monitoring, materials for various proficiency levels and a focus on intelligibility. Given the range of proficiency among participants, materials and activities should be adaptable and scaffolded to ensure that both lower- and higher-proficiency learners are appropriately challenged and supported in developing their pronunciation. When considered as a whole, these insights provide practical teaching implications for the design and selection of effective teaching materials and techniques explicitly responsive to the needs of the Egyptian EFL learners.

4.2. Questionnaire Responses

Parts of this subsection are adapted from the findings in Abdelreheem's (2025).

4.2.1. Questionnaire Findings

This section displays a thorough description of both students' and teachers' responses to the pronunciation issues raised in the questionnaire. Responses to the question asking the learners to determine the level of importance of learning English highlighted their view of English as a must-have skill for a successful present and future, not a mere advantage. There was no great difference in the learners' perceptions of the importance of English learning (75.7% of the

respondents regarded studying English as very important, 18.9% reported it was important; see **Figure 23** below).

Figure 23: The importance of studying English (learners)

Elaborations on the importance of learning English as a foreign language came as the following:

(1) Students mentioned that English was the international language of communication among people from various nations and geographical areas around the globe. For some learners, not only does such communication require knowledge of good English, or higher competence or fluency levels, but mastering a "correct" accent is also expected from a language user.

(2) In light of the notion that, according to some respondents, one's view of the world is shaped by the number of languages they know; and one's world is as vast as their dictionary, English was regarded as the common-ground tongue that facilitates relocation, paves the way for relationship building and opens a window to knowledge of different cultures and ways of living. Additionally, taking into consideration the number of resources available in English to global citizens, knowing English offers one many sources of learning.

(3) English was described by many respondents as the language of present and future business. It is viewed as a skill needed for the labour market, especially if one is planning a career in an international/multinational environment. Even national workplaces in Egypt hold interviews in English, with a focus on English skills (including one's pronunciation, fluency and listening skills). Hence, there are no sufficient employability skills without an appropriate knowledge of English. English may also expand career horizons offered to a person without the language being an

obstacle standing to them. That is the reason why, to some respondents, more attention should be directed at including TOEFL and IELTS skills in the Egyptian study curricula.

(4) Some student participants added that English is the language of most of today's science (introduced and studied in English), as well as the medium language of most study majors taught at Egyptian universities and other higher education institutions. English is essential to keep track of the progress of modern and contemporary scientific research.

(5) Besides, other learners argued that studying English facilitates the learning of several languages that are typologically similar to it while others believed English serves a social function in addition to the academic and practical purposes, particularly for young people, due to its extensive use in many aspects of the Egyptian daily life, as well as in other societies.

Teachers' reactions on the importance of learning English did not appear to differ from those given by their students. All the five teachers believed learning English is crucial for a better future (e.g. travel and/or immigration opportunities, labour market needs and career development), knowledge of other skills and international sciences available in English (e.g. computer skills), global communication and for a deeper understanding of other cultures. It is also vital as the language of the web and modern technologies and the language in which the majority of study programmes (in Egypt and worldwide) are offered.

Students also deemed listening and speaking to be the most problematic among the skills of English (44.6% and 43.2%, respectively), compared to the votes given to the other skills (21.6% for writing, 10.8% for reading, and 24.3% for none) (see **Figure 24**). Likewise, teachers rendered pronunciation/speaking as the most problematic (three votes/60%), followed by two votes (40%) for listening and only one vote for writing (see **Figure 26**). No votes for the options reading and comprehension or "none" were recorded by any of the teachers. These results are believed to be an outcome of the written-oriented study programmes in Egypt where there is no weight for any conversation skills. Despite being overlooked as an element in Egyptian EFL classrooms, English pronunciation was viewed to be highly required by respondent learners and teachers. Commenting on the importance of studying English pronunciation, 58.1% of the respondents voted "very important", 28.4% reported it was important, 9.5% voted "somewhat important", and 4.1% were for the neutral importance (see **Figure 25**). None voted for the "not at all important" option. Regarding teachers, four teachers out of the five voted "very important" while the fifth voted "important" (see **Figure 27**).

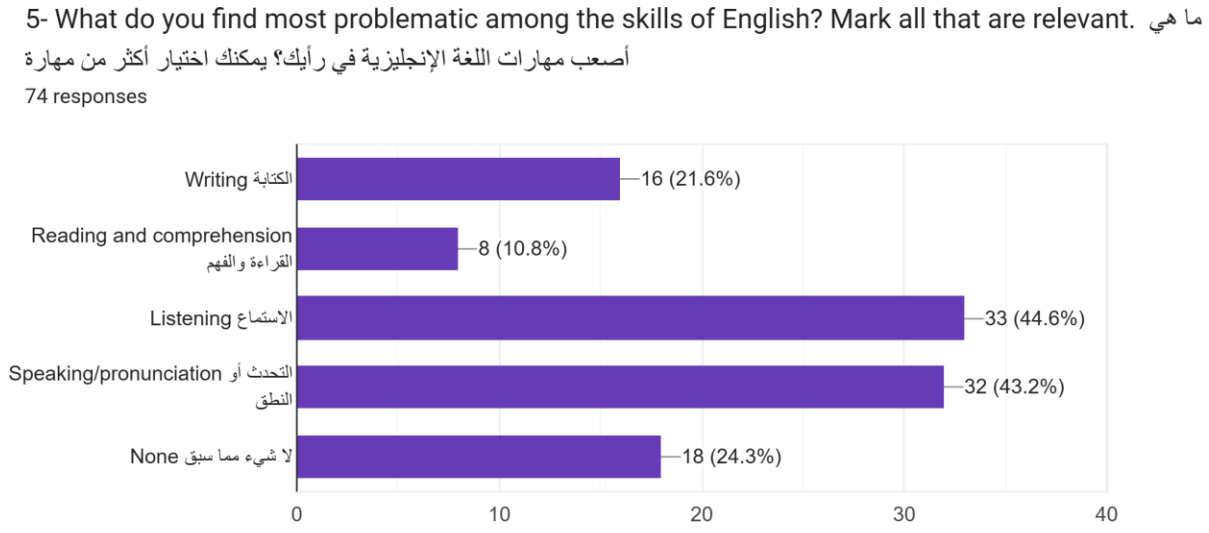


Figure 24: The most problematic among the skills of English (learners)

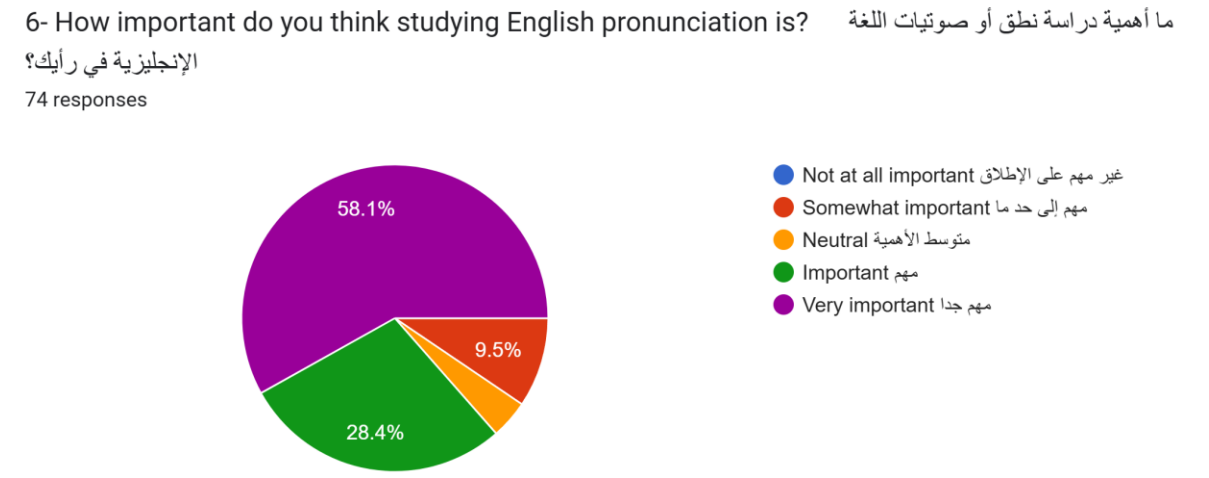


Figure 25: The importance of studying English pronunciation (learners)

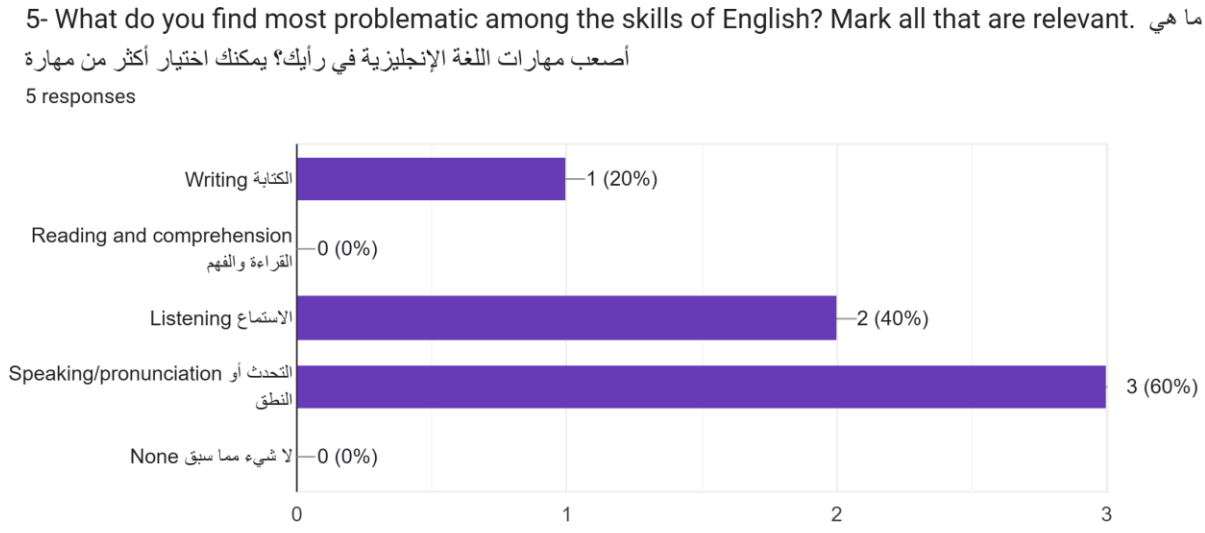


Figure 26: The most problematic among the skills of English (teachers)

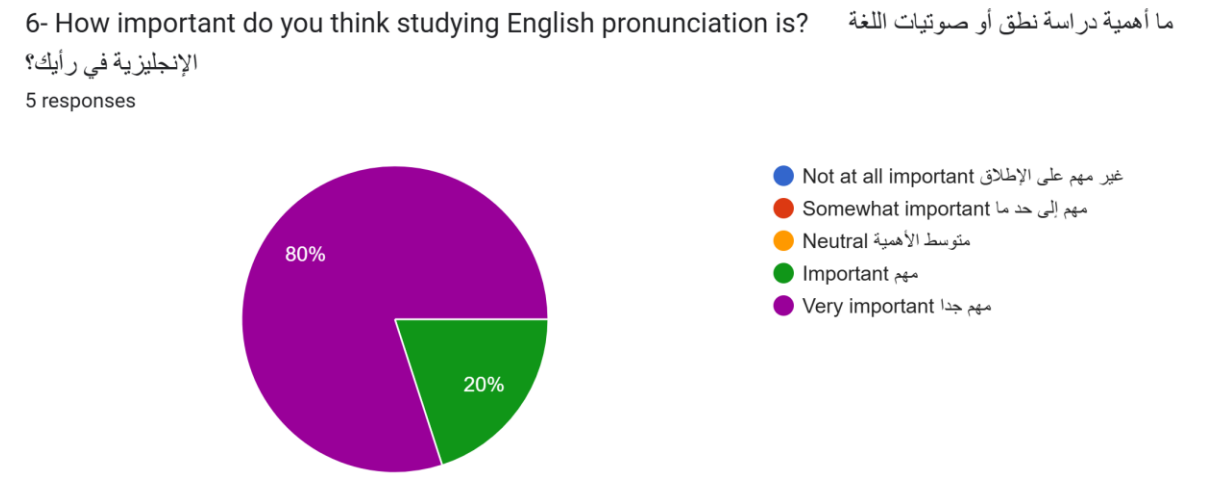


Figure 27: The importance of studying English pronunciation (teachers)

Despite their view of the pronunciation of English as moderately difficult (51.4% of the student ratings and 60% of the teachers'), 31.1% of the student participants and one teacher reported they have not learned any pronunciation skills in school (see **Figure 28**). When asked to specify the English pronunciation aspects they learned in school, 50% of the student respondents voted for the "pronunciation of individual sounds", followed by "word and/or sentence stress" (25.7%) and "rhythm" (20.3%), with much to considerable weight given to the teaching of the

skill(s) (41.9% and 40.5% respectively) (see **Figure 29**). On the other hand, teacher ratings highlighted inconsistencies as far as the time and effort dedicated to the pronunciation elements selected were concerned (ranging from much focus by three raters, to moderate focus by one rater and no focus by one rater; see **Figure 31**). Regarding the aspects prioritised by teachers, three teacher votes (60%) marked the "pronunciation of individual sounds" option, followed by two votes for "word and/or sentence stress" and two votes for "features of connected speech" (40% each). Other options: "rhythm", "intonation" and "other" were equally rated by teachers (given one vote/20% each) (see **Figure 30**). This is in line with the results of the survey conducted by Burns (2006) where segmental instruction was more emphasised over suprasegmental instruction (cited in Robin 2022: 27).

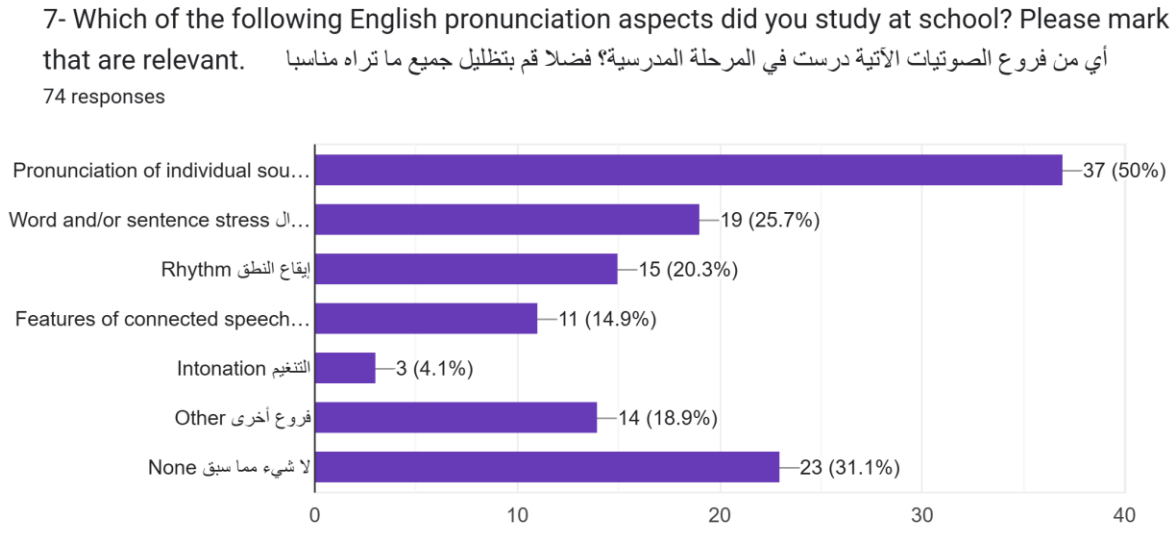


Figure 28: English pronunciation aspects studied at school (learners)

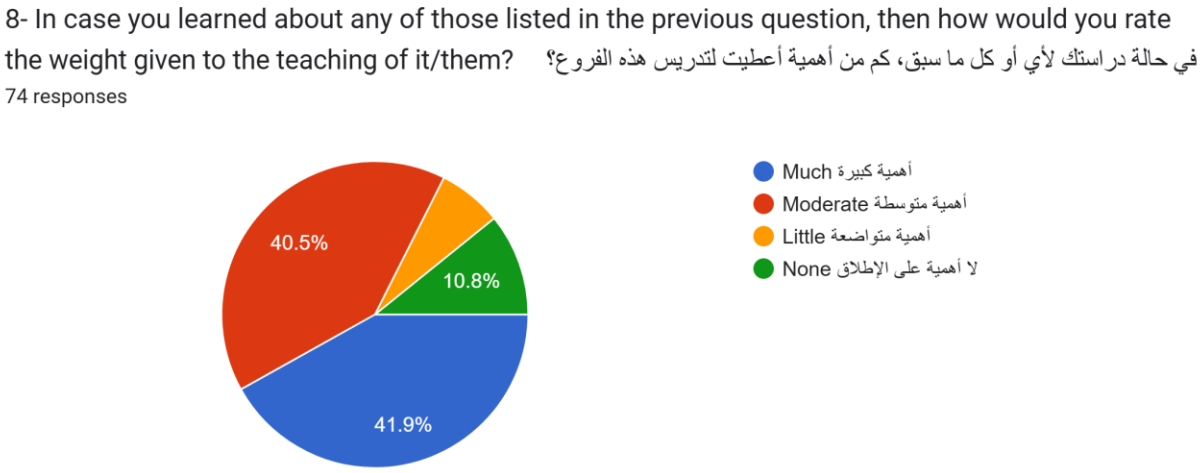


Figure 29: Weight given to the teaching of the pronuciation skills (learners)

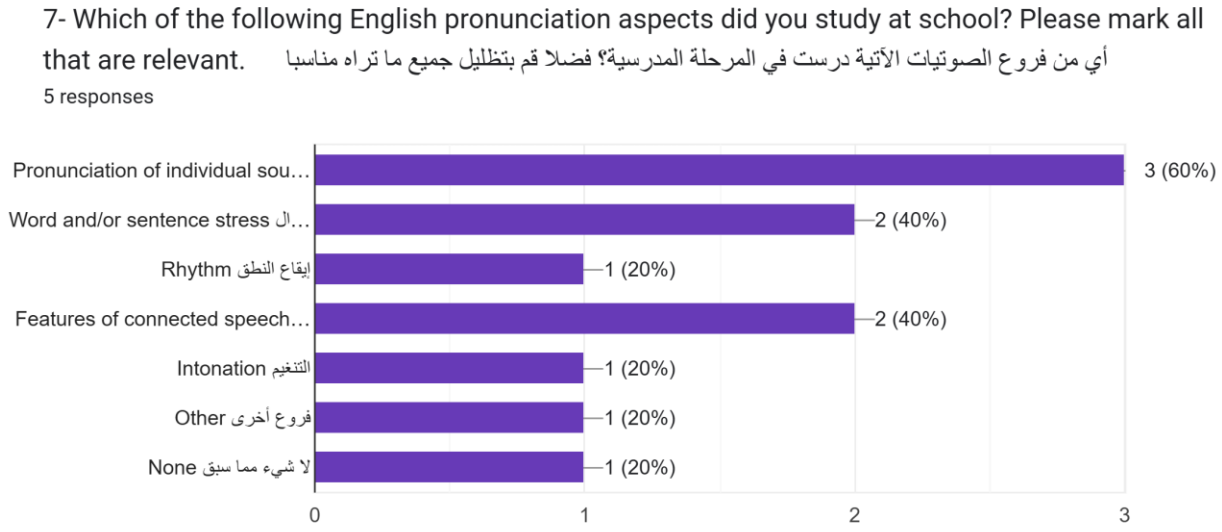


Figure 30: English pronunciation aspects studied at school (teachers)

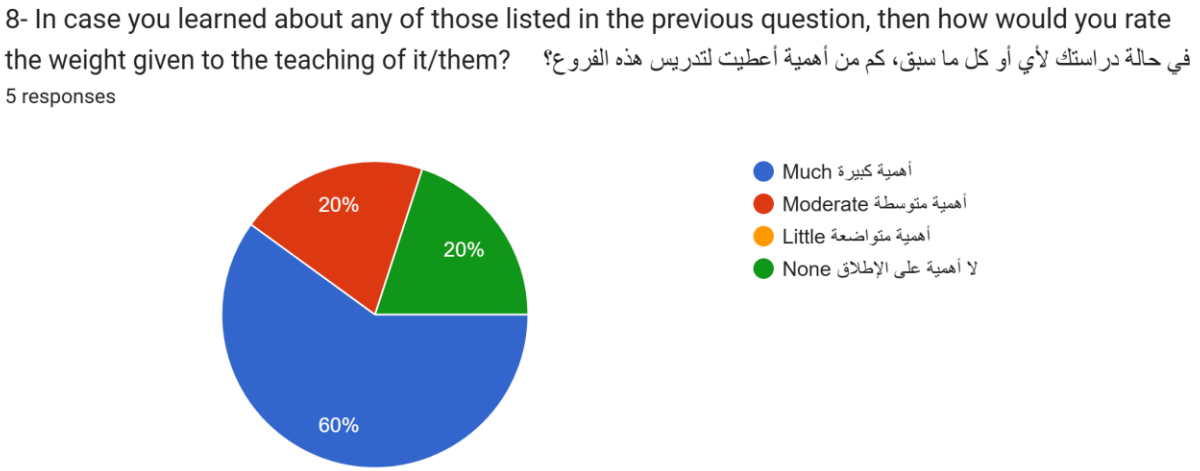


Figure 31: Weight given to the teaching of the pronuciation skills (teachers)

Since the pronunciation of individual sounds as well as word and/or sentence stress are the main aspects tackled in the Egyptian EFL classrooms, according to student respondents, they were reported to be the less problematic among the aspects of English pronunciation (13.5%, 20.3% respectively) in comparison to features of connected speech, rhythm and intonation that were considered to be the most problematic (with 47.3%, 37.8%, 28.4% respectively; **Figure 32**). Responses suggest that there is a need to prioritise the teaching of suprasegmentals such as tone, rhythm and features of connected speech in the Egyptian EFL classrooms. Not only does suprasegmental instruction aid increasing oral fluency levels, it was also found to be crucial to the comprehensibility of speech (Derwing et.al. 1998 as cited in Robin 2022: 27). However, teacher participants seemed to view segmentals and suprasegmentals as equally challenging (with two votes each for pronunciation of individual sounds, word and/or sentence stress and intonation), which, consequently, calls for the need to prioritise both segmentals and suprasegmentals in Egyptian EFL classrooms (see **Figure 33**).

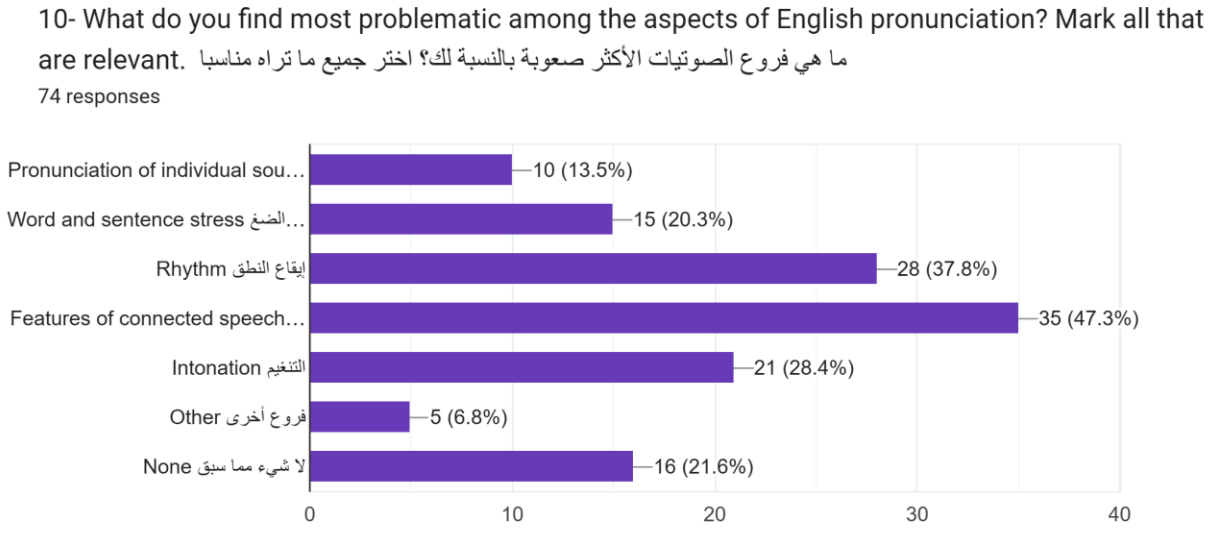


Figure 32: The most problematic among the aspects of English pronunciation (learners)

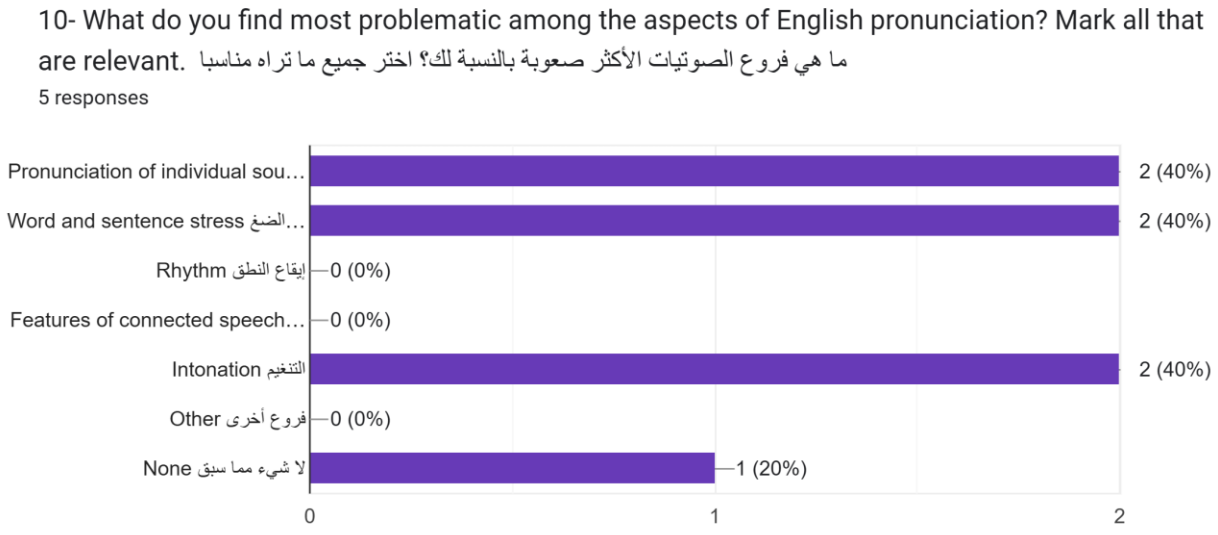


Figure 33: The most problematic among the aspects of English pronunciation (teachers)

Learners and teachers were asked to determine the most and least favourable accent(s) of English (native and/or non-native; see **Figure 34**) and clearly state their attitudes towards the accents they would be referring to in their responses to the relevant questions. British and American accents were both found to be favoured by students, each for its own reasons. 37.8% reported they prefer the American accent while 31.1% voted for the preference of the British

accent. Both accents were found to be equally favourable by 23% of participants, with a tendency to practise both accents and a desire to master them. On the other hand, 8.1% had no specific preferences. The British accent, compared to others, was viewed as the more familiar accent learnt since childhood and taught in schools. It was favoured for its clarity; it was commented that the British accent is not as "fast" or "complicated" as other accents, the reasons making it easy to produce and understand, especially among speakers of other languages, with sound starts and pauses and words "less swallowed". Some reported the British accent was admired for aesthetic reasons, it was described by some student participants as purely "pleasant", "attractive", "luxurious" and "catchy" to their ears. It is worth clarifying that the term "British accent" in the questionnaire was used to refer to the accents spoken in England, not the ones spoken in the other parts of Britain (e.g. Irish, Scottish and Welsh). The American accent, on the other hand, was also prioritised by some participants, but for pragmatic/practical reasons. Due to the dominance of American movies and music, the American accent was regarded to be the "popular"/"common" choice, even to some of those who went to British schools. It was also seen to be the "easier" accent, in comparison with the "classic", "emphatic", "more professional" and "more formal" ones.

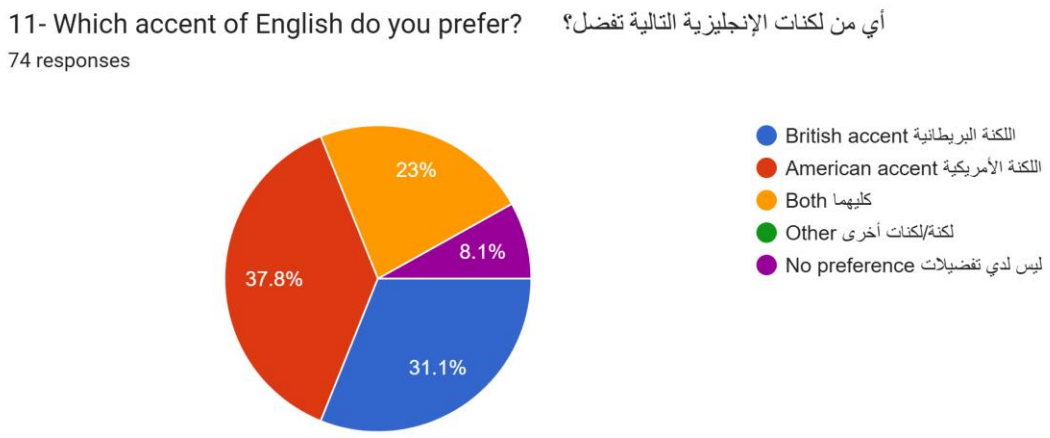


Figure 34: The most favoured English accent(s) (learners)

Teachers' reports on accent preferences were similarly inconsistent (**Figure 35**). Two teacher responses (40%) displayed preference for the British accent for its aesthetics and clarity described by the respondents as being "attractive", "classy" "elegant" or "clear". One teacher reported equal preference for both the British and American accents as the two well-known accents

used interchangeably in Egyptian EFL curricula and most commonly in communication among non-natives. Another commented "a more neutral accent" would be a better option in the context of global communication. With a sense of appreciation for all Englishes, the last response marked no preference for any specific accents over others.

