INVESTIGATING PRONUNCIATION ERRORS OF IRAQI EFL STUDENT TEACHERS IN ORAL PERFORMANCE: AN ERROR ANALYSIS STUDY

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Mohammed Mustafa Abdulqader ALJABAR

Thesis Advisor
Assist. Prof. Dr. Khalid Ibrahim Mohammed ALAHMED

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Assist. Prof. Dr. Khalid Ibrahim Mohammed ALAHMED

T.C.
Karabuk University
Institute of Graduate Programs
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THESIS APPROVAL PAGE

I certify that in my opinion the thesis submitted by Mohammed Mustafa Abdulqader ALJABAR titled "INVESTIGATING PRONUNCIATION ERRORS OF IRAQI EFL STUDENT-TEACHERS IN ORAL PERFORMANCE: AN ERROR ANALYSIS STUDY" is fully adequate in scope and in quality as a thesis for the degree of Master of Arts.

Assist. Prof. Dr. Khalid Ibrahim ALAHMED ....

Thesis Advisor, College of Nursing, Nineveh University, Iraq

This thesis is accepted by the examining committee with a unanimous vote in the Department of English Language and literature as a Master of Arts thesis, June 22 2023

Examining Committee Members (Institutions) Signature

Chairman : Assist. Prof. Dr. Khalid Ibrahim ALAHMED (NU) ....

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DECLARATION

I hereby declare that this thesis is the result of my own work and all information included has been obtained and expounded in accordance with the academic rules and ethical policy specified by the institute. Besides, I declare that all the statements, results, materials, not original to this thesis have been cited and referenced literally.

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Name Surname: Mohammed Mustafa Abdulqader ALJABAR

Signature:

FORWARD

DEDICATIONS

To those who encourage me to achieve my dreams: My father for sacrificing a lot for me; my mother for her prayers that always protect me and opened for me the doors to success and happiness; my sisters and my brothers for being a real source of motivation and success; my darling wife for supporting and encouraging me to accomplish my study successfully; and my lovely children for waiting impatiently for the end... I dedicate this work.

ABSTRACT

One of the crucial skills for communication is speaking and within this skill pronunciation seems the most important. However, learners face difficulty to acquire this skill. Therefore, this study aims to investigate the pronunciation errors made by Iraqi EFL student teachers and to find out the reasons that underlie these errors. The main research questions were what are the common types of pronunciation errors? and what are the reasons behind them? In order to achieve these aims and answer the questions, a sample of 50 forth year undergraduate students at the University of Mosul, College of Education, Department of English for the academic year 2022-2023 were chosen to be the source of data in this study. The mixed method approach was used for data collection. That is, three research instruments are used, namely, classroom observation, speaking test and focus groups interviews. The study is focused on the following features of pronunciation: short vowels, long vowels, diphthongs, assimilation and consonant clusters. The study used two models, namely, Oxford Dictionary and Peter Roach "Phonetics and phonology" (2009) for the analysis and identification of errors. As for the results analysis, SPSS was used to provide statistical accounts of the identified errors. Qualitative descriptive analysis is also used to analyze data collected from focus groups and statistical accounts. The study found that Iraqi EFL student teachers make pronunciation errors both in vowel, of all types, and consonant cluster and assimilation. It is found that vowels are the most problematic for learners than consonant clusters and assimilation. They scored 65% of the total percentage. Within vowels, short vowels are the most problematic and diphthongs are the least, they scored 56% and 19% respectively. Regarding suprasegmental features, it is found that assimilation is more problematic than consonant cluster. It scored 78% of the errors. Progressive assimilation is the dominant one. Consonant cluster scored 22%. The study recommended that teachers of pronunciation should increase the practical rather than the theoretical lessons. They are recommended too to raise learner's awareness about the importance of pronunciation and the importance of sufficient use and exposure to the target language to overcome the habits of their native language.

Key words: Pronunciation Errors, Iraqi EFL student teachers, Oral performance, Error analysis

ÖZ

İletişim için en önemli becerilerden biri konuşmadır ve bu beceri içinde telaffuz en önemlisi gibi görünmektedir. Ancak, öğrenciler bu beceriyi kazanmakta güçlüklerle karşılaşırlar. Bu nedenle, bu çalışma İngilizceyi yabancı dil olarak öğrenen öğretmen adayları tarafından yapılan telaffuz hatalarını araştırmayı ve bu hataların altında yatan nedenleri bulmayı amaçlamaktadır. Ana araştırma soruları, yaygın telaffuz hatası türleri nelerdir? ve arkasındaki sebepler nelerdir? Bu amaçlara ulaşmak ve soruları cevaplamak için 2022-2023 eğitim-öğretim yılında Musul Üniversitesi Eğitim Fakültesi İngilizce Bölümü dördüncü sınıf lisans öğrencilerinden (50) bir örneklem veri kaynağı olarak seçilmiştir. bu çalışma. Veri toplamada karma yöntem yaklaşımı kullanılmıştır. Yani, sınıf gözlemi, konuşma testi ve odak grup görüşmeleri olmak üzere üç araştırma aracı kullanılmaktadır. Çalışma telaffuzun şu özelliklerine odaklanmıştır: kısa ünlüler, uzun ünlüler, ikili ünlüler, asimilasyon ve ünsüz kümeleri. Çalışma, hataların analizi ve tanımlanması için Oxford Dictionary ve Peter Roach "Fonetics and phonology" (2009) olmak üzere iki model kullanmıştır. Sonuç analizine gelince, belirlenen hataların istatistiksel hesaplarını sağlamak için SPSS kullanıldı. Niteliksel tanımlayıcı analiz, odak gruplarından ve istatistiksel hesaplardan toplanan verileri analiz etmek için de kullanılır. Çalışma, İngilizceyi yabancı dil olarak öğrenen öğretmen adaylarının hem sesli harflerde hem de ünsüz kümesinde ve asimilasyonda telaffuz hataları yaptığını buldu. Ünlülerin ünsüz kümeleri ve benzetimden daha çok öğrenciler için problemli olduğu bulunmuştur. Toplam yüzdenin% 65'ini aldılar. Ünlüler içinde, kısa ünlüler en sorunlu, iki ünlüler en az sorunlu, sırasıyla %56 ve %19 puan aldılar. Suprasegmental özellikler ile ilgili olarak, asimilasyonun ünsüz kümeye göre daha problemli olduğu tespit edilmiştir. Hataların% 78'ini attı. Aşamalı asimilasyon baskın olandır. Ünsüz kümesi %22 puan aldı. Çalışma, telaffuz öğretmenlerinin teorik derslerden ziyade pratik dersleri artırması gerektiğini tavsiye etti. Telaffuzun önemi ve ana dildeki alışkanlıkların üstesinden gelmek için hedef dili yeterli kullanmanın ve maruz kalmanın önemi konusunda öğrencinin farkındalığını artırmak için de tavsiye edilirler.

Anahtar Sözcükle: Telaffuz Hataları, Iraklı EFL öğretmen adayları, Sözlü performans, Hata analizi

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LIST   OF ABBREVIATIONS

AS   **:** Assimilation

BBC   **:** British Broadcasting Corporation

CC   **:** Consonant Clusters

DIPH   **:** Diphthongs

EA   **:** Error Analysis

EFL   **:** English as a Foreign Language

IELTS   **:** International English Language Testing System

L1   **:** First Language

L2   **:** Second Language

LV   **:** Long Vowels

PEs   **:** Pronunciation Errors

RP   **:** Received   Pronunciation

SL   **:** Second   Language

SV   **:** Short   Vowels

TL   **:** Target   Language

SUBJECT OF RESEARCH

Investigating pronunciation errors of Iraqi EFL student-teachers in oral performance: an error analysis study

PURPOSE AND IMPORTANCE

This study aims to investigate the most common pronunciation errors that student teachers make in their oral performance. It also aims to find out the reasons behind these errors in pronunciation. Additionally, it aims to suggest possible solutions, depending on the findings, that may help to treat this problem or at least reduce its intensity. The importance of achieving these aims would be of possible benefits to curriculum designers, teachers, and learners. The findings of this study, and other similar studies, can be consulted while designing a syllabus or book to teach the English pronunciation. It also helps teacher or instructors to be aware of the most difficult features of pronunciation for learners to learn. Learners also may consult the findings and the recommendations of this study to be acquainted with the problematic sounds and try to avoid them by making use of the recommend solutions.

METHOD OF THE RESEARCH

The mixed method approach is adopted in this study. It has been followed for at least two reasons. The first one is to be different from the other studies. Second is to enhance the validity and reliability of the results obtained. The research instruments used within this approach are three. They are speaking test interview, classroom observation and focus groups interviews. These instruments help to collect authentic data from the sample of the study.

RESEARCH PROBLEM AND QUESTIONS

The problem that this study addresses is the pronunciation problems or errors made by Iraqi EFL learners at the university level. This study has three main research questions. The first one asks about the types of the most common pronunciation errors made by Iraqi EFL student teachers. The second question asks about the frequency of

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errors made in lecturer and in expressive conversation, while the third one asks about the possible reasons that underlie these errors.

POPULATION AND SAMPLE OF THE RESEARCH

The targeted population in this study is the fourth-year student-teacher learners at the University of Mosul, College of education Department of English for the academic year 2022-2023. The population includes 150 learners. The sample of the study consisted of 50 participants out of 150. All of the participants have the same mother tongue (which is Arabic) and are within the same age group and academic level.

SCOPE AND LIMITATIONS OF THE RESEARCH

The study is limited to selected features of pronunciation, namely, short vowels, long vowels, diphthongs, assimilation and consonant cluster. It is also limited to Fourth Year Students at the University of Mosul, College of Education, Department of English.

1. INTRODUCTION

1.1. Preliminary

Language can be released or manifested by different modes of communication such as writing, sign language or even visual aids. However, it is agreed upon that speaking is the most central and most widely used among these modes. In this connection, the writer and the poet Ralph Waldo Emerson stated that "language lives on lips". Speaking is a language skill that has been analyzed into many sub-skills such as accuracy, fluency and appropriateness. Among these sub-skills of speaking, pronunciation can be located within accuracy. Poor pronunciation can lead to misunderstanding and lack of one's self-confidence (Jalal and Alahmed, 2022). In addition, it affects how well others can understand us. Poor pronunciation also may hinder developing listening skill. If learners confuse among the sounds of the language, it would be hard for them to understand others while speaking. In contrast, good and accurate pronunciation helps learners to better be understood and can understand others. Additionally, it marks them as successful language learners the thing that inspires them and gives them sense of self-confidence.

In this introductory chapter, the study problem, aims, research questions, significance of the study and the scope of the study are presented.

1.2. Statement of the Problem

Simply put, this study deals with the pronunciation problems made by Iraqi EFL learners. It is noticed that Iraqi EFL learners at Mosul University, college of education for Humanities department of English have pronunciation problems (Alahmed, 2010; Kadhum, 1987). So, an analysis of errors made by these learners is work investigating. Analyzing leaners errors helps to find out what the most problematic features of pronunciation they face are and what may be the possible reasons behind these errors. This would, in turn, assist in recommending the suitable remedies that may be useful in minimizing the pronunciation errors. Harley (1980, p.4) claims that "the study of errors that L2 learners make can certainly provide vital clues as to their competence in the TL." In the light of this quotation, it can be said that

findings of errors analysis studies are of benefit to the teaching-learning process. Studying learners' errors help in making inferences about the leaners status that is what they has already mastered and what is yet to be worked on. Corder (1981) claims that

> "we may be able to allow the learner's innate strategies to dictate our practice and determine our syllabus, we may learn to adapt ourselves to his needs rather than impose upon him our preoccupation of how he ought to learn, what he ought to learn and when he ought to learn it (p. 13)."

1.3.   Research Questions

The study addresses the following questions:

1. What are the most frequent pronunciation errors made by Iraqi EFL student teachers in oral performance? This question has the following sub-questions:
    a) What are the most common types of vowel errors that are frequently made by Iraqi EFL student teachers in oral performance? Is it in short, long or diphthong vowel sounds?
        * What are the most frequent pronunciation errors made in short vowel sounds by EFL student teachers in oral performance?
        * What are the most frequent pronunciation errors made in long vowel sounds by EFL student teachers in oral performance?
        * What are the most frequent pronunciation errors made in diphthong vowel sounds by EFL student teachers in oral performance?
    b) What are the most frequent pronunciation errors made in assimilation and consonant clusters by EFL student teachers in oral performance?
2. Are pronunciation errors more frequent in expressive speech (conversation) or when delivering a formal speech (lectures)?
3. What are the possible causes of the pronunciation errors made by Iraqi EFL student teachers in oral performance?

1.4.   Objectives of the Study

The objectives that the present study attempts to reach at can by summarized in the following points:

1. Find out what are the pronunciation errors made by Iraqi EFL student teachers in oral performance.
2. Finding out the most problematic type of vowel sound, short, long or diphthong.
3. Identifying the most problematic short vowels that EFL student teachers face.
4. Identifying the most problematic long vowels that EFL student teachers face.
5. Identifying the most problematic diphthong vowels that EFL student teachers face.
6. Finding out pronunciation problem encountered in aspects of connected speech, namely, assimilation. As well as errors of consonant clusters.
7. Determining the possible reasons behind making errors in pronunciation.
8. Recommending suggested remedies, depending on the obtained findings, for minimizing learner's pronunciation errors.

1.5. Scope of the Study

The study at hand is limited to the study of pronunciation errors made by Iraqi EFL student teachers at the University of Mosul, College of Education, Department of English during the academic year 2022-2023. The targeted population is the undergraduate fourth year males and females students. A sample of (50) learners is randomly chosen to participate in the study. This population is targeted because it expected that they have achieved a level of fluency and proficiency that would demonstrate various features of pronunciation. Since pronunciation involves too many features that cannot be covered in this study for reasons of space, time and efforts, only selected features are targeted to be studied in this study. The main segmental features that this study deals with are vowel sounds, in particular, short, long and diphthongs. As far as other features above the individual segment are concerned, only assimilation and consonant clusters are to be dealt with. Other features such as stress, intonation, consonants triphthongs and elision are excluded in this study since their inclusion needs requirements beyond the researcher's available ones.

1.6. Procedures of the Study

The procedures followed to conduct this study are as follows:

1. Providing a theoretical background of the theoretical aspects related to pronunciation and errors analysis.
2. Selecting a population and determining the sample size.
3. Preparing tests to elicit pronunciation errors.
4. Testing the designed data gathering tool.
5. Implementing the tests to collect the needed data for the purpose of the study.
6. Coding the targeted features to be studied.
7. Transcribing the recorded data.
8. Identifying the pronunciation errors in each test depending on the model.
9. Categorizing the identified errors according to each category.
10. Providing statistical accounts for the categorized errors.
11. Analyzing the obtained results.
12. Summing up the findings and giving conclusions.
13. Giving recommendations.

1.7. Significance of the Study

This study may be of significance to curriculum designers to design a syllabus that has extra exercise focusing on the problematic areas face by the students. Such exercises would provide leaners with more practical practice of the targeted features of pronunciation. Moreover, findings of such studies may assist curriculum designer to arrange the textbooks of schools according to the level of difficulties. Moreover, Teachers of English phonetics and phonology or even teachers at schools are expected to benefit from the findings of this study and other similar ones. This study analyzes the errors of pronunciation made by learners. So, this would be of potential benefit for teachers to determine the problematic areas during the teaching process and to take remedial actions to overcome or at least minimize the rate of errors. Finally, Researchers in the field of phonetics and phonology may also find this study beneficial for them to compare its results with the results of their studies in aim to come up with general statement about pronunciation errors made by learners.

1.8. Definitions of Basic Terms

1. Vowel: "one of a set of voiced sounds in which air leaves the mouth with no interference and which occur in similar positions in words." O'Connor, J. D. (1980,p.150).

2. Consonant: "one of a set of sounds in which air from the lungs is seriously obstructed in the mouth, and which occur in similar positions in word." O'Connor, J. D. (1980,p.149).

3. Cluster (n.): "A term used in the analysis of connected speech to refer to any sequence of adjacent consonants, especially those occurring initially or finally in a syllable, such as the initial [br-] of bread, or the final [-st] of best." Richards and Shmiddit (2002,p.110)

4. Error (n): "in the speech or writing of a second or foreign language learner), the use of a linguistic item (e.g. a word, a grammatical item, a speech act, etc.) in a way which a fluent or native speaker of the language regards as showing faulty or incomplete learning." Crystal, D. (2011,p.173).

5. A mistake: "made by a learner when writing or speaking and which is caused by lack of attention, fatigue, carelessness, or some other aspect of performance". Crystal, D. (2011,p.173).

6. Error analysis: "the study and analysis of the ERRORs made by second language learners. Error analysis may be carried out in order to:

a) identify strategies which learners use in language learning

b) try to identify the causes of learner errors

c)   obtain information on common difficulties in language learning, as an aid to teaching or in the preparation of teaching materials." Crystal, D. (2011,p.173).

7. Pronunciation: "Pronunciation refers to the production of sounds that we use to make meaning. It includes attention to the particular sounds of a language (segments), aspects of speech beyond the level of the individual sound, such as intonation, phrasing, stress, timing, rhythm (supra-segmental aspects), how the voice is projected (voice quality) and, in its broadest definition, attention to gestures and

expressions that are closely related to the way we speak a language." Swan, M and B Smith (1987, p.1).

2. THEORETICAL BACKGROUND AND LITERATURE REVIEW

2.1. Preliminary

This study deals with pronunciation errors. Therefore, the current chapter presents a theoretical background of errors analysis (2.1), pronunciation and the factors that may affect its learning (2.2) as well as the concepts of phonetics and phonology (2.3). Moreover, this chapter involves a review of the relevant literature that dealt with the pronunciation errors (2.4).

2.2. Error Analysis: A historical Perspective

According to Keshavarz (1999, p. 11), contrastive analysis and error analysis (Henceforth EA) are the two main ways for analyzing learners' errors. Moreover, Keshavarz (1999, p. 11) adds that contrastive analysis, which was common for characterizing the language of learners during the 1950s and 1960s, had a few flaws, which resulted in the development of error analysis (Henceforth EA) as a viable alternative. In the 1960s, EA emerged as a topic in applied linguistics and showed that many errors made by learners were actually the result of universal learning processes rather than the learners' mother tongues. EA is motivated by a desire to systematically gather and Evaluate the oral and written performance of learners learning a second language to validate the assumptions behind contrastive analysis (Lennon, 2008, p.51-60).

Historically speaking learner's language was, for the first time, the primary focus rather than instructional strategies and theories regarding issues with second-language acquisition. EA was consequently suggested as a replacement for contrastive analysis (Berns and Brown, 2010, p. 134). There have been attempts to create categories for various errors types based on the many procedures that are supposed to account for them. However, due to the challenges in identifying the source of errors, interlingual and second language acquisition research had largely superseded EA by the late 1970s (Richards and Schmidt, 2010, p.201).

2.2.1. Definitions and Approaches for Error Analysis

EA is a method that entails gathering representative samples of learners' performance in their   languages, recognizing errors, describing these errors, interpreting them in light of their sources, and establishing the severity of the errors, according to Corder (1967, p. 170). The purpose of the EA is to determine what the learner already knows and what he or she needs to learn. Additionally, it enables the teacher to give them the information that their hypothesis is false as well as, this is crucial, the proper kind of information or data so that they can develop a sufficient comprehension of the rules pertaining to the Target Language (henceforth, TL).

According to Brown (1980) , EA is the process of identifying, analyzing, and accounting for errors in the patterns   of (SL) in order to uncover the operating system of the learner   (p.166). According to Richards et al (1985, p. 96), error analysis is the process of looking into the errors made by learners who are learning a second or foreign language. Crystal (1987), describes EA as "a strategy for recognizing, classifying, and systematically analyzing the unsatisfactory forms produced by someone learning a foreign language using any of the rules and techniques provided by linguistics.", (p.112). In addition to this, Gass and Selinker (2008), explain EA as "a type of linguistic analysis that focuses on the errors learners make, (p.102)"

Thus, it is possible to define EA as the process of recognizing, outlining, elaborating, assessing, and minimizing learner errors. The following are some of the main benefits of employing EA:

a. Determining the language learning strategies that students use.

b. Determining the root causes of the learner's errors.

c. Researching typical barriers to language learning, such as those associated with teaching or creating instructional materials (Richards & Schmidt, 2010, p.201).

At the   final stage, errors made by learners will be considerably reduced with knowledge of errors and the use of EA. In order to arrive at reliable conclusions and gain understanding of the FL learner's language, EA must adhere to a set of procedures. According to Corder (1981), there are four steps to conducting EA research:

1. Gathering of student speech samples.

2. Recognition of errors.

3. A description of the errors that have been found, and

4. An interpreting the errors made by the students.

The researcher collects a sample of the learners' spoken language as the initial phase. The second phase is to identifying the errors. It entails comparing the output of the learner to what a native speaker would create in the same situation. The learner's every speech or sentence is deemed to be incorrect. When evaluated in relation to the sample provided by someone who speaks the language as his mother tongue, each statement is examined and eliminated if it is found to have proper formation. The expressions and sentences that are left are the ones that include the errors.

After identifying errors, the next stage is to describe learners' errors. To accomplish this, descriptive categories are required to classify and measure the frequency of identified errors. There are various classifications for description of errors. Overt and covert errors are the two categories that are used by Corder (1981) to classify errors. Statements that are obviously erroneous in terms of grammar are illogical in every possible way. Statements that are covertly inaccurate are grammatically correct at the clause level; nonetheless, they cannot be comprehended within the context of communication because they contain hidden inaccuracies.

Depending on the way in which the 'surface structures' are transformed into incorrect contexts, sentences or utterances Dulay et al. (1982) developed a surface structure taxonomy . The four main modifications language learners make to target forms are omission, addition, misinformation, and "misordering", according to this taxonomy. Errors of omission are when something is missing that really ought to be there. The addition is a component that should not be incorporated in the sentence or utterance in any way. A form, morpheme, or structure is said to be misformed when it is utilized in an improper manner. Misordering errors occur when a morpheme or morpheme cluster is arranged incorrectly inside a sentence.

As a final phase, explaining the errors that are made by students is done. Error explanations are largely hypothetical. This is because language learning involves a complex psychological and physiological process. Three primary mechanisms have been identified by experts: "interlingual transfer, intralingual transfer, and context of

learning." The influence of a person's mother tongue might be seen as the root cause of interlingual errors. The operation of learning processes that are universally applicable can be shown through intralingual errors. According to James (1998), these strategies include making incorrect analogies, doing invalid analyses, applying only part of a rule, capitalizing on redundancy, ignoring co-occurrence limitations, and simplifying the system. The learning experience is also included as part of the context of the learning. Errors may not occur or occur infrequently as a result of effective instruction. On the other side, inadequate teaching methods and materials may contribute to a high error rate.

In addition, Gass and Selinker (1994, p. 67) defined the seven steps that must be taken while conducting an EA research:

1. Mostly collecting information in written format

2. Identifying the errors (for example : short vowels ,long vowels ,etc.

3. Classifying the errors (for example: short vowels, long vowels, etc.).

4. Quantifying errors (number of occurrences of a certain type of error rated and compared to a different type of error)

5. Determining the source of the error.

6. Correcting errors according to their causes

7. Correcting errors based on the rate of a specific type of error and carrying out the necessary pedagogical intervention, such as data collection, errors recognition, errors classification, quantification, analyzing the source of error, and recommending corrective procedures are all examples of things that fall under this category.

Ellis (1997, p. 15–20) provides practical suggestions and clear examples for recognizing and analyzing the errors of language learners. According to him, the first step is to select a language corpus, and then the next two steps are to identify and categorize errors.

2.2.2. A Comparison between Mistakes and Errors

It is necessary to distinguish between "mistake" and "error" in order to investigate the errors of learners from the appropriate perspective. (Corder, 1967, P. 25) states:

"It will be useful to refer to errors of performance 'mistakes' which is not significant to the language learning process, and reverse the term 'error' for systematic errors of the learner from which his knowledge of the language to date can be reconstructed".

This means that errors occur when L2 learners generate inaccurate language since they do not know the right form, whereas errors occur when learners produce ill-formed language despite knowing the correct form learners are able to fix their individual mistakes; however, they are incapable of correcting errors, by necessity.

A "mistake" "according to Brown (2000, p. 133)", is a performance problem since it involves improperly utilizing a well-known system. Whereas, an "error" is an obvious departure from the grammar of a native speaker and it is this explicit departure that proves the existence of an inter-language competence of the learner.

Errors are a student's knowledge gap, according to Ellis (1997, p. 17), and they happen when the learner is unclear of what is accurate. When a student is unable to put what they have learned into practice in a particular setting, they make mistakes.

There are two basic sorts of errors, according to Harmer (2002, p.99): "slips" or mistakes that learners able to correct when they are made conscious of them, and secondly "errors" which learners could not correct. It needs explanation and attempts for explaining it. It occurs when a learner attempts to convey something but fails to do so correctly.

Cunningworth (1987) describes errors as "systematic deviations from the norms of the language being acquired (p.87)". Dulay, et al. (1982) are likewise concerned with the errors that occur when language learners alter the systematic rules. In the same line of these two scholars, Norrish (1983, p. 7) demonstrates that errors in settings with systematic deviation always result from learners' misunderstandings. There have been attempts to contextualize errors within the context of second language acquisition or language learning.

Richards and Schmidt (2010, p.201) distinguish between errors resulting from insufficient knowledge and errors resulting from inattention, weariness, indifference, or any other performance-related factor. Errors are considered to systematically convey a learner's level of ability, as opposed to mistakes, which are correctable performance restrictions.

Linguistically speaking, an "error" makes a reference to mistakes committed through spontaneous speech or writing. In psycholinguistics, moreover, errors could be categorized into a variety of subgroups. The most evident "speaker's errors" include problems with control timing or sequencing, ending in the deletion, substitution or addition of sounds and morphemes.in "tongue slips" and also , pauses ,false starts and other irregularities in everyday speaking "Hearer's mistakes" in language learning are readily apparent. A difference is frequently made between errors that the speaker can correct if asked and errors that the speaker cannot correct due to a lack of linguistic expertise (Crystal, 2008, p.173).

Therefore, researchers focus on either the regular divergence caused in the process of language acquisition or their evidence of the language learner's real situation. This evidence will assist the monitor, who may be a language teacher or applied linguist, in solving the problem by employing any of the approaches asserted in EA (Anefnaf , 2017).

2.2.3. Causes of Errors

Errors have been classified depending on their causes or sources into many types by many scholars including the following: according to Brown (2007, p. 263), the causes of errors are utilized to determine why specific errors occur and which approaches and strategies underlying them. Richards (1971) demonstrates that intralingual, interlingual, as well as developmental errors are the primary causes of errors. Intralingual errors are categorized   into four sub-groups:

 1. Overgeneralization: refers to instances where learners apply a divergent model that is based on their previous understanding of other patterns in the language they are learning. For instance, *'Alex cut his finger. instead of Alex cuts his finger'*.

By omitting the third person (-s), overgeneralization eliminates the need for concord, so sparing the student much effort.

Redundancy reduction is connected with overgeneralization. It may occur, for example, with elements that are different in the language's grammar but do not seem to be very different to the learner.

2-Imperfect application of rules: refers to the failure to build a system in its entirety. Therefore, learners are observed employing declarative word order instead of 'Do you enjoy playing?' in queries such as 'You enjoy playing?'

3-False notions are postulated: This happens when students do not fully understand a difference in the TL , such as the usage of "was" as a past tense marker , as in "one day it happened."

4- Rule restriction unawareness: refers to instances in which rules are inappropriately applied.

Brown (1980, p.173-181) outlines (4) sources of errors. They are listed below:

1-"Interlingual transfer", or the detrimental effect of learners' native language.

2-"Intralingual transfer", is the improper rules generalization inside the TL.

3-The learning context comprises types of "transfer", such as classrooms, their instructor, and their materials. Inside classrooms context, the instructor or the textbooks may cause students to perform inaccurate linguistic generalizations.

4-The definition of communicative methods and their relationship to learning styles are provided. Learners utilize production tactics to improve the communication of their messages, yet these strategies can occasionally become a source of inaccuracy.

In addition, Norrish (1983, p. 21-6) defines sources of error into three categories:

1. Irresponsibility and lack of motivation

2. The native language interference with the formation of TL habits.

3-The use of literal translation in translating idiomatic expressions into the TL.

2.2.4. Error Classification

Two sorts of errors exist: interlingual and intralingual. Similar intralingual or developmental errors are made by children whose native language is the TL (Dulay, et al. 1982, p. 165). This kind of error provides an signal of the proficiency of the learner at some specific period and demonstrates an ongoing learning process, but not an inability to differentiate between two languages (Richards and Sampson, 1974). These errors demonstrate the general characteristics of rule analysis, including overgeneralization, misunderstanding of rule limitations, and imperfect application of rules. Similarly, Dulay, et al. (1982, p.171) conclude that the majority of learners' errors are developmental. So, many scholars, including Ghadessy (1980), have provided substantial evidence for the claim that developmental errors are the leading cause of second-language error.

On the other hand, interlingual errors have the same form as a word or phrase in the learner's native language that has a semantically similar meaning (Dulay et al., 1982, p.171). These errors reflect the native language's structure since they are the result of first language interference or transition. In studies that examined several errors, such as those by Politzer & Ramirez (1973), Kharma (1981), El-Sayed (1982) and interlingual errors were discovered to be the most common errors committed by learners of the second language.

Bartholomae (1980, p. 253) illustrated a mistake that enables the instructor to "interpret errors as evidence of choice or strategy out of a variety of conceivable choices or tactics." Errors are not simply recordings of what a writer neglected to do due to incompetence or apathy. Therefore, errors are stylistic; they are not necessarily "system noise," "compositional accident," or "language process failure." This citation demonstrates that errors may be classified into three categories. The first one consists of intermediate errors in which the author uses an odd phrase, noun, etc. to enforce a rule. A person who has erroneously formed himself does not follow the rules. The second category is unintentional errors, in which authors make a single inaccuracy. Due to language shift or dialect incursion, the author employs the laws and categories of the first language.

2.2.5. The Importance of Errors in Foreign Language

Errors are crucial and beneficial to the progress of language learning and teaching. Corder (1967), argues that errors are important in some ways: first errors notify the instructor of the student's progress to a achieve their goals and, consequently, what is still needed to be taught if the student undertakes a comprehensive evaluation. Second, errors provide evidence for the researcher on how learners learn or acquired the language, such as processes employed by the learners to uncover the language. Errors are vital to the learner since they can be considered as a tool for learning.

Errors offer information for constructing a remedial curriculum or a plan of teaching since they give the teacher feedback on the effectiveness of his teaching materials and tactics as well as which curricular topics have been taught or learned wrongly and need more attention. Allow the student to decide if they need to spend extra time on the project they are working on (Corder 1973, p. 265).

Errors refer to "the present inadequacy of our teaching methods" (Corder 1967, p. 163). Richards claims that (1971, p. 209), the study of language learners' errors is important because linguistics can get fresh insights into what makes a person clever through the study of human language. Also, in psycholinguistics, comparing children's and adults' speech may show the mental processes underlying language. In addition, education permits the discovery, identification, and analysis of learner errors, as well as the development of successful methods for minimizing them.

2.3.   Pronunciation

Pronunciation is an aspect of the language and an important part of being able to communicate with other people. According to Allen (1960, p. 35), pronunciation is one of the most important aspects of the language. Pronunciation, as defined by Harmer (2001, p. 26), is the "knowledge of how to pronounce a word." It can also refer to the study of how a language's sounds are perceived and produced, known as phonology (Burns, 2003, p. 5). The region in which a person grew up, their ethnicity, their socioeconomic status, and their level of education are just few of the numerous elements that, according to Hornby (2010, p. 1175), have a significant impact on how

words and sounds are spoken. "Pronunciation is an essential component of second language acquisition since it has a direct bearing on students' communicative ability and performance," states Gilakjani (2012, p. 119). Pronunciation is defined by Dalton and Seidlhofer (1994, p. 3), as cited in Listiana (2019, p. 18): pronunciation, broadly speaking, is seen as the process of producing meaningful sounds. They also point out that sound is important in two ways: Firstly, sound is important since it is an element of the coding process that defines a given language. Second, the importance of sound lies in the fact that it is employed to accomplish meaning in the context of use. Listiana (2019, P. 19) states that "pronunciation is one of the ways to transfer information in order to know and understand what the speaker means. It depends on the individual ability in pronouncing words." There are essentially two schools of thought on the best way to instruct students in the art of proper pronunciation: Firstly, the intuitive-imitative approaches, in which students learn by listening to and then mimicking the speech of native speakers. In this method, students increase their fluency in the target language by mimicking native speakers' pronunciation and intonation, rather than by being taught grammatical rules. Secondly, there is the analytic-linguistic method which uses explicit facts about sound creation to supplement the intuitive-imitative method (Linebaugh and Roche, 2013, p. 146). Therefore, Iraqi EFL students might use these methods to better their pronunciation.

Morley (1991) argues that intelligible pronunciation is a crucial part of being able to communicate effectively. Her recommendations include working on the student's "functional intelligibility" (the degree to which they are understood), "functional communicability'' (the extent to which they are able to meet their own communication needs), increased speech monitoring skills, self-confidence and strategies for modifying their speech.

Therefore, it is crucial for EFL students to acquire the ability to communicate in English clearly and effectively; they do not have to sound exactly like native speakers, but they should be able to understand and be understood (Jalal and Alahmed, 2022). Thus, the following are the most crucial goals that ESL students should fulfill: Firstly, intelligibility which refers to the fact that the speaker uses sound patterns that are identifiable as English. Secondly, comprehensibility refers to the fact that the listener is able to comprehend the meaning of what is being said. Third, is interpretability which is the ability of the listener to comprehend the meaning of what

is being communicated to them. This demonstrates how significant the correct pronunciation is (Burns, 2003; Jalal and Alahmed, 2022).

2.3.1. Factors Affecting Pronunciation Learning

Many scholars and researchers concerned with studying second/ foreign language acquisition came to the conclusion that people who speak other languages have the same problems pronouncing English, but it depends on their language background. Arabic language is one of them, so some external factors of the affecting learning a second or foreign language are considered and how to pronounce sound in English in particular.

A lot of studies in the area of S/FLA (Yule, 2003; O'Connor, 2003) spoke about the things that make it hard for foreign language students in general and Arab language students in particular to sound like native speakers. Scholars and linguists have pointed to things like the differences between the sound systems of (LI) and (L2), the effect of orthography on pronunciation, interference from the first language, and the fact that certain sounds of English don't always sound the same. These factors were talked about separately:

2.3.1.1. The Influence of the Orthography of Words on Pronunciation

Even if students can hear sounds in order and understand the rhythm of English, the spelling of English is not easy to learn, even for native speakers of English. People who speak languages where the letters and the sounds are more closely related find it easier to learn how to write in their (L1) than people who speak English as their first language. Phonetics and phonology are both about how sounds are made. As (Forel and Puskás, 2005, p. "3") say : pronunciation and the orthographic form in English are two separate aspects , that is they are not identical, for example, English does not have five or six but twenty different vowels, even though they are all written with the same five letters (o, i, e, a, u, a) such as : 'please', [pli:z]. So, 'please' is made up of Three consonant sounds 'p', 'l', and 'z'), but one vowel sound 'i:'.

Learners of the Arabic language can easily figure out how to pronounce a written word just by having a look at it. This is because each letter stands for a

different sound, making it easy to tell the difference between the written language and the sounds it makes. Additionally, unlike the English language, there is no such thing as a silent letter in Arabic. There are a great number of letters in English words that are not uttered. In contrast, Yule (2010, p. "26") argues that the sounds in spoken English don't always correspond with the letters of written English. How can we describe the sounds of a language like English if we can't use the letters of the alphabet in the same way to represent the sounds we make? There are, twenty-four consonant sounds and twenty vowel sounds. If each of these 44 sounds has its own letter, learners are going to be capable of learning how to say things correctly. When learners realize that every letter stands for a sound (for example, if each letter has the same number of sounds), they will be able to avoid spelling troubles related to pronunciation.

Even though certain words look the same on paper, they sound different when spoken. Also, some words look different; however, they have the same pronunciation. For example, 'rain', 'rein', and reign all sound like "rein." If a learner doesn't know how to pronounced these words yet, he says them by looking at their spelling, and it's expected that he will say them wrong (O'Connor, 2003). So, if a learner is not aware of the relationship between how words sound and how they are written, he is going to wrongly pronounce words based on how they are written. For example, in, 'knot', 'knee',' know' and 'knight', the k is silent before the 'n'. A student who didn't learn how to say these words correctly would pronounce the sound /k/. When the student comes across such words, he won't know how to say them correctly, because of this, he relies on visual cues alone unless he is already familiar with the term. Therefor it is necessary for learners to check the dictionary to see how to pronounce these words till he has a good handle on how to pronounce   them.

All of the aforementioned notes display that English learners often guess the wrong way to pronounce words based on how they are written, because if they don't comprehend how English sounds and letters are connected, they will not be able to communicate effectively.

2.3.1.2. Lack of Linguistic Prior Knowledge

Speech is considered an activity that occurs in numerous situations; language seen as knowledge, i.e. a code that is recognized and shared by those who employ it their expertise in conveying and decoding linguistic codes in given situations. If somebody is speaking, everyone that is near enough is capable of hearing them because the waves of the sound produced by speakers touch the listeners' eardrums. Depending on this statement, it can be concluded that a learner of a second language (L2) starts with all of the information they have already learned as part of their overall social experience and cognitive development, as well as from learning their first language (L1). This helps explain why older (L2) learners, like college students, usually have an advantage over younger (L2) learners if they want to express and understand the speech and writing of second language in terms informational content , figuring out what the writer or speaker is trying to say, and meeting both the instrumental and the interactional aims of communication (Charles, 2004).

2.3.1.3. Lacking of Motivation

Dornyei (2009, p. 217) believes that, without enough motivation, even people with the most good skills can't reach future. He adds that good curriculum and professional teaching only are not sufficient to guarantee students success. Instructors and researchers agree that motivation is one of the most important things that affects how quickly and well someone learns (FL) or (SL). Motivation is a major reason why people start learning a second language, and it is also what keeps them going through the long and often boring process of learning. In fact, all of the other factors that go into learning a second language depend on motivation to some degree. But at the other hand, someone with a lot of motivation can make up for a lot of problems with their language skills and learning environment.