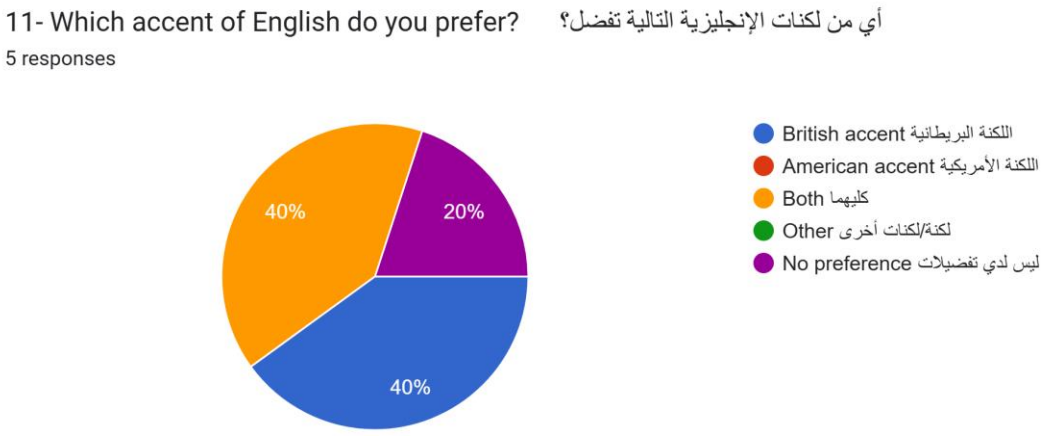


Figure 35: The most favoured English accent(s) (teachers)

Concerning the least favourite accent(s) of English (**Figure 36**), 37.8% selected the British accent, followed by the American (25.7%). On the other hand, 23% reported they have no least favourite accent(s), some of whom commented that all accents are "fun to learn and speak" and "equally unique". For those students who voted against the British accent, it sounds "fake"/"unreal", "unfamiliar", "less popular" or "hard to understand and/or pronounce" if you are not a native speaker of any British tongue. Others regarded the American accent as "complicated" and "difficult to follow" for its speed, higher numbers of elisions, contractions and sound alterations when compared to the British accent, which may result in lack of clarity of speech, especially for speakers with lower proficiency levels. It is also described as the common accent of today's communication yet not the main one taught in schools. Some also mentioned they would not favour any accents other than the British or American. Native as well as non-native accents were among the least favoured accents for 13.5% of the respondents. For example, the Irish, Scottish, Indian and Japanese were referred to as less approved of for the unclarity and/or the confusion listening to them could cause. The Indian accent is thought to be less "musical"/"harmonious" while the Japanese is characterised by mispronunciations that would hinder communication (e.g. adding paragogic vowels to consonant-ending English words). The

Australian accent was also less favoured, but for aesthetic reasons (unpleasantness to the ears). A student added East Asian accents to the list of the least intelligible accents for their phonetic and phonological variations to standard Englishes.

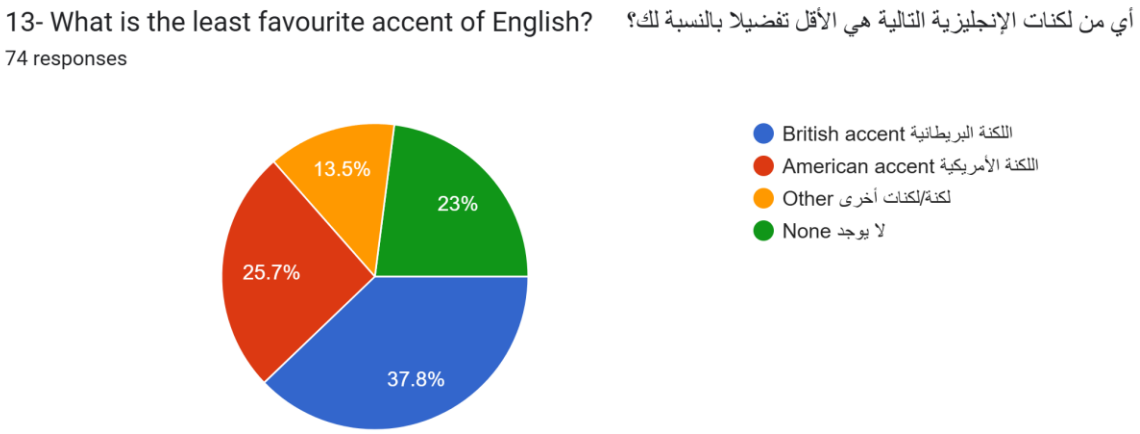


Figure 36: The least favoured English accent(s) (learners)

Regarding teachers' least favoured accent(s) (**Figure 37**), the American accent was selected by one teacher for its pace, lack of clarity as well as for aesthetic reasons. One of the teachers pointed out that there is no such thing as one "British accent"; beside the standard British accent (RP), there is a wide range of traditional and modern British accents that reflect differences in speakers' age, geographical, social, educational and professional backgrounds. Another teacher commented any accent with worldwide less common use (e.g. Irish and Australian) should be less favoured options, while another believed in shifting the focus from "accents" to "correct English" in the context of L2 oral communication.

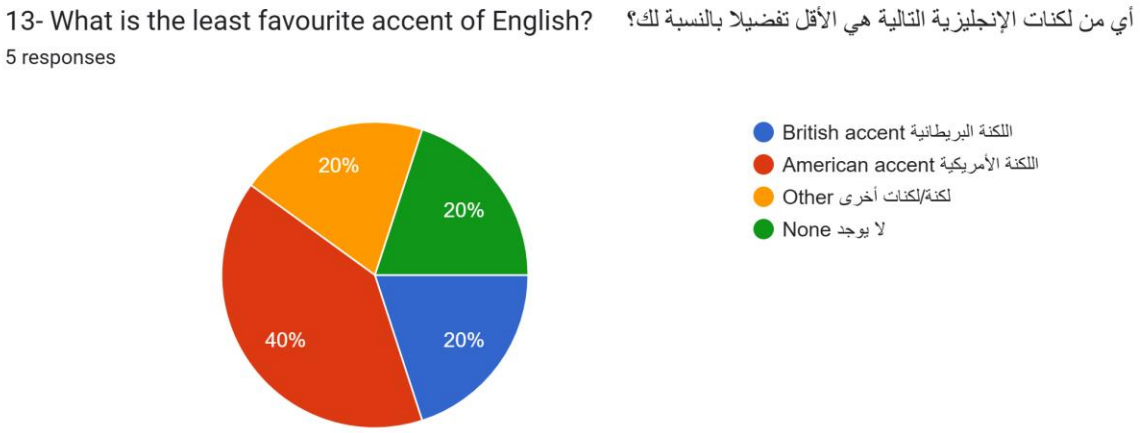


Figure 37: The least favoured English accent(s) (teachers)

Students were also asked which accents of English they think should be adopted in the Egyptian curricula (**Figure 38**). 50% voted "the American accent" for its popularity and ease to acquire while 39.2% voted "the British accent" which is thought to be the "standard", "elegant", "more formal/official", "clearer" and "easier to listen to" accent of English and the "origin" of all accents "that has fewer variations". Those participants who voted "not sure" commented they do not possess the sufficient expertise to determine which accent(s) should be adopted.

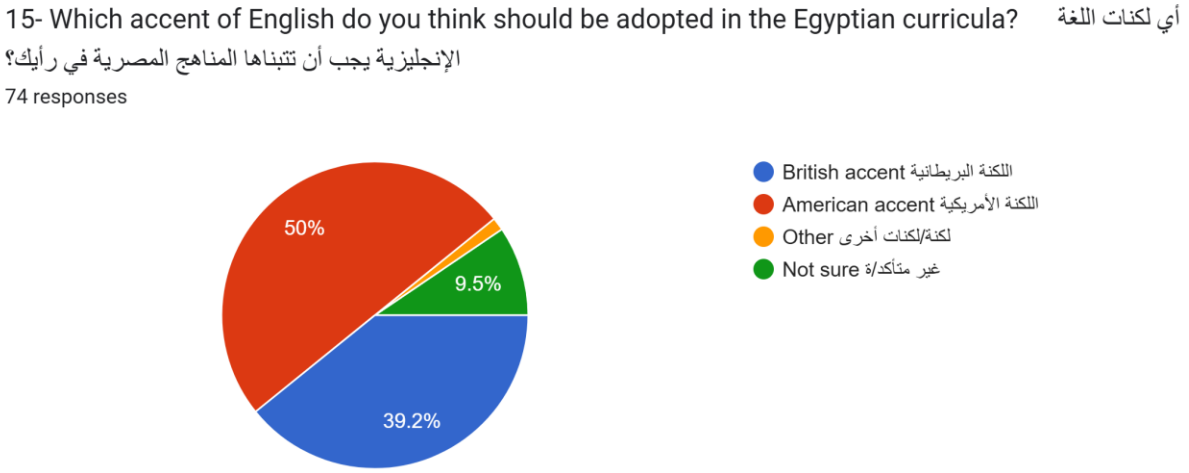


Figure 38: English accent(s) to be adopted in the Egyptian curricula (learners)

Most teachers (three teachers out of the five) believed Egyptian curricula/classrooms should adopt the British accent for its clarity and relatively slower pace, which would facilitate the

process of EFL pronunciation acquisition, in general, and individual sounds acquisition, in specific. It is considered to be best appropriate for any academic purposes as opposed to the accents that could be possibly acquired through everyday life situations and activities. Another teacher believed in adopting both the British and American accents as the most two well-known accents worldwide; knowledge of the differences between them is believed to foster communication and eliminates chances of misunderstanding. The fifth teacher commented they would favour endorsing a more "neutral" accent that is not restricted to any geographical and/or cultural influences. **Figure 39** below shows teachers' votes for the accent(s) to be adopted:

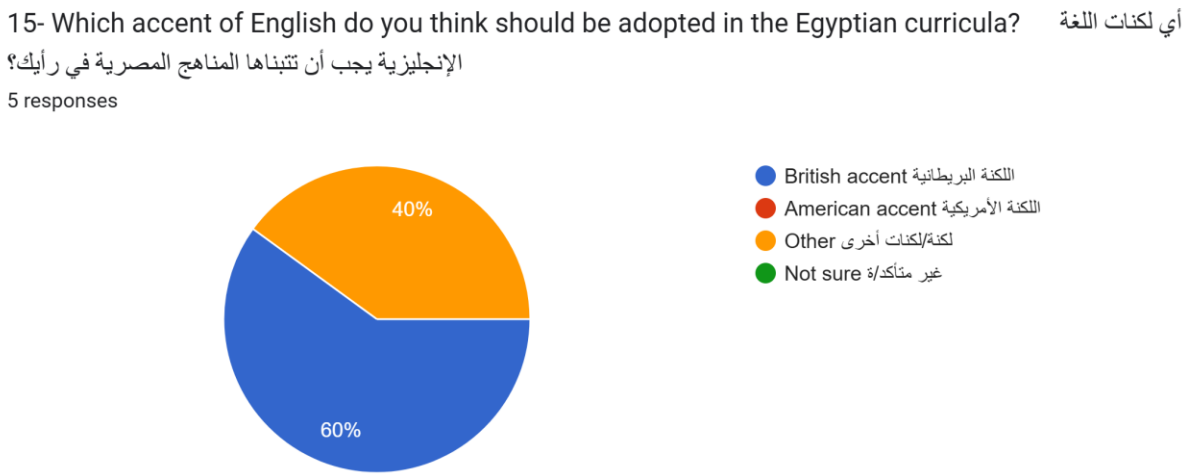


Figure 39: English accent(s) to be adopted in the Egyptian curricula (teachers)

Attitudes towards the Egyptian pronunciation of English varied across respondents. Many students labelled the Egyptian pronunciation of English as "not unsatisfactory", "tolerable", "passable" or "generally good", commenting that: (1) no better could be expected since English is not the Egyptians' mother tongue, (2) having an accent is not impermissible; the case with every group of speakers of other languages when learning EFL, even if the learner is a proficient/fluent user of English or (3) it is at least characterised with clarity compared to other accents. Likewise, two teachers commented the Egyptian pronunciation of English is "good in general", but with some mispronunciations pertaining to the production of individual sounds specifically. According to those teachers, the Egyptian pronunciation of English is characterised by a tendency to approximate the "American accent" (and sometimes the "natural accent"), and by a nature of speech that is both "enthusiastic" and "cheering". On the other hand, other participants (both

students and teachers) disapproved of the Egyptian pronunciation of English, thinking that it could be described as “not good enough”, “incorrect”, “one of the most disturbing/irritating” not adhering to any standard accent of English, “needs improvement” (more time and effort of both educators and learners), “mediocre for ESL learners” or even "funny” due to overadaptation/oversimplification, or to the notion that pronunciation is a skill neglected in Egyptian public education classrooms. A teacher commented, with some efforts directed towards mastering the production of unfamiliar sounds, an improved practice (especially of the pronunciation of segmentals) should not be a challenge for a speaker whose mother tongue is ECA since it encompasses most of the individual sounds in the system of English. Other respondent students reported they believed acceptable or “accurate” pronunciation of English would be determined by a learner’s proficiency level regardless of his or her mother tongue.

When students were asked about what they thought is remarkable in the Egyptian pronunciation of English, interpretations proved to vary. Some, basing their impressions on the concept of identity construction in EFL, thought the Egyptian pronunciation of English is influenced by the mother tongue; it is, in this sense, unique and, consequently, recognisable once encountered. Similar to the findings of a study based on interviews with ELF speakers by Rubdy and Saraceni (2006: 11) where they reported learners may feel “their identities were casualties of the pressures on them” to have a (near-)native pronunciation, unlike in contexts where ELF variants are more normalised and viewed as an expression of a non-native speaker’s identity (Jenkins 2009: 205), many learners of the present research stated that the Egyptian accent of English, with all its special features, is an ELF variant to be embraced as part of the L2 acquisition process, a phase of L2 speaking/pronunciation proficiency, and more significantly, as a signature of the Egyptian non-native identity. Others commented if English pronunciation is well-practised and paid attention to its details, the Egyptian accent is comprehensible and easily processible compared to accents by speakers of other native languages. On the other hand, other respondents expressed negative stands adding that the Egyptian pronunciation of English is characterised by overlapping phonemes (e.g. /p/ and /b/, /dʒ/ and /ʒ/, etc.) and breaking of the rhythm. Others commented the Egyptian accent of English evokes laughter and/or embarrassment, and sometimes creates miscommunication. Many other respondents had no reactions whatsoever for or against the Egyptian pronunciation.

Then students were expected to evaluate their own pronunciation of English. Many were generally satisfied with their pronunciation, expressing their approval through a continuum of ratings such as: “passable”, “not (very) bad”, “decent”, “serves a purpose/function”, “moderately good”, “good” (with some errors/when noticed and watched/when not under pressure, as a result of working with native speakers of English) “accurate without high fluency”, “quite/very good”, “amazing”, etc. Few students were even positive they possess a native/model-like accent. A great number of students believed their pronunciation needs more effort/practice for improvement, both accuracy and fluency-wise. Some, on the other hand, had negative impressions, describing their pronunciation as: “(very/mostly) bad”, “weak”, “not (very) good”, “not the best”, especially in case of lack of knowledge of the articulated content. Others mentioned the question itself was sort of irrelevant since it was addressed to members of an Arabic-speaking community.

Concerning teachers’ views on their own pronunciations, two respondents were quite confident about their own accents rating them at least nine out of ten. Another teacher commented, in view of the concept of intelligibility, that an accent which is intelligible enough to the listeners is a generally-accepted one; and since he believed his was easy to understand in communication, it could be seen as satisfactory. However, two teachers commented, despite their own generally satisfactory accents of English (as self-rated), they believed they still needed more training/practice.

Participating students were asked if they think their own pronunciation of English is influenced by Egyptian Arabic. 70% of student respondents affirmed that the pronunciation of English reflected characteristics of EA as their native tongue. In other words, Egyptian learners were viewed to possess an L1-based accent of English, which is thought to be the case with EFL speakers of any other first language(s) as well. People all around the world speak different Englishes. To those learners, that is not unusual for EFL learners belonging to different groups of speakers of other languages. Others thought one reason is that L1 affects the process of L2 acquisition, especially when the learner’s surrounding linguistic environment is the L1 community. Some indicated that mastering the pronunciation of a certain language is determined by the notion of how much the phonological system of the L2 shares with that of L1, adding that Arabic, with all its varieties, and English differ in their intonation and rhythm. On the other hand, the 30% who mentioned they did not grow up in Egypt, have been built a solid foreign language base, have had enough practice of English pronunciation (regardless of the quality of English education they had

experienced) and/or who viewed Arabic and English as entirely distinct; thus; separable and non-interactive (sometimes performed with two different personalities) did not see any mother language influence on their pronunciation of English.

In an educational system that does not focus on oral accuracy, a question on the principle of intelligibility as opposed to nativeness was to be raised. In the context of teaching English pronunciation to speakers of other languages, the difference between two principles: intelligibility (a concept based on a learner's ability to effectively communicate, with native as well as non-native speakers in an L2, despite the interference of the speaker's L1) and nativeness (the classic goal of pronunciation instruction that involves attempts to approximate a standard model of pronunciation available in the learner's linguistic context, and is still dominantly embraced in today's L2 teaching/learning) (Jindapitak 2015: 260). While, in the concept of nativeness, native speakers are perceived to be the owners of standard models of the language and definers of "pedagogic norms" (Jindapitak: 260), intelligibility of speech is both context-dependent and more relevant to contemporary worldwide status of English (Jenkins 2000: 5). The main focus of pronunciation instruction should be directed towards enhancing the learners' levels of comprehensibility, self-correction and confidence while communicating in L2 (Morley 1991).

In regard to whether or not students think a foreign language learner should aim for native pronunciation of English, participants varied in their interpretations of the concept, revealing irregular patterns (votes are in **Figure 40** below). Many respondents voted not necessarily giving a variety of reasons such as: (1) English is a tool for communication after all (2) one does not have to attain native proficiency of pronunciation as long as English serves its purpose (study, living in an English-speaking country, mutual intelligibility) (3) it requires years of hard work and dedicated practice, which may further complicate the process of learning (4) in line with Kenworthy 1987, Munro 2008, and Munro and Derwing 1995, there is no harm in a certain degree of accentedness (or in Fraser's 2000: 20 terms) "noticeability of an accent" as long as a learner speaks generally correct English without inhibiting mutual comprehensibility (5) it would depend on who one speaks to; communicating in any level of English proficiency with a fellow Egyptian sharing their L1 and/or belonging to the same linguistic community, would not require native speaking proficiency and would suggest relatively lower threats to mutual intelligibility. On the contrary, non-native pronunciation is more likely to pose threats to comprehension of native listeners (Derwing & Rossiter 2002). Responses by this group of students support McKay's (2002)

argument that not all non-native learners/users of English would aspire to the acquisition of native-like proficiency in pronunciation instead, they would rather focus on communicating their messages and establishing linguistic identities marked by the varieties used in the context of ELF (Widdowson 1994) (cited in Jindapitak 2015: 261).

On the other hand, another group of students expressed desire for attaining a native or at least near-native accent of English, as an attractive learning objective, justifying their tendencies through a number of major points: (1) this would prevent any form of miscommunication or lack of self-expression and foster mutual understanding (2) speakers should aim to avoid being embarrassed or mocked due to any mispronunciations. This aligns with Hucke (2021: 5) where it was emphasised that a considerable number of English language learners would prioritise a classroom focus on a native-like model of pronunciation even when not living in an English-speaking community (e.g. in an ELF context).

51.4% of the respondents thought that mutual intelligibility is sufficient as a possibly useful criterion and the key to effective communication in the Egyptian EFL classes. Aligning with Tergujeff's (2013) study on EFL learners' views on English pronunciation, speech comprehensibility and fluency were generally valued as the main aims of pronunciation learning by this group of respondents. According to them, any language exists to fulfil a function; this is where the speaker's accent does not matter as long as speakers are able to both deliver and receive the "message"/"meaning" and their English is sufficiently "good"/"correct "(as dominantly appeared in the students' comments). The responses by this group suggested the inevitability of a foreign accent; the case that, according to them, also applies to speakers of other native languages learning any foreign language. A reason why that is a valid suggestion could be explained through the argument of Larsen-Freeman and Long (1991: 158) that a (near) native accent is only attainable with an early exposure to the target language (cited in Jindapitak 2015: 261). On the other hand, 39.2% were supportive of the notion that both native/native-like pronunciation of English as well as mutual intelligibility are crucial in communication. To the second group, pronunciation accuracy, alongside fluency, are both required as factors of "auditory comfort" that facilitate communication.

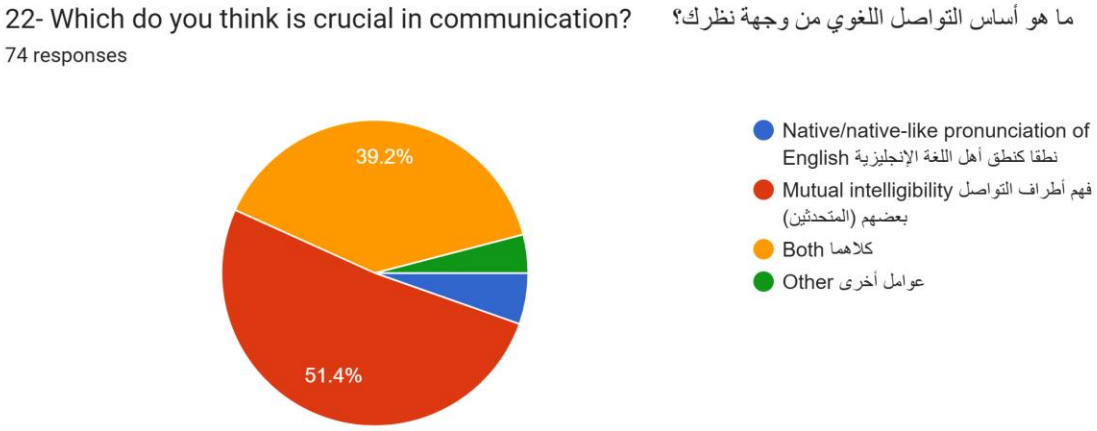


Figure 40: Nativeness versus intelligibility (learners)

Additionally, student participants were asked what they thought can hinder the acquisition of proper English pronunciation. They listed a group of factors including: ignoring the language details, inadequate training, insufficient practice of taught/learnt content, lack of teacher professionalism/ lack of qualified teachers (or dominance of "bad teachers" as phrased by many learners), familiarity with incorrect pronunciation, failure to memorise pronunciation rules and to recognise pronunciation patterns, employing the phonological rules of Arabic into the pronunciation of English (i.e. negative transfer of L1 norms within the linguistic environment available to the learners of a foreign language), lack of solid establishment of proper English pronunciation at earlier stages of learning, lack of the time or motivation for improving one's own speaking and listening skills (i.e. self-development), and exposure (no or limited experience of communicating with native speakers of English). Others added the educational systems that place the heaviest orientation towards content knowledge and accuracy for reading and writing. In this respect, speaking is different from writing where there is room for error/mistake correction without affecting the accuracy or effectiveness of the final product.

95.9% of learner respondents and all participating teachers reported that the teaching of English pronunciation in Egypt tends to be unsatisfactory and needs to be improved from scratch (see **Figures 41** and **42**) with reference to the term **correctness** as the main aim of pronunciation instruction by most participants. Students added that English needs to be taught in English instead of Arabic as the language of classroom instruction and interaction in public schools. Moreover, more attention, time and efforts need to be directed towards the future of English training and

learning in Egypt that mainly rely on written accuracy (e.g. vocabulary and grammar rules memorising), especially in earlier educational stages. According to one of the respondents, “if students grew up pronouncing English incorrectly, it would be hard for them to learn the correct L2 patterns when they are older”. There should be more room for sufficient practice inside and outside the classroom on a daily basis. Practice activities could include surrounding oneself with an English-speaking community, native or non-native, virtually (via online media/platforms) or in real life, so that the only choice the learners would have left is interacting and expressing oneself in English. Some students added that without independent self-learning, they would not have been good in English speaking.

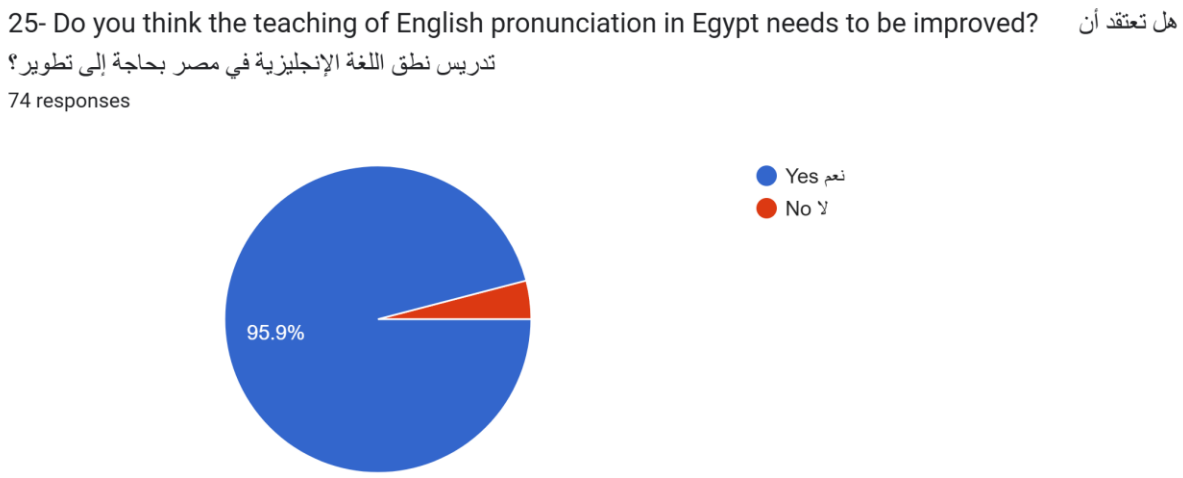


Figure 41: Adequacy of the teaching of English pronunciation in Egypt (learners)

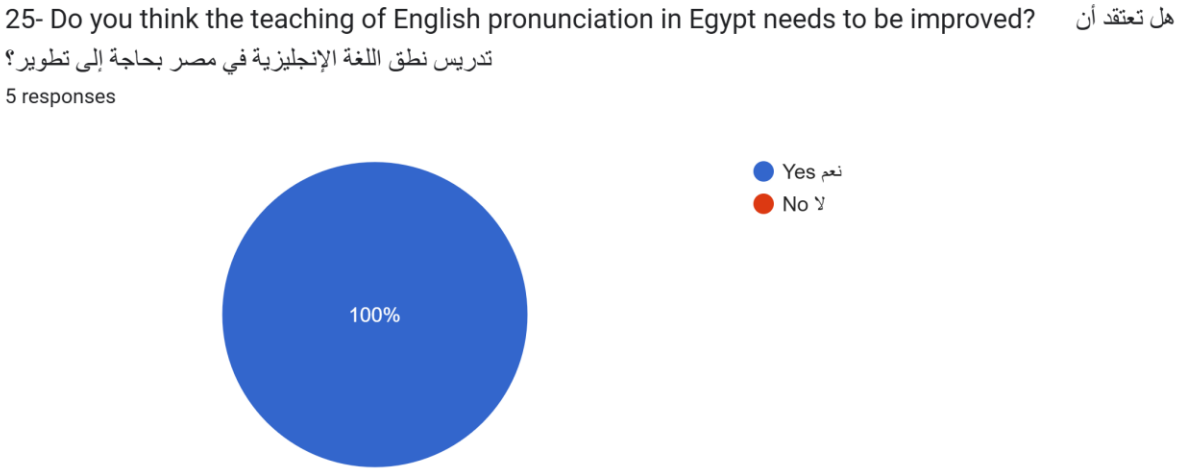


Figure 42: Adequacy of the teaching of English pronunciation in Egypt (teachers)

Experienced/qualified/professional language teachers as facilitators of the EFL learning process, using more creative teaching techniques and more appealing up-to-date methods that serve the learners' needs, are expected to motivate their students to seek higher pronunciation proficiency, aiming for English skills for life rather than for exams, and consequently, changing the students' perspectives, attitudes and views on foreign language skills. Some learner participants commented that many students (including themselves) grew up thinking English pronunciation is difficult merely because they had not been able to produce it efficiently. Thus, students need to be trained to focus on the skills and rules of correct speaking of any EFL content learnt, rather than the capacity of only comprehending and writing it.

Uzun (2022) examined preservice English teachers' attitudes and beliefs regarding both learning and teaching pronunciation in Turkish ELT programs using data collected from 150 preservice teachers across three state universities through a 40-item questionnaire. The results revealed that while participants deemed pronunciation as an essential aspect of communicative competence, many felt inadequately prepared to teach it effectively due to insufficient training and pedagogical guidance in their education programs. Moreover, they tended to idealise native-like pronunciation and traditional orientations toward accent and intelligibility. Uzun concluded that teacher education curricula should give greater emphasis to pronunciation pedagogy to better equip future teachers with the theoretical understanding and practical techniques required for effective instruction. In another context, Bai and Yuan (2019) explored the beliefs and classroom practices

of non-native English-speaking teachers in Hong Kong regarding pronunciation teaching. Based on written reflections and follow-up interviews with 16 EFL teachers, they found that although participants recognised the importance of pronunciation for learners' communicative success, many reported feeling underconfident and insufficiently prepared to teach it. This was largely attributed to limited professional training and the constraints associated with being non-native English teachers. The study also revealed a discrepancy between teachers' stated beliefs and their actual classroom practices, with pronunciation instruction often treated superficially. Bai and Yuan emphasised the importance of sustained professional development and institutional support to strengthen teachers' confidence and competence in pronunciation pedagogy. Findings of both studies align with the situation in the Egyptian EFL context, where pronunciation instruction remains underdeveloped and teacher preparation is perceived as generally inadequate.

In line with the report of many surveys on pronunciation instruction attributing the inadequate training to: lack of recommended-pedagogy-based quality resources available to both teachers and learners (often with a minor focus on production activities) alongside the limited teacher professional development programmes (Derwing et al. 2012; Hucke 2021: 6), the major reasons why many teachers may solely rely on their own intuition in pronunciation instruction (Morley 1991), participants of the current study highlighted the need of more opportunities for teacher professional development, especially for existing less qualified teachers whose English pronunciation is greatly influenced by the pronunciation of their mother tongue (Egyptian Arabic with its all dialects). This also goes in line with Robin's (2022: 33) recommendation that in order to enhance the potential English teachers' ability to master the language and efficiently deliver its components, they need to be offered sufficient training and time for practice. Students think "the right people" need to be attracted to the profession of teaching, which aligns with the view of Fraser (2006: 81&82) that confidence as a product of adequate teacher training and expert knowledge of the formation of sounds and rules of sound combination would eliminate chances of teachers to rely on intuition or over-time experience, and consequently, chances of pronunciation instruction being avoided in ESL classrooms. For the success of the process of L2 acquisition, the role of an adequately-trained language teacher is vital. According to Fareh (2010: 3601) a teacher is the best-knowing of the unique reality of the learning environment/context. S/he is the facilitator whose responsibility is to reach classroom decisions in relation to the study curricula, materials and classroom activities. Through establishing "good rapport" and enhancing interaction with their

students, teachers are providers of educational support, feedback and instructional diagnoses of the learners' study hindrances and recommendations to overcome them, aiming to make the learning process "more meaningful": more motivating, attractive, and relevant to their students' learning needs.

At the end, students gave suggestions concerning what they thought are the most efficient methods/styles of learning/teaching pronunciation and approaches/activities they would like to see implemented in the Egyptian EFL classrooms and textbooks. It is through the knowledge of the learners' favourable learning and teaching styles that educators would gain insights into designing programmes and reviewing existing ones to tap into the needs of the learners in a certain context (Robin 2022: 33). Generally speaking, students of the current study expressed a desire for more weight given to pronunciation teaching as current educators, curricula and approaches are perceived to fail to go beyond surface when they tackle the elements of pronunciation. Moreover, many students were in support of the use of communicative tasks and activities such as presentations and group conversations, and shifting the focus from studying for the grades. This aligns with the recommendations of Morley (1991) on directing efforts towards following controlled practice guided by and interactive instructional methods. Activities could be based on creating competition sessions among students where they could be motivated through being offered some sort of reward for any positive attempts (bonus marks, prizes, etc.). This, according to the learners, would add fun to the process of learning and make it more entertaining as well as beneficial. Communicative tasks could be carried over to outside the classroom by the students alternatively given a common problem (e.g. population increase) and being asked to conduct some sort of off-classroom research on aspects related to the problem (e.g. the nature of the problem, causes, proposed solutions, etc.), then present it orally in a following class session, and completely in English, so that students, for a more effective learning experience, can develop research skills (e.g. data gathering), presentation, communication, brainstorming, discussion and problem solving skills (e.g. presenting information and related views in English, receiving comments and questions from their peers on the topic and feedback on their performance), as well as improve their spoken English by being provided with individual constructive feedback from their teachers. This recommendation appears to be in line with Ur's (2009: 55) view that "deliberate correction and training does improve pronunciation and if this is so it seems a pity to neglect it". Other participants suggested their institutions could invite native-English-speaking visiting educators to

hold workshops so that students can have the opportunity to listen to native English and interact with them more often and, consequently, improve their own pronunciation and gain more confidence knowing that they are not only able to communicate with fellow Egyptians who are already familiar with their accent. This supports Arcaya's (2020: 33) view of native English teachers as the most valued in non-native communities and "the most reliable English language source ... for their accent-free pronunciation".