Even though the word "motivation" is used a lot in educational research, there isn't much agreement about what it means. Dornyei (2009, p. 217) says, scholars seem to come to an agreement that the term motivation is what determines the behavior of humans since it gives energy and guidance ; however, the many different ways this is explained in the literature may surprise even the most experienced researcher.

2.3.1.4. Insufficient   Amount of Target Language Exposure

Theories of language learning like "Krashen's" (1982) assume that people learn language mostly through input, and they need a lot of "comprehensible input" before they can be expected to speak. So, being around the TL would be a very important part of learning how to pronounce words.

Revell (2012, p. 9) claims that this assumption is possibly to be changed to say "proficient" instead of "native-speakers of the (F/SL)" even if the teacher of the class is not a native speaker. It may also include "comprehensible input" from TV, synchronous online chat, radio, DVD, or, among other things, instead of just face -to-face interaction .

Ancker (2000, p.21)   suggests that there are different reasons which underlay the occurrence of errors , such as when the native language gets in the way, when a person doesn't know enough about the target language, or when the target language is hard to understand. Kenworthy (1988, p. 4-9) states that: "Factors such as the native language, the age, amount of exposure, phonetic ability, attitude and identity, motivation and concern for good pronunciation have great influence on pronunciation learning".

2.3.1.5.   Interference from the Mother Tongue

A number of studies have been conducted to investigate how a learner's first language influences their ability to learn English. Wilkins (1972, p.199) notes when a person learns (FL), they formerly know their (L1), which is what they try to transfer. If the structures of the two languages are alike, the transfer can be justified. This is referred to "positive transfer" or "facilitation." If there are significant structural differences between the two languages, however, the transfer may not be justified. This is called "negative transfer" or "interference." In this respect, learners of a second language seem to pick up elements of the target language's structure, but they have trouble putting these elements together in a way that makes sense. There seems to be a big difference between gathering knowledge and putting it in order. This brings up an important question: what kind of language do people who are learning a second language use when they talk and write? Second language learners often use structures

from their first language (L1) when writing or speaking in (L2). Structurally, when the two languages are not the same, a high number of mistakes in (L2) might be expected, which would show that (L1) is affecting (L2). Dulay et al (1982.p 25) define interferences "the automatic transfer, due to habit, of the surface structure of the first language onto the surface of the target language"

Regarding pronunciation, it can be concluded, from the aforementioned information, the pronunciation in the second language learning can be affected by the sound system of (L1). For example, in Arabic there is no 'p' sound. This will make a negative transfer into English since English has a 'p' sound. There are at least three ways in which the way a person speaks their native language can affect how they speak their target language. Firstly , if there exists a sound in the sound system of (L2) that the native language of the learners do not have , or if the opposite is true, learners may not be able to the sound (s).Secondly , If the rules for putting sounds together to make words (called "phonotactic constraints" or "rules") are not the same between the learner's (L1) and (L2), problems arise for the learner since such   patterns are "language-specific" and may differ from one language system to that of the other. for example, learning consonant clusters. Thirdly, because the stress and intonation forms of a language are based on its rhythm and melody, learners may be able to transfer these forms to the language they are learning.

2.3.1.6.   English Vowel Inconsistency

Arabic spelling is mostly regular. On the other hand, English spelling seems to be arbitrary to some extent. Also, written English is not always a good way for a learner to figure out how to pronounce words, and the way sounds are shown in writing often misleads them (Kharma and Hajjaj, 2011, p. 14). Swan and Smith's (2001, p. 196) says: "English has 22 vowels and diphthongs to 24 consonants", where as "Arabic has only six vowels and no diphthongs ... to 32 consonants."

In the light of these findings, it is clear that of the evident challenges that students of English encounter are the fact that each vowel in English can be pronounced in more than one way. Learners experience a lot of difficulty as a consequence of this, which in turn causes them to make pronunciation errors. The learner makes an errors by altering the quality or the quantity of particular sounds; as

a result, learners have a tendency towards using different sounds in certain words, such as 'son' /s ʌ n/, 'come' /k ʌ m/, 'among' /əmʌŋ/, 'blood' /blʌd/.The /o/ and /oo/ letters , in these words, /o/ and /oo/ represent the same sound which is /ʌ /; however, the majority of students pronounce /ɔ/ or /u:/ instate of /ʌ / in case they do not have pronunciation mastery of these vowels. This is due to their prior knowledge of each sound, which causes them to imagine that each vowel has only one possible pronunciation. If this were the case, learners might effortlessly anticipate and know the way in which every single word is pronounced; even it is the first time for them to see it. That is assuming that each letter corresponds to a single phoneme, but in reality, this is not the case, and this is one of the fundamental issues with English.

2.3.1.7. The Sound Inventory of (L1) and (L2) Differences

There are (24) consonants and (20) vowels in the English language. This means the total is forty four sounds in English, and a person learning English need to be able to make all of them. "Students who come from different language backgrounds will have trouble pronouncing them because of that" (O'Connor, 2003, p. 22).

The Arabic language has lesser sound of than the number of sounds in the English language. This means that the Arabic language has only twenty-eight letters, and each letter stands for only one sound. So the Arabic language only has twenty-eight sounds. Generally speaking, sound is made when the organs of speech move in a certain way. To make a sound, one has to move his or her organs in the exact way that sound is made.

2.4. Phonetics and Phonology

Since the current study deals with features of pronunciation that are found in the domain of Phonetic and that of phonology, it is necessary to explain the concept of Phonetic and phonology. So, the following two sections are to deal with this point.

2.4.1. Phonetics

Yule (2010, p.26) defines phonetics and phonology as:

"Phonetics is concerned with how sounds are produced; transmitted and perceived. Phonology is concerned with how sounds function in relation to each other in a language. In other words, phonetics is about sounds of language, phonology about sound systems of language. Phonetics is a descriptive tool necessary to the study of the phonological aspects of a language."

Generally speaking that phonetics is the study of sounds. Mahon (2002, p. 27) said that it gives objective ways to describe and study the different sounds that are used in the languages. To make things clear, phonetics is a level of linguistic analysis, that is, concerned with how speech sounds are produced. Phonetics covers three main subfield. These are:

1. Articulatory phonetics is the study of how sounds are produced.

2. Auditory phonetics is the study of how people perceive and understand sounds.

3. Acoustic phonetics: the study of sound waves. Spectrographs are used to study sounds and characterize there features. Linguists can recognize sounds depending on the sound waves frequency.

2.4.1.1. Vowels

Jones (1975, p. 23) says that \i\, a vowel is a voiced sound in which the air flows continuously through vocal tract , with no blockages, no narrowing that would cause a noticeable friction.

Vowels, as defined by Crystal (2008, p. 517), are produced when the mouth is not completely closed and air flows freely out. "If air escapes solely through the mouth, the vowels are said to be oral ; if some air is simultaneously released through the nose, the vowels are nasals.:"

It's easy to describe consonant sounds since, in some way, what organs are involved can be felt. Vowels, on the other hand, are harder to describe except through hearing because the speech organs don't touch each other (Cruttenden, 2014).

Katamba (1989, p. 8) agrees with this view point and argues that 'vowels' are more difficult to describe accurately than consonants. This is largely because there is no noticeable contact in the vocal tract during their production''.

Vowels

Three main Variables are used to describe the vowel sound quality. They are 'open/close' 'front /back' and 'rounded / unrounded'. As for the criterion 'open / close', it mainly depends on the tongue position in the highest or lowest point in the vocal tract while producing a vowel sound. The vowel is described as close if the tongue position   is high in the mouth that is near   to   the root of the mouth. The vowel   is described as 'open' if   the tongue is low in the   mouth. The vowel   is said to be 'front' if the tongue is placed towards the front of the mouth, but if   towards the back, then, it is described   as   'back' vowel. The criterion 'rounded /unrounded'   depends on the lips shape if they are rounded or spread. The vowel /u: /   in 'food' is described as   close, back and rounded; while the sound (æ) in 'man' is said to be open, front and unrounded (Read and   Levis, 2015, p. 76).

Roach (2002, P. 12) describes the sounds that fall in between as a 'close-mid' and 'open-mid'. Ladefoged and Jonson (2015, p. 223) suggests that to use acoustic analyses is the best method for describing vowel sounds. This method   uses features such   as formants frequencies   and lip and jaw positions   instead of depending on vowel articulation or auditory characteristics.

Vowel Sounds can be represented as being described   in Cardinal Vowels Figure:
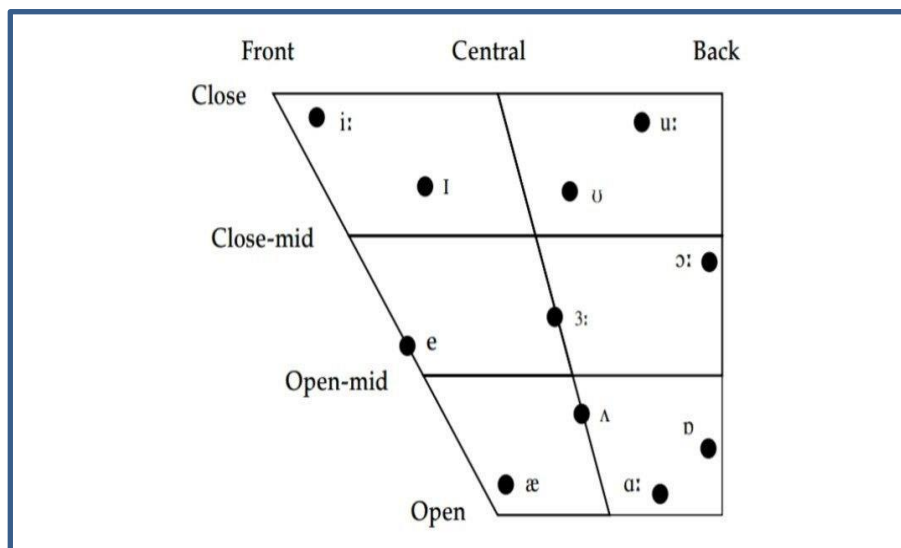
Figure 1: The Monophthong vowels of British English (Reed and Levis, 2015, p.77)

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2.3.1.1.a. Short Vowels

Roach (2009) and   many other phoneticians classify vowels into short, long, which are referred to as monophthongs and   to diphthongs and triphthongs. Since the study is limited to studying monophthongs and diphthongs, triphthongs are excluded and need no further discussion.

Roach (2002, P. 13-14) states that English has a large number of vowel sounds. There are seven vowels   that are short. They are   (æ, ɪ ,ə , ʊ , ʌ , ɒ , e) The length   of these   sounds   is relative to their context. This means that they may have length in different contexts.

Description of short vowels:

1- /ɪ/ →as   in 'bit', 'fish' it is close, front, unrounded,

2- /e/ → close-mid , front, unrounded as in 'men', 'bet'

3- /æ/ →open, front, unrounded as in 'man' , 'bat'.

4- /ʌ/→ Open-mid, central, neutral as in 'cut', 'come'

5- /ɒ/ →Open, back, rounded as in 'pot', 'Gross'.

6. /ʊ /→ close-mid, back, rounded as in' put ',' pull '

7. /ə/ → Central, neutral, open, mid as in   'about' ' opposite'

2.3.1.1.b. Long Vowels

According   to Roach (2009, p. 16), English has Five long vowels .They are [i:, 3: , a:, ɔ: , u:]. These vowels are   longer than the short ones   when they occur in the same context. Long vowels are different from short ones not only in length, but also in quality, that is in their shape   which is resulting from the differences in the position and the shape on the tongue as well as the lips:

1-/**i:/** close, front, unrounded   vowel as in 'beat' , 'mean'

2- /**3:/** central, mid- close, neutral as in 'bird' 'fern'.

3- /**a:** /open, back neutral as in 'card', 'half'.

4- **/ɔ:/** close-mad, back, rounded as in 'torn', 'board'

5- /**u:/** close, back, rounded, as in 'food', ' Soon , "loose".

2.3.1.1.c. English Diphthongs

It's important to note that vowels are the center of a syllable, which means they are essential to the phonological structure of the   English language. In English, a syllable must have at least one vowel, but the clusters of consonants that come before or after the vowel are optional. So, it is perfectly possible to have one-syllable words that are only composed of vowels, such as eye /ɑɪ/ and ear /ɪə/. The center of a syllable can consist of only long vowels, diphthongs, and triphthongs. Despite this, vowels can also be deleted when they come before syllabic /l, m, n/. These consonants allow vowels to be deleted before them. Some words that can be written as [bɒtl], [sʌ mn] and [bʌ tn] are 'bottle', 'summon', and 'button'. (Low, 2015, p. 47).

Another unique way of a vowel articulation needs to be presented here. Vowels are always a voiced, however, in rapid speech, for instance in (BR) British English, a vowel can sometimes be completely devoiced and almost omitted. Potato [pʰ teɪ toʊ] and tomato [tʰ mɑ toʊ] are examples of words where the vowel has become devoiced and what's left is like an aspirated version of the stop alone, as in [pʰ] and [tʰ] (Finch , 1997, p. 50).

Diphthongs, according to Levins, (1975, p61) "refer to a tautosyllabic sequence of two vowels of different   qualities, two vowel qualities can be perceived". The diphthongs could be considered of as contour vowels, just in the same way as affricates are contour consonants. They start in one place and end in another. Munro& Derwing (1995, p. 289–306) say that a diphthong is "a vowel sound in which there is an intentional glide made from one vowel position to another vowel position, and which is produced in one single impulse of breath." There are eight diphthong vowels in English as it is shown in following figure:
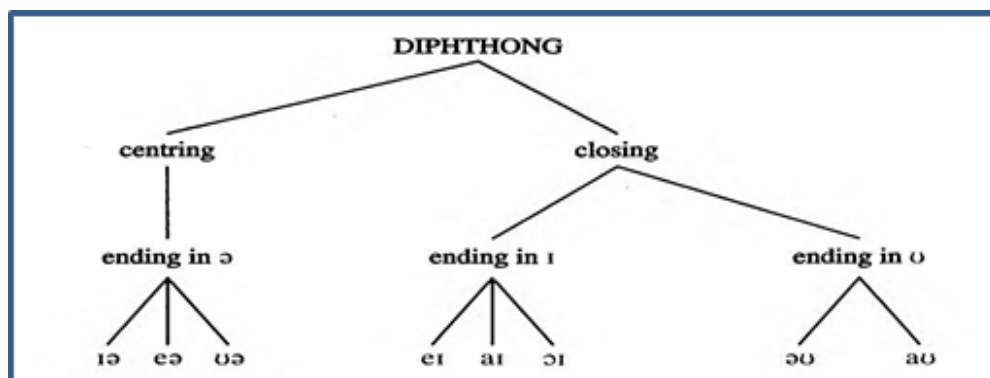
Figure 2: English diphthongs (Roach, 2009, p. 17)

1- Three closings glide toward /ɪ/:

a)/ eɪ / (e.g., play /pleɪ/, sale /seɪl/,

b) /aɪ / (e.g. Fly /flaɪ/, die /daɪ /, etc

c) /ɔɪ / (e.g. Toy/tɔɪ /, noise /nɔɪz /, etc

2-The last two closings glide toward /ʊ/:

a) /əʊ / (e.g. so/səʊ /, go /gəʊ /, etc)

b) /aʊ / (e.g., how/haʊ /, town/taʊn/, etc

3) The centering English Diphthongs glide towards/ə/

a) /ɪə/ (e.g., beard/bɪəd/, near/nɪə/, etc.

b) /eə/ (e.g. share/ʃɛə/, air/ ə/, etc

c) /ʊə/ (e.g., poor/pʊə/, cure /kʊə/, etc

In the English language, vowels are put into different phonological classes depending on the type of syllable they are in as Gleason pointed out:

"Diphthongs may be considered either as vowels in which there is appreciable change of quality during the course of their pronunciation, or as sequences of vowels or of vowels and semi- vowels. Phonetically the first interpretation is generally best; phonemically they are often best treated as sequences, in other instances as single phonemes. Thus there may be a marked difference in the phonetic and phonemic significance of such a term as diphthong". (1955, p. 253-254).
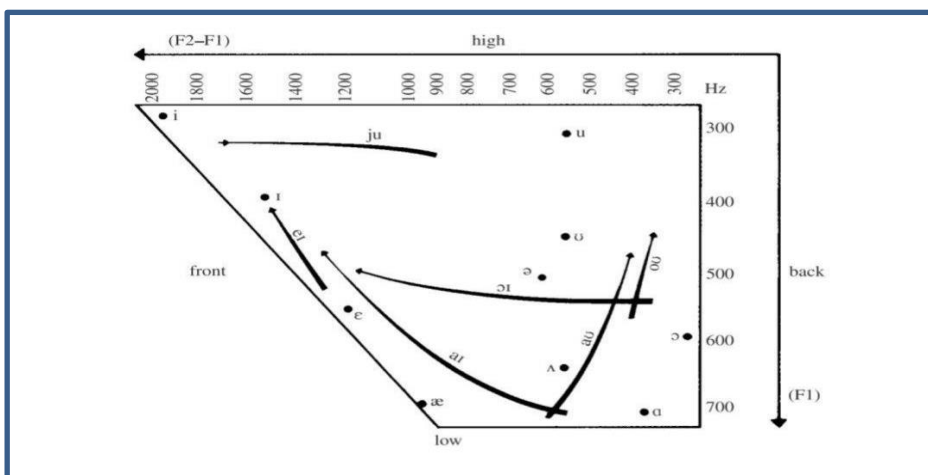
Figure 3: Shows the glide movement of the English diphthongs (Ladefoged, 2015)

2.4.2. Phonology

Phonology deals with linguistic units that are above the level of a single phoneme or the properties of the sounds we make when we speak. Phonology is "the study of certain sorts of mental organization. In particular, it is the study of certain types of mental category, mentally stored representations, and generalizations concerning those categories and representations." (Carr, 2013, p.79)

Phonology refers to the study of the rules that govern the way different sounds in speech are put together to make words. Yule (2010, p. 42) argues that "phonology is about the underlying design, the blueprint of each sound type, which serves as the constant basis of all the variations in different physical articulations of that sound type in different contexts". From the above definitions it can be concluded that phonology is about the patterns of sounds. Carr (2008, p130) regards phonology as "The study of the sound systems found in human languages".

Some phonologists claim that phonology is about how speech sounds function. If this is true, then phonology is called "functional phonetics." The mentalistic or cognitive ideation (i.e. Chomesky's cognitive theory) is another way to explain phonology. It sees the sound systems of a language as abstract units or images of the substances (sounds) that are stored in the the speaker's mind and then put together to make words that can be used to communicate. (Shaymaa and Rezqallah, 2020, p. 95)

In this respect, Yule (2016, p. 88) States that "abstract and mental aspects of the sounds in language instead of the actual physical articulation of speech sounds" Finch (1997, p. 166) defines "Phonology is concerned with the sound structure of the language, in particular with the way in which sounds can form words structure".

2.4.2.1. Consonants

In this subsection, only consonant clusters and assimilation are to be dealt with, since the research topic is limited to studying these two areas, as far as consonants are concerned. Therefore, issues such as single segment or sound description are not the interest of this subsection. However, it is necessary to explain what consonant sounds are and provide some of its definitions.

Three ways are used to describe consonant sounds these are   the manner of articulation, the place of articulation, and voicing. The manner of articulation describes how the different articulators interact with the airflow. The place of articulation describes what the different articulators do. Fortis means strong, while lenis means weak (Kelly, 2000, p. 47)

Phonetically speaking, the articulation of consonant sounds is done in one of two ways. Either one of the vocal organs closes, making a narrow structure where the sounds of air passing can be heard passing   through, or the vocal organ closes completely, making a complete closure. The closing movement can be made by the lips, the tongue, or the throat, but the overall effect is very different from how vowels are made, which is more open and free of obstructions (Crystal, 2003, p. 242).

In this regard, Finnegan (2008, p.85) defined consonants as "sounds produced by partially or completely blocking air in its passage from the lungs through the vocal tract." For example, the articulation of the sound /p/ in 'pe' needs a complete closure in the mouth. On the other hand, the pronunciation of the sound /f/ in 'fatger' needs a partial closure in the airflow.

A consonant is a voiced or voiceless sound in which the airflow is blocked by narrowing or completely closing vocal tract, as described by Roach (2009).

2.3.2.1.a. The English Syllable Structure

A syllable is defined by (Edward Finegan 2008 p.119) as:

"There is agreement that a syllable is a phonological unit consisting of one or more sounds and that syllables can be divided into two parts-a rhyme and an onset. The rhyme consists of a nucleus and any consonants following it. The peak is usually a vowel, although certain consonants called can also function as a nucleus."

Onset and coda are optional elements of the syllable structure in the sense that it is possible to find a syllable consisting of a vowel in isolation. However, the vowel is an obligatory one since it forms the center of the syllable (Roach, 2009, p.56).
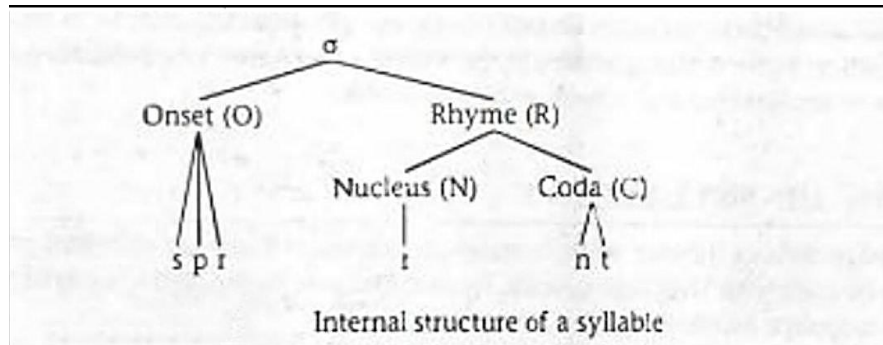
Figure 4: syllable structure (O'Grady et al. 1997, p. 76)

2.3.2.1.b. Consonant Clusters:

At the onset and the coda of the syllable there may be a consonant or a sequence of consonants without an intervening vowel that breaks the sequence. The consonant sequence is alternatively referred to as 'consonant cluster'. The number of consonants and their arrangement are something which is determined by the phonological rules of the language in terms of which they are studied: "some languages permit few, if any, consonant clusters, while others permit clusters of great complexity. English is perhaps average in this regard, allowing consonant clusters, but only when they follow certain restricted patterns". (Langacker, 1972, P. 274)

(C) (C) (C) V (C) (C) (C) (C)

Except for the monosyllabic word 'strengths' /streŋkθs/, no other syllable in English seems to have the ideal structure CCCVCCCC. (See Daniel Jones Everyman's English Pronouncing Dictionary, 1977, P. 474).

At the onset, any consonant may occur alone before the vowel, except / ʒ/ and /ŋ/, but when the number of consonants exceeds one, the sequence becomes subject to a number of collocation restrictions, such as the following:

"... if there is a second consonant in the onset, the first must be an obstruent...(i) only stops and voiceless fricatives appear as the first member, (ii) ... \j\ never appears as a second member, (iii)… only \s\ may appear with \m\ or \n\, (iv) \w\ never appears after bilabial consonants, or \š\ or st (v).. \r\ never appears after s or h, and (vi).. l never appears after t. d. š, h or sk." (Selkirk, 1982: 346)

As for point (ii) in the above quotation, there exists a number of English words where /j/ is in fact the second member of the cluster, invalidates this particular

collocational restriction on onsets of English syllables, e.g. 'pure' /pjʊə/, 'tune' /tju:n/, 'cute' /kju:t/, 'suit' /sju:t/, etc. Nonetheless, these restrictions reflect the distributional and combinatorial properties of the English consonants in syllable initial consonant clusters. O'Connor (1980, p. 64) classifies initial two-consonant clusters into:

1. clusters with initial /s/ plus one of a limited set of consonants that may follow, namely /p, t, k, f, m, n, l, w, j/, e.g. 'spark, stove, skewer, sphere, small, etc.

2. one of /p, t, k, b, d, g, f, θ, ʃ, v, m, n, h/ plus one of /l, r, w, j/, e.g. 'play, pure, true, twice, tune, rly, fry, fuse, etc'.

Roach (2000, P. 71) analyses the /s/ plus consonant sequence as "pre-initial plus initial". The second type, i.e. consonant plus /l, r, w, j/, he analyses as "initial plus post-initial". Such an analysis rests on the property of inherent sonority of the collocating consonants and their arrangement before the vowel in a manner which manifests a gradual rise in sonority.

Meanwhile the consonant clusters in the second category manifest the desired gradual rise in sonority towards the center of the syllable; some of the clusters in the first category do not show the same effect. For instance, in the sequences /sp-, st-, sk-/ the first element has greater sonority than the second which is nearer to the center of the syllable. Therefore, in her model, Selkirk (1982,P.347) proposes to consider these two-element sequences as a single constituent filling a single slot so as to preserve this gradual rise in sonority before the vowel. In any case, initial two-element clusters of both types may not pose much pronunciation difficulty for the Arab learners, since their production does not involve a complicated articulatory movement from the first consonant to the second. However, some learners may initiate these clusters, especially the /s/+ consonant type with a glottal stop followed by /l/. The result is that a new syllable is added, which complicates the syllable structure of the word, but which at the same time eases the pronunciation of these sequences for the learner.

Pronunciation difficulties arise with initial three-consonant clusters. The number of possible sequences in this group is definitely greater than that of the previous group. The first element is always /s/ which is followed by one of the voiceless plosives /p, t, k/, followed by one of /l, r, w, j/. The possible sequences are thus /spl-, spr-, spj-, str-, stj- skr-, skw-, skj-/. Roach (2000, P. 73) analyses the first

element in these sequences as 'pre-initial', the second as 'initial', and the third as 'post-initial'.

To consider Selkirk's model that regards /s/ plus obstruent sequences as single obstruent, it might be suggested that a two-consonant cluster is the only type permitted before the vowel in English syllables, for the sequences so conceived would preserve the sought gradual rise in sonority from the obstruent to the following liquid or glide and then to the vowel, the peak of sonority.

The difficulty faced by foreign learners in producing the English initial three-consonant clusters is mainly attributable to the non-existence of the possibility for three consonants to occur consecutively at the beginning of the syllable in their languages. Consequently, foreign learners tend to simplify these clusters, either by inserting a vowel sound between the first and second consonants as in 'street', 'screw', 'spring', etc. which are most often pronounced as /sitri:t, sɪkru:, sipring/, by introducing a glottal stop at the beginning of the cluster which is less likely than the first possibility or by deleting a consonant sound (Revell, 2012, p. 122-123). These pronunciation errors reflect the learner's attempt to nativism the foreign structures to suit more the phonological structure of the syllable in their languages and achieve the more likely CVC syllable structure that is particularly common in the language (Katamba, 1989, p. 166).

The coda in English syllables may have up to four consonants in sequence as in 'texts' /teksts/, 'sixths' /sɪksθs/, 'twelfths' /twelfθs/, etc. Final consonant clusters exhibit greater variety of formation than initial clusters. The simplest is manifested by a final two-consonant cluster, e.g. 'help' /help/ 'bend' /bend 'waste' /weist/ etc. However, some combinations in final two-consonant clusters constitute some difficulty for the learners, and thus compel them to nativize the structure in the same way referred to above. Final plosive + plosive, or plosive + nasal, or plosive + lateral are problem sequences since their pronunciation requires the performance of articulatory gestures in a particular way of which the foreign learner is most probably unaware, or even ignorant.

In producing such sequences, the native speaker usually follows the tendency to achieve ease of pronunciation by exerting least articulatory effort. "In uttering the

sounds of language, there is a tendency for speakers to try to obtain the maximum effect with the minimum effort." (Malmberg, 1963, p. 56)

For instance, in 'begged /begd/, button /bətn/, middle /midl/' (illustrative of the sequences referred to above), there ought to be a reduced articulatory effort in the pronunciation of the final two-consonant clusters. In the first, two closures are formed simultaneously for the two plosives, but release is only made for the second plosive. In the second, the soft palate assumes a single lowered posture for the plosive and the nasal, instead of two: a raised posture for the plosive and then a lowered one for the nasal. In the third, the sides of the tongue are lowered to allow a lateral escape of the air for both the plosive (which is otherwise centrally released) and the lateral.

It can be concluded that being unaware of these fine articulatory movements and of their importance in achieving perfection of pronunciation, or simply, being unable to produce them easily, the learner would tend to simplify the consonant cluster by inserting a short vowel sound between the consonants. Thus, /begd/ becomes /begəd/, /bətn/ becomes /bətən/ and/midl/ becomes /midəl/. Such pronunciations are by no means economical in articulatory effort. Also, they are very heavily marked for accent. Nonetheless, they do make easy the pronunciation of English to the foreign learner. Thus it can be found how different the concept of achieving ease of pronunciation is to the native speaker on the one hand and to the foreign learner, on the other.

Again, there are restrictions on final consonant clusters. Below, some of these restrictions as presented by Selkirk (1982) are stated:

-"if there are two consonants in the coda, the second must be an obstruent" (p. 348)

- The second consonant of the coda must be a coronal i.e. alveolar, dental, or palate alveolar.

-..the only tri-consonantal codas are those with st (or sθ) in second or third place..."(p.349)

In her analysis of the syllable, Selkirk (1982) takes three to be the maximum number of consonants that can occur at the coda. As such, final four consonant clusters

are impermissible. The following constraint on codas is stated in relation to this point "… codas of more than three are absolutely excluded. (p. 349)."

It seems that, Selkirk's exclusion of a fourth consonant element in the coda is based on syntactic considerations. Since the fourth consonant is an inflectional element, mainly a suffix (which is not part of the root of the word), it falls outside the scope of syllabification. Therefore, inflectional endings are altogether disregarded as constituents in the underlying representation of the coda:

"Inflectional affixes are word affixes, and as such are outside the basic domain of syllabification.... And… even if phonologically a word with an inflectional ending is sometimes indistinguishable from a monomorphic word (cf. find Vs. fined), the operation of certain phonological rules, such as voicing assimilation, suggests that at a more abstract level the endings do not have the same relation to preceding segments of the syllable as do consonants contained within the coda (Selkirk, 1982,p. 350)."

Roach (2000, p. 73) analyses the consonant clusters in coda position in similar terms to his analysis of the possible clusters at the onset. Any consonant may be final, except /h, r, w, j/ due to distributional restrictions. Final two-consonant clusters bear one of two possible analyses: either as 'Pre-final+ Final' or as 'Final + Post final". Pre-final consonants are a limited set of consonants, namely the nasals, /m, n, ŋ/, the lateral /l/, and the voiceless alveolar fricative /s/, e.g. 'camp', /kæmpl, 'wasp' /wosp/ 'meant' /ment/, 'bank' /bænk/, 'melt' /melt/. The Post-finals, on the other hand are again a small group of consonants, namely /s, z, t, d, θ/, with the characteristic feature that they belong to two separate meaningful morphemes. Examples of such sequences can be 'paths' /pa:θs/, 'heads' /hedz/, 'checked' /tfekt/, 'dragged' /drægd/, 'tenth' /tenθ/, etc.

Final three-consonant clusters again are analysed in one or two possible ways according to the collocating consonants as either 'Pre-final + Final + Post-final' or as 'Final + Post-final 1 + Post-final 2', the consonants in Pre-, and Post-final positions being the same ones as the ones specified above. Finally, final four-consonant clusters are analysed as either 'Pre-final + Final + Post-final 1 + Post-final 2, e.g. 'twelfths' /twelfθs, 'Final + Post-final 1 + Post-final 2 + Post-final 3', e.g. 'sixths' /siksθs / (Roach (2000, p. 73) .

Above, some of the difficulties faced by the foreign learner when producing final two-consonant clusters have been mentioned. However, the difficulties become

even more complicated for the learner as the sequence of consonants becomes larger and the articulatory gestures involved in their production become more intricate and overlapping, which requires a greater effort to execute them correctly. But the most important point here is that the larger the consonant sequences grow the more the learner is separated from the phonological rules of his/her language which give place only to small sequences of consonants the number of which does not usually exceed two. As such, an implicit process of nativisation of the English consonant clusters is at work, in which all three-, and/or four- consonant clusters are simplified in a way that meets the nature of consonant clusters in their languages. For example, final three-consonant clusters are simplified in such a way that the resulting structure contains a sequence of two consonants at best. Thus, CCC (representing either of the aforementioned types of final three-consonant clusters) is simplified by inserting the vowel either after the first or the second consonant, which in its turn affects the syllable structure of the whole word.

2.3.2.1.c. Assimilation

One facet of connected speech is assimilation. However, the meaning of "connected speech" needs to be established before diving into a literature analysis on assimilation. The term "connected speech" describes an approach to analyzing conversations and other forms of daily communication as a continuous stream. Rhythm, assimilation and elision are the three processes that are most frequently seen in connected speech (Crystal, 2003, p. 96).

So, many phoneticians have used the following to characterize assimilation: Jones (1972, p.217), Katamba (1989, p. 80), Roach (2002, p. 7), and Crystal (2003, p. 38) all assert that assimilation happens when one sound is replaced by a second sound in the process of articulation because of the influence of a third sound that is close to it in a word or sentence. This makes one sound is similar to the other sound in articulation. Assimilation is, moreover, defined as "when the sound is changed into another because of the influence of a neighbouring sound" (Ladefoged, 1975, p. 92).

Malmberg (1963, p. 60) demonstrates that assimilation is the change that happens to a sound when it comes into contact with another sound and changes the "essential properties" of both sounds. For example, if you speak quickly, "This ship"

will sound like "/ðɪʃʃɪp/" instead of "/ðɪs ʃɪp/ ." Through assimilation, the sound /s/ is transformed into the sound /ʃ/.

Assimilation is also defined "The process or result of two sounds becoming identical or similar, due to the influence of one upon the other" (Hartmann and Stark, 1976, p. 21). Since the tongue cannot be easily moved up and down at the same time, assimilation may be like a bridge to the next sound. It is also the process by which one sound becomes phonetically similar to or the same as an adjacent or similar sound. So, assimilation is thought to be the "most common phenomenon expressed by the phonetical rules" (Falk, 1978, "most common phenomenon expressed by the phonetical rules" (Falk, 1978, p. 136).

Assimilation, according to Dalton and Seindlhofer (2000, p. 28), Roach (2000, P. 138- 139),and Crystal (2003, p. 247), varies contextually depending on the speed and style of speech, so it is more common in fast, casual speech and less common in slow, formal speech.

Assimilation is generally defined as the change of one sound into another sound under the influence of neighbouring sound ,as in the change of /z/ to /ʒ/ ,in "does she" /dʌʒʃɪ/(see Abercrombie ,1967, p.133; Roach, 2009, p. 105; Ladefoged, 1993, p. 292; Collins and Mees, 2003, p.102).

In the stream of speech, the effect of variation in the same phasing and synchronizing of the continually changing coarticulated movements of the speech apparatus results in assimilatory processes and that assimilation is regarded as adaptive mutual modifications between successive sounds in the chain of speech (Brosnahan and Malmberg, 1970, p.132).

It is worth mentioning that an overwhelming majority of phoneticians and phonologists explain assimilation by appealing to the notion of 'ease of articulation ' and /or 'economy of effort'(see Abercrombie, 1967, p.135; Ladefoged, 1993 p. 267). This notion entails a sort of reduction in the number of movements and adjustments exerted by the speech organs which are necessary to perform the transitions required from one sound to another. (Abercrombie, 1967, p. 135). Accordingly, it is easier to articulate homorganic sequence of nasal +consonant than a heterorganic one (Ohala and Ohala, 1993, p. 241).

It is said that the more familiar and repaid the style of speech is, the more frequent the process of assimilation are (Abercrombie, 1967, 135; Roach, 2000, p. 105).

Types of Assimilation:

Three types of assimilation are most commonly dealt with in the phonological literature

They are:

1 -Regressive Assimilation:

"In anticipatory (or regressive) assimilation, a sound is influenced by the sound which follows it. In the phrase ten balloons, /ten/ is likely to be pronounced /tem/ anticipating the following bilabial consonant." (Crystal, 2003, p. 247).

When one sound has an effect on the sound that comes before it, this is called regressive assimilation. The most prominent example of regressive assimilation in the English language is the non-alveolar consonants, which can be preceded by alveolar consonant /t, d, s, n/. Then, the place of articulation will shift from the alveolar region to somewhere else, such as:

"this shop = /ðɪsʃɒp/ → /ðɪʃʃɒp/

good night = /gʊd naɪt/ → /gʊnnaɪt/

football = /fʊtbɔ:/ → /fʊpbɔ:/

fruit-cake = /fru:t keɪk/ → /fru:kkeɪk/"   (Roach, 2002, p.7)

Words like "grandpa" (where the sound "p" influences the sound "nd," resulting in "graempa") and "pancake" (where the sound "k" influences the sound "n," resulting in "pkeɪk") are examples of anticipatory assimilation, in which the sound assimilated precedes and is influenced by the conditioning sound. Words like "has" and "have to" are particularly subjected to regressive assimilation, e.g.

have + to → /hæftʊ/

has + to → /hæstʊ/

used + to → /ju:stʊ/

Word boundaries are to be taken into account while studying   regressive assimilation. This lexical divide is depicted briefly in the following Word boundary scheme from Roach (2000, p. 139)

……………Cf   Ci ………………..

Consonants that come at the end of a word are denoted by the symbol (Cf), while those that come at the beginning are indicated by the symbol (Ci). When the preceding sound (Cf) is modified to more closely resemble the succeeding sound (Ci), this type of assimilation is known as regressive assimilation.

One or more properties of the assimilated sound may be replaced by features of the inducing (or anticipating) sound, depending on the degree of assimilation between Cf and Ci (Brosnhon and Malberg, 1970, p. 132).

The process of regressive assimilation takes into accounts not only vowels but also consonants in its analysis. The assimilation of vowels in is referred to as the "umlaut system." "In this system, the vowel in the plural noun form becomes more fronted and/or higher because of assimilation to a vowel in the following syllable" (Celce-Murcia et al., 2004, p. 258).