Additionally, students highlighted the importance of the role of teacher-student interaction giving heavier weight to student-centric learning. Classroom-outside activities mentioned included listening to English music, watching films in English, reading out loud and speaking to the mirror for rehearsals to avoid stage freight situations. These all will aid paying more attention to how to properly pronounce English for intelligibility and effective communication, especially when attempted on a daily basis. The concept of student-focused classes is also supported by Fareh (2010: 3602) who recommends the inclusion of learner-centred activities to involve learners below or above "the level of the average student" on which teaching is often based, so that the less proficient learners can keep pace and the more proficient can find something novel/beneficial to learn. Fareh states that:

> In order for the educational process to be successful, it has to value each learner and cater for his or her individual needs. Each student matters, and a good educational system must improve the lives of its students regardless of their aptitude.

Therefore, every learner (regardless of his or her level of language proficiency) has the right to feel prioritised during the teaching process. This could be accomplished when student talk becomes dominant during class time and when they are allowed more opportunity to participate (e.g. by engaging in classroom activities and conversations, commenting and posing questions). According to Fareh (2010: 3602&3603), teacher-talk-dominated classes are not the only practice through which teachers can "maintain discipline" in class; teacher-centred classes rather result in creating learners who tend to be "less motivated" and in changing the learners' role as active participants in the learning process to becoming "passive listeners". Although such unacceptable teaching practices may also hinder the acquisition of language skills that can only be developed through active participation rather than silent reception/observation, it is not an easy task for a public school teacher in Egypt to involve every single learner in classroom interactions due to the larger class size.

The teacher responses demonstrated a level of familiarity with some established methodologies and concepts in pronunciation teaching. In response to questions pertaining to the most effective methods and approaches to be used in pronunciation instruction, some teachers explicitly named the Intuitive-imitative Approach, the Analytic-linguistic Approach, and the Integrative Approach as frameworks they use for pronunciation teaching in their classrooms. For example, one teacher wrote: “I use the analytic-linguistic approach for teaching segmentals, but I also incorporate intuitive-imitative techniques for suprasegmental practice”. Another stated: “The integrative approach that combines both analytic and intuitive methods is most effective for my students”. In practice, teachers who mentioned the Intuitive-imitative Approach described how pronunciation teaching should rely on extensive listening (e.g. to audio recordings of native speakers) and repetition activities, encouraging students to mimic target patterns. One teacher elaborated: “I play authentic dialogues and ask students to repeat lines, focusing on natural rhythm and intonation. This helps them internalize the melody of English without overloading them with explanations of rules”. Those who referenced the Analytic-linguistic Approach tended to emphasise the role of explicit instruction of phonetic rules and the mechanisms of speech articulation. A teacher commented: “part of each lesson should be dedicated to breaking down challenging sounds, using phonetic symbols and diagrams to show tongue placement and voicing”. In light of this approach, listening and repetition are complemented with targeted aspects and explanations. Three teachers, on the other hand, mentioned the Integrative Approach, combining elements of both intuitive and analytic methods to address the diverse learners’ needs. As one teacher noted: “An integrative approach that combines both analytic and intuitive methods is most effective in my opinion”. Teachers employing this approach illustrated they would start with imitation and listening exercises to develop students’ ear for English, then follow up with explicit feedback and focused practice on new and/or problematic sounds or patterns. For instance, a teacher could describe a lesson where students first listen to a recording, then practice repeating phrases, and finally analyse their own recordings using simple phonetic tools or teacher feedback to check students’ progress or identify areas for improvement. Teachers also expressed that their choice of method would rely on the specific pronunciation feature being taught, the proficiency level of the students and the classroom context. For example, one stated: “For beginners, I would depend more on intuitive-imitative techniques to build confidence and fluency, but as students

progress, I would introduce more analytic tasks to improve pronunciation accuracy and address challenging aspects".

Teachers of the present study emphasised the concept that pronunciation curricula should also expose the learners to different accents of English through the presentation of audio and video content with which students can interact (e.g. role play activities). This aligns with Ur (2009: 55) who stressed the necessity of exposing students to the different accents of English, even if a certain accent is chosen over others for its relevance to the teaching/learning context: "In any case, even assuming that you are teaching one 'standard' variety as a model, it is a good idea to give learners at least some exposure to others, through the use of 'live' speakers or recordings, in order to raise awareness of other possible accents – and, of course, for listening practice". This recommendation to include various accents in the Egyptian EFL curricula is also in line with Wandel's (2003: 72) view that "taking the reality of English as a 'world language' seriously, EFL-teaching must enhance its geographical scope and include non-mainstream cultures". In addition, according to Wandel (2003: 72), raising learners' awareness of the importance of using English as a lingua franca "also means to accustom them to being interculturally sensitive".

As evident in the teacher responses, the Communicative Approach to the teaching/learning of English pronunciation was regarded as a central approach to pronunciation instruction focusing on communicative competence (both fluency as well as accuracy as integral elements of communication achieved through the use of authentic and meaningful communicative activities that involve "trial and error") as the ultimate goal of language learning, and on the integration of other language skills in pronunciation instruction (Richards 2003: 21). Additionally, teachers expressed their need of professional teacher training courses/sessions and regular teacher pronunciation/spoken interaction evaluation and assessment as efforts towards improving the teachers' spoken English and enhancing the level of reliability of educators involved in the Egyptian scene of teaching practice. One of the respondent teachers also called for the necessity to provide lower-cost/more affordable adequate language learning resources, courses and programmes, as well as exposing the learners to the element of EFL pronunciation in the school curricula and classrooms (listening and speaking activities) at earlier stages of education.

The following set of questions were addressed to the teacher respondents only. The first two questions addressed to teachers aimed to explore classroom techniques and activities employed while teaching the pronunciation component and the frequency of teaching it. Three of

the five teachers reported they teach pronunciation in class (**Figure 43**) through varied pronunciation activities such as: interactive phonemic chart, gamification, imitative exercises (e.g. listen and repeat), playing audio and video content (e.g. English songs, short movies, videos for educational and entertainment purposes) three to four times a month. Aligning with Fareh (2010), teachers of the current research stressed the necessity of integrating the element of pronunciation with the other skills of English. Teaching/learning the language components separably, the concept referred to by Fareh (2010: 3603) as "compartmentalization" or "fragmented approach", as opposed to "the whole language approach" (where skills of the language are taught/learnt together and interrelate), is believed to pose threats to the learners' "communicative competence" (i.e. their ability to contextualise their knowledge of the learnt items in real-life situations).

Figure 43: Teachers' focus on the teaching of English pronunciation

As far as the assessment and correction of student pronunciation are concerned, all teachers stated they assess their students' pronunciation (**Figure 44**) during the speaking activities and correct their pronunciation inaccuracies (**Figure 45**) through immediate corrective feedback (during activities) or delayed corrective feedback (after a completed task). Those teachers who reported they favoured immediate feedback mentioned they gave the correct item(s)/form(s), repeat them before students then ask students to repeat the correct form(s). For error correction, other teachers stated they could highlight the mispronounced content for students explicitly by pointing out the problematic item(s), or implicitly by indicating the presence of an error through some gesture or by implying the mispronounced content in a context with the purpose of making errors observable to the learners, after which students are expected to notice the errors on their

own and produce the correct form(s) upon realising the problems. A teacher mentioned they would prioritise delayed corrective feedback to avoid interrupting the fluency/the task or the flow of ideas and any situations that would pose face threats to the students.

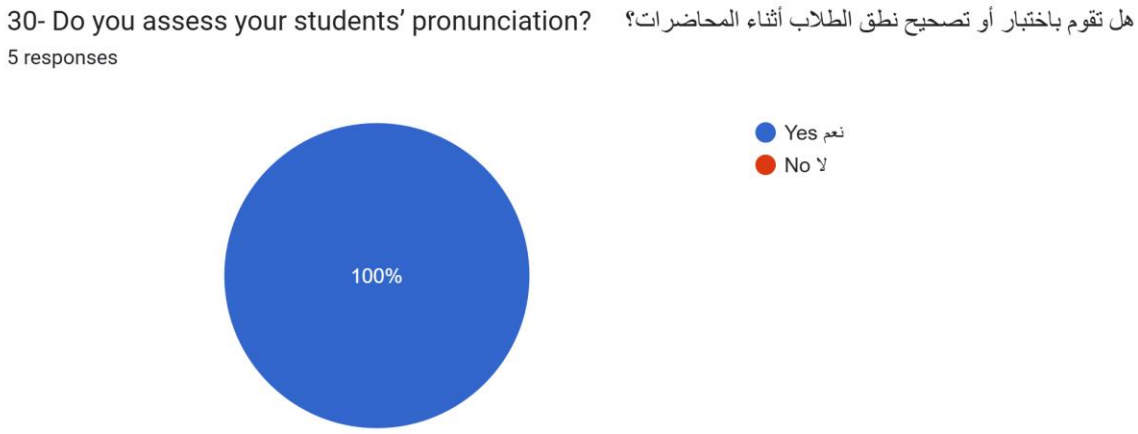


Figure 44: Teachers' assessment of their students' pronunciation

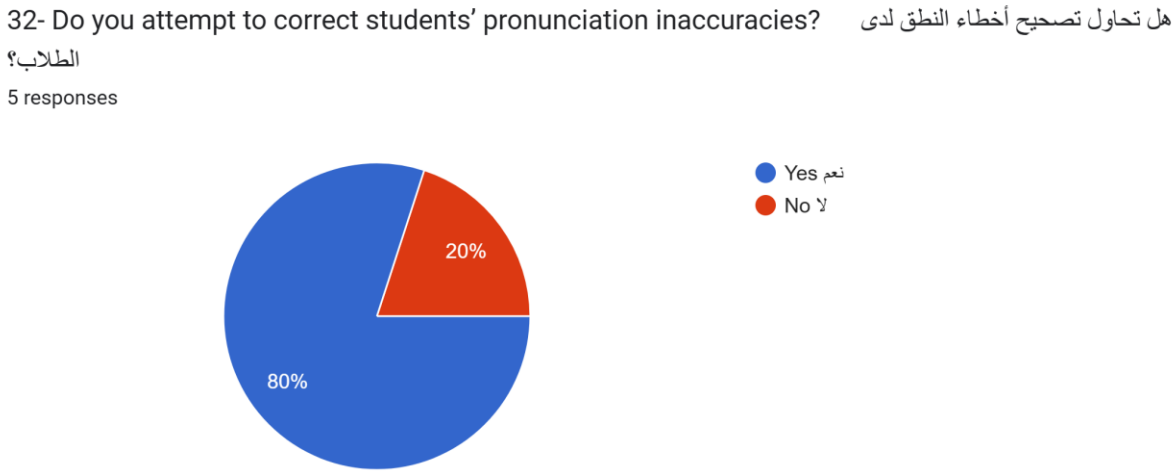


Figure 45: Teachers' correction of their students' pronunciation inaccuracies

As detailed above, all teachers reported they correct students' mispronunciations through direct and indirect feedback presenting some audio and video resources for the students to learn and practice the target form(s)element(s). However, teachers varied in their responses pertaining to the pronunciation aspects they tend to focus on. Two of the teachers mentioned they gave priority to the instruction of individual sounds, two other teachers reported focusing on

suprasegmental elements such as stress, intonation and/or features of connected speech, while only one teacher stated they believed it was essential to correct all inaccuracies regarding every element of pronunciation (both segmentals and suprasegmentals).

Teachers were asked if they thought there is a relationship between teacher and learner personalities and the acquisition/learning of L2 pronunciation. Four of the teachers affirmed positive personalities of both learners and teachers, along with other factors such as: motivation, professional pronunciation skills, up-to-date appealing resources and techniques selected and employed, are attractive factors that aid developing the whole process of learning and improving the students' pronunciation performance.

Teachers were also invited to list the drawbacks of the pronunciation resources available for their learners; some shortcomings mentioned were: the lack of authentic materials allowing no opportunities for experiencing English in real-life situations, insufficient practice activities, traditional outdated courses that deem the learners recipients rather than participants in the learning process, in addition to the dull non-interactive materials that are not designed to engage the learners or create a fun learning environment. This is in line with the recommendations by Brown (2001) who proposes the use of attractive study materials and strategies that meet the learners' needs and expectations. This recommendation, by both students and teachers, is a call for ensuring the learners are thoroughly educated about the teachers' and/or educational institutions' expectations from them in terms of practice and learning outcomes. Students of the present study also asserted that teachers need to exhibit an enthusiastic disposition towards their students, classroom environment and the whole process of teaching.

Regarding the challenges teachers reported they face while teaching English pronunciation, three teachers mentioned mother tongue interference as learners tended to stick to the use of their L1 as well as L1 accented English in class, which would hold them back from learning "the correct pronunciation" of English. L1 interference is also believed to further complicate the teaching/learning process by requiring more time and efforts of the teachers towards teaching the basics of English pronunciation to their learners regardless of their proficiency levels. Teachers also mentioned students' lack of learning readiness and aptitude as obstacles they encountered in the study EFL context. According to Fareh (2010: 3602), such views/complaints/claims by teachers are invalid if teachers' active role to create motivating learning environments for their learners is marginalised or overlooked. Teachers cannot expect their students to be sufficiently

motivated when teachers themselves are not involved in the process of creating a positive stimulating classroom environment for their students, or as phrased by Race (1998), “creating a thirst for learning”. This could be achieved through the application of some techniques proposed in the ELT Model by Race (1998) such as: raising students’ awareness of the overall learning outcomes as well as the learning outcomes of the particular items chosen to be covered, ensuring purposeful teaching and assessment, making use of diverse course materials, inviting the learners to take part in the planning process and taking feedback and expectations of students into consideration when setting curricula, planning sessions and making modifications to the existing learning resources, activities and teaching approaches (Race 1998: 47-57). Even when it comes to learners with poor ethics and/or learning performances, teachers can seek collaboration with the parents of the learners, relevant educational institutions and ministries of education in a series of strategic attempts to improve the levels of learner motivation (Brown 2001). Similar to the recommendation by Race (1998), Brown (2001) emphasises the role of the learner as a decision maker in the learning process rather than a receiver of decisions passed by their programme/curricula designers, educators, institutions and/or teachers. Fareh (2010: 3603) notes that instances, where students express their thoughts and concerns, or even complain in an effort to make changes pertaining to their educational situations, do exist and are not unusual in the ELT context of the Arab region. However, they are overlooked and taken lightly by their teachers and/or educational institutions.

Another obstacle expressed by the teachers was the educational system that drives students to focus mainly (sometimes solely) on memorisation skills rather than critical thinking, innovation or problem solving skills. Learners’ tendency to prioritise scores over actual learning could be envisioned in such an EFL context as a logical consequence of a system where course requirements and student assessment rely on examinations that test the learners on their knowledge of the language rules and solid items they have memorised for the exam rather than their capacity to creatively contextualise them in real life situations for communicative or pragmatic purposes. In the Egyptian EFL context, assessment methods adopted can be summed up in the end-of-term/year examinations that focus on increasing the level of students’ familiarity with the exam format and training them on the skills and types of questions included, which can occur in relatively-short training sessions, instead of focusing on testing the students’ actual knowledge and ability to practically leverage the skills acquired or the language items taught/learnt over a

semester/year/educational period. Let alone the fact that exams are not designed to assess students' speaking or listening competence in the first place. Issues with the current assessment methods suggest the need to shift the focus from grades to actual learning, and according to Fareh (2010: 3603), they "may explain the poor quality of the students' oral and aural skills" as common practices in schools of the Arab regions up to the end of the secondary stage.

4.2.2. Concluding Remarks and Implications: Questionnaire Responses

The questionnaire results provide insights to learner and teacher perceptions of English pronunciation, as well as the challenges and opportunities within the current Egyptian EFL system, through which a range of implications for pronunciation instruction in the Egyptian EFL context could be drawn. These implications extend across pedagogical strategies, teacher professional development, curriculum design and assessment practices. While several findings touch upon the nature of learner difficulties (**RQ1**) and the features both learners and their teachers believe should be prioritised in instruction (**RQ2**), the central focus of these implications is to inform and enhance pronunciation pedagogy, addressing the third research question concerning the teaching implications and recommendations for materials, methods, and curriculum design in Egyptian EFL contexts. The key findings and implications can be summarised as follows:

Emphasising the centrality of English

The majority of student respondents perceived English as a skill essential to their personal and professional futures (75.7% rated it "very important"; 18.9% "important"). Teachers expressed the same view, highlighting the role of English as the key to global mobility, academic success and employability. This perception stresses the need to align English language instruction with these real-world communicative demands. Accordingly, the educational system should aim to enhance learners' English competence, not only in written accuracy, but also in the often-overlooked area of listening and speaking skills.

Pronunciation skills as the most challenging aspect

The prioritisation of listening (44.6% by learners and 40% by teachers) and speaking (43.2% by learners and 60% by teachers) as the most problematic skills highlights a clear discrepancy between learners' needs and the literacy-based focus of existing curricula and suggests the need for a pedagogical shift from writing-centric instruction to a more balanced approach that integrates training in listening and speaking.

Underdeveloped pronunciation instruction and the need for suprasegmental focus

A significant 31.1% of students, and one teacher, reported receiving no pronunciation training at all. While 50% of students indicated exposure to the pronunciation of individual sounds, far fewer were taught word/sentence stress (25.7%) or rhythm and intonation (20.3%). Consistently, 60% of teachers reported they prioritised individual sounds, and only 40% stated they addressed word/sentence stress and features of connected speech. Rhythm and intonation received 20% each. The aspects of pronunciation perceived as most problematic by learners corresponded to these under-taught suprasegmental features: features of connected speech (47.3%), rhythm (37.8%), and intonation (28.4%). In contrast, segmental features like individual sounds (13.5%) and stress (20.3%) were rated less problematic. This reflects the imbalance in instructional focus as well as the discrepancy between complexities learners encounter in real communication and the narrow instructional focus maintained in classrooms. According to Derwing et al. (1998), suprasegmental instruction is not merely a supplement, but a prerequisite for oral fluency and comprehensibility, which is valued in contexts like Egypt where many EFL learners are preparing for international interactions.

Moreover, while responses emphasise students require greater support in suprasegmental pronunciation, the data also show that teachers perceive both segmentals and suprasegmentals as equally challenging (each category receiving two teacher votes). This suggests that instruction should not favour one over the other, but rather incorporate both into the curriculum to accommodate varied learner difficulties and promote more balanced oral proficiency development.

Accent preferences and their pedagogical significance

Student preferences were divided between American (37.8%) and British (31.1%) accents while 23% expressed equal admiration for both and 8.1% indicated no specific preference. These preferences were specifically based on aesthetic, pedagogical or pragmatic considerations. Teacher responses, similarly, were divided between British accent (two votes; referring to its clarity and suitability for academic settings), as well as other responses (one vote for each): a neutral accent (especially in the context of global communication), an equal preference for American and British accents (as the most familiar varieties used interchangeably in Egyptian EFL curricula and widely employed in interactions among non-native speakers) and no specific preference (with a sense of appreciation to the diversity of English accents).

From a curricular point of view, these preferences indicate the importance of exposing learners to a variety of English accents. While 50% of students favoured adopting the American accent in curricula, and 39.2% opted for British, it is evident that accent instruction should ensure access to both varieties. The call for a "neutral" or "globally intelligible" accent by some students and teachers reflects the growing awareness of English as a global lingua franca, which implies, aligning with current ELF pedagogies, that pronunciation instruction should prioritise intelligibility rather than the mastery of native norms. Teachers should be encouraged to incorporate diverse listening resources (e.g. audio and video content from a range of English accents and varieties) via authentic communication scenarios into their teaching materials to prepare students for real-world communication. Exposure to different accents enhances students' listening skills, and raises their awareness of English as a global lingua franca (Wandel 2003).

National identity and the Egyptian pronunciation of English

Learner and teacher attitudes towards the Egyptian pronunciation of English were diverse. While many students saw it as "tolerable" or "passable," others deemed it "not good enough" or even "funny". Interestingly, some students and teachers viewed it as an ELF variant, worthy of recognition as a marker of Egyptian identity in global communication. This aligns with Jenkins' (2009) findings that L2 users often struggle with accommodating local pronunciation realities within the framework of native-like standards. Such results also suggest the need to consider an identity-informed pronunciation pedagogy that ensures intelligibility and self-expression can co-exist, and that a sense of ownership of English should not be determined solely by rigid native-centric standards. Instead, pronunciation instruction might aim to enhance clarity and fluency while, simultaneously, embracing intelligible accents as valid and legitimate within the spectrum of global Englishes.

Learner awareness and motivation for pronunciation improvement

While some students rated their pronunciation positively (using descriptors such as "decent", "good" or "very good"), many indicated a need for improvement in terms of fluency and accuracy. The students' self-awareness regarding their pronunciation competence, along with their desire to improve, suggests a strong motivational foundation that educators could draw on to design more focused pronunciation instruction. Similarly, the fact that two teachers rated their own accents as nine out of ten, while others expressed the need for further training, suggests a degree of openness to continuous professional development that may support broader pedagogical reform.

Rethinking pronunciation instruction goals (focus on intelligibility over native-like production)

The responses showed that mutual intelligibility was prioritised over a native-like accent by the majority of students, which suggests a need to re-assess the goals of pronunciation instruction. As 51.4% of students emphasised intelligibility as the key to successful communication, it becomes clear that pronunciation instruction should be designed with a focus on enabling students to develop clear and comprehensible speech that ensures successful communication in a variety of contexts, rather than aiming for perfection in native accents.

Teacher-centred versus student-centred approaches and the need for interactive, communicative methods

The dissatisfaction expressed by 95.9% of students regarding current pronunciation instruction highlights the limitations of traditional teacher-centred methodologies. The results suggest a shift toward learner-centred approaches where learners are actively engaged in the learning process through activities such as role plays, games and other relevant communicative tasks. This aligns with the principles of communicative language teaching (which focuses on fluency and meaningful communication as key goals in language instruction; Richards 2003). Teachers should be encouraged to adopt a more dynamic teaching approach that integrates pronunciation practice with other language skills and creates a more interactive classroom environment.

The role of teacher professional development

The responses also highlighted the role of teacher proficiency and enthusiasm in improving students' pronunciation outcomes. The fact that teacher proficiency was identified as a barrier by students, and that the need for professional development was emphasised by the teachers themselves, suggests the importance of providing training programmes for EFL teachers in the Egyptian context. Teachers must be equipped with advanced pronunciation knowledge and effective pedagogical strategies for pronunciation teaching. This could involve specialised training in phonetic theory, pronunciation acquisition theory, pronunciation teaching techniques and the integration of pronunciation as a core element of the learners' communicative competence. Moreover, teachers need to be encouraged to model enthusiasm and engagement in their teaching as this will positively influence student motivation and learning outcomes and help challenge the tendency among learners and teachers to view pronunciation as a secondary aspect of language

learning. Addressing student motivation, teachers should create a motivating learning environment by using interactive listening and speaking materials, providing meaningful feedback and encouraging active student participation.

The importance of integrating pronunciation with the other language skills

Another key implication is the need for integrating pronunciation instruction with other language skills (reading, writing, speaking and listening). This approach is supported by the teachers participating in the study who agreed that pronunciation should not be addressed independently of other aspects of language learning, but rather as part of an integrated language learning process. This highlights the notion that focusing on pronunciation in isolation, as part of a fragmented approach, limits learners' ability to effectively apply their knowledge in communicative contexts. Therefore, for more effective development of language skills, EFL programmes should also aim to incorporate pronunciation practice into activities that involve authentic communication (e.g. discussions, debates and presentations).

Feedback practices (immediate versus delayed corrective feedback)

The preference for immediate corrective feedback reported by both students and teachers highlights the importance of providing corrections during pronunciation activities. However, some teacher responses indicated their preference for delayed feedback to avoid disrupting communication flow. This finding suggests that there is a need for a balanced approach to error correction where teachers can decide whether immediate feedback or delayed feedback is more appropriate based on the context and the specific goals of the activity. Teachers should be trained in the strategic use of corrective feedback to support pronunciation development while maintaining communication flow as well as learner confidence.

Addressing L1 interference challenges

L1 interference was identified by both learners and teachers as a significant challenge in pronunciation instruction. Given that this interference is among the main factors affecting students' ability to pronounce English accurately, it suggests the need for targeted interventions aimed at reducing these effects. Contrastive analysis could be employed to help students identify and overcome common errors related to the influence of their mother tongue.

Reforming assessment practices and moving beyond exam-focused education

Responses highlight the limitations of the current assessment systems that emphasise memorisation and exam performance rather than practical language use that would help improve

learners' pronunciation skills and their ability to use English in real-life communication. The notion that students' listening and speaking skills are not adequately tested in examinations suggests the need for a shift in assessment practices toward more performance-based assessments. This would require a change in both curriculum design and evaluation methods accompanied by a greater emphasis on task-based learning and authentic assessment techniques that evaluate communicative competence.

Curriculum design and the need for contextualisation

The findings from both students and teachers highlight the need for a more contextualised approach to pronunciation instruction in Egypt. The curriculum should be designed to reflect the local realities of the students, taking into account their specific pronunciation challenges and their communication needs in the real world. This could include the use of native and international accents, real-life scenarios and interactive tasks aiming to prepare students for using English in a variety of global and local contexts.

In general, the findings reflect the central role of English in learners' academic and professional lives and highlight the critical need for a more context-sensitive approach to pronunciation instruction in Egyptian EFL contexts. The consistent emphasis on pronunciation challenges, particularly in suprasegmental features, calls for a shift away from the literacy-focused curricula and toward a more integrative, communicative framework that prioritises intelligibility and communicative competence. Moreover, the diverse accent preferences and identity-related concerns highlight the importance of adopting pronunciation models that prioritise global intelligibility rather than strict adherence to specific varieties of English. To address the captured concerns, a redefined pedagogy is required; one that equips teachers with both the expertise and the tools to implement interactive, feedback-based instruction, incorporates authentic materials, and aligns assessment practices with real-world communication demands. Through such systemic reform, pronunciation instruction can become effective for EFL learners in Egypt and similar contexts.

4.3. Interview Recordings (Egyptians and Hungarians in ELF communication: Egyptians' pronunciation difficulties affecting speech comprehensibility)

4.3.1. Evaluations of Egyptian speakers by the Hungarian raters

Speaker 1

Speaker 1 is a thirty-five-year-old Egyptian female participant who has resided in Hungary for three and a half years for study purposes after receiving her school, undergraduate and part of her post-graduate education in Egypt. Her linguistic background involved three foreign languages with different proficiency levels: English (advanced), French (beginner) and Italian (lower-intermediate). She chose to explore the aspects she found remarkable about Hungary.

Inconsistently, the first speaker was rated "beginner" to "advanced" by the different raters (two rated her as a "beginner", five as "intermediate", ten as "upper-intermediate" and ten as "advanced"), and was reported as a confident speaker of English who left a "kind" impression on the listeners. Her speech was described as relatively slow-paced (involving frequent misplaced pauses, repetitions and speech fillers, probably signaling self-repair and/or preparation time), thus, not very fluent according to many raters, yet mostly/fully intelligible/understandable with a very slight to almost non-existent foreign accent. A rater commented: "If I had heard her speech separately and had not known she was Egyptian, I would not have been able to guess her origin." However, to a few raters, she sounded "a bit of a mix"; in some cases, a British accent was heard, in others American, and, in a few words, an Indian accent appeared. According to some raters, when she spoke slowly, she would be heard as rather native-like, as opposed to when she speeded up, her accent could be noticed. The pronunciation of only few individual elements was described as "not very native-like". For instance, she was noticed to stress some vowels such as /e/, and the last syllables of the words (as phrased by a rater, "she had to hit every single word"), to diphthongise short monophthongs such as /ɪ/ (e.g. making a word like *official* sound like *of facial* according to one of the raters), and to use "strong" *r'*s. Generally, no serious problematic elements were reported; vocabulary, grammar, articulation, tone, intonation, rhythm were all properly performed and balanced. The speaker was mostly "pleasant" to listen to. Nevertheless, a rater

suggested, in ELF communication, it would be more appropriate to find synonyms for the more advanced or "educated" vocabulary options (e.g. the word *monotonous*).

Speaker 2

Speaker 2 is a thirty-eight-year-old Egyptian male participant who has resided in Hungary for ten years for work purposes after receiving his whole-life education in Egypt. His linguistic background involved three foreign languages with different proficiency levels: English (advanced), Spanish (beginner) and basic Hungarian. He chose to explore the positive and negative influence technology has on today's communication and relationships.

The second speaker was rated "upper-intermediate" to "advanced" by the different raters (eight rated him as "upper-intermediate" and nineteen as "advanced"). He was described as a "fluent", a "confident" and an "expert user of the language" who spoke clear and fully understandable "academic" English with an "on-point" accent and "great speaking skills". Although his speech was relatively fast-paced, based on the opinions of most raters, he spoke fluently with a barely noticeable accent at times, the element that made it easy for raters to follow him and even get engaged in the topic of his speech. According to the raters, he intonated very native-like on most occasions, and used fewer pauses and more proper stress compared to other speakers. Elements like vocabulary and grammar were "amazingly" mastered. The speaker received many compliments for his tone, intonation, generally well-paced rhythm, and pronunciation of individual sounds. However, according to some raters, he had "pronunciation inconsistencies", for which he was thought he could "articulate a bit better": many vowels were quite "closed-sounding", back vowels such as: /a:/, /ɒ/ and /ʊ/ are "very harshly present" while unneeded, his /t/s (in words such as *against*, *better* and *wouldn't*) and also his /k/s were more emphatic and "less aspirated" than the native versions of the sounds. Some raters also reported issues with the way words were stressed, describing his pronunciation as "a bit rough".

Speaker 3

Speaker 3 is a thirty-two-year-old Egyptian male participant who has resided in Hungary for three years for work purposes after completing his school and undergraduate education in Egypt and his master's degree in Hungary. His linguistic background involved three foreign languages with different proficiency levels: English (advanced), German (intermediate) and

basic Hungarian. He chose to elaborate on the aspects he found remarkable about Hungary as a resident as well as the importance of first impressions.

The third speaker was rated "beginner" to "intermediate" by the different raters (five rated him as a "beginner", ten as "lower-intermediate" and twelve as "intermediate"), described as mostly understandable/intelligible due to the slow speech pace, but "lacking-confidence" (due to the evident repetitions and hesitations), with a wide range of vocabulary and a noticeable monotonous ("no shift in the tone throughout the entire speaking time") accent represented in his non-native-like "flat" intonation and mispronunciation of some individual sounds. According to some raters, his vowels sounded rather Arabic or Egyptian than English, and he tended to pronounce consonants more emphatically. Lengths of word syllables (in words such as *Hungary* and *felt* that were misheard at several listening attempts) were sometimes different from those of both standard Englishes and Hungarian English the raters were more used to hearing. His accent was described by raters as "slightly Indian" due to the speaker's trilled [r]s and clear [l]s (e.g. humble). Raters also reported issues with other elements of the language (word order and grammar), stress (especially word final syllables), fluency and ("unusual") rhythm of the speaker's speech, due to which the speaker was hard to follow, and his "slurred" speech was more challenging to understand, especially at the beginning, until the listeners managed to familiarise themselves with the accent and pay more attention due to the speaker's proficiency and pronunciation levels. Listeners were then able to concentrate on the content (where, according to a rater, "he spoke nicely about being a human"). However, listeners agreed his fluency was acceptable compared to his level of English, but there was still great room for improvement.