According to a different definition, an umlaut is a term that is used to describe a change in sound that occurs when a sound is affected by the vowel that comes after it in the syllable. One example of this is the Germanic word gosi, which evolved into the current English word geese as a result of the last vowel causing the /o:/ sound to transform into the /i:/ sound (Crystal, 2003, p. 480). Examples for this kind of regressive assimilation:

foot → feet

tooth → teeth

goose → geese

man → men

mouse → mice

louse → lice

2- Progressive Assimilation:

Roach (2002, p. 7-8), Crystal (2003, p. 247), and Celce-Murcia et al. (2004, p. 160) demonstrate that a sound is affected by the sound that comes before it in progressive assimilation. . The plural's' and the regular past tense 'ed' are examples of progressive assimilation.

cats → /kæts/

dogs → /dogz/

moved → /mu:vd/

finished → /fInI∫t/

The process of assimilation in the above-mentioned examples can be represented in the following Word boundary diagram:

……..Cf　　Ci……………

when Ci is changed in a way that makes it more like Cf, this type of assimilation is referred to as progressive (Roach, 2000: 139).

It should be clear that progressive assimilation, like regressive assimilation, also has to do with vowels. "Vowel harmony" is what Katamba (1989, p. 211), Lass (1998, p. 172), and Crystal (2003, p. 214-15) call the process of vowels becoming the same over time.

3. Coalescence or (Reciprocal) Assimilation:

Coalesce is the third category of assimilation. This usually happens in English when a final alveolar consonant like /t, d/,/s, z/, or a final alveolar cluster like / dz,ts,/ is followed by an initial palatal /j/,e.g.

Rule		**Examples**
/s/		"/∫/ = this year → /ð∫jɜ:/"
/z/		"/ʒ/ = does you → /dʌʒju::/"
/t/	+ /j/ →	"/t∫/ = that you → /ðæt∫ju:/"
/t+s/		"/t∫/ = lets your → /let∫jo:/"
/d/		"/dʒ/ = could you → /kʊdʒju:/
/d+z/		/dʒ/ = needs you → /ni:dʒju:/"

As a result, in the process of reciprocal assimilation, both of two identical articulations have an effect on the other (Crystal, 2003: 78).

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Processes of Assimilation:

Speech sounds undergo many processes of assimilation. The following are some of these processes.

1. Voice Assimilation:

The process of voicing assimilation is a crucial one. It takes place when a voiced sound is changed into a voiceless sound as a result of the influence of a voiceless sound that is located in close proximity to it (Gimson, 1972, p. 189).

The assimilation of voice can manifest itself in a variety of ways, including the transformation of voiced sounds into voiceless sounds through a process of becoming identical to voiceless sounds and opposite (www.personal.org.uk).

According to Lass (1998, p. 173) and Roach (2000, p. 140), there is some evidence of assimilation of the voice, but only in restricted ways. In the allamorphy of English plurals, genitive, and third person singular /s/ in hawks, hawk's, walks; /z/ in bags, bag's, lagz; /t/ in walked; /d/ in legged, both regressive and progressive voice assimilation can be seen. If Cf has voicing and Ci does not, then the consonant that should be voiced does not have voicing. On the other hand, if Cf is voiceless and Ci is a voiced sound, therefore Cf will be voiced . In this kind of context, the voice assimilation never takes place.

2. Place of Articulation Assimilation:

One of the obvious types of assimilation is that of place of articulation .This type of assimilation takes place when final consonants sounds whose places of articulation is alveolar are followed by non-alveolar consonants occurring initially in the neighboring word , regarding place of articulation. The following examples are illustrative:

"That person" in this example the alveolar /t/changes into bilabial /p/ as for place of articulation is concerned due to the effect of the biliable sound in /person/.

/That thing /Here the dental sound in /thing/affects the alveolar in /that / and changes it into a dental stop (ðætəIŋ).

'That case' in this case the alveolar /t/ in 'that' becomes /k/ as a result of being influenced by the /k/ in 'case'

However, this type of assimilation of place is mostly common with /t/,/d/but not with /s/,/z/.

IF /s/,/z/ undergo an assimilation process ,they change into /ʃ/as for /s/and /ʒ/as for /z/ when they are pronounced before /s/or /j/ such as: 'this shoe'/ðIʃʃu:/, those years /ðʊəʒIəs/ /(Roach,2009,p.111).

Ward (1972, p. 190) and Giegrich (1995, p. 213-214) say that nasal consonants often affect stop consonants that are made in the same place. For example, the word "kindness" /kaIdn∂s/is usually pronounced "/kaInn∂s/" The /d/ is affected by the /n/ that comes before and after it. The words "grandmother" and "handsome," which are both pronounced /grænmΛð∂/ and /hænsΛm/are another example of this.

3. Manner of Articulation Assimilation:

Manner of articulation assimilation is much less frequent type of assimilation than the other types. It occurs only in the very casual and rapid speech .It is more frequent in regressive assimilation .It usually takes place for the purpose of making the pronunciation of words much easier and to avoid the obstruction that limits the flow of air during the articulation process .Fore example : 'that side' / ðæssaId /, Or 'good night' /gʊnnaIt / here ,the plosives changed into fricative or nasal .

As for as progressive assimilation is concerned, manner assimilation can be noticed in cases where nasals or plosives come before the sound / ð/ which is in the next word .So ,the sound ð/ would become identical to the proceeding plosives or nasals , regarding the manner of articulation. for example :' In the '/ Innə/ 'Get them' /get tem/(Roach, 2009, p.112)

Good examples are explained by Katamba (1989, p. 91-2) on the morpheme 'not' which the prefixes 'in-', 'an-', 'im-', 'il-' and 'ir-' are derived from it. The examples are as follows:

not – legal → in – legal → illegal

not – ilicit → in – licit → illicit

not – rational → in – rational → irrational

not – revocable → in – revocable → irrevocable

2.5. Previous Studies

In this section, it is necessary to present the most relevant literature that dealt with the pronunciation errors. The following are some of the previous studies that share the current study in dealing with problems of pronunciation.

Table 1: Previous studies

Author's name and year of publication and Title of study	Its aim(s)	Participants	Methodology and methods of data collections	Analysis procedure(s)	Results
Koffi (2010) (Somalia) "The Pronunciation of -ed in Coda Clusters in Somali Accented English"	to investigate the difficulties faced by Somali Students in producing coda cluster namely, the past suffix-ed.	Students at the St. Cloud State University	A qualitative approach. Words lists and recording were used to collect data.	Interpretive analysis of the data is used.	Students face pronunciation problems and they need to improve their pronunciation skills. The reason was the heavy cluster found in found in English.
Ali (2013) (Sudan) "Pronunciation problems: Acoustic analysis of the English vowels produced by Sudanese learners of English".	To provide experimental evidence to account for the sources of errors.	Ten students from Gadarif University were chosen of the Study Sample.	An experimental design, methods were Words lists and Sentences lists are used.	Praat tool used to acoustically analyze the quality and quantity of vowels in the sample's speech.	Central and back vowels were problematic. Some tense lax vowels showed no serious indication of difficulties. Sound formants are lower in the sample's speech.
Hojati (2013) (Iran) "An Investigation of the errors in the Oral Performance of Advanced Level Iranian EFL Students".	To identify, categorize, analyze and explain the most common errors in the Students' oral performance.	20 EFL post-graduate Students both males and females at the University of Sheikbahaee.	A quantitative research methodology. Observation used to collect data.	Descriptive statistic is	Advanced-level learners made many error types in pronunciation as well as in grammar.
Aktuğ (2015) (Türkeye) "Common Pronunciation errors of Seventh grade EFL learners: A Case	to investigate the level of proficiency of Türkish Students in the pronunciation of English.	7th grade native Turkish students. They were 82 students.	A mixed approach is used. A test of words lists and five interviews with 7th grade	Descriptive statistics. Additionally, interpretive qualitative analysis is used too.	subjects face more difficulty in pronouncing vowels and the reasons can be

from Türkeye".			teachers were used.		attributed to the mother tongue interference.
Keshawarz and Abubakar (2017) (Nigeria) "An Investigation into pronunciation problems of Hausa-speaking Learners of English".	to investigate Nigerian Students' pronunciation problems in English.	60 students whose language is Hausa from three Universities located in Northern Cyprus.	a quantitative research approach. Reading aloud and picture description were the main tasks used as data collection tools.	Descriptive statistics was used in this study to analyze the data	Students were encountering problems in sounds like /f/ and /v /. Mother tongue transfer and the phonetic features of Hausa language were the reason.
Ramasari (2017) (Indonesia) "Students Pronunciation errors made in speaking for General Communication"	To describe Student's pronunciation errors.	First Semester Students at STKIP PGRI Lubuklinggau during the academic year-2016-17.	A qualitative research approach. observation, interview and documentation were methods of data collection.	Qualitative interpretative analysis of the obtained data was used.	pronunciation errors, namely, pre-systematic, systematic and post-systematic were found in the subjects' performances.
Purba (2018) (Indonesia) "The pronunciation problems of the English Department students in the University of HKBP Nommensen".	to find out pronunciation problems in the students' speech and to analyze these problems. (It was limited to Studying Consonants sounds only).	20 second semester Students who had speaking class at English Department students in the University of HKBP Nommensen.	a qualitative descriptive methodology. reading aloud of a predesigned text technique used to gather data. Audio recording is used to accomplish this task.	qualitative interpretative description is used to analyze the findings.	students face problems in pronouncing sound like /s /, /ə/, /ɜ /, / ʧ /, /F/, and /v/. They change them into /d/, /s/, /p/and/j/.
Alzinaidi and Abdel Latif (2019) (Saudi Arabia) " Diagnosing Saudi Student's English Consonant pronunciation Errors"	to research the problem of pronouncing consonant sounds such as /P/ and /v/ by the Saudi Students.	So, a sample 40 students from a Saudi university was chosen.	a quantitative research approach. read ing aloud test used to collect data.	Descriptive statistics	students have pronunciation problems in pronouncing the S and d morphemes as well as consonant clusters.
Maharani, Pastika and Indrawati (2020) (Indonesia) "An Analysis of Pronunciation Errors Made by Medical Students at S&I Learning Centre".	To study the Pronunciation errors made by Students.	ten of the Medical Students at S&I. Learning Centre	A qualitative research approach. Oral test is used through implementing role plying technique.	Collected data were analyzed following qualitative descriptive approach .	three types of errors were detected in the Students oral performance, intralingual , interference and developmental

					errors.
Lestari, Budi, and Nuraeningsih (2020) (Indonesia) "**Pronunciation errors made by EFL students teachers in speech performance**"	to find out the common pronunciation errors and their possible causes.	fourth year students of English at the University of Muria Kudus .	A descriptive qualitative. document (5 speech videos) analysis and interview as instruments.	Descriptive statistics was used.	vowels were problematic sounds and more specifically the /e /and /I /Sounds in short vowels, Long vowel were less problematic. Spelling accounted as the reason.
fadhillah, Miftakhal and mobit (Indonesia) "EFL Student pronunciation error analysis on English short vowel sounds".	To identify the most frequent type of these errors and what their possible sources might be.	5 Subjects Studying at a vocational Islamic boarding school, Second Stage.	a qualitative interpretative approach. A test of 49 words containing short vowels and Interview with 7 participants to know their knowledge of pronunciation.	Descriptive statistics and interpretive analysis are both used to analyze the results.	students have pronunciation problems in English short vowels. Furthermore, the study attributed the sources of these errors to the lack of pronunciation practical lessons.
Winda, Mukhrizal and Puspita (2021) "**Students pronunciation errors in English Silent letters**"	to study the Pronunciation problems faced by ELF Learners and what are the types of these errors.	Seventh Semester students of English Education Program at the faculty of teacher training and Education at the University of Bengkulu	A descriptive quantitative method. The used instruments for methods in this methodology were (1) pronunciation oral test and (2) interview.	Descriptive statistics was used in analyzing the data.	Systematic and pre-systematic were the major types of errors. Moreover, Silent letters 'b' and 'g' were the most problematic Since they Scored the highest percentage.
Abderady (2021) "**pronunciation problems Encountered by EFL Learners: An Empirical Study**"	To study Arab learner's Problem in English pronunciation Moreover, it aims to train the students with the pronunciation of English by using drills such as repetition and imitation.	The participants 32 undergraduate EFL Learners from Qassim university.	a quantitative ,and qualitative research approach. They used questionnaire and recorded samples sample of the students speech to get data as well as pronunciation test.	Descriptive statistics was used in analyzing the data.	Students have pronunciation problems and that they have improved their pronunciation due to the effect of the used training.

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In table 1. a number of previous studies carried out to investigate pronunciation problems are summarized. These studies are done in different Countries such as Somalia, Sudan, Iran, Turkeye, Nigeria, Indonesia, and Saudi Arabia. This, of course, emphasizes the importance of investigating this phenomenon. These studies are chosen since they are closely related to the one at hand. All these studies share the same aim(s). They try to find out what the pronunciation problems that the learners face in their language learning process are. They also try to find out what the reasons behind these errors are. However, each study had approached the problem using different research methodologies and research instruments. For example, Koffi, (2010), Ramasari (2017), Purba (2018) and Maharani, pastika and Indrawati (2020) all used the qualitative approach in their studies. They collected data using different tools Koffi used word lists that require participant to read aloud and then the researcher record their speeches. Ramasari (2017) uses observation and document through which she collects videos of the subject while they were speaking. Moreover, Purba (2018) used the reading aloud technique to elicit pronunciation errors made by asking the learners to read a text aloud. Maharani, pastika and Indrawati (2020) employed the technique of role playing as a tool to collect data. They assign role to each participant and ask them to take turns.

These Studies may be criticized by the fact that the research sample in the qualitative approaches is usually small and in fact, the samples in these studies were rather limited. Small samples may not provide sufficient indications of the pronunciation errors types since they are limited in their data provided which will end up in poor variation of the errors and reasons behind these errors. However, this does not mean that qualitative approaches are insufficient or inadequate, but rather they still need support to enhance and validate their findings. This can be achieved by using a mixed approach the thing which this study uses. Another point can also be noticed which is that these studies employed techniques such as words lists or reading aloud, such techniques, though useful, are rather artificial and the data is limited to certain targeted words. The present study uses tools such as classroom observation, speaking test and focus groups to elicit the pronunciation errors. These tools help the researcher to gather more authentic and real-world data which has a considerable amount of variation in pronunciation errors rather than limited number of words that are pronounced in certain way. Moreover, the use of mixed approach helped in taking a

relatively larger number of participants to take part in this study as well as the statistical analysis which is absent in the qualitative approach.

Another set of previous studies, on the other hand, used the quantitative approach to investigate the pronunciation problems. These studies include the following: Hojati (2013), Aktuğ (2015), keshawarz and Abubakker (2017), Al Zinaidi and Abdellatif (2019), Winda, Mukhrizal and Puspita (2021) and Abderady (2021). Hojati (2017) uses observation as a fool to collect data. However, the reliability of this study severely suffers in the process of errors identification since the observer secretly records the speeds of the sample. Consequently, he has no way to check whether the error identified is a mistake or error. Additionally, it infringes the ethical considerations. So, the implementation of observation in this way is inefficient and not reliable. The present study employed observation too, but it uses the technique of stimulated recalls to make sure that the collected data are reliable and trustful. Aktuğ (2015), Used a mixed approach which is used in the present study. However, the instruments he used to collect data were different. He used words lists that require reading aloud some select words. He also used interview to collect non-numerical data about the reasons of the errors which is a tool used in the present study, but in a different way. Aktuğ (2015), uses interview with 5 teachers to ask them about the reasons of pronunciation errors that their students make. In the present study, in contrast, the focus groups interviews were conducted with learners because they are the ones who are facing the problems.

In Alzinaidi and Abdellatif (2019) and Keshawaz and Abubakker (2017), reading a text or words list aloud techniques were used to collect data which deprive the researcher from collecting authentic data in real context, of teaching. The data in these studies are analyzed statistically only without any enhancement that can be gained from the teachers or learners about the reasons of pronunciation errors.

Based on the previous discussion, it can be said that to use one approach is feasible, but seems not satisfactory. Therefore, this study differs from the above studies in its approach, tools, the sample size, and the geographical context. It benefits from both qualitative and quantitative approaches through employing triangulation, a mixture of approaches. The present study differs from previous studies in that it deals with pronunciation features both in phonetics and phonology which means a broader

coverage of the pronunciation errors. It also applies a mixed approach to deal with the problem. This would be more helpful to investigate the problem from different perspectives than to adhere to one approach since the mixed approach capitalizes on the advantages of the qualitative and the quantitative approaches. The current study, in addition, is carried out on Iraqi EFL Student Teachers which means different participants and mother tongue. Data analysis is not limited to statistical out comes, but it incorporates qualitative interpretative analysis too.

3. RESEARCH METHODOLOGY

3.1. Introduction

Chapter three is devoted to explaining how the research topic was addressed by the researcher and what techniques and procedures were used to fulfill the aims of the study and to provide answers to its questions. The study has the following two main objectives: (1) Identifying the errors of pronunciation that the Fourth-stage English department students make in terms of 'segmental' and 'supra-segmental' features. The term 'supra-segmental' in this study is used in its broad sense to mean units above the level of the individual segment such as consonant clusters and assimilation, but not necessarily refers to stress and intonation. (2) Finding out, through the obtained results, the reasons of these pronunciation errors made by the participants, and offering suggestions that may assist Iraqi EFL learners to overcome or minimize their pronunciation problems. The research strategy is described in section (3.2), The population and sampling (participants) are explained in section (3.3), research instruments are discussed in section (3.4.1), analysis and its detailed procedures are explained in section (3.5).data analysis presented in (3.6).

3.2. Research Strategy

Research strategy shows how researchers plan to gather data, analyze it, and write up the results. To conduct a research, there are three approaches: quantitative, qualitative and mixed-method. The quantitative methodology involves "data collection procedures which result primarily in numerical data that are then analyzed by statistical methods (Dornyei, 2007, p.24)." It provides accurate measurement and yield reliable results which can be generalized to other different contexts. Its purpose is to verify or reject certain hypotheses and theories (Streefkerk, 2019). On the opposite, qualitative type of research implies "data collection procedures that result primarily in open-ended, non-numerical data which is then analysed primarily by non-statistical methods (Dornyei , 2007, p.24)." It focuses on words and meanings; it generates textual data. So, researchers can gain in-depth insights into individual thoughts, experiences and concepts using this type of method. The third type of research

approach is mixed-method research. It means mixing quantitative and qualitative methods during data collection or analysis (Dornyei , 2007, p.42).

Applying qualitative methods helps the researcher understand more about how and why learners make errors with their pronunciation. The quantitative approach, on the other hand, is concerned with numbers and statistics, that is, it gives numerical information, and come up with facts that can be generalized about a certain topic (Streefkerk, 2020).

Concerning the current study, the mixed method approach is used in data collection and analysis. Data collected from the speaking test and the classroom observation are analysed quantitatively while data collected from focus groups interviews are qualitatively analyzed. It is worth mentioning that the data are converted into numerical data for quantitative analysis using statistical means such as frequency and percentages. So, a mixed methodology is adopted in this study.