Speaker 4

Speaker 4 is a sixteen-year-old Egyptian male participant who has resided in Hungary for four years for study purposes after starting his school in Egypt. His linguistic background involved three foreign languages with different proficiency levels: English (B2), French (B1) and elementary Hungarian (A1). He chose to elaborate on the advantages and disadvantages of living in a large city.

The fourth speaker was rated "beginner" to "intermediate" by the different raters (six rated him as a "beginner", eleven as "lower-intermediate" and ten as "intermediate"), described

as “not fully understandable” due to his poorly articulated speech with some exceptions despite being “fluent” with a good command of English. His “robotic” speech exhibited some mispronunciations that led to higher degrees of unintelligibility, and required more concentration on the listeners’ part to make sense of the speech, and more time and effort to adjust to the way he spoke. Although his speech was “too fast-paced”, he sounded more like “listing words after words” or “reading a script” than speaking (and felt like “he was eating while talking” according to a rater), therefore his speech was “less natural”. He was also reported as “heavy on accent” with non-native-like intonation by some raters. Raters reported other issues pertaining to vowel stress, syllable lengths, rhythm, which made the speaker’s speech significantly harder to understand or follow. In addition, raters thought some work on articulation (described as “quite harsh” and “unclear”) was needed. Some raters thought the significant unclarity of speech (or as phrased by one of them “biting word endings”) could be attributed to factors such as shyness or unease, which is understandable in case it was the speaker’s first time performing such a task.

Speaker 5

Speaker 5 is a forty-year-old Egyptian female participant who has resided in Hungary for four years for work purposes after completing her school and higher education in Egypt. Her linguistic background involved two foreign languages with different proficiency levels: French (C2) and English (B2). She chose to elaborate on the aspects she found remarkable about living in Budapest.

The fifth speaker was rated “beginner” to “intermediate” by the different raters (four rated her as a “beginner”, eight as “lower-intermediate” and fifteen as “intermediate”). She was described as the speaker with the “fully-intelligible”, “well-understandable” and “clear” speech, simpler grammar, the slight “non-disturbing” accent (that did not hinder her ability to express her thoughts/feelings, put together what she wanted to say or be understood) and the “fluid-like” consistency. She spoke comfortably and her slow-pace and tone-balanced speech exhibited good conversation skills. Overall, she was fluent, very easy to understand and pleasant to listen to according to the raters. Interestingly, through her “rounded” and “soft” sounds, as well as the uvular *r* [ʁ] (in words like *crazy*), her French language background was detected by a few raters. Based on the way she altered /ð/ to [z] in words like *the* or *with*, it was evident that she was a

native speaker of Arabic and/or French. A rater thought her accent resembled the typical African accent of English in its (very) "emphatic" sounds. Apart from the improper stress placed on vowels (e.g. /e/), and the generally syllable-timed speech, no other mispronunciations were reported. She was only thought to need more efforts towards native-like intonation; one of the raters commented:

> The fifth speaker was fluent and there was nothing I could not understand easily in her speech. The only thing that I could point out that didn't quite sound native was that the intonation went up at the end of some of her sentences.

Speaker 6

Speaker 6 is a thirty-two-year-old Egyptian male participant who has resided in Hungary for five months for study purposes after completing his basic education in Saudi Arabia, higher education in Egypt and part of his postgraduate studies in other parts of Europe. His linguistic background involved two foreign languages with different proficiency levels: English (C1) and Russian (A2). He chose to elaborate on the aspects he found remarkable about life in Hungary.

Inconsistently, the sixth speaker was rated "beginner" to "upper-intermediate" by the raters (five rated him as a "beginner", nine as "intermediate" and thirteen as "upper-intermediate"). It was not an easy task to determine the speaker's level based on the audio recording, however, the speaker was described as "generally understandable" thanks to his good grammar, wide vocabulary range, as well as his slow-pace, soft-tone and short-sentence speech. One of the raters commented, "I cannot pinpoint any word, or expression that was harder to understand. He is the most intelligible of speakers by far". The speaker was even felt "like he has experience with native speakers", which is true according to the linguistic background information the speaker had provided during the interview. On the other hand, according to some other raters, he sounded like he was "gathering his thoughts" or "trying to find the words". Hesitation, self-repairs, frequent pauses, articulation issues and "flat" intonation made his speech hard to follow at times. The speaker exhibited features of "poor articulation" (e.g. "mumbling") as some words were difficult to hear out. To those listeners, his speech felt "too stressful" and "tiring to listen to" and sounded "less confident", "unnatural" and "not really put together" to the listeners' ears. He was also reported as lacking native-English rhythm, by many raters. Raters reported other issues pertaining to fluency (which was described as "problematic" by many listeners), stress on certain phonemes (e.g. non-native-like stress on the vowels /e/ and /a:/; and on the sibilant /s/). In addition, raters thought some speaking practice and focus on some aspects of

pronunciation (described as “harsh”), like rhythm, intonation and articulation of individual sounds were needed. However, aspects such as intonation and sentence stress were generally acceptable, and the “slight (rather Arabic) accent” the speaker had did not hinder understanding.

Speaker 7

Speaker 7 is a thirty-year-old Egyptian female participant who has resided in Hungary for four years for study purposes (postgraduate studies) after completing her basic and higher education in Egypt. Her linguistic background involved only one foreign language, English, with a B2 competence. She chose to tackle the topic of the importance of first impressions.

The seventh speaker was rated “elementary” to “upper-intermediate” (five rated her as “elementary”, ten as “lower-intermediate”, seven as “intermediate”, and five as “upper-intermediate”) with a generally “good” command of grammar and vocabulary. She was also reported as fully intelligible, fast and rhythmic, and sounded “confident”, “calm” and “prepared”, but “scripted” to the ears. Although her English skills were rated as “basic”, she was fluent and her slow-pace speech was completely understandable due to the adequate “breaks” between sentences. She spoke English with a noticeably “heavy”/“strong” non-native accent that was evident in the pronunciation of individual sounds, syllable stress and “flat” intonation that were seen as “problematic” most of the time. Stress, for instance, was mostly placed on final syllables. The speaker’s accent, according to raters, was “Arabic-like”, “African-like”, “Indian-like” or “French-like”, but, definitely, non-native-like. She had some issues pertaining to vowel length as well as the articulation of some individual sounds: vowels such as /a:/, /ɒ/, /e/ and /ɪ/ and consonants such as /p/ (replaced with its voiced counterpart /b/) and /dʒ/ (deaffricated to /ʒ/ in *judge*). More stress was given to the schwas in words such as: *opinion* and *remember*, changing the vowel into /ɒ/ and /ʌ/, respectively. Her pronunciation of *s*’s was also more emphatic. For those issues, listeners believed some work on the different problematic aspects was needed for higher degrees of speech intelligibility.

Speaker 8

Speaker 8 is a thirty-two-year-old Egyptian male participant who has resided in Hungary for two years for study purposes (postgraduate) after completing his both basic and higher education in Egypt. His linguistic background involved three foreign languages with different

proficiency levels: English (B2) French (A1) and Hungarian (A1). He chose to tackle the topic of the importance of first impressions.

The eighth speaker was rated "beginner" to "intermediate" (four rated him as "beginner", seven as "lower-intermediate" and sixteen as "intermediate"). He spoke fluent English with a slow pace, good word selection skills, adequate breaks (that appeared to be for self-repair purposes, mainly in the form of fillers) between words and in a way that was intelligible overall, but with a noticeably present accent (with French-like intonation and pronunciation). Furthermore, many raters reported they "had to go back to catch some words" due to the mispronunciations detected. His "unclear" phrasing was one of the main reasons why it took listeners effort to follow. Additionally, the rhythm of speech made "the sentences hard to distinguish from each other" at times, which further complicated the task of listening and paying attention to all the details in his speech. In terms of grammar, there were a couple of instances where the third person singular "-s" were reported missing, which is, in one of the raters' experience, a quite common mistake among Hungarian EFL learners. The speaker also had some issues pertaining to vowel quality and length (e.g. the diphthong /eɪ/ in *evaluate* was made shorter). Listeners believed some work on pronunciation (especially elements pertaining to individual sounds) was required. However, the speaker's stress, rhythm, tone and ability to shift between intonation levels were adequately acceptable.

Speaker 9

Speaker 9 is a forty-year-old Egyptian male participant who has resided in Hungary for seven years for study and work purposes after completing his basic and higher education in Egypt. His linguistic background involved only foreign language, English, with a B2 competence level. He chose to discuss the advantages and disadvantages of living in a large city.

The ninth speaker was rated "beginner" to "pre-intermediate" by the different raters (twelve rated him as "beginner" and fifteen as "pre-intermediate"), described as less understandable/intelligible, "probably the least proficient of speakers", "more monotone" compared to others, and the closest to the third speaker. According to a rater's comment, the speaker would be the default when thinking about a typical strong Egyptian accent. Despite the speaker's (too) slow-pace speech, that was also described as "natural" and "casual", listening to

him required more attention on the part of the listeners due to the noticeably "strong"/ "heavy" accent (that was thought to be compensated by the pace of speech, which was on the slower side),"monotonous" rhythm, fluency, intonation in addition to the multiple mispronunciations pertaining to individual sounds that made the speaker hard to understand and/or follow at times. The speaker's accent (sounded to one of the raters as Argentinian English) and issues with fluency, intonation and rhythm, according to listeners, did not affect comprehensibility of his speech. However, many raters reported they had to replay certain parts many times to "catch some phrases" like *job offers* and *traffic jam* that were challenging to understand upon first-time listening attempt due to the deaffrication of /dʒ/ (a feature that is common in a French-like accent of English according to some listeners) and change of vowel quality and length of the schwa (approximating /ʌ/). Although his command of vocabulary was generally "acceptable", according to raters, he was felt to struggle to find "the proper words" to express his thoughts and impressions. The speech (loaded with frequent hesitations, stops and "bothering gaps") required more concentration on the listeners' part to make sense of the speech, and more time and effort to adjust to his accent and rhythm. Moreover, raters thought some work on the articulation of consonants and vowels (described as "poor", "strange"/ "weird" and "unclear") was highly needed. The speech rhythm was described as "boring" and "flat", therefore, required some efforts on the speaker's part towards a more balanced rhythm.

4.3.2. Concluding Remarks

The variables investigated in this section are: the pronunciation features of Egyptian Arabic speakers' English speech and the Hungarian listeners' qualitative impressions on these features in terms of intelligibility (the listeners' descriptive judgments and comments regarding clarity, accent strength and ease of understanding, and the particular features informing these judgments). As previously mentioned, raters were asked to provide general remarks on various aspects of pronunciation and to identify common pronunciation features among the nine interviewees based on their listening to the speech samples. Regarding overall comprehensibility, all raters described the accents they heard as "mostly" or "generally" understandable/intelligible, regardless of the speaker's proficiency level. Interestingly, raters noted that, relative to speakers from other African and certain European countries, the Egyptian accents were surprisingly minimal. Several raters

even remarked that native Hungarian speakers often spoke “worse English,” particularly at lower proficiency levels.

Nevertheless, English proficiency appeared to explain why some speakers exhibited stronger accents than others. A review of the Hungarian raters’ qualitative impressions, along with the proficiency levels of the Egyptian speakers, reflects a generally positive relationship between proficiency and perceived intelligibility. Advanced and upper-intermediate speakers were frequently described by raters as “clear”, “easy to follow” or “mostly understandable”, with occasional mentions of specific pronunciation issues. More proficient speakers tended to produce intonation patterns that approximated native-like (predominantly American) English, making their accents less noticeable compared to those of speakers with lower proficiency levels. On the other hand, speakers identified as lower-intermediate or beginner often elicited comments highlighting difficulties (e.g. “needed to replay certain parts many times”, “many mispronunciations” or “hard to follow”.

However, while proficiency clearly influenced accent strength and certain phonological features, the generally high level of comprehensibility across speakers suggests that factors beyond proficiency also play an important role. In the data, there were exceptions to a straightforward positive correlation between proficiency and intelligibility of speech; some speakers at intermediate levels were described as “surprisingly” clear. This finding indicates that while proficiency level is a key factor in intelligibility, it interacts with other factors that sometimes outweighed overall proficiency in influencing listener perceptions. These factors included: individual pronunciation, speech rate, speaking strategies, the specific phonological features as well as listener expectations and familiarity with certain accent patterns.

Concerning the question of whether the Egyptian accent resembles any Englishes the raters were familiar with, interestingly, some thought the accent mainly sounded like the (stereotypical) Indian accent of English to some degree, a French accent of English, or a combination of both. One rater, for instance, commented: “the accent sounded like the French, also a bit Indian when the proficiency level is between beginner and intermediate”. To some other raters, the Egyptian accent resembled the stereotypical African accent, represented in what the raters labelled as “closed mouths”. Where, as phrased by the raters, there is a tendency "to bite the end of their words off”, English is not articulated as by native speakers. Surprisingly, some raters found that the Egyptian accent shares some features with Eastern European accents.

For the “strong” pronunciation of /s/, a rater even commented the Egyptian accent of English resembled the Hungarian accent. In addition, to another rater, the “very pronounced” /s/ in the speech of Egyptian speakers made it extremely similar to the Hungarian/Eastern European accents. However, as the level went higher, pronunciation and speech were generally good, and a foreign accent was “barely noticed”. Others commented the accent was unique that it did not sound like any accent(s) they had heard before. Following is the impression as phrased by one of the raters:

> “I do not know many Egyptian people in general, so it was quite new to hear many of them talking one after the other. To be honest, I expected their accent of English would be stronger, and more difficult to understand, but I found out they speak clearly, with a totally understandable accent.”

Other raters highlighted that most speakers shared many qualities, and the most evident similarity was the pronunciation of some vowels where the native language might be the most present. To this group of raters, it did not seem that the native-like pronunciation is in connection with the language level. Most speeches were thought to be delivered in the same tone, and the Egyptian accent was regarded as similar to English spoken by speakers from other Arab countries. On the other hand, some raters did not believe that general impressions/reactions/implications could be drawn here as those were thought to differ based on the varied levels of varied speakers. The Egyptian accent seemed to be influenced by the language(s) available to the speakers.

Intonation, misplacement of stress and/or the amount of stress the syllables received were regarded as different from most English accents the raters were familiar with (e.g. placing stress on initial syllables in words with final-syllable stresses). According to some raters, the stresses in some words made the speakers a bit harder to decode. Moreover, intonation sounded “mostly pleasant”, but sometimes “flat” or “level”. To many raters, the speech rhythm of native English speakers appeared to be more balanced than that of Egyptian speakers in the recordings. Some raters saw that most speakers tended to alternate between slower and then way faster pace of speech. A rater, for instance, commented: “the rhythm of speech seems to be ‘foreign’ to the English language, meaning that I suppose the rhythm is more like that of the Arabic language”. Another listener commented: “after listening to all the audio files, I found that most speakers sounded like Arabic was their first language.” For those listeners, it did not mean, in many cases, that the speakers do not possess sufficient knowledge/proficiency of the English language; it

occurs as a result of their mother tongue's dissimilar rhythm that is now innate in them influencing the performance of any foreign language(s) they learn/speak. Rhythm of speech was believed to be a layer that made accents harder to understand: "if the rhythm is improved, it would be far easier to know where a sentence begins and ends even in a fast-paced speech style, making it immensely easier to understand in an everyday conversational scenario."

Pace was felt to be generally slow with frequent pauses and speech fillers such as *um* to fill the gaps. The slow pace was believed, by some raters, to be the reason behind the Arabic accent being among the most understandable accents. Inconsistently, other raters believed the pace was a faster one (compared to standard Englishes and typical to Indian English), invoking laughter to the scene of ELF communication. Based on their impressions, the Egyptian accent can also have the potential of interfering with conveying information (if spoken too fast).

The speakers' pauses, however, sounded very natural and unproblematic most of the time as speakers needed time to think, bearing in mind that "everyone must think about what to say about a topic". Pausing was regarded as meaningful; it was not an obstacle to determining when speakers finished a sentence, when they listed point, when they provided examples, etc., and speeches sounded "mostly fluent". On the other hand, when improper pauses were detected, it raised issues pertaining to fluency that was commented on by the raters with "needs improvement" or "not the best".

In many cases, raters who reported their familiarity with some Arabic variety (mainly because they had native-Arabic-speaking friends) were able to point out the characteristics of the English spoken by Arabs, especially in relation to the pronunciation of individual sounds. For example, raters, in their analyses, highlighted what they labelled as "serious/strong/heavy mispronunciations" in relation to: (1) vowels like /a:/ (e.g. pronouncing *are* as *or*), /ɪ/ (when replaced with the diphthong /ɔɪ/), and /e/ in general, (2) the deaffrication of /dʒ/ in the words *job*, *judge*, *manager* and *judgment* as well as the alveolarisation of /θ/ altered to [s] (two features that made some raters compare the Egyptian accent to the French accent), (3) [b] and [p] overlaps in some occurrences by different speakers (a feature that is believed by listeners who are familiar with the Arabic language and/or its native speakers to be quite common and probably peculiar to native speakers of the Arabic language), making it hard to make sense of the words as they were listening. In addition, (4) the frequent appearance of [z] replacing /ð/, the replacement that does not exist in any variety of native English, made the listeners compare the Egyptian accent of

English to that of the French. To Hungarian raters, Egyptian speakers seemed to use a harder [r], in their speech, than native speakers of English, which was thought to be similar to the Hungarian accent in this respect. Despite the serious deviations from any standard Englishes the raters might be familiar with, the accent was a "no bother" to them as they continued listening. Raters eventually had no issues understanding the speech once they got used to how certain sounds are (mis)pronounced in the Egyptian accent of English. Mispronunciations may have complicated understanding, and were "distracting" at times, but did not hinder intelligibility, especially that speakers were noticed to correct themselves to different degrees upon realising they had made mistakes as they were speaking. Self-correction is a procedure/technique implemented in ESL, and it exhibits a great deal of awareness of the language rules that speakers may, at times, fail to apply in practice.

Variation in listener judgements

The variation in Hungarian raters' evaluations of individual Egyptian speakers is an expected finding in research on intelligibility assessment, particularly in ELF contexts and when using open-ended, qualitative feedback. It reflects the subjective nature of comprehensibility judgments in ELF contexts and the importance of considering both listener and speaker variables when interpreting results. Although raters were not instructed to compare speakers, some spontaneously made comparative references in their feedback. For example, one rater described a particular speaker as the default when thinking about a typical strong Egyptian accent, highlighting how certain speakers may be perceived as more representative of a given accent type. On the other hand, other raters' comments on the same speaker varied, with some noting clarity and others pointing out difficulties with speed or specific pronunciation features. Some speakers might have been described as "easy to understand" by one rater but "challenging" by another.

Such variation can be attributed to multiple factors. First, listener-related variables can include: expectations in ELF communication, tolerance for accent variation, individual experience and familiarity with (Egyptian) accented English, and sensitivity to phonological features (e.g. segmental substitutions, stress, intonation patterns, etc.). Differences in prior exposure to diverse English accents can influence how problematic certain features appear whereas listeners more accustomed to varied accents often find them less challenging. Additionally, momentary listener factors, such as attention, fatigue, and motivation, can play a significant role. For instance,

temporary loss of concentration may cause listeners to miss key words or misinterpret pronunciation, leading to inconsistent or less reliable judgments. Listener fatigue, whether mental or physical, can reduce the capacity for speech processing, potentially increasing sensitivity to pronunciation errors and/or a general decline in patience and tolerance for ambiguity. Similarly, a listener's mood or motivation at the time of the task can also impact their perceptions. A listener who is motivated to complete the task and interested in the topic may be more engaged and less critical of pronunciation deviations. Speaker-related factors also contribute to variability. Differences in accent strength, articulation clarity, fluency, and use of effective communication repair strategies (such as repetition or rephrasing) to aid understanding can affect how intelligible a speaker is perceived. Furthermore, contextual variables can further influence listener judgments. Topic familiarity, speech content complexity and recording quality can affect intelligibility ratings; speakers discussing familiar topics or using simpler vocabulary tend to be rated as more intelligible regardless of accent. Technical factors such as audio clarity, background noise, and recording equipment quality also impact listeners' ability to accurately perceive and evaluate speech. Finally, order effects and listener adaptation can influence perceptions. The sequence in which recordings are presented may cause a moderately accented speaker to seem easier or harder to understand, or a particular recording to appear more/less intelligible, by comparison to preceding speakers/samples.

4.3.3. Interview Findings on Pronunciation Challenges and their Pedagogical Relevance

The interview task aimed to capture which segmental and suprasegmental aspects of Egyptian EFL pronunciation most frequently lead to communication challenges or breakdowns in ELF interactions with Hungarian speakers. This directly complements **Research Question 1** by providing examples of pronunciation difficulties as experienced in actual communication as well as feedback on those difficulties within ELF communication.

Raters' feedback and reported reactions reflect which features of pronunciation are perceived as most important for intelligibility and communicative success in international contexts. This insight supports **Research Question 2** by highlighting which phonological aspects should be prioritised in teaching based on their real-world impact. Although they do not directly address **Research Question 3**, interview task findings can give insights to reaching pedagogical recommendations and material design strategies as outcome variables informed by the analysis of

pronunciation challenges and the features crucial in ELF communication. The detailed observations about the Egyptian participants' English pronunciation and comprehensibility offer some key pedagogical implications for language instruction. These implications could be beneficial for educators working with Egyptian EFL learners as well as learners from similar linguistic backgrounds:

The need to focus on both problematic segmental and suprasegmental elements

Since vowel and consonant mispronunciations and deviations were commonly observed, there is a need for focused pronunciation materials targeting these problematic sounds. Explicit instruction in English stress patterns is also needed. Teaching stress rules for common words and practicing stress patterns in sentences would help learners improve their intelligibility. To address issues pertaining to intonation and help EFL learners avoid flat or monotonous intonation, lessons should include exercises on varying intonation patterns, with a particular focus on pitch and tone shifts, which is absent from most Egyptian EFL curricula.

Promoting self-correction and fluency development

The presence of self-correction instances in the speakers' speech suggests that learners are generally aware of their mistakes. Teachers could encourage more self-correction by having students record and listen to their speech to identify errors. Peer feedback sessions could also be beneficial in encouraging learners to correct themselves and others in a collaborative setting and enhancing their fluency and communicative confidence.

Fluency-focused activities

The use of pauses in speech, although sometimes seen as natural, indicates the speakers' over-reliance on them. Fluency-building activities like timed speaking tasks, role-playing or storytelling could be introduced to reduce reliance on pauses and encourage a more natural flow of speech. While a slow pace of speech is often helpful for clarity, raters indicated that some learners might be too slow or hesitant, which impacts the fluency of their communication. In contrast, others spoke too quickly, and their fast speech hindered comprehension. To address this, teachers should encourage learners to find a balance between speed and clarity. Techniques such as pausing after key phrases and using pacing tools could help control speech pace while maintaining understandability and fluency. Moreover, as speech by some speakers was reported as hard to follow, interactive speaking tasks (e.g. debates and discussions) would also encourage learners to use the language in dynamic settings.

Enhancing rhythm and pace awareness

Many raters noted that English rhythm by the Egyptian interviewees did not align with native English speech norms. The Egyptian English seemed to be largely influenced by the rhythm of Arabic. Therefore, teachers should incorporate activities that emphasise the natural rhythm of English, such as using songs, poetry recitation or rhythmic reading to help students internalise the nature of English rhythm, and reduce the impact of their L1 rhythm on their English speech.

Targeted listening and speaking practice

Given that the Hungarian raters noted the accents by the Egyptian interviewees as quite distinctive, exposing Egyptian EFL speakers to a variety of English accents in listening activities would prepare them to recognise and adapt to different pronunciation features, and help them feel more confident in understanding speakers from diverse linguistic backgrounds. The reported similarity of Egyptian speakers' accents to other Englishes (e.g. French, Indian, African, etc.) also provides an opportunity for teachers to raise learners' awareness of accent differences and the impact of their native language on their English pronunciation. In addition, activities that allow students to identify and compare their accents with those of native and non-native speakers (via recordings or peer interaction) could promote awareness and help learners actively work on reducing communication barriers caused by unfamiliar accent features.

Creating a motivational environment and positive attitudes toward accents

While certain accents and mispronunciations may present challenges in comprehensibility, it is crucial to create a positive environment where learners feel confident using their unique accents and linguistic competences without fear of judgment or errors. Teachers should emphasise that accent is not an indicator of incompetence, and that effective communication in real-life situations is the main goal of language learning. Providing positive feedback for successful communication would help reduce anxiety about making mistakes and build greater confidence level in learners.

4.4. Results in Light of the Lingua Franca Core Model

To provide a concise and comparative overview of the phonological features discussed in this section, **Table 11** below summarises the expected realisations of these features in EFL, the observed realisations by Egyptian Arabic speakers in the present study and the phonological features worthy of attention for mutual intelligibility according to the LFC framework:

Phonological Feature	Expected in EFL (target)	Realised by Egyptian Arabic speakers	Recommended in LFC
Dental fricatives /θ/ and /ð/	Accurate production, distinction from any other native and non-native alternatives (e.g. [f] and [v]; [t̪] and [d̪]; [t] and [d]; [s] and [z], etc.)	Frequently substituted with [s] and [z]	Not prioritised; substitutions acceptable (do not impede intelligibility)
Aspiration of voiceless plosives (/p/, /t/, /k/)	Perception and production of clear aspiration, contrast with voiced counterparts /b/, /d/, /g/.	Aspiration contrast inconsistent (often lacked aspiration; plosive voiceless but unaspirated)	Prioritised; critical for intelligibility
Realisation of /l/	Clear [l] when pre-vocalic; dark [ɫ] in codas/when syllabic	Consistently palatalised in all positions	Not prioritised; variation distinction has no impact on intelligibity
Realisation of /r/	Post-alveolar approximant (ɹ) in GA/RP, retroflex approximant in GA and some other common varieties	Realised as a trill [r]	Prioritised; GA retroflex approximant [ɻ] favoured in ELF contexts; other variants that hinder intelligibility (e.g. uvular, flap, trilled, vocalised) discouraged
Consonant clusters	Maintained without vowel insertion, or vowel deletion (unless in word-medial and -final positions or across word boundaries)	Vowel insertion (epenthesis/prothesis) used	Prioritised; deletion of segments in initial clusters discouraged; vowel insertion acceptable
Vowel length and quality	Maintain contrasts in vowel length and quality	Vowel replacements (e.g. changes in vowel height, rounding, and/or backness);	Length distinctions, stress on the markedness and complexity of English

Phonological Feature	Expected in EFL (target)	Realised by Egyptian Arabic speakers	Recommended in LFC
		diphthongs often replaced by long monophthongs; length contrasts reduced	vowel system, focus on diphthong production (especially with ELF speakers whose native languages allow no or a limited range of diphthongs) prioritised for intelligibility; vowel quality unprioritised
Stress and pausing	Appropriate placement of stress; clear division into meaningful tone units	Misplacement of stress; poor pausing (more pausing or pausing at the wrong tone units)	Prioritised; proper placement of nuclear stress and sufficient meaningful pausing are critical for listener processing and comprehension
Intonation & rhythm	Native-like pitch contours and timing (the use of pitch accent types to mark prominence; question intonation patterns; varied pragmatic functions)	Deviations from native norms (e.g. pitch accent overuse, monotonic intonation, misuse of emphatic tone)	Deviations acceptable in ELF contexts; do not significantly affect intelligibility

Table 11: Comparison of Phonological Features: EFL expectations, ECA English realisations and LFC recommendations.

As mentioned earlier, the Lingua Franca Core Model, selected as a reference to aid drawing pedagogical decisions pertaining to the elements that need to be prioritised while teaching EFL in the Egyptian context, focuses on four fundamental elements when teaching ELF pronunciation to eliminate chances of error and enhance the levels of mutual intelligibility among speakers: proper pronunciation of individual sounds (phoneme distinction and vowel length), consonant clustering system and nuclear stress placement. Based on the data analysis, it could be concluded that mispronunciations pertaining to segmental aspects of English pronunciation are more evident than the suprasegmental ones in the Egyptian EFL learners' production of English. Suprasegmentals such as intonation and rhythm are not found to inhibit comprehensibility of speech. Therefore,

more attention needs to be given to sound distinction and stress. As Egyptian EFL learners tend to unconsciously employ substitution as a technique to replace a target sound with another familiar one existing in the inventory of their mother language, educators in the Egyptian EFL context need to place considerable emphasis on phoneme differentiation (replaced and replacing sounds). Substitution is believed to be a typical strategy in ELF learning (where no differences between the target phonemes and those approximating them in their L1 are realised by learners) that poses serious threats to mutual comprehensibility in communication among ELF learners as well as with native speakers of English (Walker 2010: 1). Elements of pronunciation that need to be included in the Egyptian EFL curricula can be summed up as follows:

- **Pronunciation of dental fricatives /θ/ and /ð/ and contrasting them with alveolars [s] and [z], with which they are substituted, respectively:**

According to Walker (2010: 2), many languages (including some varieties of native English; e.g. Irish) do not comprise the two phonemes /θ/ and /ð/ in their sound systems, which holds for the case of Egyptian Arabic as well. Therefore, trouble with pronouncing the interdentals is attributed to speakers' infamiliarity with them. Moreover, these two consonants /θ/ and /ð/ are found to be among the last mastered and the most substituted by English native-speaking children acquiring English as their L1 (Schmidt 1977: 367), and often substituted with [f] and [v] as in the case with speech by some native varieties of English (e.g. Cockney), in addition to speech by non-native speakers of English with high proficiency levels in all language skills (Walker 2010: 2). Moreover, the dental stop substitutions [t̪] and [d̪] are even found in various parts of Britain, and in some varieties of English such as the African and Caribbean, rendering the pronunciations of [t̪] and [d̪] "in some sense simpler, or less marked, phonetically speaking" (Pennington 1996: 65, as cited in Jenkins 2000: 137). According to Walker (2010: 2) and Jenkins (2000: 111), the dental fricatives /θ/ and /ð/ are also known to be resistant to classroom-devoted efforts by teachers. For their difficulty of pronunciation, Walker (2010: 2) also affirms that the use of both phonemes is "forbidden in communication between pilots and air-traffic controllers for certain key aviation terms" for which both natives and non-natives are obliged to substitute them with [t] and [d].

Despite the frequent instances of the alveolarisation of the dental fricatives /θ/ and /ð/ by the Egyptian learners of the current study, and the serious deviation from the target pronunciations of the dental fricatives, such mispronunciations did not seem to create any room for

miscommunication or unintelligibility of content in the studied data. Jenkins (2000: 137) believes in the ineligibility of the dental fricative voiceless /θ/ and its voiced counterpart /ð/ for the inclusion in the LFC. Moreover, she adds that ELF variants of these two fricatives do not inhibit mutual comprehensibility. In the case of Egyptian speakers, in particular, it was reported in Schmidt (1977) that the choice between making an effort to produce (near)target pronunciations of /θ/ and /ð/ and replacing the consonants with the alternatives [s] and [z], respectively (as the substitutions that are more available to them) is also subject to the degree of formality of context.

- **Aspiration:**

The ability to perceive and produce aspiration in the voiceless plosives, as a voicelessness quality that is believed to be essential for mutual ELF comprehensibility (Walker 2010: 3), needs to be reinforced when teaching EFL to Egyptian learners (highlighting the differences between the aspirated/voiceless plosives /p/, /t/, and /k/, and their voiced counterparts /b/, /d/, and /g/).

- **Pronunciation of /l/:**

In native pronunciation of English, the phoneme /l/ is produced differently based on its position in relation to vowels in a word. It is pronounced as a clear /l/ when pre-vocalic (preceding a stressed vowel) as in *like*, but as a dark /l/ (with a slight raise of the back of the tongue) in the coda as in *silk* or if syllabic as in *puzzle*. As described earlier, /l/ is rendered as a palatal sound in all word positions in the Egyptian EFL learners' pronunciation of English. However, this palatalisation of the English /l/ did not result in any unintelligible productions or seem to inhibit ELF communication in the data analysed for this research. This remark is backed by the proposition of the LFC where the distinction of the /l/ variations are believed to have no impact on ELF comprehensibility (Walker 2010: 3).

- **Pronunciation of /r/:**

According to Walker (2010: 3), the English pronunciation of /r/ is characterised by "inherent difficulty", and is rendered with different variations/types by speakers of different native languages including native speakers of English (e.g. Scottish English). Unlike in RP (where /r/ is pronounced as a post-alveolar approximant, representing the most common realisation of /r/ among languages) or GA (where /r/ is pronounced as a retroflex approximant or a post-alveolar

approximant), it is mostly a tap in Scottish English. Besides, similar to the German and French /r/ variant, Scottish /r/ could also be realised as a uvular /r/, produced with the back of the tongue moving close to the uvula. This uvular /r/ is less common among languages, consequently, less likely to be as intelligible as the other variants of /r/ in the context of ELF (Walker 2010: 4). Other /r/ variants include: the /d/-like flap [ɾ]; e.g. Spanish (4), and vocalised [r] (where /r/ is produced as a vowel; e.g. Scottish English by young people in some urban areas). Similar to the realisation of /r/ in the systems of MSA and ECA, /r/ is rendered as a trill [r] in the pronunciation of English by Egyptian EFL learners, articulated with repeated touches to the alveolar ridge by the tip of the tongue. Trilled [r] is found to be less effective in ELF contexts for the threats to intelligibility they may pose. The trill [r] is also used among native speakers (e.g. some Scottish English speakers) as well as non-native speakers of English (e.g. native speakers of Arabic, Spanish, Polish, Russian, and some dialects of German) (Walker 2010: 3&4). Although the LFC determines the way /r/ should be produced in ELF communication, Walker (2010: 4) suggests a learner's L1 remains as a key factor that can contribute positively or negatively to the process of the target-like /r/ acquisition.

- **Consonant clusters**

Consonant clusters are a set of two or more consonants that could be found in all positions of individual words (initial position: *queen*; medial position: *constant*; final position: *swift*) as well as across word boundaries (e.g. main strategy). Languages vary in terms of the number and combinations of consonants they allow in the different word positions, which is a reason why learners differ in their ability to learn the L2 clustering system (Walker 2010: 4). Unlike the case with EFL learners of some other native languages (especially languages where consonant clusters are not common or dissimilar in nature to those of English) who resort to consonant deletion (*train* for *strain*; Walker 2010: 4) as a technique employed to reduce the number of consonants in a cluster to simplify cluster pronunciation during their journey of acquiring the clustering system of English as a foreign language, Egyptian participants of the current study resorted to other strategies like vowel epenthesis and vowel prothesis instead. Consonant deletion, also referred to as elision, is a typical practice in the connected speech of native speakers of English, but according to the consonant clustering norms of English, it is limited to certain contexts. The system of consonant clustering in English allows consonant deletions in medial and word-final positions as well as

across word boundaries (e.g. deletion of /t/ in "'postman', 'aspects' and 'next week': [ˈpəʊsmən], [ˈæspeks] and [neksˈwiːk]"; Walker 2010: 4). In this sense, consonant deletion will aid the pronunciation of consonants clusters, particularly for those learners who are not familiar with clusters of the same nature, phoneme combinations, positions and/or numbers of consonants constituting them. However, deletion of one of the consonants in an initial cluster does not occur in English and, according to the LFC, it can impact speech comprehensibility in ELF communication, especially when repeated during an utterance or a speech, therefore, needs to be avoided. On the other hand, vowel insertion (where learners usually add a short [ɪ]- or [e]- between consonants in a cluster, or before an initial cluster to reduce the number of consonants in the syllable) is an acceptable practice in ELF communication and is not as threatening to intelligibility as it does not involve any removal of any of the sounds constituting a word. In the example presented in Walker (2010: 4), preceding the initial cluster in *Spain* [eˈspeɪn], a common pronunciation of the word by EFL learners with L1 Spanish whose L1 does not allow the initial cluster of *s*+consonant, is not harmful to intelligibility. However, deleting one of the consonants of the cluster in *in Spain* will render the phrase *as in pain* or *insane* and can cause confusions to the listener(s).

- **Vowels**

Compared to consonants, pronunciation of English vowels varies across Englishes (including native varieties). For instance, as explained by Walker (2010: 5), unlike in RP or GA, the vowel in *bat* is pronounced like the vowel in *bet* in New Zealand English, the words *hot* and *heart* are pronounced with the same vowel in standard North American English, and the diphthong in *day* is pronounced in Australian English as [dʌɪ], making it sound like RP and GA *die* ([daɪ]) to speakers who are unfamiliar with the Australian pronunciation of the diphthong. This variation created a need for a framework that determines priorities to guide speakers towards comprehensible pronunciation of English vowels. As a result, frameworks like the **Common Core** emerged to distinguish between English vowels in terms of two main criteria: vowel quality and, more importantly, vowel quantity/length. Similarly, the LFC places more emphasis on differentiating vowels based on vowel length and quality than on the mastery of any specific native variety. The LFC emphasised the necessity of preserving length and quality of vowels in ELF communication, for the many instances reported in the empirical research in ELF pronunciation

where intelligibility of speech was not realised where certain vowels were replaced with others that are different in quality and/or length (e.g. mispronunciation of (/ɜː/ in words like *bird* and *her*, for which the LFC included the /ɜː/ in its guidelines and stressed the need to focus on attaining "a good approximation to the native-speaker quality of the central vowel") (Walker 2010: 4&5). Likewise, according to the LFC, preserving vowel length in English diphthongs is not by any means less essential since they are more or less of the same length as long monophthongs.

According to Walker (2010: 6), an ELF speaker's native language with no or a limited range of diphthongs will influence the length of English diphthongs produced by the speaker. In other words, vowels by that ELF speaker will be made shorter, and consequently, will cause confusions in ELF communication. The nature of English vowels is also more marked and complex compared to many other languages. Learners' difficulties in distinguishing between long and short vowels in English extend to both the production and perception of the same vowel across different contexts (in open syllables, preceding a lenis/voiced consonant or preceding a fortis/voiceless consonant), not only in minimal pairs, short vowels and their long counterparts. Voiceless consonants in English have this effect of reducing the length of a preceding vowel in a stressed syllable. For example, in English, the length of the diphthongs /eɪ/ (in the open syllable) in *say* approximates that in *sane* (preceding a lenis/voiced consonant), but slightly longer than that of *safe* (preceding a fortis/voiceless consonant). This resulted in the LFC focus on retaining diphthong length rather than on mastering some native production of the vowel.

As evident in the previously provided examples of vowel mispronunciations in the data, change of vowel length is a feature of diphthong productions by Egyptian students of the present study who approximated English diphthongs that do not exist in the system of ECA (e.g. /ʊə/; /əʊ/ or /oʊ/) to the closest monophthongs (mostly long ones). Moreover, such instances of monophthongisation of target diphthongs, as well as other vowel mispronunciations (that marked changes in both length and quality of the target vowels) by Egyptian EFL learners, involved changes pertaining to vowel height, rounding, backness and tenseness, which may lead to further levels of mutual unintelligibility. Thus, it could be concluded that considerable attention from both teachers and learners, in the Egyptian ELF context, needs to be given to the accuracy of producing monophthongs and diphthongs with sufficient length and quality to enhance speech intelligibility.

- **Stress**

Proper placement of nuclear stress is one of the four areas seen as fundamental for ELF communication in the LFC. Speakers divide items of speech into word groups (also referred to by linguists as *thought groups* and *tone units*) of different lengths (four words on average, but it can comprise only one) with the purpose of dividing "the speech flow up into manageable, meaningful blocks of information" (Walker 2010: 6&7). According to Walker (2010: 7), breaking speech into meaningful chunks enhances comprehensibility of speech and facilitates the processing of information while giving listeners time for that. This processing time is thought to be more needed in monologues (manifested in presentations, lectures, public instructions, commentaries, etc.), where it is the speakers' responsibility to produce utterances that could be easily understood by their listeners, than in situations involving dialogues.

On the other hand, speakers' failure to realise where to make proper pauses (marked in script as punctuation marks such as periods, commas, question and exclamation marks) will turn speech into random packages of unmeaningful broken items, and consequently, can threaten comprehensibility of speech. The following example provided in Walker (2010: 7) highlights the way pausing at different tone units generates different meanings:

A weather forecaster saying:

'We can expect heavy rain in the southwest from Monday onwards. The situation will improve slowly.'

'We can expect heavy rain in the southwest. From Monday onwards, the situation will improve slowly.'

Insufficient pausing, in addition, limits the speaker's planning time, which may result in speaking errors pertaining to pronunciation, word choice or structure, and also limits the listener's message processing time which in turn will impact mutual intelligibility.

Data of the current study exhibited many instances of poor pausing that involved: (1) more pausing (a typical practice by less proficient users of a foreign language) and (2) Improper pausing at the wrong tone units. While repeated pauses may lead to boredom and disinterest on the listeners' part, improper pausing did not seem to inhibit comprehensibility of speech, probably due to the nature of data. Most of the data came from recorded presentations of topics relevant to the students' majors. Due to their familiarity with the topics and their contexts, pausing did not seem

to confuse listeners (classmates or teachers), break speech flow or lower the tendency to be understood and interacted with.

Addressing the Research Questions through the LFC Framework

The results of the analysis, interpreted through the LFC lens, provide contextually relevant answers to each question by identifying the Egyptian EFL learners' key pronunciation difficulties (particularly segmental errors), establishing a hierarchy of features to prioritise in instruction (those most affecting intelligibility in ELF settings) and outlining specific pedagogical strategies to improve pronunciation instruction in the Egyptian EFL context.

In response to the first research question **What are the key pronunciation difficulties, both segmental and suprasegmental, encountered by Egyptian EFL learners?**, the findings indicate that the most frequent segmental challenges faced by the Egyptian EFL learners include the substitution of dental fricatives /θ/ and /ð/ with alveolars [s] and [z], palatalisation of /l/, and the production of a trilled [r] which deviates from the post-alveolar or retroflex variants typically found in English. Learners also struggle to produce aspirated voiceless plosives, as well as to maintain vowel length and quality, particularly in diphthongs which they often substitute with long monophthongs. Additionally, consonant clusters pose difficulty; learners also struggled with consonant clusters, employing vowel epenthesis and prothesis rather than deletion to simplify cluster pronunciation. While suprasegmental features, such as inappropriate pausing, improper placement of nuclear stress and ECA-like intonational patterns, were also observed, these did not appear to impede comprehensibility in the data, given the listeners' familiarity with the topics and contexts of the recorded speech samples and the overall level of ELF intelligibility in the interview data. Therefore, the data highlight that segmental mispronunciations are more prevalent and more likely to pose threats to mutual intelligibility in ELF contexts than suprasegmental deviations.

Regarding the second research question **What phonological aspects should be prioritised in the teaching of English to Egyptian EFL learners?**, the findings strongly support focusing on those core phonological aspects that most directly impact intelligibility in ELF contexts, as identified by the LFC. In particular, educators should emphasise clear consonantal differentiation, especially between similar consonants such as /θ/-/s/ and /ð/-/z/. Attention should also be given to ensuring intelligible realisations of /r/ and /l/, discouraging common variants like the trilled [r] or fully palatalised [l] which may reduce comprehensibility in some contexts. Given its significant

impact on clarity of communication, mastery of aspiration of voiceless plosives also stands as a crucial component of intelligible speech. Furthermore, for consonant clusters, instruction should prioritise strategies that preserve all constituent consonants, such as acceptable forms of vowel insertion, while avoiding deletion in initial positions which the LFC identifies as particularly essential to intelligibility. Equally crucial is a focus on vowel length and quality, requiring learners to accurately distinguish and produce both diphthongs and long versus short vowels. Suprasegmental instruction should aim to improve learners' control over nuclear stress and pausing to enable them to segment speech into coherent, meaningful tone units for more effective listener processing. By identifying the intelligibility-critical features, and distinguishing them from those with minimal communicative impact, practical insights for teachers, curriculum designers, and learners alike can be offered. Focusing on these priorities can help make the most of instructional time, promote more effective communication and adopt pedagogical strategies that align with the communicative realities of L2 interactions and effectively address the most problematic areas of pronunciation faced by Egyptian EFL learners.

Based on these findings and on the LFC principles, the third research question **What are the teaching implications and suggestions for designing or choosing relevant teaching materials and techniques?** is addressed through a set of pedagogical recommendations. Syllabi and classroom activities should target the most problematic segmental features, offering explicit instruction and opportunities for learners to perceive and produce critical phonemic contrasts (e.g. dental fricatives versus alveolars, accurate use of aspiration, etc.), particularly through minimal-pair practice and varied contextual exercises. Activities should also promote awareness of acceptable ELF variants, guiding learners to adopt intelligible forms of /r/ and /l/, and particular attention should be given to distinguishing English vowels in terms of length and quality, with both perception and production exercises with the aim of strengthening learners' ability to produce and discriminate vowel contrasts essential for mutual understanding. Activities focused on consonant clusters should also be incorporated, helping learners recognise the strategies of cluster simplification that are acceptable and those that must be avoided to preserve intelligibility. Concerning suprasegmentals, materials should include tasks designed to develop learners' competence in applying nuclear stress and appropriate pausing to structure discourse effectively rather than aiming for native-like intonation patterns. To support communicative competence, training programmes should integrate tasks drawn from real-world contexts and familiar subjects

to build learner confidence and provide educators with the necessary tools to appropriately prioritise instructional focus toward acceptability and comprehensibility. Furthermore, drawing learners' attention to the influence of their L1 on English pronunciation and promoting awareness of common substitution patterns will create more conscious self-monitoring and strategic pronunciation adjustment opportunities. These pedagogical adjustments are essential for addressing the specific needs of Egyptian EFL learners and ensuring that pronunciation instruction is both effective and relevant.

4.5. Contextualising Findings within Phonological and Pedagogical Theories

The analysis of the three data sources has shed light on a wide range of phonological patterns and behaviours among Egyptian EFL learners, many of which can be best interpreted in light of multiple interrelated theories and approaches, understanding their underlying developmental, perceptual, instructional and sociocultural grounds. Although the core methodological orientation of this study has drawn mainly on Transfer Theory, Error Analysis, Contrastive Analysis, and the Lingua Franca Core, further insights are revealed when these findings are examined through broader theoretical frameworks. The following discussion draws on a range of such theories and approaches to contextualise and explain the findings in greater depth.

Beginning with the **Speech Learning Model (SLM)**, the recorded instances of segmental substitutions with the closest phonemes in ECA serve as representations of equivalence classification where learners assimilate unfamiliar L2 phonemes into existing L1 categories. For instance, in the case of /p/, which does not exist in ECA, learners often map it onto /b/, a familiar voiced bilabial stop, perceiving it as acoustically and articulatorily similar. This perceived similarity inhibits the formation of a distinct phonetic category for /p/, and consequently leads to long-term substitution in production. This phenomenon reflects a core principle of the model: learners' ability to acquire new phonetic categories is influenced by the perceived similarity between L1 and L2 sounds. Additionally, the variation in VOT values, the widespread deaspiration and inconsistency in producing English stops, highlights learners' difficulty in perceiving and establishing boundaries between phonemic contrasts in the target language. That learners were at times able to produce target-like phonemes while at other times resorting to L1-

influenced approximations further suggests an ongoing restructuring of their L1 phonetic space as a response to L2 exposure.

Expanding upon the perceptual view, the **Perceptual Assimilation Model (PAM)** offers additional explanations to the pronunciation issues. In contrast, the PAM offers a complementary, yet distinct, perspective by focusing on the perceptual processes that underlie learners' initial encounters with L2 phonemic contrasts. PAM suggests that the degree of ease or difficulty of acquiring these contrasts depends on how non-native sounds are perceptually linked to existing L1 categories. In a substitution like that of /θ/ with [s], a sound which is markedly different in terms of place of articulation, was chosen due to its proximity as the nearest available voiceless fricative in the learners' L1 inventory. Learners here assimilate both /θ/ and /s/ to the same L1 category, resulting in what PAM classifies as Single Category Assimilation. This type of perceptual mapping severely limits learners' ability to detect phonemic distinctions in the input, which can reduce the likelihood of accurate production. Unlike how SLM explains substitution errors (as a failure to establish a new category due to perceived similarity blocking the formation of new category), /θ/ to [s] error likely represents a perceptual collapse of two distinct L2 phonemes (that are not even heard as different) into a single L1 equivalent, hindering both discrimination and production. Inconsistent performance across lexical contexts, where a learner might accurately produce a target fricative in one word but not another, further supports PAM's emphasis on perceptual variability and category overlap during early stages of acquisition.

The **Automatic Selective Perception (ASP) Model** offers additional insight, specifically in explaining why learners struggle with suprasegmental features such as stress and intonation. The questionnaire data, which reflected limited awareness of these features, suggest that without explicit instruction, learners' perceptual attention remains focused on segmental contrasts, hindering the acquisition of native-like stress patterns and prosody.

Moving from perception to production, both **Natural Phonology** and **Optimality Theory (OT)** provide useful frameworks for understanding the present study EFL learners' employment of simplification strategies, particularly in relation to consonant clustering. The frequent use of epenthesis and prothesis in the learner data, such as the insertion of [ɪ] before initial s-clusters, can be interpreted as the result of L1-influenced constraint hierarchies. OT would predict that L1 phonotactic constraints, which prohibit complex onsets, remain active in the interlanguage system and outweigh the markedness of target-like forms. Natural Phonology, in turn, considers these

patterns as universal phonological processes that reflect learners' resort to articulatorily simpler structures. These processes are developmentally typical, however, they remain unmodified due to insufficient exposure, awareness or corrective feedback.

Other interpretive values can be derived from the **Ontogeny Phylogeny Model (OPM)**. Several patterns reported across the three data sources are consistent with this model. In particular, the dominant use of epenthesis and prothesis in response to consonant clusters (where learners insert a vowel to break up marked onsets or codas) reflects early phonological strategies observed in child language acquisition and reflects what Major (2001) classifies as the dominance of **universal processes** in the initial stages of interlanguage development. As learners progress, these universal tendencies gradually decline, paving the way for the more systematic influence of L1 transfer exemplified here in the L1-caused challenges reported. Segmental patterns, which reflect strong articulatory and perceptual reliance on the phonology of ECA, align with OPM's prediction that transfer becomes more prominent in intermediate stages. Some learners reflected **task-dependent suppression of earlier repair strategies** and intermittent self-correction, marking a more advanced phase in which aspects of the L2 phonological system begin to restructure. These developments, however partial or unstable, are characteristic of the Model's third stage in which learners move beyond transfer and begin to approximate L2-specific norms. In this way, the OPM provides a consistent developmental progression that highlights the co-occurrence of universal simplification, transfer-based substitution, and more advanced restructuring patterns observed throughout the dataset.

Within the framework of **Interlanguage Phonology**, L1-driven features are interpreted not as random errors but as systematic developmental markers of transitional stages. The interlanguage system is not static; it is formed by input frequency, communicative context and opportunities for feedback. In this context, the observed inconsistency, in which the same phoneme may be correctly and incorrectly realised within a single utterance or across tasks, can be productively interpreted through the **Declarative/Procedural (DP) Model**. According to this model, learners initially rely on declarative memory to store explicit, item-specific knowledge such as word forms or pronunciation rules. However, fluent and contextually adaptive use depends on the proceduralisation of these forms. Learners in the present study often produced high-frequency words with greater phonetic accuracy, suggesting reliance on stored forms, while struggling with unfamiliar constructions where real-time construction of phonological forms was required. This

pattern illustrates the DP Model's central argument that phonological competence is heavily dependent on procedural learning mechanisms, which develop gradually and inconsistently.

In a closely-related manner, **Skill Acquisition Theory** supports the view that phonological competence develops through repeated practice and the gradual automation of performance. The alternating presence and absence of accurate production, often within the same learner and/or task, reflect the intermediate stage in which learners have acquired declarative knowledge but have not yet proceduralised it fully. This aligns with instances from the interview data, where under conditions of spontaneous speech and increased cognitive load, learners resorted to the L1-aligned pronunciation routines. The implications here would be that learners require sustained, scaffolded practice in meaningful communicative contexts to shift from controlled to automatic production.

At a broader level, **Complexity Theory** offers a collective perspective through which these developmental dynamics can be understood. From this viewpoint, L2 phonological acquisition is not linear but rather emergent, and characterised by the interaction of cognitive, affective and environmental subsystems. The observed variation in pronunciation, across individuals and/or tasks, exemplifies the self-organising nature of interlanguage systems and highlights the adaptive, context-sensitive nature of L2 phonological development. In this framework, fluctuation is not indicative of regression or inconsistency; it is rather a normal feature of an evolving system.

From the perspective of **Sociocultural Theory (SCT)**, the qualitative patterns observed in the learners' speech highlight the socially-mediated nature of pronunciation development. The learners' phonological performance was not only a function of internalised knowledge; it was also informed by the interactional structures and roles assumed in classroom settings. Teacher prompts, peer collaboration and scaffolded tasks (such as role plays) provided essential **zones of proximal development (ZPDs)** through which learners extended their phonetic competence, pointing to the importance of social context and guided interaction in promoting target-like pronunciation.

Within the pedagogical framework of **Communicative Language Teaching (CLT)**, the questionnaire responses from both learners and teachers reflected an overall prioritisation of communicative success and intelligibility as well as a perceived gap in the actual treatment of pronunciation within instructional practice. Here, **Focus on Form Theory (FFT)** provides a solution by calling for the integration of targeted and explicit phonological attention within communicative activities. Learners' performance patterns suggest that form-focused episodes may

aid promoting the noticing, rehearsal and eventual automatisation of challenging pronunciation features.

Complementing these insights, **Usage-based Approaches** offer a valuable explanation for the inconsistency in learner performance across lexical items. Data from the first source demonstrated some increased pronunciation accuracy of high-frequency, major-related words (compared to unfamiliar forms), which suggests that learners are sensitive to the distributional properties of the language items. At the same time, spelling-induced pronunciation errors in low-frequency words may also suggest that orthographic interference remains influential in the absence of sufficient auditory exposure. In addition, the attitudes expressed in the questionnaires regarding intelligibility and the attitudes towards the Egyptian accent and its influence are in line with the usage-based approaches that prioritise communicative effectiveness and meaning-making over native-like accuracy. All these findings support the central principle of usage-based theories that phonological representations are developed through contextual richness and repeated encounters with meaningful language use.

Data from the he third source (the intelligibility judgements) highlight the relevance of **Intercultural Communicative Competence (ICC)**. Listener reactions suggest that the Egyptian accent features were not the main barrier to comprehension. Instead, intelligibility was affected when segmental substitutions or prosodic patterns disrupted the predictability and flow of speech. In this respect, ELF settings do not demand native-like performance. They rather reward clarity and coherence. Therefore, the findings support an orientation in pronunciation instruction that privileges mutual intelligibility and communicative appropriateness over the adoption of native models.

In light of the **Technology-Enhanced Pronunciation Learning** contemporary models, the role of technology in supporting phonological development is recognised as a facilitator of learner autonomy. Learners' engagement with digital tools can provide them with visual and auditory feedback that would enhance their awareness of actual and target segmental and suprasegmental features. This could include the use of acoustic analysis softwares, recording tools and interactive applications to promote accuracy, learner autonomy, and metacognitive engagement. These tools can be pedagogically effective in the Egyptian context especially when integrated into reflective, learner-centred instructional frameworks.

To sum up, this chapter provides an empirically informed basis for targeted pronunciation pedagogy aimed at improving the pronunciation competence and communicative confidence of Egyptian EFL learners in both local and international contexts. The findings suggest that Egyptian EFL learners exhibit systematic pronunciation difficulties mainly at the segmental level (e.g. challenges in producing English dental fricatives, aspirated voiceless plosives, consonant clusters and vowel distinctions in both quality and length). Suprasegmental features such as stress placement, rhythm and intonation also show deviations from native norms, but generally do not inhibit intelligibility, especially in familiar contexts. Both learners and teachers acknowledge the importance of English for academic, professional and global communication, but highlight significant gaps in pronunciation instruction within the Egyptian educational settings. This research informs the need for a balanced pedagogical emphasis on segmental discrimination and suprasegmental elements (especially nuclear stress and pausing) for enhanced intelligibility. It also advocates the integration of communicative, learner-centred approaches supported by authentic materials and teacher professional development to address L1 interference and motivate improvements. Listener evaluations by the Hungarian raters report the overall intelligibility of English spoken by Egyptians is not influenced by accent strength. Therefore, the study recommends pronunciation curricula that focus on mutual intelligibility, communicative effectiveness, learner autonomy and acceptance of learner identity rather than native(-like) accuracy.

CHAPTER FIVE: Conclusion: Significance and Research Limitations and Recommendations for Future Research

5.1.Significance

In this study, through acoustic observation and technical speech analysis, the researcher applied both contrastive analysis and error analysis to the corpus collected with the aim of providing insights for the researchers, educators as well as curriculum planners to bring about useful strategies to address the outcome problematic pronunciation aspects faced by the Egyptian EFL learners. The study participants exhibited segmental problems including consonant alteration, vowel alteration and consonant cluster simplification. Consonant alteration in the data involved phonological processes such as: alveolarisation, voicing, devoicing, deaffrication, dentalisation, palatalisation, deaspiration and stopping. Vowel change strategies included monophthongisation of diphthongs, diphthongisation of monophthongs, vowel lengthening, vowel shortening and vowel deletion. Examples of vowel alteration involved changes pertaining to vowel height, rounding, backness and tenseness. Cluster simplification involved techniques such as declusterisation by employing epenthesis (vowel insertion) and prothesis. In terms of suprasegmental features, Egyptian EFL learners demonstrated challenges with word stress, intonation and aspects of connected speech. Issues with word stress, including misplacement of stress within words as well as a tendency to apply equal stress to all syllables, were particularly evident. In terms of intonation and rhythm, learners often transferred the characteristics of ECA patterns into their English speech. For instance, the learners' intonation was influenced by the stress-accent patterns of ECA where pitch accents were placed on almost every word (including function words). This resulted in a dense pitch accent distribution in their English. Connected speech errors (e.g. difficulty with linking final consonants to initial vowels; resistance to consonant elisions or contractions) were also observed. These issues can be traced back to differences between the connected speech patterns of English and Arabic where Arabic features more pauses and less fluid linking. Furthermore, L1 interference was represented in the tendency to declusterise consonant clusters and maintain consonant gemination. Despite these clear deviations in the participants' pronunciation of English, these suprasegmental features did not appear to impede communication.

The analysis showed that most of the phonological challenges are a product of the influence of the learners' L1 (Egyptian Arabic) on the target language (EFL) practice manifested in a series of negative transfer instances. Nevertheless, some were caused by the lack of knowledge of the L2 rules and/or the inadequacy of training available for the learners. This goes in line with Fraser (2000) in which the challenges the pronunciation component creates in the EFL/ESL classroom are attributed to the lack of word cognition and the way the English sound system works rather than the physical process of articulation itself. As an attempt to capture the complexity of pronunciation learning in Egypt, this research also aimed to shed more light on key concepts such as correctness and accentedness from the pragmatic perspective of users of English for academic purposes. In view of the findings of the current study, the learners' perspectives on English pronunciation seemed to reflect the need to redefine pronunciation teaching/learning in Egypt based on the principle of correctness rather than nativeness (which most participants do not consider important), highlighting the role of English as a lingua franca as a more down-to-earth paradigm. Native-speaker-based models tended to be regarded as theory rather than practice.

Based on the responses from the questionnaire given to both learners and teachers, the following recommendations can be made: ensuring that teachers, lecturers and educators possess the necessary qualifications (for instance, by requiring a TEFL-related certification in addition to a relevant university degree for specific positions), teaching English solely in English to increase exposure to the target language content, reducing teacher-centric classroom activities to allow for greater student engagement and participation, focusing on establishing an engaging and motivating atmosphere for both educators and students by avoiding outdated teaching techniques that may hinder productive communicative interaction, utilising assessment approaches that emphasise growth rather than mere scores to foster creativity and critical thinking skills in students, and incorporating pronunciation elements within the teaching of other aspects of the language, ensuring that the study materials are culturally appropriate, learner-relevant and in line with both instructional goals and the specific EFL context explored.

5.2.Research Limitations and Recommendations for Future Research

(Some of the following recommendations have been presented in Abdelreheem 2025)

By offering insights into the perspectives on pronunciation learning and teaching practice in the Egyptian EFL context and allowing for the analysis of the variation pertaining to the opinions

on current and desired practices, this research sought to support the initiatives by earlier literature on ESL pronunciation. In order to ensure that as many sectors of the target population (Egyptian EFL learners) as possible were represented in the sample, the study included participants from a variety of educational backgrounds (foreign-language medium schools and Arabic-medium schools), as well as social and geographic backgrounds. However, differences pertaining to educational (e.g. public versus private sectors) and geographical (e.g. urban versus semi-urban/rural) backgrounds, study majors, English proficiency levels were not tackled in this study. Future research could explore factors including gender, age, educational backgrounds, teaching/learning contexts, dialectical regions, study majors, English proficiency levels and formality of context. Factors like social/education class and formality of context, for instance, can affect the pronunciation of certain sounds (Gass & Selinker 2008: 266). Some linguists (e.g. Gass & Selinker 2008: 267) reach an assumption that the English and MSA variants of /θ/ and /ð/, for instance, could be associated to prestige and formality of situation. In a study by Schmidt (1977), he looked into the role of social factors in the pronunciation of /θ/ and /ð/ by two different social groups of ECA speakers: university students and working-class men. As already mentioned, although the interdental sounds investigated do not exist in the phonetic system of ECA, and are replaced by ECA consonants ([s] and/or [t] for /θ/ and [z] and/or [d] for /ð/) when they occur in the pronunciation of MSA and English, there were many occurrences recorded for the target-like pronunciation of the sounds by the university students in Schmidt's (1977) study as opposed to no occurrences by the working-class individuals.

Moreover, while the study intentionally included a variety of speaking contexts, ranging from spontaneous communicative activities (e.g. interviews; in-class role plays and group discussions) to more formal, planned presentations, as well as a range of English proficiency levels (from pre-intermediate to advanced), to capture a comprehensive picture of the Egyptian EFL learners' pronunciation challenges. The context in which speech is produced can influence the nature and frequency of certain errors. For example, spontaneous speech in role plays and conversations may have elicited more naturalistic pronunciation patterns (e.g. more hesitations, certain connected-speech features) while formal presentations may have resulted in more careful and possibly more accurate productions. Similarly, lower-proficiency learners may demonstrate a higher rate or different types of errors compared to more advanced learners. As such, some variation in the observed error patterns may be attributable to these factors: the demands of each

speaking context and/or the learner's level of proficiency. However, the aim of the study was not to examine variation across the speaking contexts, or focus on proficiency-influenced patterns, but rather to provide a general overview of pronunciation patterns among Egyptian EFL learners and to evaluate their intelligibility-related implications. Thus, the analysis did not separate or compare error types and frequencies according to either speaking context or participant proficiency level. Instead, all data, regardless of the speaking context or the learner's proficiency level, were analysed collectively to identify the major pronunciation issues across the full range of participant speech. As indicated in the Methodology section, this approach was chosen to provide sufficient representation of each error type and to provide an overall profile of the participants' pronunciation difficulties. This is acknowledged as a limitation of the study, and future research could benefit from a comparison of pronunciation features across different task types and proficiency levels to explore how contextual and proficiency-related variables may affect L2 speech production and modulate the patterns identified in the present study.