3.3.   Population and Sampling

Population and Sample are essential to any research. Researchers need to clearly determine the targeted population of their study and to determine the size of the needed sample on which the study is carried out. Moreover, the researcher needs to control the attributes of the sample and to eliminate any factors which may have an effect on the reliability, validity or generalizability of the study findings. So, the following subsections explain what the population of this study is as well as to its sample.

3.3.1.   Population

The population involves all the subjects under study (Bluman, 2007, p.797). The population, in Mousavi's (1999, p. 275) definition, is the total number of participants being investigated out of which a sample may be taken to conduct a particular kind of study. In this sense, population refers to all the members of the research individuals. The population of the current study covers all the Fourth Year Iraqi EFL learners at the Department of English at the College of Education for Human sciences. The total number of the population is (150) undergraduate fourth-year

students. The reason behind choosing the Fourth -Year students can be attributed to the following reasons. Firstly, they had already studied English phonetics and phonology in their second year of study. Secondly, they have achieved considerably an advanced level of academic proficiency. Finally, they are considered to be qualified teachers to teach at schools.

3.3.2. The Research Sample

According to Bluman (2007, p.798), "after defining the research's population on which the research will concentrate, questions arise directly towards sampling. A sample is a group of individuals who have the same attributes as those of the population". So, the second step in investigating students' errors of English pronunciation is choosing the research sample. This is done after determining the research's aims, questions, and model. The population of the research for current study consists of (150) English majors in their fourth years at University of Mosul, College of Education for Human Sciences. The sample of the present research is chosen randomly from the population. The population, undergraduate fourth-year students, consists of males and females as well as students from multiple ethnicities who speak different languages. The 150 students were divided into three groups: A, B, and C. They had to be made as homogeneous and as consistent as possible by controlling a number of variables. So, an information questionnaire was distributed to get information about the targeted population and know its attributes (See appendix A).

The first and most important variable is the student's native language. Thus, only the students who had the same mother tongue were selected. In addition, of course, to Arabic, which the majority of the students spoke as their mother tongue, it was found that, after administering a questionnaire, the population of the present study, i.e. fourth-year students, spoke different mother tongues. Some students spoke Turkmen as their first language, others spoke Kurdish, and others Syriac. Consequently, only the students whose mother tongue was Arabic were selected as the research sample. Therefore, this first choice is a step towards a consistent sample.

It is not enough to select students whose first language is Arabic; experience must also be taken into consideration. Some fourth-year students had failed one of their university study years and attempted the year again, the thing that gives them an

advantage over the other students. Therefore, these possible participants were left out of the study's sample too. There were also students who had traveled to an English-speaking state, which means that they had experience interacting with English-speaking people. As a result, these students were also excluded.

The number of languages the students speak will determine the ultimate choice to be made in order to harmonize the sample. Some students were found to speak more than two languages, according to data gathered from the questionnaire; as a result, these students were also dropped from the study sample because their presence may have a negative consequence on the reliability of the findings. All of these exclusion procedures are meant to make sure that the students' proficiency with English pronunciation is reflected in reliable results.

Again, it should be emphasized that the underlying reason of eliminating the above mentioned subjects (students) from the research sample is to have a homogenous sample and end up with valid and reliable results. If the eliminated students were to be involved in the sample, then the reliability of the outcomes would be affected because some factors other than the expected ones may increase or decrease the presence of the pronunciation errors in the students' oral performance. So, for choosing a homogenous and unified sample that shares the same attributes and factors, the aforementioned decisions were made.

The number of sample students for the current study was reduced to (50) after all fourth-year students who don't meet the required criteria were eliminated from the study population. So, (50) participants are chosen from (150) undergraduate fourth-year students for the academic year (2022-2023). The researcher will include 5 participants as safety margin which Dornyei (2007, p.100) defined as "Safety margin When setting the final sample size, it is advisable to leave a decent 'margin' to provide for unforeseen or unplanned circumstances. For example, some participants are likely to drop out of at least some phases of the project; some questionnaires will always have to be disqualified for one reason or another; and we may also detect unexpected subgroups that need to be treated separately".

According to Dawson (2009, p. 49), there are various ways for choosing the samples which are basically classified into two major types: probability samples and non-probability or purposive samples. It is necessary to mention that the probability

sample is used in this study. Moreover, probability samples involve many sampling procedures such as random sample, stratified random sample, systematic or quasi-random sample and cluster sample. In this study, stratified random sample is used because the population consists of males and females where, according to the information gathered by the questionnaire, the number of females is larger than the males. So, depending on the stratified sample, the population is divided into males and females for randomly choosing the suitable proportion for each gender.

The necessity for a homogenous and consistent sample that clearly and accurately represents the targeted population is implied in the following aims:

1. Choosing a sample from a larger population enables the researcher to control the variables that affect the validity and reliability of the results. It helps the researcher to allocate enough time and efforts to get deep insights of the subjects under study.

2. It saves time, money and resources since the larger the sample the more time, efforts and resources is required. Moreover, the data obtained from the large sample size will be huge. This means that the analysis process will be very difficult and subjective which means weak and unreliable results. So, the reached at result will be non-generalizable.

3. The homogenous, accurate and consistent sample will generate dense and comprehensive results that can be generalized to all the targeted population under study.

3.4. Targeted Features of Pronunciation

In the current study, certain pronunciation features are concentrated upon. These features of pronunciation include: short vowels, long vowels, diphthongs, consonant clusters and assimilation. The following points explain and justify why these features are chosen. These features of pronunciation are concentrated on for the following reasons.

1. Firstly, the quality and the quantity of the English vowels are not the same as that of the students' native language, Arabic As (Revel, 2012, p. 270) has stated, "There are more vowels in English than in Arabic so learners

will tend to substitute their own smaller number of vowels for English vowels".

2. Secondly, consonant cluster is not common in Arabic as in English since the Arabic language has short vowels (a, u, i) that are used approximately with each sound. Watson (2002, p.56) supports this idea by asserting "Most eastern Arabic dialects exhibit a fairly limited range of syllable types. Three basic syllables are attested in Arabic CV, CVV, and CVC." It can be concluded that Watson's statement is an indicator of the possibility that Iraqi students may face problems in pronouncing English consonant cluster.

3. Thirdly, there is not always a phoneme-grapheme correspondence in the English writing system that it is, the pronunciation is not always identical with the written form of the word. (Zsiga, "2010, p.17") stated that "English is a language uses an alphabet in which the correspondence between sounds and letter may be less straightforward or to be a large extent arbitrary." Consequently, For Arab English learners, the relation between English spelling and pronunciation is not clear-cut. So, errors are expected in these cases.

4. Finally, assimilation is chosen since the population of the study is considered to have an advanced level of academic proficiency. Consequently, it is assumed that the students have attained a high level of fluency in speaking where one can test features related to aspects of connected speech. Segmental and Suprasegmental features: as shown in detail in table (2):

Table 2: Targeted segmental and suprasegmental features of pronunciation

Segmental features	Supra-segmental features
Short vowels	Assimilation
Long vowels	Consonant clusters
Diphthongs	

3.5. Methods for Data Collection

The researcher used a mixed research approach to achieve the study objectives and provide answers to its questions as well as to elicit the sorts of pronunciation

errors made by the participants under study. By a speaking test, classroom observation and focus groups interviews, the researcher attempts to gather authentic and reliable data. The subsections that follow provide explanations for each of these.

3.5.1. Research instruments

Data might be of two types, primary and secondary, in accordance with its sources. For the objective of the study, the researcher himself gathers primary data. On the other hand, secondary data are data that has previously been gathered by a person other than the researcher. In addition, it's likely that secondary data are gathered for objectives other than those for which they will be used (Lee, et al., 2000, p.14). Given that the researcher personally collected the data for the current study and because they have a purpose, they are regarded as primary data. In the current study, three methods of data collection are used: classroom observation, speaking test and focus group interview.

3.5.1.1. Classroom Observation

For the sake of collecting more authentic data from the actual context of teaching English of the senior undergraduates in the department of the English language, a classroom observation was implemented in the study at hand as an instrument of data collection, but one may ask what is meant by the method of observation. Observation can be defined as a method rooted in traditional research carried out in the field of ethnography. Its aim is to support researchers figure out the perspectives believed by the population of study (Dawson, 2009, p. 105). Hopkins (2008, p. 75) termed "observation as a 'pivotal activity' which played crucial role in classroom research, teachers' personal professional growth and university development as a whole."

After the researcher got the required approvals from the responsible authorities, in this study, classroom observation was conducted on (50) participants. Each participant was observed individually within a time span of 10 minutes. The observer recorded the speeches of the subjects under study in an audio recording device. He, then, designed a checklist to sort out each transcribed error into its category (See

appendix C,D,E,F). The observer noted down each pronunciation error. The errors have been noted down on a list based on the following scale: short vowels, long vowels, consonant cluster and assimilation. The checklist of observation was carefully formed to accumulate more real-world data from student- teachers' pronunciation within a given class.

The data collected, the oral speeches of the participants, are transcribed into words and then the errors are identified. After that, the errors are grouped according to their groups and analyzed regarding different research questions set in chapter one. To make student-teachers have the feelings of being comfortable while observing them, the observer took a seat at the end of the classroom when attended different lessons as an observer. Since the time in the observation technique is limited, observation needs to be recorded so that the researcher can overcome the shortage of time.

3.5.1.1.a. Stimulated Recall Interviews

Sometimes it is not easy to spot PEs (pronunciation errors) also, most researchers agree that the better a person is at speaking a language; the harder oral performance problems, for researchers, to be found and identified in their speech. It crucial to get accurate information about learners' oral performance, therefore, researchers need to dig deeper and talk to the participants after the task is done (Poulisse, 1990). According to Gass & Mackey (2000, the use of stimulated recall interviews is one way to find out what participants are really thinking.

Stimulated recalls can be defined "one subset of a range of introspective methods that represent a means of eliciting data about thought processes involved in carrying out a task or activity (Gass & Mackey, 2000, p. 1)." It is a method of looking backwards that uses hints to help with retrieval. These cues could include visual or auditory inputs. Several SL studies have employed stimulated recall as a research tool to learn about the participants' mental processes during classroom speech activities (Alahmed, 2017; Nakatani, 2005; Lam, 2006, 2007).

Stimulated recall interviews are employed with speaking test and classroom observation for the purpose of finding out that the pronunciation errors made by the students are true errors not mistakes (i.e. slips of the tongue).

3.5.1.2. Speaking Test

A total of (50) undergraduate students who are in the fourth-year from the English Language Department took part in the speaking-test. This speaking-test was designed to take place in a setting that was very relaxing and comfortable for the students, so that they would feel free while expressing themselves in an open and honest manner. Building trust is crucial if one wants the participant to feel comfortable answering questions honestly. The cornerstone of the connection between the researcher and the participant is one of equality and respect (Holloway and Wheeler 2010, p.33).The speaking test comprised of open-ended questions that are related to the everyday life of the interviewees. These questions are asked to the students in English and if elaboration in Arabic is asked by the students, the interviewer will provide it.   More specifically, the primary purpose of the speaking test was to gain more reliable and applicable information concerning the errors made by students in their final year. Therefore, the researcher had the students in the Department of English at the College of Education at the University of Mosul taken the speaking test.

3.5.1.2.b. Speaking Test Procedures

In order to identify the students' erroneous pronunciation, an audio-recorded speaking test lasting from five to ten minutes was carried out with each participant in the study. Then, this recorded data will be analyzed in order to determine the most common pronunciation errors that EFL students make when speaking English. After accessibility and approvals were made by the researcher, that is, the researcher asked the head of the department and the concerned authorities as well as the students, the speaking test was conducted. Because of ethical concerns, during the process of analyzing the data, each participant was given a number, and they were told that this research would not be utilized in any way that would result in a rating, and their private information will be kept confidential. Respondents were given the instruction to speak at a pace that was at ease for them, and they were respectfully asked not to stop or pause (if at all possible) as they are speaking. The purpose of these directions was to achieve a level of fluency in speech that was optimal while simultaneously minimizing the amount of errors made. The entirety of the meeting will be recorded for review at a later time. During the speaking portion of the exam, students were

asked questions drawn directly from the IELTS website that mostly focused on their daily lives.

It should be noted that the reliability of the obtained data was accounted for. In this regard, the researcher prepares a checklist after the interview to note down the errors made by the interviewees. In the next day(s), the researcher thanks them and appreciates their participation. He, then, kindly asks them to read aloud the word that the researcher noted down while they were speaking. If the interviewees pronounce the words correctly, then these words are to be excluded since they are classified as mistakes rather than errors. This process will enable the researcher to read or observe the underlying ability of the students rather than mere superficial observation of the committed errors.

Each participant is met by the researcher, who gives them 5 to 10 minutes to answer a series of questions. These questions primarily come from the IELTS exam. In order to cover as many diverse words and sounds as possible, the researcher selects six questions

1. What is your opinion of children who use internet without parent's supervision? Why?
2. In your opinion, what are the needed skills for getting a good job nowadays? Talk about your future goals.
3. Talk about the influence of social media on the way we think.
4. Why do some people enjoy eating out?
5. What makes a good student?
6. Why do so many people move to live in cities?

3.5.1.2.b. Validity of the Speaking Test

Since it serves as the cornerstone of all types of educational research, validity is a crucial component of a good study. A piece of research has no value if it does not achieve validity (Cohen et, al., 2000, p.105). The degree to which a study and its findings accurately support the assertions made is known as test validity (Brown, 1987, p. 29). The word 'validity' denotes "the extent to which an instrument measures what it is designed to measure" The Speaking test interview questions were presented to a jury of methodological and linguistics specialists in order to confirm their validity (See

appendix B). As a result, these professionals approved it. They were finally accepted as being directly associated with the intended objectives of the present study. The interview's questions and observation technique were accepted.

3.5.1.3. Focus Groups Interview

Margaret and Melissa (2009, p.68) claim that "Interviews are used for a variety of purposes. They can be used as a primary data gathering method to collect information from individuals about their own practices, beliefs, opinions, perceptions, attitudes and background information." Creswell (2012, p. 218) defines "a focus group interview as the process of collecting data through interviews with a group of people, typically four to six. The researcher asks a small number of general questions and elicits responses from all individuals in the group. Focus groups are advantageous when the interaction among interviewees will likely yield the best information and when interviewees are similar to and cooperative with each other."

It is a practical relation between the interviewer and the sample of the research that succeeds in exchanging self-confidence and relaxation with the goal of obtaining data that can help in the process of problem solving. The interview is an instrument of data collection by responding to specific questions that the interviewer posed to the interviewees face to face. In addition, it is cost time and resource than one-on-one interview. So, twentyfive subjects were chosen from the sample to conduct focus group interview. Each five participant were interviewed as a focus group. During conducting the interview, the researcher asks the interviewees about their own perception and attitude towards pronunciation errors and what may make the students make errors in pronunciation. Moreover, students express their opinions about the reasons or causes of the errors in pronunciation and what they suggest as possible solutions to at least reduce these errors. They were asked questions such as: What do you believe are the most common reasons students make pronunciation errors? Do you think your native language or accent has an impact on your pronunciation in English? If so, how? Students are told that they are free to answer and to add any ideas or causes that the researcher might not pose. The researcher, after asking the participants' permission, recorded the discussion and then wrote down the reasons suggested by the

learners and what he concluded from them their answers to the questions asked. These reasons or causes were grouped under general subtitles according to the shared source.

3.6. Analysis Techniques

After the data collection process, the last phase is to convert the collected data into a form that can be used for the purpose of analysis. As a result, the students' responses were organized and categorized. The recorded discussions, on the other hand, are transformed into written form. As was previously mentioned, this study adopts a descriptive mixed methodology and uses three instruments to collect data: speaking test interview, classroom observation and focus groups interview. The pre-analysis procedures used to analyze the gathered data are described in detail throughout the following subsections:

3.6.1. Choosing the Model (English Variety)

For this study to be accurate, a model has to be chosen on which the entire study is based. This study relies on two models. The Oxford Dictionary is the main one and Roach's textbook "English Phonetics and Phonology" (2009) as a peripheral model for analyzing the supra-segmental aspects of pronunciation such as Assimilation. As mentioned previously, English pronunciation is taught to Iraqi students of English in their second year of study. Therefore, choosing these books specifically as an eclectic model seems appropriate if consistency is to be sought. In other words, there are various methods of description, and transcription of English pronunciation and that is why it is important for the transcription to be modeled on the same textbooks that the students have been dealing with. For example, Roach follows the British RP dialect in teaching transcription and the same procedure is followed in Oxford Dictionary. It is important to note that Oxford Dictionary uses the phonemic transcription and not the phonetic one. Phonemic transcription is to represent each speech sound with a symbol without any further deep details and it is enclosed by slashes whereas the phonetic transcription is to transcribe words with full details. Nevertheless, other linguists may have adopted the American levels approach in their description and it is enclosed with square brackets (Roach, 2009.p.34). In the case of this present study, it would be

meaningless to model the transcription upon an approach or method of transcription that is completely or partly different from the one adopted in the textbooks.

3.6.1.1. RP and BBC Pronunciation

Roach, (2009,p.3),states that "Received Pronunciation" is described as "the accent that we focus on and use as a model is the one that is most frequently advised to international students of British English." It has been known as Received Pronunciation" (typically reduced to its initials, RP) for many years. Furthermore, Roach (2009, p.14) notes that this designation is outdated and deceptive: using "received" to indicate "accepted" or "approved" is quite uncommon currently, besides, the expression, if utilized in that meaning, tends to denote that the remaining accents are not accepted or approved. The term BBC pronunciation is preferred because it is most easily recognized as the dialect that was used by majority of broadcasters and news reporters on BBC and British unbiased television networks. This does not imply that ' BBC' enforces an "official" dialect; rather, broadcasters possess specific distinctive qualities, a cumulative number of presenters who have Welsh, Scottish, or Irish dialects are hired. Nevertheless, the dialect just defined is representative of English-speaking broadcasters, and the accent of these newscasters is uniform to a considerable extent.

3.6.2. Transcription

Three techniques are used in the data collection process, as was already mentioned. (50) Senior students made up the study's target sample. Every participant is observed and interviewed. The spoken performance of the participants is recorded using a recorder. 5 to 10 minutes will be allocated for the speaking test interview and 5 to 10 minutes for the observation. This choice is made to control the variable of time variation and have consistent data as time variable is set the same for all the recorded data, i.e., all the participants are equally subjected to the same instruments within the same time set. The recorded data files are repeatedly listened to after they have been recorded to ensure complete comprehension of any and every single word and utterance. The researcher then writes out the data in handwriting and transcribes it. He

then listens to the data again while reading the transcribed data to confirm that the transcription is accurate. It should be noted that the phonemic transcription is used in the transcription process, i.e. the phonetic is excluded.

3.6.2.1.   Accuracy of Transcription

After figuring out that it is possible to use (5 to 10) minutes of each student's time for analysis, the researcher transcribed all the (100) audio-recorded data. Then, to make sure that the transcripts and the coding were valid, 25% of the dataset was submitted   to an expert in English phonetics. He was given both the recording and a transcript of it. At first, all he had to do was to listen to the recordings and make sure the transcription was accurate. He found spelling mistakes and other peripheral notes that needed to be fixed on the transcripts. After the transcripts were checked, he was asked to find and code any errors in the way the words were said. In the next section, Two issues are discussed .The first one is how pronunciation errors are coded and the second one is to checking inter-coder reliability.