Moreover, for more comprehensive conclusions and implications, further research endeavours may employ wider-scale surveys (particularly from teachers). This could be supplemented by feedback from focus groups of both students and teachers (e.g. through conducting interviews) to gain an understanding of the participants' perceptions of the interpretations of the research results (e.g. the extent to which they agree or disagree with to what the research attempts will have concluded). It is worth noting that the five teachers who responded to the questionnaire do not reflect a statistically representative sample of EFL instructors in Egypt. This limitation stems from the constraints of convenience sampling and the scope of the study which aimed to investigate teacher perceptions within the same educational context as the learner participants. The five participating teachers are the actual instructors of the 74 students who completed the learner questionnaire. Focusing on the teachers directly responsible for these learners aimed to ensure the findings reflect the specific instructional realities and challenges encountered in this setting. The inclusion of teacher perspectives served to add interpretive depth to the analysis of learner data and support meaningful validation of findings by offering a focused, context-specific understanding of how teacher perspectives interact with learner outcomes. Therefore, the questionnaire was designed to elicit insights into teacher beliefs, instructional priorities and perceived obstacles in pronunciation teaching, not to generalise to the broader population of Egyptian EFL teachers. However, future research would benefit from expanding the

teacher sample to encompass a wider range of institutions and contexts, thus, strengthening the generalisability of the findings.

References

Ababneh, Islam. 2018. English Pronunciation Errors Made by Saudi Students. *European Scientific Journal* 14(2). 244–261. ISSN: 1857-7881 (Print), e-ISSN 1857-7431 244. 10.19044/esj.2018.v14n2p244. https://core.ac.uk/download/pdf/236406503.pdf (accessed on October 7, 2024).

Abboud, Peter F. & McCarus, Ernest N. eds. 1983. Lesson six (chapter). In *Elementary Modern Standard Arabic*, 43–49. Cambridge: Cambridge University Press. https://resolve.cambridge.org/core/books/abs/elementary-modern-standard-arabic/lesson-six/949263BAD0647A2C18740798CE913D43 (accessed on November 17, 2025).

Abdallah, Mahmoud. 2016. Issues with the 'Time for English' textbook series at Egyptian primary schools: An evaluative study. *Journal of Faculty of Education Assiut University* 32(1/II). 2–51.

Abdelaal, Noureldin. 2017. Instrumental Analysis of the English Stops Produced by Arabic Speakers of English. *International Journal of Education and Literacy Studies* 5. 8–15. 10.7575/aiac.ijels.v.5n.3p.8.

Abdelreheem, Hasnaa. 2023. The key English pronunciation difficulties for Egyptian EFL learners. *Anglica* 32(2). 115-136. https://doi.org/10.7311/0860-5734.32.2.06

Abdelreheem, Hasnaa. 2025. English pronunciation in Egyptian EFL classrooms: Attitudes, challenges, and expectations. *Bucharest Working Papers in Linguistics* 26 (2). 47-87. https://doi.org/10.31178/BWPL.26.2.3

Adita, Ayu Kemalasari, Bindarti, W. E. & Wahyungsi, Eka. 2014. The use of reading aloud technique to improve the VIII-A grade students' pronunciation achievement in reading narrative texts at SMPN 1 Situbondo. *Artikel Ilmiah Mahasiswa* 1. 1–9.

Ahmad, Jalal. 2011. Pronunciation problems among Saudi learners: A case study at the preparatory year program, Najran University Saudi Arabia. *Language in India* 11. 22–36.

Al Shoufi, Nibal. 2014. The negative influence of the Arabic vowel sounds system on the English one: A case study of the students in a private language institute in Damascus city. Master's Thesis, Damascus University, Damascus. http://mohe.gov.sy/master/Message/Mc/nebal%20alshofi.pdf (accessed on September 7, 2025)

Al-Ahdal, Arif, Al-Hattami, Abdulghani, Al-Awaid, Salmeen & Al-Mashaqba, Nisreen. 2015. Pronunciation for the Arab learners of EFL: Planning for better outcomes. *English Language Teaching* 8(10). 100–106. Canadian Center of Science and Education. https://www.researchgate.net/publication/282442731_Pronunciation_for_the_Arab_Learners_of_EFL_Planning_for_Better_Outcomes (accessed on May 4, 2021).

Al-Ani, Salman H. 1970. *Arabic Phonology*. Hague, Netherlands: Mouton & CO, N.V. Publishers.

Al-Dilaimy, Hazim. (2012). Phonetic and phonological problems encountered by Omani students of English. *Journal of Al-Anbar University for Language and Literature* 6. 236–252. https://www.iasj.net/iasj/download/f2329f4b2018619f (accessed on May 8, 2024).

Al-Issa, Ali, Al-Bulushi, Ali & Al-Zadjali, Rima. 2017. A critical discourse analysis of the reasons underlying Arab student-teachers' inadequate English language proficiency. *Cogent Education* 4. 1–24. Taylor & Francis Group. https://doi.org/10.1080/2331186X.2017.1340821 (accessed on June 6, 2021).

Al-Jarf, Reima. 2008. Sources of spelling errors in EFL Arab college students. *College of Languages and Translation, King Saudi University Seminars*. https://www.researchgate.net/profile/Reima-Al-Jarf/publication/345900801_Sources_of_Spelling_Errors_in_EFL_Arab_College_Students/links/6116a6260c2bfa282a41fa9c/Sources-of-Spelling-Errors-in-EFL-Arab-College-Students.pdf (accessed on September 7, 2025).

Al-Jarf, Reima. 2025. Splitting unsplittable foreign words in casual speech by EFL Arab learners. *British Journal of Applied Linguistics* 5 (2). 1-11. DOI: 10.32996/bjal. https://al-kindipublisher.com/index.php/bjal/article/view/10121 (accessed on September 8, 2025).

Al-Saqqaf, Abduallah & Vaddapalli, Maruthi. 2012. Teaching English vowels to Arabic speaking students. *International Journal of English and Literature, IJEL* 2(2). 46–56. https://www.researchgate.net/publication/258567601_Teaching_Enlgish_Vowels_to_Arabic_Speaking_Students (accessed on April 21, 2021).

Al-Zoubi, Samer. 2019. The Speech Sounds of Arabic Language and their Effect on Learning English Pronunciation: A Contrastive Analysis. *International Journal of Humanities and Social Science* 9. 10.30845/ijhss.v9n1p2.

https://www.ijhssnet.com/journals/Vol_9_No_1_January_2019/2.pdf (accessed on May 9, 2025).

AlDahri, Sulaiman S. 2012. A Study of Voice Onset Time for Modern Standard Arabic and Classical Arabic. *The 2012 IEEE International Conference on Signal Processing, Communication and Computing (ICSPCC 2012)*. 691–695. https://ieeexplore.ieee.org/document/6335582 (accessed on May 18, 2024).

Algethami, Ghazi & Hellmuth, Sam. 2024. Methods for investigation of L2 speech rhythm: Insights from the production of English speech rhythm by L2 Arabic learners. *Second Language Research* 40(2). 431–456. https://doi.org/10.1177/02676583231152638 (accessed on May 3, 2025).

Alghazo, Sharif, Jarrah, Marwan & Al Salem, Mohd Nour. 2023. The efficacy of the type of instruction on second language pronunciation acquisition. *Frontiers in Education* (8). 1-10. https://www.frontiersin.org/journals/education/articles/10.3389/feduc.2023.1182285 (accessed on October 26, 2025).

Alghofaili, Noor Motlaq & Elyas, Tariq. 2017. Decoding the myths of the Native and Non-Native English Speakers Teachers (NESTs & NNESTs) on Saudi EFL tertiary students. *English Language Teaching*. 10(6). 1-11. Canadian Center of Science and Education. http://doi.org/10.5539/elt.v10n6p1 (accessed on March 2, 2026).

Almbark, Rana; Bouchhioua, Nadia & Hellmuth, Sam. 2014. Acquiring the phonetics and phonology of English word stress: Comparing learners from different L1 backgrounds. *Concordia Working Papers in Applied Linguistics, 5,* 19-35. http://doe.concordia.ca/copal/documents/3_Almbark_etal_Vol5.pdf (accessed on March 27, 2025).

Almusharraf, Asma. 2024. Pronunciation instruction in the context of world English: exploring university EFL instructors' perceptions and practices. *Humanities and Social Sciences Communications.* 11(1). 1-11. 10.1057/s41599-024-03365-y. https://www.researchgate.net/publication/381774404_Pronunciation_instruction_in_the_context_of_world_English_exploring_university_EFL_instructors'_perceptions_and_practices (accessed on October 27, 2025).

Alptekin, Cem. 2002. Towards intercultural communicative competence in ELT. *ELT Journal* 56(1). 57–64. https://doi.org/10.1093/elt/56.1.57 (accessed on June 17, 2025).

Alsuhaibani, Yasser, Hassan Saleh Mahdi, Ahmed Al Khateeb, Hind Abdulaziz Al Fadda, & Hisham Alkadi. 2024. Web-based pronunciation training and learning consonant clusters among EFL learners. *Acta Psychologica* 249. 1-7. https://doi.org/10.1016/j.actpsy.2024.104459. https://www.sciencedirect.com/science/article/pii/S0001691824003366 (accessed on September 9, 2025).

Altakhaineh, Abdel Rahman, AL-Junaid, Najwa & Younes, Afakh. 2024. Pronunciation and spelling accuracy in English words with initial and final consonant clusters by Arabic-speaking EFL learners. *Languages* 9(12). 356. 1-14. 10.3390/languages9120356. https://www.researchgate.net/publication/386127544_Pronunciation_and_Spelling_Accuracy_in_English_Words_with_Initial_and_Final_Consonant_Clusters_by_Arabic-Speaking_EFL_Learners (accessed on October 27, 2025).

Anderson, John Robert. 1982. Acquisition of cognitive skill. *Psychological Review* 89. 369–406. https://doi.org/10.1037/0033-295X.89.4.369. http://act-r.psy.cmu.edu/wordpress/wp-content/uploads/2012/12/63ACS_JRA_PR.1982.pdf (accessed on August 3, 2025).

Anderson, John Robert. 1993. *Rules of the mind*. Hillsdale, NJ: Lawrence Erlbaum.

Anderson, John Robert. 2007. *How can the human mind occur in the physical universe?* New York, NY: Oxford University Press.

Anderson-Hsieh, Janet & Koehler, Kenneth. 1988. The effect of foreign accent and speaking rate on native speaker comprehension. *Language Learning* 38(4). 561-613. https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1467-1770.1988.tb00167.x (accessed on July 17, 2025).

Arcaya, Mauricio. 2020. Differences between native English-speaking teachers and their non-native counterparts when evaluating pronunciation/Diferencias entre profesores hablantes nativos de ingles y sus pares no nativos al evaluar pronunciacion. *Profile: Issues in Teachers' Professional Development* 22(1). 29–41. https://doi.org/10.15446/profile.v22n1.78800 (accessed on November 6, 2024).

Asher, James. 2012. *Learning another Language through Actions (7th ed.)*. CA, USA: Sky Oaks Productions.

Avery, Peter & Ehrlich, Susan. 1992. *Teaching American English pronunciation*. Oxford: Oxford University Press.

Avery, Peter & Ehrlich, Susan & Jull, Douglas. 1992. Connected speech. In P. Avery & S. Ehrlich (Eds.), *Teaching American English pronunciation*. 73-90. Oxford: Oxford University Press.

Awaj, Essam Ali & Mohamed, Mohammed Shoeb. 2017. Why the Arab Learners of English Language commit errors in pronunciation and grammar: A psycholoinguistic approach to the study. Journal of Humanitarian, Scientific and Social Sciences 4. Elmergib University, Faculty of Arts and Sciences Kasr Khiar. 34-50. https://khsj.elmergib.edu.ly/2017_4_en.pdf (accessed on May 6, 2025).

Ayaz Yilmaz, Hafize & Yaman, Ismail. 2025. Understanding pre-service EFL teachers' attitudes towards pronunciation and awareness of world Englishes. *International Journal of Language and Translation Studies*. 5(2). 370-408. https://doi.org/10.63673/Lotus.1802174 (accessed on March 1, 2026).

Badawi, Wisam Shahir. 2019. The allophonic variation of the approximant /r/in English with reference to Arabic. 1-35. University of Tikrit, College of Education for Humanities, Department of English. https://www.researchgate.net/publication/332410737_The_Allophonic_variation_of_the_Approximate_r_in_English_with_Reference (accessed on August 11, 2025).

Bai, Barry & Yuan, Rui. 2019. EFL teachers' beliefs and practices about pronunciation teaching. *ELT Journal* 73 (2). 134–143. https://doi.org/10.1093/elt/ccy040 (accessed on October 31, 2025).

Baker, Amanda & Murphy, John. 2011. A knowledge base of pronunciation teaching: Staking out the territory. TESL Canada Journal, 28(2). 29–50. https://doi.org/10.18806/tesl.v28i2.1071 (accessed on November 14, 2024).

Barrass, Justin P.; Briggs Baffoe-Djan, Jessica; Rose, Heath & Boggs, Jill A. 2020. Intelligibility and comprehensibility of Korean English speakers' phonological features in lingua franca listening contexts. *The Journal of Asia TEFL*. 17(1). 124-142. http://dx.doi.org/10.18823/asiatefl.2020.17.1.8.124. http://journal.asiatefl.org/main/main.php?main=1&sub=2&submode=3&PageMode=JournalView&inx_journals=63&inx_contents=781&s_title=Intelligibility_and_Comprehensibility_of_Korean_English_Speakers_Phonological_Features_in_Lingua_Franca_Listening_Contexts (accessed on May 21, 2025).

Barros, Ana Marina do Val. 2003. Pronunciation difficulties in the consonant system experienced by Arabic speakers when learning English after the age of puberty, (Unpublished Master Dissertation), West Virginia University, Morgantown: USA.

Bartelds, Martijn; Richter, Caitlin; Liberman, Mark & Wieling, Martijn. 2020. A new acoustic-based pronunciation distance measure. *Frontiers in Artificial Intelligence.* 3(39). https://www.frontiersin.org/journals/artificial-intelligence/articles/10.3389/frai.2020.00039/full (accessed on March 29, 2025).

Bassiouney, Reem. 2013. Language and revolution in Egypt. *Telos* 163. 85–110. doi:10.3817/0613163085. http://journal.telospress.com/content/2013/163/85 (accessed on February 20, 2023).

Bauman-Waengler, Jacqueline. 2009. *Introduction to Phonetics and Phonology: From Concepts to Transcription*. London: Pearson.

Bergeron, Annie & Trofimovich, Pavel. 2017. Linguistic dimensions of accentedness and comprehensibility: Exploring task and listener effects in second language French. *Foreign Language Annals* 50(3) 547-566. https://doi.org/10.1111/flan.12285. https://www.paveltrofimovich.ca/wp-content/uploads/2022/06/Bergeron_Trofimovich_2017.pdf (accessed on May 15, 2025).

Best, Catherine T. 1995. A direct realist perspective on cross-language speech perception. In W. Strange (Ed.), *Speech perception and linguistic experience: Issues in cross-language research*. 171–204. Timonium, MD: York Press. https://www.researchgate.net/profile/Catherine-Best-3/publication/229078334_A_direct_realist_view_of_crosslanugage_speech_perception/links/552dbf670cf21acb092181bb/A-direct-realist-view-of-crosslanugage-speech-perception.pdf (accessed on May 15, 2025).

Best, Catherine T. & Tyler, Michael D. 2007. Nonnative and second-language speech perception: Commonalities and complementarities. In O. S. Bohn & M. J. Munro (Eds.), *Language Experience in Second Language Speech Learning: In honor of James Emil Flege.* 13–34. Amsterdam: John Benjamins. https://www.researchgate.net/profile/Catherine-Best-3/publication/258209938_Nonnative_and_second-language_speech_perception_Commonalities_and_complementarities/links/54a923cd0cf

2eecc56e55eca/Nonnative-and-second-language-speech-perception-Commonalities-and-complementarities.pdf (accessed on May 15, 2025).

Betti, Mohammed Jasim & Warkaa, Ulaiwi. 2018. Stress in English and Arabic: A contrastive study. *English Language and Literature Studies* 8. 83-83. 10.5539/ells.v8n1p83. https://www.researchgate.net/publication/344457374_Stress_in_English_and_Arabic_A_Contrastive_Study (accessed on May 17, 2025).

Bhandari, Pratik; Demberg, Vera & Kray Jutta. 2021. Semantic predictability facilitates comprehension of degraded speech in a graded manner. *Frontiers in Psychology* 12. https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2021.714485/full (accessed on June 19, 2025).

Bialystok, Ellen & Miller, Barry. 1999. The problem of Age in Second Language Acquisition: Influences from language, structure and task. *Bilingualism: Language and Cognition* 2, 127–145. https://doi.org/10.1017/S1366728999000231 (accessed on July 10, 2025).

Bin-Hady, Wagdi. 2016. Teaching Pronunciation for Arab learners of English: Using Gilberts' Prosody Pyramid. *South-Asian Journal of Multidisciplinary Studies (SAJMS)* 3 (3). 138-151. https://www.researchgate.net/profile/Wagdi-Bin-Hady/publication/338371473_Teaching_Pronunciation_for_Arab_learners_of_English_Using_Gilberts'_Prosody_Pyramid/links/5e1f0ff8a6fdcca1f12c5c99/Teaching-Pronunciation-for-Arab-learners-of-English-Using-Gilberts-Prosody-Pyramid.pdf (accessed on June 24, 2025).

Bolinger, Dwight. 1986. *Intonation and its parts. Melody in spoken English*. Standford: Stanford University Press.

Bongaerts, Theo. 1999. Ultimate attainment in L2 pronunciation: the case of very advanced late L2 learners. In D. Birdsong (ed.), *Second Language Acquisition and the Critical Period Hypothesis*. Mahwah, NJ: Lawrence Erlbaum Associates. 133–59.

Bradlow, Ann R., Akahane-Yamada, Reiko, Pisoni, David B., & Tohkura, Yoh'ichi. 1999. Training Japanese listeners to identify English /r/ and /l/: Long-term retention of learning in perception and production. *Perception & Psychophysics, 61*(5), 977–985. https://doi.org/10.3758/BF03206911. https://pmc.ncbi.nlm.nih.gov/articles/PMC3472521/ (accessed on May 23, 2025).

Brazil, David. 1994. *Pronunciation for Advanced Learners of English*. Cambridge: Cambridge University Press.

Brazil, David. 1997. *The Communicative Value of Intonation in English*. Cambridge: Cambridge University Press. https://books.google.hu/books/about/The_Communicative_Value_of_Intonation_in.html?id=eGqd4sCT71MC&redir_esc=y (accessed on March 19, 2022).

Brooks, Nelson. (1964). *Language and language learning: Theory and practice* (2nd ed.). New York: Harcourt Brace.

Broselow, Ellen. 2015. The typology of position-quality interactions in loanword vowel insertion. In Yuchau E. Hsiao & Lian-Hee Wee (eds.), *Capturing phonological shades within and across languages.* 292–319. Newcastle upon Tyne: Cambridge Scholars Publishing.

Brown, Douglas. 2001. Intrinsic Motivation in the classroom. *Teaching by Principles: An Interactive Approach to Language Pedagogy*. (2nd ed.). New York: Addison Wesley Longman, Inc. 72–84. https://octovany.files.wordpress.com/2013/12/ok-teaching-by-principles-h-douglas-brown.pdf (accessed on June 3, 2023).

Brown, Douglas. 2007. *Principles of language learning and teaching* (5th ed.). Pearson, Longman. https://dehkhodaedu.com/dl/Brown%2C%20Principles%20of%20Language%20Learning%20%26%20Teaching%20%285th%20edition%29.pdf (accessed on May 9, 2025).

Burns, Anne. 2006. Integrating research and professional development on pronunciation teaching in a national adult ESL program. *TESL Reporter* 39. 34–41.

Byram, Michael. 2004. *Routledge Encyclopedia of Language Teaching and Learning.* New York: Routledge.

Carey, Michael David, Sweeting, Arizio, & Mannell, Robert. 2015. The L1 point of reference (L1POR) approach to pronunciation modification: Learner-centred alternatives to 'listen and repeat'. *Journal of Academic Language & Learning* 9(1). 27-41. https://www.researchgate.net/publication/273305722_An_L1_point_of_reference_approach_to_pronunciation_modification_Learner-centred_alternatives_to_'listen_and_repeat' (accessed on April 23, 2025).

Carr, Philip. 2013. *English Phonetics and Phonology: An introduction*, 2nd ed. Malden, MA & Oxford: Wiley-Blackwell.

Celce-Murcia, Marianne (ed.). 1991. *Teaching English as a Second or Foreign Language (2nd ed.)*. Boston, Massachusetts: Heinle & Heinle Publishers.

Celce-Murcia, Marianne; Brinton, Donna; Goodwin, Janet M. 1996. *Teaching Pronunciation Teaching pronunciation: A reference for teachers of English to speakers of other languages*. Cambridge University Press.

Celce-Murcia, Marianne; Brinton, Donna; Goodwin, Janet M. 2010. *Teaching pronunciation: A reference for teachers of English to speakers of other languages* (2nd ed.). Cambridge University Press. Cambridge University Press.

Chahal, Dana & Hellmuth, Sam. 2014. The intonation of Lebanese and Egyptian Arabic. *Prosodic Typology II.* 423–450. Oxford University Press.

Chao, Kuan-Yi & Chen, Li-mei. 2008. A cross-linguistic study of voice onset time in stop consonant productions. *Computational Linguistics and Chinese Language Processing* 13(2). 215–232. https://aclanthology.org/O08-4005/ (accessed on March 23, 2024).

Chan, Venus. 2021. Factors Influencing Intelligibility and Comprehensibility: A Critical Review of Research on Second Language English Speakers. *Journal of English Learner Education.* 12(1). https://stars.library.ucf.edu/jele/vol12/iss1/6 (accessed on April 13, 2025).

Cho, Taehong, & Ladefoged, Peter. 1999. Variation and universals in VOT: evidence from 18 languages. *Journal of Phonetics* 27(2). 207–229. doi:10.1006/jpho.1999.0094. https://tcho.hanyang.ac.kr/documents/11105253/0/Cho_Ladefoged_1999_JPhon.pdf/e3bfd875-b5b0-945f-4b8c-aea81d89803e?t=1697865563326 (accessed on December 13, 2024).

Cheng, Winnie. 2015. Discourse intonation: A corpus-driven study of prominence on pronouns. In D. Biber & R. Reppen (eds.). *The Cambridge handbook of English corpus linguistics* (Cambridge handbooks in language and linguistics). Cambridge: Cambridge University Press.

Cogo, Alessia & Martin Dewey. 2012. *Analysing English as a lingua franca: A corpus-driven investigation*. London: Continuum.

Collins, Beverley & Mees, Inger. 2003. *The Phonetics of English and Dutch*. Koninklijke Brill NV, Leiden, The Netherlands.

Conlen, Madeline M. 2016. A linguistic comparison: Stress-timed and syllable-timed languages and their impact on second language acquisition. *Honors College Theses*. 30. https://digitalcommons.wayne.edu/honorstheses/30. https://digitalcommons.wayne.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1025&context=honorstheses (accessed on September 18, 2025).

Couper, Graeme. 2016. Teacher cognition of pronunciation teaching amongst English language teachers in Uruguay. *Journal of Second Language Pronunciation* 2(1). 29 – 55. https://www.jbe-platform.com/content/journals/10.1075/jslp.2.1.02cou (accessed on April 14, 2025).

Crowther, Dustin; Trofimovich, Pavel; Saito, Kazuya & Isaacs, Talia. 2015. Second language comprehensibility revisited: Investigating the effects of learner background. *TESOL Quarterly*. 49(4). 814–837. http://www.jstor.org/stable/43893788 (accessed on April 29, 2025).

Cruttenden, Alan. 1986. *Intonation*. Cambridge: Cambridge University Press. https://edisciplinas.usp.br/pluginfile.php/5654485/mod_folder/content/0/Cambridge%20Textbooks%20in%20Linguistics/Intonation.%20Cruttenden.pdf?forcedownload=1 (accessed on November 18, 2024).

Dasher, Richard & Bolinger, Dwight L. 1982. On pre-accentual lengthening. *Journal of the International Phonetic Association* 12. 58–69. https://www.cambridge.org/core/journals/journal-of-the-international-phonetic-association/article/abs/on-preaccentual-lengthening/7525AF6CF30385CDA5D526F561EC710A (accessed on July 4, 2024).

DeKeyser, Robert. 2015. Skill acquisition theory. In B. VanPatten, B. & J. Williams (Ed.), *Theories in Second Language Acquisition: Introduction*. 94-112. New York, NY: Routledge.

Delattre, Pierre & Freeman, Donald C. 1968. A dialect study of American R's by X-ray motion picture. *Linguistics, 6*(44), 29–68. https://www.degruyterbrill.com/document/doi/10.1515/ling.1968.6.44.29/html?srsltid=Af

mBOooYi8vnO8E2A58V9c5WCkuqrk8mfhNV8US0LdBZ4Cf1XtC_B2dG (accessed on April 6, 2025).

Derwing, Tracey M., Diepenbroek, Lori & Foote, Jennifer. 2012. How Well do General-Skills ESL Textbooks Address Pronunciation?. *TESL Canada Journal* 30. 22–44. 10.18806/tesl.v30i1.1124. https://files.eric.ed.gov/fulltext/EJ1001889.pdf (accessed on January 5, 2025).

Derwing, Tracey M., & Munro, Murray J. 1997. Accent, intelligibility, and comprehensibility: Evidence from four L1s. *Studies in Second Language Acquisition* 19(1). 1–16. https://doi.org/10.1017/S0272263197001010. https://www.cambridge.org/core/journals/studies-in-second-language-acquisition/article/abs/accent-intelligibility-and-comprehensibility/729C15F62F9EC9A51A33EAB5C2D05ED0 (accessed on January 3, 2025).

Derwing, Tracey M. & Munro, Murray J. 2005. Second language accent and pronunciation teaching: A research-based approach. *TESOL Quarterly* 39(3). 379–397. https://doi.org/10.2307/3588486 (accessed on December 14, 2024).

Derwing, Tracey M. & Munro, Murray J. 2013. The development of L2 oral language skills in two L1 groups: A 7-year study. *Language Learning* 63(2). 163–185. https://doi.org/10.1111/lang.12000 (accessed on January 13, 2025).

Derwing, Tracey M. & Munro, Murray J. 2015. *Pronunciation Fundamentals: Evidence-based Perspectives for L2 Teaching and Research.* Amsterdam/Philadelphia: John Benjamins Publishing Company. https://dokumen.pub/pronunciation-fundamentals-evidence-based-perspectives-for-l2-teaching-and-research-1nbsped-9789027268594-9789027213266.html (accessed on February 20, 2026).

Derwing, Tracey M.; Munro, Murray J. & Thomson, Ron I. 2008. A longitudinal study of ESL learners' fluency and comprehensibility development. *Applied Linguistics* 29(3). 359-380. https://doi.org/10.1093/applin/amm041. https://academic.oup.com/applij/article-abstract/29/3/359/152627?redirectedFrom=fulltext (accessed on November 16, 2024).

Derwing, Tracey M., Munro, Murray J. & Wiebe, Grace E. 1998. Evidence in favour of a broad framework for pronunciation instruction. *Language Learning* 48. 393–410.

Derwing, Tracey M. & Rossiter, Marian J. 2002. Esl learners' perceptions of their pronunciation needs and strategies. *System*, 30. 155–166. http://doi.org/10.1016/S0346-251X(02)00012-X (accessed on October 20, 2024).

Derwing, Tracey M.; Rossiter, Marian J.; Munro, Murray J. & Thomson, Ron I. 2004. Second language fluency: Judgments on different tasks. Language Learning, 54(4), 655-679. https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1467-9922.2004.00282.x (accessed on January 11, 2025).

Deterding, David. 2005. Listening to Estuary English in Singapore. *TESOL Quarterly*. 39(3). 425–440. https://doi.org/10.2307/3588488. (accessed on January 17, 2025).

Deterding, David. 2007. The formants of monophthong vowels in standard Southern British English pronunciation. *Journal of the International Phonetic Association* 27. 47-55. Doi: 10.1017/S0025100300005417. https://repository.nie.edu.sg/server/api/core/bitstreams/846cf9d9-c799-4773-a96a-0026e608613c/content (accessed on January 19, 2025).

Deterding, David. 2013. *Misunderstandings in English as a Lingua Franca: An analysis of ELF interactions in South-East Asia*. Berlin, Boston: De Gruyter Mouton. https://www.degruyterbrill.com/document/doi/10.1515/9783110288599/html?lang=en&srsltid=AfmBOoqyJLwXu20CWKpTHLMeqWz76sHVOwViYk0oN2VZUp2pn5Q1-5Ds (accessed on December 2, 2024).

Deterding, David & Kirkpatrick, Andy. 2006. Emerging South-East Asian Englishes and intelligibility. *World Englishes*. 25(3-4), 391-409. https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1467-971X.2006.00478.x (accessed on June 5, 2025).

Deterding, David & Mohamad, Nur Raihan. 2016. The Role of Vowel Quality in ELF Misunderstandings. *Journal of English as a Lingua Franca* 5 (2). 291-307. https://www.researchgate.net/publication/308490587_The_role_of_vowel_quality_in_ELF_misunderstandings (accessed on June 5, 2025).

Doğruöz, A. Seza; Sitaram, Sunayana, & Yong, Zheng Xin. 2023. Representativeness as a forgotten lesson for multilingual and code-switched data collection and preparation. *Findings of the Association for Computstional Linguistics: EMNLP*. 5751–5767. https://aclanthology.org/2023.findings-emnlp.382.pdf (accessed on April 23, 2025).

Dollmann, Jörg, Kogan, Irena & Weißmann, Markus. 2020. Speaking accent-free in L2 beyond the critical period: The compensatory role of individual abilities and opportunity structures. *Applied Linguistics* 41. 787-809. 10.1093/applin/amz029. https://www.researchgate.net/publication/345436125_Speaking_Accent-Free_in_L2_Beyond_the_Critical_Period_The_Compensatory_Role_of_Individual_Abilities_and_Opportunity_Structures (accessed on April 6, 2025).

Donegan, Patricia Jane & Stampe, David. 1979. The study of Natural Phonology. In D. A. Dinnsen (Ed.) *Current Approaches to Phonological Theory*. 126-173. Bloomington: Indiana University Press. https://www.researchgate.net/publication/208033185_The_study_of_Natural_Phonology (accessed on April 29, 2025).

Donegan, Patricia Jane & Stampe, David. 2009. Hypotheses of Natural Phonology. *Poznań Studies in Contemporary Linguistics* 45 (1). 1-31. School of English, Adam Mickiewicz University, Poznań, Poland. https://www.degruyterbrill.com/document/doi/10.2478/v10010-009-0002-x/html?lang=en&srsltid=AfmBOopDttmtuBjmqy6k7AiGtHAWX-UJpqkUt31dnmmE3X6YmQocRxy7 (accessed on April 29, 2025).

Eckman, Fred R. 2004. From phonemic differences to constraint rankings: Research on second language phonology. *Studies in Second Language Acquisition* 26(4), 513–549. https://doi.org/10.1017/S027226310404001X. https://www.researchgate.net/publication/231886010_From_Phonemic_Differences_to_Constraint_Rankings_Research_on_Second_Language_Phonology (accessed on May 17, 2025).

Eckman, Fred R. 2008. Typological markedness and second language phonology. In Jette G. Hansen Edwards & Mary L. Zampini (Eds.), *Phonology and Second Language Acquisition*. 95-115. John Benjamins Publishing Company. https://doi.org/10.1075/sibil.36.06eck. https://www.researchgate.net/publication/228352716_Typological_markedness_and_second_language_phonology (accessed on February 15, 2026).

Eckman, Fred R. 2014. Second language phonology. In S. Gass & A. Mackey (Eds.), *The Routledge Handbook of Second Language Acquisition*. 91-105. London & New York: Routledge. Taylor Francis Group.

El Marzouk, Ghaith. 1993. Some aspects of phonological transfer from Arabic to English. *Journal of the Irish Association for Applied Linguistics* 13. 29–40.

El Zarka, Amro Mohamed El Said. 2013. The Pronunciation Errors of L1 Arabic Learners of L2 English: The Role of Modern Standard Arabic and Vernacular Dialects Transfer, (Unpublished Master Dissertation), The British University in Dubai, Dubai: UAE.

El Zarka, Dina. 2011. Leading, linking, and closing tones and tunes in Egyptian Arabic – what a simple intonation system tells us about the nature of intonation. In E. Broselow & H. Ouali (Eds.), *Perspectives on Arabic Linguistics: Papers from the annual symposia on Arabic Linguistics*. 57–74. John Benjamins.

Ellis, Nick C. & Wulff, Stefanie. 2015. Usage-based approaches to SLA. In B. VanPatten, B. & J. Williams (Ed.), *Theories in Second Language Acquisition: Introduction*. 75-93. New York, NY: Routledge.

Ellis, Rod. 2015. The importance of focus on form in communicative language teaching. *Eurasian Journal of Applied Linguistics* 1(2). 1–12. https://dergipark.org.tr/tr/download/article-file/536717 (accessed on April 13, 2025).

Elmahdi, Omer & Khan, Waquar. 2015. The pronunciation problems faced by Saudi EFL learners at secondary schools. *Education and Linguistic Research* 1(2). 85–99.

Escudero, Paola & Boersma, Paul. 2004. Bridging the gap between L2 speech perception research and phonological theory. *Studies in Second Language Acquisition* 26(4), 551–585. https://doi.org/10.1017/S0272263104040021. https://www.researchgate.net/publication/46659609_Bridging_the_Gap_between_L2_Speech_Perception_Research_and_Phonological_Theory (accessed on April 29, 2025).

Fareh, Shehdeh. 2010. Challenges of teaching English in the Arab world: Why can't EFL programs deliver as expected? *Procedia Social and Behavioral Sciences* 2 .3600–3604. https://www.researchgate.net/publication/268361605_Challenges_of_teaching_English_in_the_Arab_world_Why_can't_EFL_programs_deliver_as_expected (accessed on April 2, 2024).

Fauzan, Umar. 2017. Inducing critical discourse analysis in speaking syllabus for EFL students. *Dinamika Ilmu* 17(1). 129–141. https://www.researchgate.net/publication/318058295_Inducing_Critical_Discourse_Analysis_in_Speaking_Syllabus_for_EFL_Students_of_Indonesian_Islamic_Universities (accessed on March 29, 2021).

Field, James. 2003. The fuzzy notion of "intelligibility": A headache for pronunciation teachers and oral testers. *IATEFL Special Interest Groups Newsletter*. 34–38.

Flege, James Emil. 1995. Second language speech learning: Theory, findings, and problems. In W. Strange (Ed.), *Speech perception and linguistic experience: Issues in cross-language research*. 233-277. Timonium, MD: *York Press*.

Flege, James Emil. 1999. Age of Learning and Second Language Speech. In D. Birdsong (Ed.), *Second Language Acquisition and the Critical Period Hypothesis*. 101–132. Mahwah, NJ: Lawrence Erlbaum.

Flege, James Emil & Bohn, Ocke-Schwen. 2021. The revised speech learning model (SLM-r). In: Wayland R. (Ed.). *Second language speech learning: Theoretical and empirical progress*. 3-83. Cambridge University Press.

Flege, James Emil & Port, Robert. 1981. Cross-language phonetic interference: Arabic to English. *Language and Speech* 24(2). 125–146. https://doi.org/10.1177/002383098102400202.

Foote, Jennifer Ann & Trofimovich, Pavel. 2018. Second language pronunciation learning: an overview of theoretical perspectives. In O. Kang, R. I. Thomson, & J. M. Murphy (Eds.), *The Routledge handbook of contemporary English pronunciation.* 75-90. New York, NY: Routledge.

Foote, Jennifer Ann; Trofimovich, Pavel; Collins, Laura; Urzúa, Fernanda Sole. 2013. Pronunciation teaching practices in communicative second language classes. *The Language Learning Journal* 44(2). 181–196.

https://doi.org/10.1080/09571736.2013.784345. https://www.paveltrofimovich.ca/wp-content/uploads/2021/07/Foote_et_al_2016.pdf (accessed on January 13, 2025).

Forvo. 2026. *Him* pronunciation in English. https://forvo.com/word/him/ (accessed on March 19, 2026).

Fraser, Helen. 2000. Coordinating improvements in pronunciation teaching for adult learners of English as a second language. Department of Education, Training and Youth Affairs, Canberra: DETYA (ANTA Innovative Project). https://helenfraser.com.au/wp-content/uploads/ANTA-REPORT-FINAL.pdf (accessed on April 29, 2022).

Fraser, Helen. 2001. *Teaching pronunciation: A handbook for teachers and trainers. Three frameworks and an integrated approach*. TAFE NSW, Access Division. https://helenfraser.com.au/wp-content/uploads/HF-Handbook.pdf (accessed on April 29, 2022).

Fraser, Helen. 2006. Helping teachers help students with pronunciation. *Prospect: A Journal of Australian TESOL* 21. 80–94.

Gass, Susan M. & Selinker, Larry. 2008. *Second language acquisition: An introductory course*. New York, NY: Routledge.

Gass, Susan M. & Varonis, Eangeline M. 1984. The effect of familiarity on the comprehensibility of nonnative speech. *Language Learning* 34(1), 65–89. https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1467-1770.1984.tb00996.x (accessed on April 23, 2025).

Goad, Heather. 2011. The representation of sC clusters. In *The Blackwell Companion to Phonology* (eds M. Oostendorp, C.J. Ewen, E. Hume and K. Rice). 898-923. Oxford: Wiley-Blackwell. https://doi.org/10.1002/9781444335262.wbctp0038 (accessed on March 18, 2026).

Gilakjani, Abbas. 2012. The Significance of Pronunciation in English Language Teaching. *English Language Teaching* 5. 96–107. 10.5539/elt.v5n4p96.

Gilakjani, Abbas. 2017. A Review of the Literature on the Integration of Technology into the Learning and Teaching of English Language Skills. *International Journal of English Linguistics* 7. 95–106. 10.5539/ijel.v7n5p95.

Gilbert, Judy. 2008. *Teaching Pronunciation: Using the Prosody Pyramid*. New York: Cambridge University Press. https://cuts-cart.org/pdf/Useful_Information-Gilbert_Teaching_Pronunciation.pdf (accessed on June 2, 2023).

Guessenhoven, Carlos. 2004. *The Phonology of Tone and Intonation*. Cambridge University Press, reprint with corrections 2008.

Habeeb, Kawthar. 2013. Teachers' perceptions toward implementing English as a foreign language at kindergarten: What can we learn from the case of Kuwaiti kindergarten teachers?. Graduate Theses and Dissertations retrieved from: https://scholarworks.uark.edu/etd/836 (accessed on May 8, 2025).

Haeri, Niloofar. 2003. *Sacred Language, Ordinary People: dilemmas of culture and politics in Egypt*. New York: Palgrave Macmillan.

Hall, Joan Kelly, Cheng, An & Carlson, Matthew T. Carlson. 2006. Reconceptualizing multicompetence as a theory of language knowledge. *Applied Linguistics* 27(2). 220–240. http://doi:10.1093/applin/aml013 (accessed on April 17, 2025).

Hartshorne, Joshua K., Tenenbaum, Joshua B. & Pinker, Steven. 2018. A critical period for second language acquisition: Evidence from 2/3 million English speakers. *Cognition* 177, 263-277. 10.1016/j.cognition.2018.04.007. https://www.sciencedirect.com/science/article/abs/pii/S0010027718300994 (accessed on April 17, 2025).

Hasan, Esraa, Ahn, Yuri & Altakhaineh, Abdel Rahman Mitib. 2024. A study on intelligibility, comprehensibility and accentedness based on the application pattern of lateralization and nasalization rules in foreign-accented speech of Korean. *Cogent Arts & Humanities 11*(1). 1-12. https://doi.org/10.1080/23311983.2024.2384708 (accessed on October 25, 2025).

Hassig, Hannah. 2011. Deriving Cairene Arabic from Modern Standard Arabic: A framework for using Modern Standard Arabic text to synthesize Cairene Arabic speech from phonetic

transcription. Master Thesis. Utrecht University, Utrecht: Netherlands. https://studenttheses.uu.nl/handle/20.500.12932/8367 (accessed on April 17, 2022).

Hellmuth, Samantha Jane. 2006. *Intonational pitch accent distribution in Egyptian Arabic*. Unpublished doctoral thesis, SOAS University of London.

Hucke, Nik. 2021. Phonology and fluency: How pronunciation is (and is not) taught in United States ESL classrooms. *Honors Program Theses* 470. https://scholarworks.uni.edu/hpt/470 (accessed on April 17, 2022).

Hughes, George W. & Halle, Morris. 1956. "Spectral properties of fricative consonants". *The Journal of the Acoustical Society of America* 28, 303–310. https://web.mit.edu/morrishalle/pubworks/papers/1956_Hughes_Halle_Special_Properties_of_Fricative_Consonants.pdf (accessed on May 12, 2025).

Huwari, Ibrahim. 2019. Pronunciation Errors in Egyptians' English. In *Literary Endeavour* X(5). 31–44. https://www.literaryendeavour.org/files/yy5lzwlquuqzlcwggf8t/2019-10%2006%20PRONUNCIATION%20ERRORS%20IN%20EGYPTIANS'%20ENGLISH%20-Dr.%20Ibrahim%20Fathi%20Huwari.pdf (accessed on January 4, 2022).

Huwari, Ibrahim & Mehawesh, Mohammad. (2015). Review of the Importance of Teaching Pronunciation in the Arab Society. *International Journal on Studies in English Language and Literature (IJSELL)* 3 (6). 31–37. https://www.zu.edu.jo/MainFile/Profile_Dr_UploadFile/Researcher/Files/ActivityFile_1518_43_25.pdf (accessed on February 9, 2022).

Iwashita, Noriko; Brown, Annie; McNamara, Tim & O'Hagan, Sally. 2008. Assessed levels of second language speaking proficiency: How distinct? *Applied Linguistics* 29(1), 24–49. https://doi.org/10.1093/applin/amm017. https://academic.oup.com/applij/article-abstract/29/1/24/258796 (accessed on May 22, 2025).

Jacewicz, Ewa, Fox, Robert A., & Salmons, Joseph. 2007. Vowel duration in three American English dialects. *American speech 82*(4), 367–385. https://doi.org/10.1215/00031283-2007-024. https://pmc.ncbi.nlm.nih.gov/articles/PMC2829779/pdf/nihms176835.pdf (accessed on July 24, 2025).

Jain, Mahavir P. 1974. Error Analysis: Source, Cause and Significance. In Richards, Jack. 1974. *Error Analysis: Perspectives on Second Language Acquisition*. London: Longman. 189–215.

James, Carl. (1998). *Errors in Language Learning and Use: Exploring error analysis*. London: Longman.

Javed, Farheen. 2013. Arabic and English phonetics: A comparative study. *The Criterion: An International Journal in English* 4(4). 1–13.

Jenkins, Jennifer. 2000. *The phonology of English as an international language*. Oxford: Oxford University Press.

Jenkins, Jennifer. 2009. English as a lingua franca: Interpretations and attitudes. *World Englishes: Journal of English as an International and Intranational Language* 28(2). 200–207.

Jenkins, Jennifer. 2012. English as a Lingua Franca from the classroom to the classroom. *ELT Journal*. 66(4). 486-494. https://seai.web.uniroma1.it/sites/default/files/jenkins-English%20as%20a%20Lingua%20Franca.pdf (accessed on March 4, 2021).

Jenkins, Jennifer. 2015. *Global Englishes: A Resource Book for Students*. London: Routledge. https://www.taylorfrancis.com/books/mono/10.4324/9781315761596/global-englishes-jennifer-jenkins (accessed on January 7, 2024).

Jeong, Hyeseung; Elgemark, Anna; Thorén, Bosse. 2021. Swedish youths as listeners of global Englishes speakers with diverse accents: Listener intelligibility, listener comprehensibility, accentedness perception, and accentedness acceptance. *Frontiers in Education* 6. 1-17. https://www.frontiersin.org/journals/education/articles/10.3389/feduc.2021.651908 (accessed on August 4, 2025).

Jindapitak, Naratip. 2015. English as a Lingua Franca: Learners' views on pronunciation. *Electronic Journal of Foreign Language Teaching* 12 (2). 260–275. https://www.researchgate.net/profile/Naratip-Jindapitak/publication/290457103_English_as_a_Lingua_Franca_Learners'_views_on_pronunciation/links/5efefa3e92851c52d6138340/English-as-a-Lingua-Franca-Learners-views-on-pronunciation.pdf (accessed on January 2, 2025).

Jongman, Allard; Wayland, Ratree; Wong, Serena. 2000. "Acoustic characteristics of English fricatives". Journal of the Acoustical Society of America 3 (108). 1252–1263. http://dx.doi.org/10.1121/1.1288413 (accessed on June 6, 2025).

Jurado-Bravo, María Ángeles. 2018. Vowel Quality and Vowel Length in English as a Lingua in Spain. *Journal of English and American Studies* 57. 13-34. ISSN: 1137 6368. https://dialnet.unirioja.es/descarga/articulo/6715679.pdf (accessed on April 2, 2025).

Kacem, Abd ELHamid & Sayah, Tewfik. 2020. The Effectiveness of Using the Brazil's Model of Discourse Intonation (DI) Theory as a Discourse Based Approach to Teaching Intonation: The case of second year undergraduate students at the department of English, KMUO 2019/2020. Master's Thesis. Kasdi Merbah University, Ouargla: Algeria. https://dspace.univ-ouargla.dz/jspui/bitstream/123456789/24649/1/KACEM-%20SAYAH.pdf (accessed on January 2, 2025).

Kang, Okim. 2010. Relative salience of suprasegmental features on judgments of L2 comprehensibility and accentedness. *System*. 38, 301–315. ISSN 0346-251X. https://doi.org/10.1016/j.system.2010.01.005. https://www.sciencedirect.com/science/article/abs/pii/S0346251X1000031X (accessed on April 14, 2025).

Kang, Okim & Ginther, April. 2018. Introduction. In Okim Kang & April Ginther (Eds.), *Assessment in Second Language Pronunciation of speaking*. 1-7. Routledge. https://www.taylorfrancis.com/books/edit/10.4324/9781315170756/assessment-second-language-pronunciation-okim-kang-april-ginther (accessed on April 12, 2025).

Kang, Okim; Rubin, Don & Pickering, Lucy. 2010. Suprasegmental measures of accentedness and judgments of language learner proficiency in oral English. Modern Language Journal, 94(4), 554–566. 10.1111/j.1540-4781.2010.01091.x. https://www.researchgate.net/publication/227723644_Suprasegmental_Measures_of_Accentedness_and_Judgments_of_Language_Learner_Proficiency_in_Oral_English (accessed on April 12, 2025).

Kang, Okim; Thomson, Ron I. & Moran, Meghan. 2018. Which features of accent affect understanding? Exploring the intelligibility threshold of diverse accent varieties. *Applied Linguistics*, 41(4), 453-480. https://www.researchgate.net/publication/345063890_Which_Features_of_Accent_affect_Understanding_Exploring_the_Intelligibility_Threshold_of_Diverse_Accent_Varieties (accessed on April 12, 2025).

Kelly, Louis G. 1969. *25 Centuries of Language Teaching*. Rowley, MA: Newbury House.

Kennedy, Sara & Trofimovich, Pavel. 2008. Intelligibility, comprehensibility, and accentedness of L2 speech: The role of listener experience and semantic context. *The Canadian Modern Language Review* 64(3). 459–489. https://doi.org/10.3138/cmlr.64.3.45. https://www.paveltrofimovich.ca/wp-content/uploads/2021/07/Kennedy-Trofimovich-2008.pdf (accessed on April 16, 2025).

Kent, Raymond D. & Read, Charles. 2002. *The Acoustic Analysis of Speech* (2nd ed.). Albany, NY: Delmar Cengage Learning. https://books.google.hu/books/about/The_Acoustic_Analysis_of_Speech.html?id=OmhqAAAAMAAJ&redir_esc=y (accessed on March 22, 2025).

Kenworthy, Joanne. 1987. Teaching English Pronunciation. Essex: Longman.

Kenworthy, Joanne. 1990. Teaching English Pronunciation. London: Longman Group UK Limited.

Khalifa, Mohamed Fathy. 2020. *Errors in English pronunciation among Arabic speakers.* Newcastle upon Tyne: Cambridge Scholars Publishing.

Khansir, Ali Akbar & Pakdel, Farhad. 2018. Study of errors and English language teaching: A systematic review. *The Journal of Social Sciences Research* 4(12). 531-538. https://doi.org/10.32861/jssr.412.531.538 (accessed on May 3, 2025).

Kharma, Nayef & Ali Hajjaj. 1989. *Errors of English among Arabic Speakers*. London: Longman.

Khattab, Ghada. 2000. VOT production in English and Arabic bilingual and monolingual children. *Leeds Working Papers in Linguistics and Phonetics* 8. 95–122. 10.1075/cilt.230.03kha. https://www.researchgate.net/publication/252687748_VOT_Production_in_English_and_Arabic_Bilingual_and_Monolingual_Children (accessed on January 14, 2024).

Kirkpatrick, Andy. 2010. *World Englishes: Implications for international communication and English language teaching*. Cambridge: Cambridge University Press.

Kirkpatrick, Andy; Deterding, David & Wong, Jennie. 2008. The international intelligibility of Hong Kong English. *World Englishes*, 27(3-4), 359-377. https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1467-971X.2008.00573.x (accessed on April 13, 2025).

Kirkpatrick, Andy & Saunders, Neville. 2005. The intelligibility of Singaporean English: A case study in an Australian university. In Deterding, Brown, & Low (Eds.), *English in Singapore: Phonetic research on a corpus.* 153–162. Singapore: McGraw-Hill. https://books.google.hu/books/about/English_in_Singapore.html?id=d_95AAAACAAJ&redir_esc=y (accessed on April 13, 2025).

Krashen, Stephen. 1982. Newmark's 'Ignorance Hypothesis' and current second language acquisition theory. Unpublished manuscript.

Krashen, Stephen & Terrell, Tracy. (1988). *The Natural Approach: Language acquisition in the classroom*. Prentice Hall Europe.

Ladd, Robert D. 2008. *Intonational phonology*. Cambridge University Press.

Ladefoged, Peter. 1982. *A Course in Phonetics*. New York: Harcourt Jovanovich.

Ladefoged, Peter & Johnson, Keith. 2011. *A Course in Phonetics* (6th ed.). Boston, MA: Wadsworth. https://theswissbay.ch/pdf/Books/Linguistics/A%20Course%20in%20Phonetics%206th%20Edition%20-%20Peter%20Ladefoged,%20Keith%20Johnson.pdfs (accessed on May 26, 2025).

Ladefoged, Peter & Maddieson, Ian. 1996. *The Sounds of the World's Languages*. Oxford: Blackwell. https://theswissbay.ch/pdf/Books/Linguistics/The%20Sounds%20of%20the%20World%27s%20Languages%20-%20Peter%20Ladefoged%2C%20Ian%20Maddieson.pdf (accessed on May 26, 2025).

Lado, Robert. 1957. *Linguistics Across Cultures: Applied Linguistics for Language Teachers*. University of Michigan Press.

Lantolf, James P. 2006. Sociocultural theory and L2: State of the art. *Studies in second language acquisition* 28(1). 67-109. Cambridge University Press.

Lantolf, James P. & Thorne, Steven L. 2006. *Sociocultural Theory and the Genesis of Second Language Development*. Oxford: Oxford University Press.

Larsen-Freeman, Diane. 2006. The emergence of complexity, fluency, and accuracy in the oral and written production of five Chinese learners of English. *Applied Linguistics* 27(4). 590–619. Oxford: Oxford University Press. doi:10.1093/applin/aml029.

Larsen-Freeman, Diane & Long, Michael H. 1991. *An Introduction to Second Language Acquisition Research*. London: Longman.

Lenneberg, Eric. 1967. *Biological Foundations of Language*. New York: John Wiley.

Levis, John M. 2005. Changing contexts and shifting paradigms in pronunciation teaching. *TESOL Quarterly* 39(3). 369-377. https://www.jstor.org/stable/3588485?origin=crossref (accessed on May 7, 2025).

Levis, John M. 2018. *Intelligibility, Oral Communication, and the Teaching of Pronunciation*. Cambridge: Cambridge University Press. 10.1017/9781108241564. https://dokumen.pub/qdownload/intelligibility-oral-communication-and-the-teaching-of-pronunciation-1108416624-9781108416627.html (accessed on February 20, 2026).

Lewis, Andrew. 1999. Past and present perceptions surrounding mission education: A historical metabletical overview, (Doctoral of Education Thesis), Stellenbosch: University of Stellenbosch. https://scholar.sun.ac.za/bitstreams/79ad8c9a-5061-4996-8d8e-1dcfea976ff8/download (accessed on March 23, 2023).

Lightbown, Patsy M. & Spada, Nina. 2013. *How Languages Are Learned* (4th ed.). Oxford: Oxford University Press. https://dl.avasshop.ir/article/teachingbooks/how_languages_are_learned.pdf (accessed on April 26, 2025).

Linell, Per. 1988. The impact of literacy on the conception of language: The case of Linguistics. In: Säljö, R. (eds) *The Written World. Springer Series in Language and Communication* 23. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-72877-8_3 (accessed on March 2, 2024).

Lisaan Masry Dictionary. 2026. https://eu.lisaanmasry.org/online/word.php?ui=en&id=25245&cn=2 (accessed on March 19, 2026).

Lisker, Leigh & Abramson, Arthur S. 1964. A cross-language study of voicing in initial stops: acoustical measurements. *Word* 20. 384–422. https://www.tandfonline.com/doi/abs/10.1080/00437956.1964.11659830 (accessed on May 26, 2025).

Macdonald, Shem. 2002. Pronunciation-views and practices of reluctant teachers. *Prospect* 17, 3–18.

Mahajna, Dua'a Abu Elhija and Davis, Stuart. 2016. On the status of derived affricates in Arabic dialects. In *Perspectives on Arabic Linguistics XXVIII: Papers from the Annual Symposium on Arabic Linguistics, Gainesville, Florida, 2014*. 89-104. John Benjamins Publishing Company. https://www.degruyterbrill.com/document/doi/10.1075/sal.4.04elh/html (accessed on July 26, 2025).

Mahmoud, Abdulmoneim. 2010. Modern standard Arabic vs. non-standard Arabic: Where do Arab students of EFL transfer from? *Language, Culture and Curriculum* 13(2). 126–136. DOI:10.1080/07908310008666594.

Major, Roy C. 1987. Phonological similarity, markedness, and rate of L2 acquisition. *Studies in Second Language Acquisition* 9 (1). 63-82. https://www.jstor.org/stable/44487386 (accessed on June 6, 2025).

Major, Roy C. 2001. *Foreign Accent: The ontogeny and phylogeny of second language phonology* (1st ed.). Routledge. https://doi.org/10.4324/9781410604293 (accessed on June 6, 2025).

Martin, Katherine. 2011. *Reading in English: a comparison of native Arabic and native English speakers.* Pittsburgh, PA: University of Pittsburgh MA thesis. http://d-scholarship.pitt.edu/8921/1/Katherine_I_Martin_MA_ETD_2011.pdf (accessed on February 17, 2023).

Martin, Philippe. 2013. Automatic prosodic comparison between model and imitation sentences in a second language teaching computerized environment. In De Meo, A. & Pettorino, M. (eds.), *Prosodic and rhythmic aspects of L2 acquisition: The case of Italian*, 263–276. Newcastle upon Tyne: Cambridge Scholars.

Matsuura, Hiroko; Chiba, Reiko; Mahoney, Sean, & Rilling, Sarah. 2014. Accent and speech rate effects in English as a lingua franca. *System* 46(1), 143–150. 10.1016/j.system.2014.07.015. https://profgwhitehead.weebly.com/uploads/4/7/9/3/47931813/accent_and_speech_rate_effects_in_english_as_a_lingua_franca.pdf (accessed on June 17, 2025).

McCarthy, John & Prince, Alan. 1993. *Prosodic Morphology I: constraint interaction and satisfaction*. Ms. University of Massachusetts, Amherst, and Rutgers University, New

Brunswick, NJ. https://scholarworks.umass.edu/entities/publication/21dcb756-62e2-4058-8060-39800ee8a8f9 (accessed on March 26, 2025).

McDonald, Janet. 2000. Grammaticality judgments in a second language: Influences of age of acquisition and native language. *Applied Psycholinguistics* 21. 395–423.

McKay, Sandra L. 2002. *Teaching English as an International Language: Rethinking Goals and Approaches*. Oxford: Oxford University Press.

Mitchell, Rosamund & Myles, Florence. 2004. Cognitive approaches to second language learning. In *Second Language Learning Theories* (2nd ed). 95-130. London: Hodder Arnold. https://vulms.vu.edu.pk/Courses/ENG504/Downloads/[Rosamond_Mitchell,_Florence_Myles]_Second_Languag(BookFi.org).pdf (accessed on February 17, 2023).

Mohammed, Amal Musa Karam Allah. 2021. English Pronunciation Problems Encountered by Basic School Pupils in Sudan. International Journal of English Language and Linguistics Research, 9(5), 25-34. https://www.eajournals.org/wp-content/uploads/English-Pronunciation-Problems-Encountered-by-Basic-School-Pupils-in-Sudan.pdf (accessed on May 17, 2025).

Morley, Joan. 1991. The Pronunciation Component in Teaching English to Speakers of Other Languages. *TESOL Quarterly* 25(3). 481–520. *JSTOR*, https://doi.org/10.2307/3586981 (accessed on April 26, 2021).

Mubarak, Ahmed Sahib & Rahi, Hawraa Jabbar. 2017. A Contrastive Phonological Study of Linking in English and Arabic. *Journal of Education and Practice* 8 (25). 29–36.

Munro, Murray J. 2008. Foreign accent and speech intelligibility. In *Hansen Edwards & Zampini (eds.)*, 193–218. https://www.researchgate.net/publication/349663832_Foreign_accent_and_speech_intelligibility (accessed on February 27, 2023).

Munro, Murray J. & Derwing, Tracey M. 1995. Foreign Accent, Comprehensibility, and Intelligibility in the Speech of Second Language Learners. *Language Learning* 45. 73–97. 10.1111/j.1467-1770.1995.tb00963.x. https://www.researchgate.net/publication/227941248_Foreign_Accent_Comprehensibilit

y_and_Intelligibility_in_the_Speech_of_Second_Language_Learners (accessed on April 16, 2025).

Munro, Murray J. & Derwing, Tracey M. 1999. Foreign accent, comprehensibility and intelligibility in the speech of second language learners. *Language Learning*. 49(1). 285–310. https://doi.org/10.1111/0023-8333.49.s1.8 (accessed on February 27, 2023).

Munro, Murray J., & Derwing, Tracey M. 2015. A prospectus for pronunciation research in the 21st century: A point of view. *Journal of Second Language Pronunciation* 1(1), 11–42. 10.1075/jslp.1.1.01mun. https://www.academia.edu/54944823/A_prospectus_for_pronunciation_research_in_the_21st_century_A_point_of_view?uc-g-sw=44257646 (accessed on April 16, 2025).

Munro, Murray J., Derwing, Tracey M., & Morton, Susan L. 2006. The mutual intelligibility of L2 speech. Studies in Second Language Acquisition, 28(1), 111–131. 10.1017/S0272263106060049. https://www.cambridge.org/core/journals/studies-in-second-language-acquisition/article/abs/mutual-intelligibility-of-l2-speech/0D63779B861EC31C7288AE0754F8A6E9 (accessed on April 16, 2025).

Na'ama, Abbas. 2011. An Analysis of Errors Made By Yemeni University Students in the English Consonant-Clusters System. *Damascus University Journal* 27(3). 145–161. https://www.damascusuniversity.edu.sy/mag/human/images/stories/145-161.pdf (accessed on March 6, 2024).

Nasr, Raja. 1997. *Applied English phonology for ESL/EFL learners*. University Press of America.

Nikbakht, Hamid. 2011. EFL Pronunciation Teaching: A Theoretical Review. *The Journal of Applied Linguistics* 4 (1). 146-174. https://oiccpress.com/jelpp/article/download/6311/3002/4022 (accessed on April 16, 2025).

Nygaard, Lynne C.; Sommers, Mitchell S. & Pisoni, David B. 1994. Speech perception as a talker contingent process. *Psychological Science* 5(1). 42–46. https://journals.sagepub.com/doi/abs/10.1111/j.1467-9280.1994.tb00612.x (accessed on April 16, 2025).

O'Connor, Joseph Desmond. 1980. *Better English pronunciation*. 2nd edn. Cambridge University Press.

O'Neal, George. 2015. ELF Intelligibility: The vowel quality factor. *Journal of English as a Lingua Franca* 4 (2): 347-358. https://www.degruyterbrill.com/document/doi/10.1515/jelf-2015-0026/html?lang=de (accessed on April 13, 2025).

Odlin, Terence. 1989. *Language Transfer: cross-linguistic influence in language learning*. Cambridge: Cambridge University Press.

Odlin, Terence. 2003. Cross-linguistic Influence. In *The Handbook of second language acquisition***,** Doughty, Catherine; Long, Michael H. (eds.). 436–486. Oxford: Blackwell Publishing. https://www.blackwellpublishing.com/content/BPL_Images/Content_store/WWW_Content/9780631217541/16Chap15.pdf (accessed on January 7, 2023).

Orikasa, Mami. 2016. The intelligibility of varieties of English in Japan. *World Englishes* 35(3). 355–371. https://onlinelibrary.wiley.com/doi/epdf/10.1111/weng.12209 (accessed on May 3, 2025).

Patsko, Laura. 2013. What is the lingua franca core? https://elfpron.wordpress.com/2013/11/21/what-is-the-lfc/ (accessed on January 9, 2016).

Pennington, Martha C. 1996. *Phonology in English language teaching: An international approach.* London: Longman.

Pike, Kenneth L. 1945. *The intonation of American English*. Ann Arbor, MI: University of Michigan Press.

Poedjosoedarmo, Gloria. 2003. *Teaching pronunciation, why, what, when, and how*. Singapore: SEAMEO Regional Language Centre.

Prince, Alan & Smolensky, Paul. 1991. Optimality. Talk given at Arizona Phonology Conference. University of Arizona, Tucson.

Prince, Alan & Smolensky, Paul. 1993. Optimality Theory: Constraint interaction in generative grammar (technical report RuCCS-TR-2). Rutgers University Center for Cognitive Science. https://roa.rutgers.edu/files/537-0802/537-0802-PRINCE-0-0.PDF (accessed on April 16, 2025).