3.6.2.2.   Coding of Pronunciation Errors

For   the   purpose   of   this   study,   a   scheme   of   coding was   set for erroneous pronunciation. Depending on the set coding scheme, the researcher found and coded the errors.

Table 3: The Coding Scheme

No.	Pronunciation features	Code	Targeted errors
1	Short vowels	SV	The term short vowels includes sounds that are articulated with a relatively short period of duration than the long ones. These are articulated without a complete closure in the vocal tract. They involve six sounds: ɪ, e, æ, ʌ, ɒ, and ʊ
2	Long vowels	LV	The term long vowels includes sounds that are articulated with a relatively longer period of duration than the short ones. These are articulated without a complete closure in the vocal tract. They involve five sounds: iː, ɜː, ɑː, ɔː, and uː
3	Diphthongs	DIPH.	The term diphthongs refer to vowel sounds that contain a glide move from one vowel to the other. They are eight sounds: ɪə, eə, ʊə, eɪ, aɪ, ɔɪ, əʊ, and ɑʊ
4	Consonant clusters	CC	The term 'consonant cluster' refers to the grouping or clustering the consonant sound either at word initial position or the final one. The initial may consist of two or three consonant sounds. While the final position may consist of two, three or four consonant sounds. (Roach, 2009, p.57).

5	Assimilation	AS.	Assimilation refers to the case when one sound is changed to the other due to the effect of the neighboring sounds. It is of three types in English: regressive, progressive and coalescent (Roach, 2009, p. 111).

3.6.2.2.a. Reliability of Errors Identification

After the coding of all of the transcripts was completed, other coders were given a sample of 25 percent of the data so that they could verify its accuracy. A researcher can test inter-coder reliability in collaboration with two other coders categorize units (such as tales, articles and so on.), afterwards applying these categorizations for generating a statistical index specifying the amount to which the two coders agree with each other's evaluations of the level of agreement (Tinsley & Weiss, 2000; "Lombard Snyder-Duch & Bracken, 2002, p. 590"). It is believed that inter-coder reliability is "at the heart of content analysis; if coding is not trustworthy, the analysis cannot be trusted" (Singletary, 1993, p.294). Measuring inter-coder reliability served the purpose of determining the degree to which two or more distinct coders agreed on the pronunciation errors that were coded. This was the purpose of this particular study.

Blind coding and normal coding are the two techniques that are implemented to increase the coding process accuracy. The 'blind coding' technique was used, in which a second coder was given 25 percent of the data (transcripts) for the purpose of identifying and coding the errors of pronunciation. This was carried out to guarantee the data accuracy. The scheme of coding was made available to the second coder. In addition to that, comprehensive instructions on the way of applying the scheme of coding as well as the way of coding the identified pronunciation errors were provided to him.

Following completion of coding by the second coder, the researcher examined his own coding in comparison to that of the second coder. Inter-coder reliability coefficients were determined by figuring out, statistically, how much agreement there is between two coders (Hayes & Krippendorff, 2007). The percent agreement takes values between.00 (no agreement) and 1.00 (perfect agreement) or 100% (total agreement), similar to the majority of correlations statistics. (Al Ahmed,2017, p. 100; Hayes & Krippendorff, 2007). This formula was used to compute the percentage of agreement, and the formula is as follows:

$$Reliability = \frac{Number\ of\ agreement}{Total\ number\ of\ agreements + disagreements}$$

The blind coding inter-coder agreements seemed to be (94%) between both the researcher, who served as the primary coder, and an expert. This, According to Plonsky & Derrick (2016) demonstrated a high level of agreement that can be considered satisfactory.

A second strategy was utilized to improve the reliability of the coding process. This method consisted of submitting 25 percent of the data that had been coded to a different expert so that they could check the identified pronunciation errors. This time, the coder was given the coding scheme, definitions of the pronunciation errors that were being studied , transcripts, and coded kinds of the pronunciation errors. The researcher made sure that they received all of the necessary explanations so that there would be no room for ambiguity and they would have a complete understanding of the purpose of the coding. It was requested of them that they listen to the recordings, read the transcripts along with the noted instances of incorrect pronunciation, and comment on whether or not he agrees with the coding that the researcher came up with. The normal coding inter-coder agreements seemed to be (95%) between both the researcher, who served as the primary coder, and an expert. For the purpose of calculating this inter-coder reliability, the formula that Miles and Huberman (1994, p. 64) developed was also utilized. This time, the inter-coder agreement was, indicating a very high level of agreement (Miles & Huberman, 1994; Plonsky & Derrick, 2016).

3.7.   Data Analysis

In the following subsections the procedures that are followed to analyze the obtained data are explained:
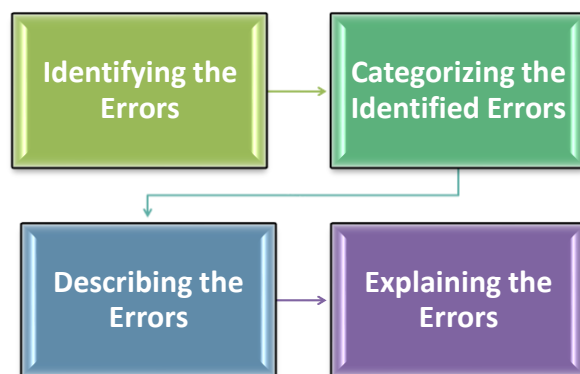
Figure 5: process of analysis

3.7.1. Identifying the Errors

In this step, the researcher identifies the errors from the data collected and transcribed (using speaking test and classroom observation). For identifying the errors, the researcher continually compared the sounds with the accurate phonemic transcription while listening to the students' speech in the format of a voice recording found in the adopted model (Oxford Dictionary). Then, the researcher makes the phonemic transcription of the students' speech. The erroneous students' words or phrases that include errors are written in bold line and a phonemic transcription of the word is provided. This phonemic transcription represents the student's pronunciation of the word then the specific area of the error is underlined and written in bold line. After providing the transcription, a code is given to illustrate the type of the error for the purpose of classification. Moreover each code is given a colour to highlight it and make it more prominent so as to be easy for the researcher to categorize it. The following is an example of coding the targeted features:

Student code: 1task type: speaking test   time: 5 minutes

Student's speech:

"I was walking in the **street** / s**ə**trɪːt/ [CC]. I saw a man was **feeding** / f**e**dɪŋ/ [LV] a **sheep** /ʃ**ɪ**p/ [LV]. The man was holding a **cup** / k**ʊ**p/ [SV] of tea. He was **gazing** / g**aɪ**zɪŋ/ [DIPH.] at me. He was talking about a flood / fl**u**d / [SV] happened last year in which ten boys / ten bɔɪz/ [AS.] were lost.

It needs to be noted that **CC** = consonant clusters, **LV** = long vowels , **SV** = short vowels, **DIPH**. = diphthongs, and **AS**. = assimilation.

3.7.2. Categorizing the Identified Errors

In this phase, the researcher makes lists and set categories for each type of the pronunciation errors under study. After each error is transcribed, identified and coded, it is put in the suitable category of the errors (see appendix C,D,E).

3.7.3. Describing the Errors

After errors have been identified and categorized, the following phase was describing the errors .All errors of pronunciation such as long vowels, short vowels, and consonant cluster that have been identified, and then classified into the suitable categories of errors. These errors are then described by the researcher.

3.7.4. Explanation the Errors

This stage addressed the causes of errors. Therefore, based on the data analysis, all of the student errors were explained.

3.8. Ethical Considerations

Several issues were thought about before, during, and after this study was done to make sure that the study was done in the light of the ethical consideration. Getting official permission is the first thing to do when one wants to study a topic or case (Creswell, 2005; Cohen et al., 2008).

About a month before this descriptive study was to be carried out; a request form was prepared to be submitted to the University of Mosul, Department of English Language at the College of Education for Humanities to get permission to undertake the study. In the application, the goals of the study, how it would be done, and what it would involve were all explained. Conducting the research was permitted by the University of Mosul. The methods and tools for collecting data were checked to make sure they were appropriate for testing students of college.

Another essential aspect to take into account was determining whether or not the possible benefits of the study are greater than its potential drawbacks. First and foremost, it was essential to guarantee that the findings of the research would ultimately result in real advantages for the learners and the instructors as well. Second, the research and its findings will not be harmful to the sentiments, reputations, or professional prospects of the participants in the study (Berg, 2007; Flick, 2006).

Before the study has been started, volunteering forms and data confidentiality were looked at as two of the most important ethical issues. Learners who volunteered to take part in the study were given consent forms to fill out along with the information sheet. Participants were told about the goals of the research, as well as the methods, time frame, and expected benefits. It's important to note that since the present study was about pronunciation errors, the learners were informed that the study was about how their speaking skills were getting better without any mention of pronunciation errors. Additionally, it was made clear to the participants that they were free to drop out of the research project at any moment simply by informing the researcher, and that they would not be penalized for doing so.

Concerning confidentiality, the participants were told that the information they gave would stay private and anonymous. In this study, each student was given a number instead of their real names to protect their privacy. Also, the linking information from the observation, speaking test, and the interviews was kept in separate folders that only the researcher could access with a password.

One important thing about the video recording was that women would not agree to be filmed because of their culture; instead, an audio recording was utilized, since the non-verbal behavior ways of speaking was not important for the purpose of the study.

3.9. Pilot Study

A pilot study is a smaller-scale research effort that is conducted in preparation to the larger-scale investigation. A pilot study assists researchers in establishing the most effective strategy when carrying conduct their ultimate study by enabling them to assess the degree to which the research technique will be effective in practice. In the

course of piloting a study, a researcher may establish or amend a research topic to see which methods work best for addressing it, and calculate the time and resources required to complete the larger final version of the study (Ismail, 2018, p.1).

However, a research project's success is not guaranteed by a successful pilot study. Instead, the pilot study does assist the researcher in evaluating the strategies and developing the tools essential for the project. It will evaluate the measurement instrument which could refer to a method, tool, questionnaire or technique. It will examine them in the sense of whether they are practical, feasible and realistic and how they can be made better. Accordingly, the outcomes will serve as a guide for the large-scale investigation's methods. Therefore, the pilot study will show the researchers whether their tools will succeed or fail in collecting the required data for the study (Junyong, 2017, p.601).

3.9.1. Implementation of Pilot Study

The researcher of this thesis has conducted a pilot study before conducting the full-scale study to investigate the errors in segmental (short, long vowels and diphthongs) and, broadly speaking, supra-segmental (assimilation, consonant cluster) features of pronunciation made by Iraqi EFL student teachers in oral performance. All the factors of place, time duration, methods and equipment, are simulated in this step so that to check their suitability and efficiency. The aims behind conducting the pilot study are as follows:

1. To check the procedures used for the classroom observation.

2. To check the validity and reliability of the speaking test items.

3. To check whether the allocated time will suffice or not.

4. To check the coding scheme of the pronunciation errors.

5. To check the types of the errors made by the students.

6. To make any urgent adjustments.

This pilot study was conducted on ten fourth-stage English major students at University of Mosul, College of Education for Humanities. Though they were selected from the study's population, they were not part of the targeted sample.

During the first course of the academic year (2022-2023), the researcher conducted the pilot study of the oral tasks; five speaking tests and five classroom observations. The speaking test included open-ended questions which are related to our everyday life. The students were given the tasks to ensure the validity and reliability of both tasks. From the pilot study, the time span was reduced from 15 to 10 minutes for reasons of analysis. The researcher found that 15 minutes needs greater efforts and time that available and it affects the subjects' commitments in relation to lectures and other things. The aim was to ensure that the students spoke smoothly and naturally to find the errors in their natural conversation.

3.10. Summary of Chapter Three

The aim of chapter three was to present the methodology used in this study to provide answers to the research questions. The chapter started by restating the study questions to make clear how the methodological part of this study is used in a suitable way to answer these questions. Following that, the chapter shifted to the research strategy which explained the differences among qualitative, quantitative and mixed-methods. It, then illustrated that the current study has employed a mixed research approach for the purpose of collecting and analyzing the data. Next, information regarding the participants of the study was provided. The participants were Fourth Year Iraqi EFL students at the Department of English at the College of Education for Humanities/ University of Mosul. The population of the study is (150), meanwhile, (50) of these students represented the sample of this study. There was also a detailed explanation of the rationale for choosing these participants and the number of the sample.

In the next part, there was a reminder of targeted features of pronunciation that have been chosen (short vowels, long vowels, diphthongs, consonant clusters and assimilation) and the reasons for choosing them were listed. Furthermore, it was explained that the researcher of this study has gathered primary data to achieve its aims. This was accomplished by utilising three methods of data collection which were classroom observation, speaking test and focus groups interview. Then, the purpose for choosing these methods has been clarified. After that, a thorough explanation of the procedures was presented. The procedures included confirming the validity of the

methods used by presenting them to a jury of specialists in linguistics and methodology.

The following parts of the chapter were concerned with the pre-analysis procedures; how the collected data were tackled to be ready for analysis. The oral recorded data were transformed into a written one which included choosing a model from the English variety. Oxford Dictionary was adopted for analyzing segmental features and Roach's (2009) "English Phonetics and Phonology" was chosen as a model for analyzing the supra-segmental features of pronunciation as it was of significant that the transcription model should be based on the same textbooks which the students have been using during their study. The accuracy of the phonemic transcription was ensured by submitting the dataset to an expert in English phonetics. The following coding scheme has been used: SV (short vowels) , LV (long vowels), DITH (diphthongs), CC (consonant clusters) and AS (assimilation) .

The final parts on chapter three tackled the data analysis process which involved four basic steps; identifying the errors, categorizing the identified errors, describing the errors and finally explaining the errors. Next, the reliability of error identification and the ethical considerations were discussed. Ultimately, the pilot study was presented.

4. RESULTS AND DISCUSSION OF FINDINGS

4.1.   Preliminary

The present chapter is devoted to analyzing the data collected by using the three tools, namely, speaking test, classroom observation and focus groups. It tries to provide answers to the research questions raised in chapter one which are as follow:

1. What are the most frequent pronunciation errors made by Iraqi EFL student teachers in oral performance? This question has the following sub-questions:

    a) What are the most common types of vowel errors that are frequently made by Iraqi EFL student teachers in oral performance? Is it in short, long or diphthong vowel sounds?

    1. What are the most frequent pronunciation errors made in short vowel sounds by Iraqi EFL student teachers in oral performance?

    2. What are the most frequent pronunciation errors made in long vowel sounds by Iraqi EFL student teachers learners in oral performance?

    3. What are the most frequent pronunciation errors made in diphthong vowel sounds by Iraqi EFL student teachers in oral performance?

2. What are the most frequent pronunciation errors made in assimilation and consonant clusters by Iraqi EFL student teachers in oral performance?

    b) Are pronunciation errors more frequent in expressive speaking or when delivering a formal speech (lectures)?

    c) What are the possible causes of the pronunciation errors made by Iraqi EFL student teachers in oral performance?

It has been stated that "analyzing the data and interpreting the results are the 'reward' for the work of collecting the data." Schoenbach (2004, p. 451). In this regard, the obtained data about the types of the most frequently pronunciation errors made by Iraqi EFL student teachers in oral performance have been analysed. This chapter also attempted to find out the probable causes or reasons of these pronunciation errors.

Since the dominant part of the research method is quantitative, the gathered data are statistically analysed. The chapter is divided into three main sections. The first one (4.1) is a preliminary, then the second one (4.2) deals with presenting the results of

each instrument used in data collection and it also has subsections that are presented in the light of the questions and the sub_questions set before (in chapter one). The third part (4.3) is devoted to the discussion of the results and findings that the present thesis has reached at.

4.2. Results

This main section is divided into subsections depending on the research questions set in chapter one. So, the first subsection (4.2.1) deals with the analysis of the results obtained in the speaking test and classroom observation, that are related to the main research question which is "What are the most frequent pronunciation errors made by Iraqi EFL student teachers in oral performance? the second one (4.2.2) is concerned with presenting the analysis of the data gathered by implementing speaking test and classroom observation to answer the second main research question which is "Are pronunciation errors more frequent in expressive speaking or when delivering a lecture? The third one (4.2.3) is devoted to the presentation of the possible causes or reasons of the pronunciation errors that are suggested by the study sample during the conducting of the focus groups method. It answers the third main research question which is "What are the possible causes of the pronunciation errors made by Iraqi EFL student teachers in oral performance? It is worth mentioning that some of these subsections are in turn divided into other subsections so as to cover the discussion of all the minute details reached at during the data analysis.

4.2.1. Research Question One

"What are the most frequent pronunciation errors made by Iraqi EFL student teachers in oral performance?

Table 4: Frequency of errors made in speaking test and classroom observation

Categories of errors	Frequency of errors	Percentage
Vowels	2575	65%
Assimilation and consonant cluster	1359	35%
Total	3934	100%

Table (4.1) shows that EFL student-teacher learners made pronunciation errors in all the targeted pronunciation features. It presents the number of occurrences and the percentages of the pronunciation errors made in general. It is crucial to note that the categorical term 'supra-segmental' is used here, if any, in its broader sense to mean units above the level of discrete sounds or phonemes and not necessarily to mean aspects of pronunciation like stress, intonation or linking.

Table (4.1) above answers the first research question. It makes it clear that pronunciation errors made in articulating vowel sounds are the most frequently made than those made in consonant cluster and assimilation. Pronunciation errors made in articulating vowel sounds scored (2575) occurrences out of a total (3934). This means that they have scored 65% of the total percentage. On the other hand, pronunciation errors made in articulating supra-segmental features (consonant cluster and assimilation) are relatively much less frequent than the vowel errors. They scored (1359) occurrences out of a total (3934). This frequency forms 35% of the total percentage. The percentage of the vowel errors provides an evident statistical indication that vowels are much problematic for leaners than consonant clusters and assimilation. A justification may be presented here is that vowel sounds are the center of the syllable. Every English word must have a vowel sound as its center. Therefore, vowels are by nature used more than the other aspects of connected speech. Consequently, more errors are expected to be made in vowels. In contrast, aspects of connected speech, broadly referred to as supra-segmental features, are not essential in every word and more seriously not fully mastered by the EFL learners yet. So, a lower frequency of errors is expected.

If vowels were the center of the English syllable and other features of pronunciation are less central, this, however, wouldn't mean that they are problematic to every leaner. A leaner may master the pronunciation of vowels and face problems with consonant clusters or assimilation. So, this leads to the conclusion that there are other possible reasons underlie the pronunciation errors such as insufficient exposure to the target language, poor use of the dictionary to check the accurate pronunciation, restricted actual use of the language in everyday life matters and many other reasons.

4.2.1.1. First Research Sub-Question: Errors Made in Vowel Sounds

This subsection is dedicated to presenting the results that answer the question "What are the most common types of vowel errors that are frequently made by Iraqi EFL student teachers in oral performance? Is it in short, long or diphthong vowel sounds?" It is, in turn, divided into three subsections. The first one deals with errors made in short vowels, the second one is concerned with errors made in long vowels and the third one deals with errors made in diphthong vowels. It is found that the total number of vowel errors in the speaking test and classroom observation scored a frequency of (2575) errors. Table (2) will illustrate the statistical results obtained in the speaking test.