Prodromou, Luke. 2006. A reader responds to J. Jenkins's 'Current perspectives on Teaching World Englishes and English as a Lingua Franca'. *TESOL Quarterly* 41, 409–13.

https://docs.ufpr.br/~clarissa/pdfs/EFL_ESL_ELF_Jenkins2006_ProdromResponds.pdf (accessed on April 1, 2025).

Race, Phil. 1998. Teaching: Creating a thirst for learning. In Brown, Sally, S. Armstrong, Gail Thompson (Eds.) *Motivating Students*. 47-58. London: Kogan Page Ltd. https://www.taylorfrancis.com/chapters/edit/10.4324/9781315042015-7/teaching-creating-thirst-learning-phil-race (accessed on January 13, 2024).

Reetz, Henning, & Jongman, Allard. 2009. *Phonetics: Transcription, production, acoustics, and perception*. Hoboken, N.J.: Wiley-Blackwell. https://books.google.hu/books?id=LpxJL1tJajgC&printsec=frontcover#v=onepage&q&f=false (accessed on March 18, 2024).

Richards, Jack C. 1971. Error analysis and second language strategies. *Language Sciences* 17. 12–20.

Richards, Jack C. 2003. 30 years of TEFL/TESL: A personal reflection. *TEFLIN Journal* 14(1). 14–57. https://doi.org/10.15639/teflinjournal.v14i1/14-57 (accessed on February 25, 2024).

Roach, Peter. 2009. *English Phonetics and Phonology* (4th ed.). Cambridge: Cambridge University Press.

Roach, Peter. 1982. On the distinction between "stress-timed" and "syllable-timed" languages. In: Crystal D (ed.) *Linguistic controversies*. London: Edward Arnold. 73–79.

Robin, Claerchille Jhulia C. 2022. To Say or Not To Say: ESL Learners' Perspective towards Pronunciation Instruction. *JELITA: Journal of Education, Language Innovation, and Applied Linguistics* 1(1). 26–36. https://jurnal.unsil.ac.id/index.php/jelita/article/view/4308/2077 (accessed on February 25, 2024).

Roessig, Simon, Winter, Bodo, & Mücke, Doris. 2022. Tracing the Phonetic Space of Prosodic Focus Marking. *Frontiers in artificial intelligence* 5. https://doi.org/10.3389/frai.2022.842546 (accessed on April 17, 2025).

Rossiter, Marian J. 2001. The Effects of Strategy Training on L2 Learners, (Unpublished Doctoral Dissertation), University of Alberta, Edmonton.

Rubdy, Rani, & Saraceni, Mario (eds.). 2006. *English in the World: Global Rules, Global Roles*. London: Continuum.

Russell, Kevin. 2005. *Acoustic phonetics: Formant frequencies*. University of Manitoba. https://home.cc.umanitoba.ca/~krussll/phonetics/acoustic/formants.html (accessed on April 19, 2025).

Sa'd, Seyyed Hatam Tamimi & Modirkhamene, Sima. 2015. Examining acculturation model in an EFL context: Learners' attitudes towards target language accent vs. L1 accent. *GEMA Online Journal of Language Studies*. 15(1). 25-38. DOI:10.17576/GEMA-2015-1501-02. https://www.semanticscholar.org/reader/2d667eb1a5b5dcc0132b1603040a6b28bdabdd24 (accessed on March 1, 2026).

Sadoune, Farida. 2018. Non-native interlanguage intonational system: An analysis of intonation for non-native learners of English. Doctoral thesis, University Mohamed Lamine Debaghine Sétif 2. http://dspace.univ-setif2.dz/xmlui/bitstream/handle/123456789/1199/Farida%20Sadoune.PDF?sequence=1&isAllowed=y (accessed on December 19, 2024).

Saito, Kazuya. 2012. Effects of Instruction on L2 Pronunciation Development: A Synthesis of 15 Quasi-Experimental Intervention Studies. *TESOL Quarterly* 46. 842-854. https://doi.org/10.1002/tesq.67 (accessed on April 17, 2025).

Saito, Kazuya & Plonsky, Luke. 2019. Effects of second language pronunciation teaching revisited: A proposed measurement framework and meta-analysis. Language Learning, 69(3), 652-708. 10.1111/lang.12345. https://www.researchgate.net/publication/331271213_Effects_of_Second_Language_Pronunciation_Teaching_Revisited_A_Proposed_Measurement_Framework_and_Meta-Analysis (accessed on April 19, 2025).

Saito, Kazuya & Shintani, Natsuko. 2016. Do native speakers of North American and Singapore English differentially perceive comprehensibility in second language speech? *TESOL Quarterly* 50(2). 421–446. https://doi.org/10.1002/tesq.234. https://www.jstor.org/stable/43893826 (accessed on April 18, 2025).

Saito, Kazuya; Tran, Mai; Suzukida, Yui; Sun, Hui; Magne, Viktoria & Ilkan, Meltem. 2019. How do L2 listeners perceive the comprehensibility of foreign-accented speech? Roles of L1 profiles, L2 proficiency, age, experience, familiarity, and metacognition. *Studies in Second Language Acquisition* (Cambridge University Press). 1-23. https://core.ac.uk/download/pdf/195384872.pdf (accessed on April 19, 2025).

Saito, Kazuya; Trofimovich, Pavel & Isaacs, Talia. 2017. Using listener judgments to investigate linguistic influences on L2 comprehensibility and accentedness: A validation and generalization study. *Applied Linguistics* 38(4). 439–462. 10.1093/applin/amv047. https://academic.oup.com/applij/article-abstract/38/4/439/2952156 (accessed on April 19, 2025).

Saville-Troike, Muriel. 2006. *Introducing Second Language Acquisition*. Cambridge: Cambridge University Press. https://uogbooks.wordpress.com/wp-content/uploads/2014/10/muriel_saville-troike_introducing_second_languagb-ok-org.pdf (accessed on March 16, 2023).

Schmidt, Richard W. 1977. Sociolinguistic variation and language transfer in phonology. *Working Papers on Bilingualism* 12. 79–95. https://files.eric.ed.gov/fulltext/ED135235.pdf (accessed on February 16, 2023).

Schmidt, Richard W. 2001. Attention. In P. Robinson (Ed.), *Cognition and second language instruction*. 3-32. Cambridge: Cambridge University Press.

Scovel, Thomas. 1988. *A Time to Speak: A Psycholinguistic Inquiry into the Critical Period for Human Language.* Rowley, MA: Newbury House.

Sedeek, Yasmine M. D. 2019. Factors that influence the pronunciation of interdentals in Modern Standard Arabic and English by Egyptian Arabic speakers. Master's Thesis: University of Mississippi. https://egrove.olemiss.edu/etd/1683/ (accessed on March 18, 2026).

Seidlhofer, Barbara. 2001. Closing the conceptual gap: The case for a description of English as a lingua franca. *International Journal of Applied Linguistics* 11. 133–158. https://onlinelibrary.wiley.com/doi/epdf/10.1111/1473-4192.00011 (accessed on April 3, 2025).

Seidlhofer, Barbara. 2007. English as a lingua franca and communities of practice. In Sabine Volk-Birke and Julia Lippert (eds.), *Halle 2006 Proceedings*. 307–318. Trier: Wissenschaftlicher Verlag. https://ucrisportal.univie.ac.at/en/publications/english-as-a-lingua-franca-and-communities-of-practice-2 (accessed on April 3, 2025).

Seidlhofer, Barbara. 2011. *Understanding English as a Lingua Franca*. Oxford: Oxford University Press. https://dokumen.pub/understanding-english-as-a-lingua-franca-1nbsped-9780194426206-9780194375009.html (accessed on April 3, 2025).

Selinker, Larry. 1972. Interlanguage. *IRAL: International Review of Applied Linguistics in Language Teaching* 10, 209–241. https://doi.org/10.1515/iral.1972.10.1-4.209 (accessed on May 15, 2024).

Sheppard, Beth E., Elliott, Nancy C., & Baese-Berk, Melissa M. 2017. Comprehensibility and intelligibility of international student speech: Comparing perceptions of university EAP instructors and content faculty. *Journal of English for Academic Purposes* 26. 42–51. 10.1016/j.jeap.2017.01.006. https://www.sciencedirect.com/science/article/abs/pii/S1475158517300061 (accessed on May 7, 2025).

Sobkowiak, Włodzimierz. 2005. Why not LFC? In Katarzyna Dziubalska-Kołaczyk and Joanna Przedlecka (eds.), *English Pronunciation Models: A Changing Scene*. 131–149. Frankfurt am Main: Lang.

Spada, Nina, & Lightbown, Patsy M. 1999. Instruction, first language influence, and developmental readiness in second language acquisition. *Modern Language Journal* 83. 1–22. https://www.jstor.org/stable/330403 (accessed on February 20, 2023).

Sproat, Richard & Fujimura, Osamu. 1993. Allophonic variation in English /l/ and its implications for phonetic implementation. *Journal of Phonetics, 21*(3), 291–311. http://www.ai.mit.edu/projects/dm/featgeom/sproat-fujimura93-L.pdf (accessed on May 20, 2025).

Stadlbauer, Susanne . 2010. Language ideologies in the Arabic diglossia of Egypt. *Colorado Research in Linguistics* 22. Boulder: University of Colorado.

Stampe, David. 1969. The acquisition of phonetic representation. *Papers from the Fifth Regional Meeting of the Chicago Linguistic Society*. 443-454. Chicago: Chicago Linguistic Society.

Stevens, Kenneth N. 2000. *Acoustic Phonetics.* Cambridge, MA: MIT Press. https://books.google.hu/books/about/Acoustic_Phonetics.html?id=Gej94hCGrLMC&redir_esc=y (accessed on May 20, 2025).

Strange, Winifred. 2011. Automatic selective perception (ASP) of first and second language speech: A working model. *Journal of Phonetics* 39(4). 456–466. https://doi.org/10.1016/j.wocn.2010.09.001 (accessed on April 24, 2025).

Taylor, Becky. & Hellmuth, Sam. 2012. Are English listeners 'deaf' to L2 stress? Paper presented at *EURO-SLA*, Adam Mickiewicz University, 5th-8th September 2012.

Tergujeff, Elina. 2012. The English Pronunciation Teaching in Europe Survey: Finland. *Journal of Applied Language Studies* 6 (1). 29–45. https://apples.journal.fi/article/view/97831/55844 (accessed on May 11, 2025).

Tergujeff, Elina. 2013. Learner Perspective on English Pronunciation Teaching in an EFL Context. *Research in Language* 11. 81–95. 10.2478/v10015-012-0010-z.

Thao, Mai Thi Phuong. 2020. Role of L1 in L2 acquisition according to contrastive analysis hypothesis and error analysis. *Journal of Education and Practice* 11(2). 102–107 https://core.ac.uk/download/pdf/287193056.pdf (accessed on March 2, 2023).

Thomson, Ron I. 2015. Fluency. In M. Reed & J. Levis (Eds.), *The Handbook of English Pronunciation*. 209–226. Hoboken, New Jersey: John Wiley & Sons. 10.1002/9781118346952.ch12. https://www.researchgate.net/publication/276267427_Fluency (accessed on May 11, 2025).

Thomson, Ron I. & Derwing, Tracey M. 2014. The effectiveness of L2 pronunciation instruction: a narrative review. *Applied Linguistics* 36(3). 326–344. doi: 10.1093/applin/amu076. https://www.researchgate.net/publication/271827649_The_Effectiveness_of_L2_Pronunciation_Instruction_A_Narrative_Review (accessed on May 1, 2025).

Tikkakoski, Saara. 2015. Communicative language teaching as English pronunciation teaching method: Developing exercises (Unpublished bachelor's thesis). English Philology Faculty of the Humanities University of Oulu. https://urn.fi/URN:NBN:fi:oulu-201602031107 (accessed on December 5, 2024).

Trofimovich, Pavel & Baker, Wendy. 2006. Learning Second Language Suprasegmentals: Effect of L2 experience on prosody and fluency characteristics of L2 speech. *Studies in Second Language Acquisition* 28. 1-30. 10.1017/S0272263106060013. https://www.paveltrofimovich.ca/wp-content/uploads/2021/07/Trofimovich-Baker-2006.pdf (accessed on April 6, 2023).

Trubetzkoy, Nikolai S. 1939. *Grundzuge der Phonologie*. Berkeley and Los Angeles: University of California Press.

https://monoskop.org/images/7/73/Trubetzkoy_NS_Principles_of_Phonology.pdf (accessed on August 16, 2023).

Trudgill, Peter. 2005. Native speaker segmental phonological models and the English lingua franca core. In K. Dziubalska-Kołaczyk, & J. Przedlacka (Eds.), English pronunciation models: A changing scene. 77-98. Bern: Peter Lang.

Tushyeh, Hanna. 1996. Linguistic problems facing Arab learners of English. *ITL: Review of applied linguistics* 111, 109–117.

Uchihara, Takumi; Webb, Stuart; Saito, Kazuya & Trofimovich, Pavel. 2022. Frequency of exposure influences accentedness and comprehensibility in learners' pronunciation of second language words. *Language Learning* 73(1). 84-125. 10.1111/lang.12517. https://www.researchgate.net/publication/363117075 (accessed on October 26, 2025).

Ullman, Michael T. 2015. The declarative/procedural model: A neurobiologically motivated theory of first and second language. In B. VanPatten, B. & J. Williams (Ed.), *Theories in Second Language Acquisition: Introduction*. 135-158. New York, NY: Routledge. https://bpb-us-w2.wpmucdn.com/sites.udel.edu/dist/b/8405/files/2020/07/Ullman-2015.pdf (accessed on March 30, 2025).

Ur, Penny. 2009. *A Course in Language Teaching Practice and Theory: Cambridge teaching training and development*. Cambridge: Cambridge University Press. https://sacunslc.wordpress.com/wp-content/uploads/2015/03/penny-ur-a-course-in-language-teaching-practice-of-theory-cambridge-teacher-training-and-development-1996.pdf (accessed on November 29, 2023).

Uzun, Tarik. 2022. Preservice English teachers' attitudes and beliefs about learning and teaching Pronunciation. *Dil Dergisi* 173(2). 22-42. https://doi.org/10.33690/dilder.1040120 (accessed on October 31, 2025).

Vygotsky, Lev Semyonovich. 1978. *Mind in Society: The development of higher psychological processes*. Massachusetts: Harvard University Press.

Walker, Robin. 2010. *Teaching the Pronunciation of English as a Lingua Franca*. Oxford: Oxford University Press. Adapted, pre–print version of the description of the Lingua Franca Core. https://englishglobalcom.wordpress.com/wp-content/uploads/2020/06/the-lingua-franca-core.pdf (accessed on March 13, 2024).

Walker, Robin. 2010a. *Teaching the Pronunciation of English as a Lingua Franca*. Oxford: Oxford University Press.

Wandel, Reinhold. 2003. Teaching India in the EFL-classroom: A cultural or an intercultural approach? In Byram, Mike & Phipps, Alison (ed.) *Context and Culture in Language Teaching and Learning*. 72–80. http://ndl.ethernet.edu.et/bitstream/123456789/8798/1/78pdf.pdf (accessed on May 3, 2022).

Watson, Janet C.E. 2002. *The Phonology and Morphology of Arabic*. New York: O.U.P. https://coehuman.uodiyala.edu.iq/uploads/Coehuman%20library%20pdf/English%20library%D9%83%D8%AA%D8%A8%20%D8%A7%D9%84%D8%A7%D9%86%D9%83%D9%84%D9%8A%D8%B2%D9%8A/phonetics/The%20Phonology%20and%20Morphology%20of%20Arabic%20(The%20Phonology%20of%20the.pdf (accessed on August 3, 2022).

Watterson, Matthew. 2008. Repair of non-understanding in English in international communication. *World Englishes*, 27(3-4), 378–406.

Wells, John. 2005. Goals in teaching English pronunciation. https://www.phon.ucl.ac.uk/home/wells/poznan03_wells.pdf (accessed on May 21, 2025).

Widdowson, Henry G. 1994. The ownership of English. *TESOL Quarterly* 28(2), 337–389.

Winke, Paula; Gass, Susan & Myford, Carol. 2013. Raters' L2 background as a potential source of bias in rating oral performance. *Language Testing* 30(2), 231–252. https://journals.sagepub.com/doi/abs/10.1177/0265532212456968 (accessed on June 16, 2025).

Young-Scholten, Martha. 2011. *The Acquisition of Prosodic Structure in a Second Language*. Germany: Max Niemeyer Verlag.

Youssef, Islam M. 2006. Vocalic feature assimilation in Cairene Arabic and Buchan Scots: Contrast and phonological activity in the Parallel Structures Model of Feature Geometry. Master's Thesis, University of Tromsø. https://munin.uit.no/bitstream/handle/10037/191/thesis.pdf?sequence=1&isAllowed= (accessed on January 21, 2022).

Zahro, Syifa' Khuriyatuz. 2021. Unintelligible speech: Listeners' awareness to Indonesian-accented speech with pronunciation errors. *Language Literacy: Journal of Linguistics,*

Literature and Language Teaching 5 (1). 242-253. https://jurnal.uisu.ac.id/index.php/languageliteracy/article/view/3738 (accessed on October 31, 2025).

Zoghbor, Wafa Shahada. 2011. The Effectiveness of the Lingua Franca Core (LFC) in Improving the Perceived Intelligibility and Perceived Comprehensibility of Arab Learners at PostSecondary Level. University of Leicester. Thesis. https://hdl.handle.net/2381/9635 (accessed on April 19, 2025).

Appendices

(reproduced from Abdelreheem 2025)

Appendix 1

For Students: English Pronunciation Teaching and Learning in Egypt صوتيات اللغة الإنجليزية في مصر

Answer the open-ended questions in English or Arabic يمكنك الإجابة على الأسئلة ذات الإجابات المفتوحة بالإنجليزية أو العربية

1- Mark one of the following: اختر واحدا من الآتي
I am a learner of English أقوم بدراسة اللغة الإنجليزية
I am both a learner and a teacher of English أقوم بدراسة اللغة الإنجليزية وتدريسها أيضا

2- What school did you go to? بأي لغة درست في المرحلة المدرسية؟
Arabic-medium درست باللغة العربية
English-medium درست باللغة الإنجليزية
Other foreign-language-medium (French, German, etc.) درست بلغة أخرى (كالفرنسية، الألمانية، إلخ)

3- How important do you think studying English is? ما أهمية دراسة الإنجليزية في رأيك؟
Not at all important غير مهم على الإطلاق
Somewhat important مهم إلى حد ما
Neutral متوسط الأهمية
Important مهم
Very important مهم جدا

4- Why or why not? Please answer in detail. فضلا اذكر بعض أسباب وتفاصيل ذلك من وجهة نظرك

5- What do you find most problematic among the skills of English? Mark all that are relevant.
ما هي أصعب مهارات اللغة الإنجليزية في رأيك؟ يمكنك اختيار أكثر من مهارة
Writing الكتابة
Reading and comprehension القراءة والفهم
Listening الاستماع
Speaking/pronunciation التحدث أو النطق
None لا شيء مما سبق

6- How important do you think studying English pronunciation is? ما أهمية دراسة نطق أو صوتيات اللغة الإنجليزية في رأيك؟
Not at all important غير مهم على الإطلاق
Somewhat important مهم إلى حد ما
Neutral متوسط الأهمية
Important مهم
Very important مهم جدا

7- Which of the following English pronunciation aspects did you study at school? Please mark all that are relevant. أي من فروع الصوتيات الآتية درست في المرحلة المدرسية؟ فضلا قم بتظليل جميع ما تراه مناسبا
Pronunciation of individual sounds نطق الأصوات منفردة
Word and/or sentence stress (على مقطع في كلمة أو كلمة في جملة) الضغط الصوتي
Rhythm إيقاع النطق
Features of connected speech خصائص وسمات الحديث المتصل
Intonation التنغيم
Other فروع أخرى
None لا شيء مما سبق

8- In case you learned about any of those listed in the previous question, then how would you rate the weight given to the teaching of it/them? في حالة دراستك لأي أو كل ما سبق، كم من أهمية أعطيت لتدريس هذه الفروع؟
Much أهمية كبيرة
Moderate أهمية متوسطة
Little أهمية متواضعة
None لا أهمية على الإطلاق

9- How difficult do you think English pronunciation is? ما هو تقييمك لمدى صعوبة نطق/صوتيات اللغة الإنجليزية؟
Very easy سهل جدا
Easy سهل
Moderate متوسط الصعوبة
Difficult صعب
Very difficult صعب جدا

10- What do you find most problematic among the aspects of English pronunciation? Mark all that are relevant.
ما هي فروع الصوتيات الأكثر صعوبة بالنسبة لك؟ اختر جميع ما تراه مناسبا
Pronunciation of individual sounds نطق الأصوات منفردة
Word and sentence stress (على مقطع في كلمة أو كلمة في جملة) الضغط الصوتي
Rhythm إيقاع النطق
Features of connected speech خصائص وسمات الحديث المتصل
Intonation التنغيم
Other فروع أخرى
None لا شيء مما سبق

11- Which accent of English do you prefer? أي من لكنات الإنجليزية التالية تفضل؟
British accent اللكنة البريطانية
American accent اللكنة الأمريكية
Both كليهما
Other لكنة/لكنات أخرى
No preference ليس لدي تفضيلات

12- Please elaborate on your choice. اذكر أسباب لاختيارك السابق

13- What is the least favourite accent of English? أي من لكنات الإنجليزية التالية هي الأقل تفضيلا بالنسبة لك؟
British accent اللكنة البريطانية
American accent اللكنة الأمريكية
Other لكنة/لكنات أخرى
None لا يوجد

14- Please elaborate on your choice. اذكر أسباب لاختيارك السابق

15- Which accent of English do you think should be adopted in the Egyptian curricula? أي لكنات اللغة الإنجليزية يجب أن تتبناها المناهج المصرية في رأيك؟
British accent اللكنة البريطانية
American accent اللكنة الأمريكية
Other لكنة/لكنات أخرى
Not sure غير متأكد/ة

16- Please elaborate on your choice. اذكر أسباب لاختيارك السابق

17- How do you feel about the Egyptian pronunciation/accent of English? ما هو انطباعك عن نطق المصريين للغة الإنجليزية؟

18- What do you think is remarkable in the Egyptian pronunciation of English? ما الذي تراه مميزا في نطق المصريين للغة الإنجليزية؟

19- What do you think about your own pronunciation of English?
Do you like your own pronunciation of English?
How would you rate your own pronunciation of English?
ما هو انطباعك عن نطقك الشخصي للغة الإنجليزية؟

20- Do you think your native tongue (Egyptian Arabic) has an influence on your pronunciation of English? هل تعتقد أن للغتك الأم (العامية المصرية) تأثيرا على نطقك للإنجليزية؟
Please give a detailed answer. فضلا أجب تفصيلا

21- Do you think a foreign language learner should aim for native pronunciation of English? Why/Why not? في رأيك، هل تعتقد بأنه ينبغي على الدارسين اتقان نطق اللغة الإنجليزية درجة اتقان أهل اللغة؟

22- Which do you think is crucial in communication? ما هو أساس التواصل اللغوي من وجهة نظرك؟
Native/native-like pronunciation of English نطقا كنطق أهل اللغة الإنجليزية
Mutual intelligibility فهم أطراف التواصل (المتحدثين) بعضهم
Both كلاهما
Other عوامل أخرى

23- Please elaborate on your choice. اذكر أسباب لاختيارك السابق

24- What do you think can hinder the acquisition of proper English pronunciation? من وجهة نظرك، ما الذي يمكن أن يعيق الاكتساب السليم لقواعد نطق اللغة الإنجليزية؟

25- Do you think the teaching of English pronunciation in Egypt needs to be improved? هل تعتقد أن تدريس نطق اللغة الإنجليزية في مصر بحاجة إلى تطوير؟
Yes نعم
No لا

26- Please elaborate on your choice. اذكر أسباب لاختيارك السابق

27- In your viewpoint, what is/are the most efficient method(s)/style(s)/technique(s) of learning/teaching pronunciation? ما هي أكثر أساليب/استراتيجيات تعلم/تدريس نطق اللغة الإنجليزية الأكثر فاعلية من وجهة نظرك؟
What approaches/activities would you like to see applied in classrooms and textbooks? ما هي المداخل والأنشطة التي تتمنى تطبيقها في المحاضرات والمناهج؟

Appendix 2

For Teachers: English Pronunciation Teaching and Learning in Egypt صوتيات اللغة الإنجليزية في مصر

1- Mark one of the following: اختر واحدا من الآتي
I am a teacher of English أقوم بتدريس اللغة الإنجليزية
I am both a teacher and a learner of English أقوم بتدريس اللغة الإنجليزية ودراستها أيضا

2- What school did you go to? بأي لغة درست في المرحلة المدرسية؟
Arabic-medium درست باللغة العربية
English-medium درست باللغة الإنجليزية
Other foreign-language-medium (French, German, etc.) درست بلغة أخرى (كالفرنسية، الألمانية، إلخ)

3- How important do you think studying English is? ما أهمية دراسة الإنجليزية في رأيك؟
Not at all important غير مهم على الإطلاق
Somewhat important مهم إلى حد ما
Neutral متوسط الأهمية
Important مهم
Very important مهم جدا

4- Why or why not? Please answer in detail. فضلا اذكر بعض أسباب وتفاصيل ذلك من وجهة نظرك

5- What do you find most problematic among the skills of English? Mark all that are relevant.
ما هي أصعب مهارات اللغة الإنجليزية في رأيك؟ يمكنك اختيار أكثر من مهارة
Writing الكتابة
Reading and comprehension القراءة والفهم
Listening الاستماع
Speaking/pronunciation التحدث أو النطق
None لا شيء مما سبق

6- How important do you think studying English pronunciation is? ما أهمية دراسة نطق أو صوتيات اللغة الإنجليزية في رأيك؟
Not at all important غير مهم على الإطلاق
Somewhat important مهم إلى حد ما
Neutral متوسط الأهمية
Important مهم
Very important مهم جدا

7- Which of the following English pronunciation aspects did you study at school? Please mark all that are relevant. أي من فروع الصوتيات الآتية درست في المرحلة المدرسية؟ فضلا قم بتظليل جميع ما تراه مناسبا
Pronunciation of individual sounds نطق الأصوات منفردة
Word and/or sentence stress الضغط الصوتي (على مقطع في كلمة أو كلمة في جملة)
Rhythm إيقاع النطق

Features of connected speech خصائص وسمات الحديث المتصل
Intonation التنغيم
Other فروع أخرى
None لا شيء مما سبق

8- In case you learned about any of those listed in the previous question, then how would you rate the weight given to the teaching of it/them? في حالة دراستك لأي أو كل ما سبق، كم من أهمية أعطيت لتدريس هذه الفروع؟
Much أهمية كبيرة
Moderate أهمية متوسطة
Little أهمية متواضعة
None لا أهمية على الإطلاق

9- How difficult do you think English pronunciation is? ما هو تقييمك لمدى صعوبة نطق/صوتيات اللغة الإنجليزية؟
Very easy سهل جدا
Easy سهل
Moderate متوسط الصعوبة
Difficult صعب
Very difficult صعب جدا

10- What do you find most problematic among the aspects of English pronunciation? Mark all that are relevant.
ما هي فروع الصوتيات الأكثر صعوبة بالنسبة لك؟ اختر جميع ما تراه مناسبا
Pronunciation of individual sounds نطق الأصوات منفردة
Word and sentence stress الضغط الصوتي (على مقطع في كلمة أو كلمة في جملة)
Rhythm إيقاع النطق
Features of connected speech خصائص وسمات الحديث المتصل
Intonation التنغيم
Other فروع أخرى
None لا شيء مما سبق

11- Which accent of English do you prefer? أي من لكنات الإنجليزية التالية تفضل؟
British accent اللكنة البريطانية
American accent اللكنة الأمريكية
Both كليهما
Other لكنة/لكنات أخرى
No preference ليس لدي تفضيلات

12- Please elaborate on your choice. اذكر أسباب لاختيارك السابق

13- What is the least favourite accent of English? أي من لكنات الإنجليزية التالية هي الأقل تفضيلا بالنسبة لك؟

British accent اللكنة البريطانية
American accent اللكنة الأمريكية
Other لكنة/لكنات أخرى
None لا يوجد

14- Please elaborate on your choice. اذكر أسباب لاختيارك السابق

15- Which accent of English do you think should be adopted in the Egyptian curricula? أي لكنات اللغة الإنجليزية يجب أن تتبناها المناهج المصرية في رأيك؟
British accent اللكنة البريطانية
American accent اللكنة الأمريكية
Other لكنة/لكنات أخرى
Not sure غير متأكد/ة

16- Please elaborate on your choice. اذكر أسباب لاختيارك السابق

17- How do you feel about the Egyptian pronunciation/accent of English? ما هو انطباعك عن نطق المصريين للغة الإنجليزية؟

18- What do you think is remarkable in the Egyptian pronunciation of English? ما الذي تراه مميزا في نطق المصريين للغة الإنجليزية؟

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Please give a detailed answer. فضلا أجب تفصيلا

21- Do you think a foreign language learner should aim for native pronunciation of English? Why/Why not? في رأيك، هل تعتقد بأنه ينبغي على الدارسين اتقان نطق اللغة الإنجليزية درجة اتقان أهل اللغة؟

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Mutual intelligibility فهم أطراف التواصل (المتحدثين) بعضهم
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25- Do you think the teaching of English pronunciation in Egypt needs to be improved? هل تعتقد أن تدريس نطق اللغة الإنجليزية في مصر بحاجة إلى تطوير؟
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No لا

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What approaches/activities would you like to see applied in classrooms and textbooks? ما هي المداخل والأنشطة التي تتمنى تطبيقها في المحاضرات والمناهج؟

28- Do you teach pronunciation in class? هل تقوم بتدريس مهارات النطق في محاضراتك؟
Yes نعم
No لا

29- If yes, what aspects, how do you teach them, which materials do you use and how often do you teach them? Please answer in detail. إذا كنت قد أجبت عن السؤال السابق بنعم، ما هي الأساليب والمادة العلمية التي تستخدمها؟ كم مرة بالأسبوع/الشهر/الفصل الدراسي/السنة الدراسية؟ فضلا أجب تفصيلا

30- Do you assess your students' pronunciation? هل تقوم باختبار أو تصحيح نطق الطلاب أثناء المحاضرات؟
Yes نعم
No لا

31- If yes, how? إذا كانت إجابتك السابقة "نعم"، كيف يتم ذلك؟

32- Do you attempt to correct students' pronunciation inaccuracies? هل تحاول تصحيح أخطاء النطق لدى الطلاب؟
Yes نعم
No لا

33- If yes, what aspects do you tend to focus on and how do you correct them? إذا كانت إجابتك السابقة "نعم"، ما هي فروع النطق التي تفضل التركيز عليها؟ وكيف تقوم بتصحيحها؟

34- Do you think there is a relationship between teacher and learner personalities and L2 pronunciation teaching and acquisition? Please answer in detail. هل تعتقد بأن شخصيات المعلم والمتعلم تلعب دورا في تدريس واكتساب النطق السليم للغة الأجنبية الثانية؟ فضلا اعط إجابة مفصلة بقدر الإمكان

35- What do you think are the drawbacks of the pronunciation courses/materials provided for your students (if there are any)?
من وجهة نظرك، ما هي عيوب/مساوىء المناهج/المواد التعليمية الخاصة بالنطق والمتاحة لطلابك (إن وجدت)؟

36- Do you face any challenges while teaching English pronunciation? Please give a detailed answer.
هل تواجه أية تحديات بالنسبة لتدريس أيا من قواعد صوتيات اللغة الإنجليزية؟ فضلا أجب بالتفصيل