Table 5: Frequency of vowel errors in speaking test and classroom observation

Categories of errors	Frequency of errors	Percentage
Short vowels	1443	56%
Long vowels	646	25%
Diphthongs	486	19%
Total	2575	100%

Table (4.2) provides an answer to the sub-question of the first main one cited just above. Based on the statistical results in table (4.2), it seems clear that pronunciation errors made in vowels are the most frequently made in short vowels. Short vowels have scored (1443) out of (2575). This frequency forms a percentage of 56% of the total percentage. This means that they have passed half of the total percentage which indicates that such sounds are highly problematic for the learners.

On the other hand, long vowels have scored a lower percentage if compared with short ones. The frequency of the errors made in long vowels is (646) out of (2575) which forms (25%) of the total percentage. long vowels, unlike short ones, are by definition expected to be more problematic to learners to master, however, the results show the opposite. Though the language of the targeted population, Arabic, has very small set of vowel sound restrict to some short and long ones, learners still find difficulty to learn the English vowels. The tongue positions of the English vowels are rather different from that of Arabic. This, in fact, has a crucial role in the inaccurate English pronunciation made by the learners.

Finally, table (4.2) demonstrates that diphthong vowels have scored the lowest frequency of all the other types of vowel sounds, short and long. It scored a frequency of (486) out of (2575) which has a percentage (19%) of the total percentage. The results indicate that they are less problematic that other types. This could be contributed to the fact that there are some combination of sounds in the sample's language that have the almost the same way of pronunciation as that of English.

Overall, table (4.2) provides an obvious fact that EFL student-teacher learners of English make errors in all the vowel sounds whether they are short, long or diphthongs. Nonetheless, the proportions of difficulty vary from one type to the other, but they all share one and the same outcome that vowels are problematic for the learners. This result could be explained in the light of the reasons provided by the learners themselves. The majority of the leaners agreed that the writing system of English is rather misleading. There is a lack of correspondence between the orthographic form and the pronunciation of the word. This lack of correspondence leads learners to make unwanted errors. Another reason is that the academic instruction is mainly theoretically oriented which does not allocate sufficient pronunciation practice. Some other respondents argued that the reasons of their pronunciation errors are attributed to the poor exposure to the target language outside the university campus. Moreover, they admitted their carelessness in checking the accurate pronunciation of the new words they lean. Consequently, all these reasons go hand in hand to cause pronunciation problems for learners in their attempt to lean a new language.

4.2.1.1.a. Errors made in Short Vowels

"What are the most frequent pronunciation errors made in short vowel sounds by Iraqi EFL student teachers in oral performance?"

Table 6: Frequency of short vowels errors in speaking test and classroom observation

Sounds	Frequency of errors	Percentage
ə	597	41%
e	231	16%
ʌ	217	15%
ɪ	168	12%
ɔ	128	9%
æ	62	4%
ʊ	40	3%
Total	1443	100%

After the frequency of vowel sound have been presented in table (4.2) in general, table (4.3) presents the statistical results that answer the research question which seeks to find out the most frequently made errors in short vowels. It shows that the short vowel sound \ ə\ scores the highest percentage of all the other ones. The frequency of occurrence of this sound is (597) that forms (41%) of the total percentage. This percentage is a strong indication that it is the most problematic short vowel sound encountered by the targeted population. It is observed that the learners sometimes totally drop the \ ə \ sound from the word. For example, they dropped it in the word 'question' which is spelt \ kwestʃən\. Learners have pronounced it as \kwestʃn\ which clearly incorrect pronunciation. Another case observed I that the learners change the \ ə \ to another short vowel. For example, they pronounce the word 'happen' which is transcribed as \hæpən\ with a \ ɪ\ sound instead of \ ə \. In some other different instances, they change \ə\ to \æ\ as in the word 'about' \ə'baʊt\. They pronounce it as \ æbaʊt\. The short vowel \ ə \ is also changed into \e\ in many instances. For example the word 'necessary' \nesɪsərɪ\ is pronounced as \ nesɪserɪ\. Additionally, \ ə \ is replaced by \ ɔ \ sound in many words. For example, the word 'contraction,' which is pronounced as \ kən'trækʃn\, is articulated by the learners as \ kɔn'trækʃn\. These instances are just a representative sample of the data related to this sound. It shows that the main cause of errors made in pronouncing this sound is that it has no single sound, but rather any vowel many turn to be pronounced as \ ə \. It is elastic and varying in form. Therefore, it seems confusing and causes pronunciation problems to the foreign learners.

The second most problematic short vowel sound, after \ ə \, is the sound \e\. It scored (231) out of (1443). This means that 16% of the errors made in short vowels are related to this sound. Having reviewed the corpus collected, it seems that the \ e \

sound is dropped in many instances such as in the word 'present'. It is pronounced as \preznt\ , but leaners pronounce it as \prznt\. Another instance of errors made in articulating this sound is that when the leaners, mislead by the orthographic form, change it into another short vowel sound. For example, \e\ is changed to \aɪ\ in the word 'again' \ə'gen\. Furthermore, \e\ is replaced by \ɪ\ in the word 'lesson'. They pronounce it as \lɪsn\ instead of \lesn\. Some other incorrect pronunciations apparently seem to have reasons grounded in in the mother tongue interference of the learners. Their articulation process is deeply affected by their mother tongue. For example, they replace \e\ by \æ\ in many words as in the word 'very' \verɪ \ is pronounced \ værɪ\. This case is obviously not a matter of spelling because the spelling, in this case, helps the learner to correctly pronounce the word since it is identical with the targeted vowel sound.

The \ ʌ\ comes third as the most problematic short vowel sound. It scored (217) out of (1443). This frequency forms 15% of the total percentage. The results show that it is somewhat less problematic than the preceding ones. The types of errors made in this sound are almost the same as the preceding ones. Learners replace the \ʌ\ sound by \ ə\ as in the word 'number' \nʌmbə(r)\ which they pronounce as \ nəmbə(r)\. The sound \ʌ\ is also changed into \ɒ\ in many instances. For example, the word 'Doesn't' is pronounced as \dɒznt\ instead of \dʌznt\. The same thing is true with the words 'month', 'another',' Young', 'become' and many other words. What is evident in these instances is that learners seem to be misled by the orthographic form of the words. A clear case of mother tongue interference is found in the word 'bus' when the \ʌ\ is changed into \a:\. This change is, in fact, clearly motivated by the effect of the mother tongue phonological system since the word is already is borrowed in Arabic. However, its pronunciation is adapted to fit the Arabic phonological system.

A much less problematic short vowel sound is \ ɪ\. It scored (168) out of (1443). It has a relatively low percentage in comparison with the previous ones. It has 12% out of the total percentage. This percentage indicates that it is easy to be mastered by the learners. Instances of errors made in pronouncing this sound include dropping the sound or replacing it into another one either to ease the pronunciation or due to lack of the knowledge. For example, learners dropped the \ɪ\ sound in the word 'language' \læŋgwɪdʒ\ and pronounced it as \læŋgwdʒ\. Other instances include omission are 'Changes', 'Incredible', 'Children', 'Activist' and many other instances.

Like other errors made in the previous vowels, learners change the\ɪ\ sound into another different one as in the word 'Forest' where\ ɪ\ is changed into \ e\. Other instances of these errors are found in words like 'Internet', 'Live', 'In'. \ɪ\ sound is also changed into \ ə\ as in 'orange' which they pronounce as \ɑrəndʒ\ instead of \ ɑrɪndʒ\. In such instances, errors are made because the spelling is not correspondent with the pronunciation.

Finally, the sounds \ ɔ\, \ ʊ\ and \æ \ all have scored low frequency of occurrence. The short vowel \ ɔ\ scored (128) out of (1443) which forms a percentage 9%. This is relatively a low percentage. It is seen as an indication to the fact that the \ ɔ\ sound is less problematic. Less than this sound is the short vowel \æ \. It scored (62) out of (1443). It is relatively a low frequency with 4% of the total percentage. The short vowel \ ʊ\ scored (40) errors out of (1443) which is obviously a very low frequency. It forms only 3% of the total percentage. It is observed that learners rarely drop these sounds; however, they mostly change it into other ones as in the word 'Because' where \ɒ\ is changed into \ɔ:\. Learners also replace \æ\ by \ə\ as in the word 'Happy'. In the case of \ ʊ\ they frequently change it into to \ɒ\ as in 'Look', 'Put', 'Book' and many other words.

4.2.1.1.b. Errors made in long vowels

"What are the most frequent pronunciation errors made in long vowel sounds by EFL student-teacher learners in oral performance?"

Table 7: Frequency of long vowel errors in speaking test and classroom observation

Sound	Frequency	Percentage
ɜː	291	45%
ɑː	119	18%
ɔː	102	16%
iː	72	11%
ʊː	62	10%
Total	646	100 %

Table (4.3) above presented, in detail, the results concerned with the frequency of errors made in short vowel sounds. Table (4.4), on the other hand, presents the

results of errors made in long vowels. A quick look at the results in table (4.3) and table (4.4) would show that short vowels scored more than twice than the total of the long vowels. Short vowels scored (1443) while long ones scored (646). This is a strong indication that they seem to be less problematic for the targeted population of the study. The long vowel \ ɜ:\ scored the highest frequency of occurrence whereas \ ʊ:\ is the lowest.

The long vowel \ ɜ:\ scored (291) out of (646) which means that 45% of the errors made in long vowels are made in this sound. This relatively high percentage may be strongly attributed to the mother tongue interference. Such a long vowel is not found in the population's language. So, it would be difficult for them to articulate it since their tongues got stiff with the vowels of their first language. Instance of errors made in this sound include the following: \ɜ:\ is changed into \e\ as in the word 'adverb'. They pronounce it as \ ædveb\ instead of its accurate pronunciation \ ædvɜ:b\. another instance of this type is found in words like, 'First', 'Affirmative', 'Research', 'Learning' and many other words. This vowel is also changed into \ɒ\ as in the word 'work' which they pronounce as \wɒrk\ instead of \wɜ:k\. It is also noticed that the\ɜ:\ is changed into \e\ as in the word 'university' or even to \æ\ as in 'urgently'. In some different cases \ɜ: \ is replaced by \ɔ:\ such as in the word 'word'. It is also changed into \ ɪ\ as in 'first' and 'Earth'. Based on these actual instances taken from the data collected, it can be said that the cause of errors in this vowels are mainly related to matters concerned with spelling and mother tongue interference. Moreover, poor exposure to the target language plays a crucial role in the high frequency of errors found in this vowel sound.

The second most problematic long vowel sound is \ɑ:\. It scored (119) out of (646) which is 18% of the total percentage. It is a high frequency in relation to errors made in the other long vowel sounds. It is observed that, in most of the instance, the targeted population change \ɑ: \ to \æ\. For example, instead of pronouncing the word 'answer' as \ɑ:nsə\, they pronounce it as \ ænsə\. Instance of this type are 'Last', 'Past', 'Starts', 'Dark', 'Articles', 'Cars'. In all these instances, the respondents seem to be misled by the orthographic form of the word. However, this may also be considered as sign of intralingual errors where the speaker generalizes a rule to all the words they encounter. In this case, they generalize the pronunciation of the \a\ letter as

\ æ\. The sound \ɑ:\ is, moreover, changed into \ʌ\ as in the word 'past' by some respondents. \ɑ:\ is replaced by \ə\ in some instance such as in the word 'father'.

As far as the long vowel sound \ ɔ: \ is concerned, the results of table (4.4) show that it scored (102) out of (646). It is the third most problematic sound to the learners. It has a percentage about 16% out of the total. Compared with \3: \, this vowel seems relatively less difficult for learners to master. The results show that instance of errors made in this vowel include changing it to other long or short vowels to ease the pronunciation or as a result of being misled by the spelling. For example, the respondent changed \ɔ: \ to \ɒ\ as in 'born', 'Normal', 'Talk', 'Uniform', 'Water', 'Ball' and many other instances. In all these instances, the respondents shorten the long vowel into a similar short one. The orthographic form of the cited instances helps the respondents to correctly pronounce the targeted long vowel sound. However, they tend to shorten it. This, in fact, is a result of the mother tongue interference as well as intraligual interference. The quality and the quantity of the English \ɔ: \ are different from those found in the population's mother tongue. So, tongue positions often fail to hit the appropriate position of the English \ɔ:\. Consequently, it is shortened. More importantly, learners seem to have conceptualized a generalization according to which they pronounce any word with \o\ letter as a short vowel. Another two evident reasons appear here, the first one is the learners' carelessness and their poor use of the dictionary and the second one is that they need expose themselves to the target language sounds. Another case of errors is that respondents changed \ɔ:\ to \æ\ as in 'warm' 'warn'. Errors in such instances are clearly motivated by the orthographic form of the words.

Finally, both \ i:\ and \ ʊ:\ have scored approximately the same rate of frequency. The sound \ i:\ scored (72) errors out of (646) which is 11% of the total percentage. The sound \ ʊ:\ almost similarly scored (64) errors out of (646) which is 10% of the total percentage. The results show that these two sounds are less problematic for the learners. A close look on table (4.3) would show that the equivalent short vowels of these two long ones have also scored a relatively low frequency. Errors made in these two sounds include shortening the vowel or, in some other instance, change it. For example, the sound \i:\ is shortened to \ɪ \ in words as 'lives', 'Speaks', 'People', 'Achieve', 'Reason', 'Evening'. In these instances, the long vowel \ i:\ is shortened by the respondents to \ɪ \. Respondents are also noticed to

change this vowel into other one as in 'Key' in which they change \i:\ to \eɪ\. This is a clear case of being misled by the spelling of the word. \i:\ is also changed into to \aɪ\ as in 'field'. It can be observed that in all the long vowel sound there were no instances of omission as was with short ones. Errors in long vowels were mainly limited to sound change or shortening the sound.

4.2.1.1.c. Errors Made in Diphthong Vowels

"What are the most frequent pronunciation errors made in diphthong vowel sounds by EFL student-teacher learners in oral performance?"

Table 8: frequency of diphthong vowels errors in speaking test and classroom observation

Sounds	Frequency	Percentage
eɪ	145	30%
əʊ	103	21%
ɪə	101	21%
eə	49	10%
aɪ	38	8%
aʊ	22	4%
ʊə	19	4%
ɔɪ	9	2%
Total	486	100%

Compared with the results of short and long vowels, diphthongs are, according to the results presented in table (4.5) above, the least problematic for learners to master. However, not all diphthongs are highly problematic. The diphthong \ eɪ\ hit the highest frequency among the other ones. It scored (145) errors out of (486). This means that 30% of the errors are made in the pronunciation of this diphthong. Subjects are observed to replace the \ eɪ\ sound by \ e\, for example, they pronounce the word 'explain' as \ ɪksplen\ which is absolutely inaccurate pronunciation. This type of changing the diphthong is also observed in other words such as 'Rain', 'Stayed', 'Changes', 'Brain', 'Pains', 'Dangerous', 'Game', 'Males' and so on. In these instances, \ eɪ\ is replaced by \ e\. in some case, the diphthong is totally dropped as in 'Change' which subjects pronounce as \ tʃndʒ\ instead on \ tʃeɪndʒ\. In almost 90% of the data related to this diphthong, it is noticed that subjects tend to reduce or shorten

the sound so as to ease its pronunciations. Although diphthongs are not found in the subjects' language, it noticed that they are less problematic to be mastered by them. This may be affected by the combinations of vowels and consonant the subjects' native language that results in almost similar tongue position to those of diphthongs.

The sounds \əʊ\ and \ ɪə\ have the same percentage which is 21%. \əʊ\ scored (103) errors whereas \ ɪə\ scored (101) out of a total (486). Throughout having a close look at the data collected, it appears that subjects change\ ɪə\ into \ eə\ as in the word 'Dear' which subjects pronounce as \deər\ instead of \dɪə\. They also replace it with \ɪ \ or \ i: \ as in 'deer', 'near', 'Sneering', 'Here' \ dɪr\ instead of \dɪə\, \ni:r\ instead of \ nɪə\, \ snɪrɪŋ\ instead of \ snɪərɪŋ\ and \hɪr\ instead of \hɪə\. The sound \ɪə\ is also replaced by \ə\ as in 'Experience' which subjects pronounce as \ ɪksperɪəns\ instead of \ ɪkspɪərɪəns\. The same has occurred with the sound \əʊ\. Some subjects changed it into \ɒ\ as in 'also', 'Goals', 'Grow' \ɔːlsɒ\ instead of \ɔːlsəʊ\, \ gɒlz\ instead of \ gəʊlz\, \ grɒ\ instead of \ grəʊ\. Some subjects replaced by \ə\ as in 'most' \ məst\ instead of \ məʊst\. It is evident throughout the instances just cited here is that the main cause of difficulty that leads leaners to make erroneous pronunciation is that this diphthong has no specific letters. Many letters are used to give this sound. Consequently, it would be so confusing for foreign learners to figure out the sound when they are encountered by words they read the first time. The inconsistency of spelling then leads learners to pronounce sounds incorrectly. However, spelling inconsistency is not a big trouble for learners to take as an excuse for their erroneous pronunciation since dictionary and many other language learning facilities are available. This leads to the conclusion that learner's poor use of listening or at least using hardcover dictionary plays a major role in making errors.

The diphthongs \ eə\ and \ aɪ\ are approximate in there frequency. \ eə\ scored (49) out of (486) whereas \ aɪ\ scored (38) out of (486). The percentage of former sound is 10% while the latter is 8%. These, as the results show, are relatively less problematic sounds for learners to learn. Errors made in these two sounds include changing the diphthong into another diphthong or shortening the sound. For example, 'Therefore', 'Earbed' are pronounced as \ ðerfɔː\ instead of \ ðeəfɔː\, \ erbed\ instead of \ eəbed\.\ eə\ is also changed into a short vowel as in the word 'Declaring' \dɪklɪrɪŋ\ instead of \ dɪkleərɪŋ\. Errors in \ aɪ\ are similar to \ eə\. subjects replace\ aɪ\ by other vowels as in 'Either' which is pronounced \ eðə\ instead of \ aɪðə\, 'Lively' \ lɪvli\

instead of \ laɪvli\. Errors in these two vowels seem to be motivated by the same causes of phoneme-grapheme non-correspondence as well as lack of knowledge on the part of the learners.

The results show that the last three diphthongs, namely, \ aʊ\, \ ʊə\ and \ ɔɪ\ scored the lowest frequency of all the other ones. \ aʊ\ scored (22) out of (486), \ ʊə\ scored (19) out of (486) and \ ɔɪ\ scored (9) out of (486). The percentage of \ aʊ\, \ ʊə\ is almost exactly the same; both are 4% out of the total percentage while \ ɔɪ\ is 2% out of the total percentage. These statistical results show that these diphthongs are found as the least problematic for students to learn or to pronounce. The sound \ ɔɪ\ is the lowest one in the frequency of errors. This can be justified by the fact that the \ ɔɪ\ sound is written in a form that is predicable for learners to pronounce correctly. This sound is mostly written with \oi\ or \oy\, so it is ease to predicate its pronunciation. Examples of errors in these sound is that learners unintentionally change the sound to another one as in 'Found' which some pronounced as \ fəʊnd\ instead of \ faʊnd\, 'Bow' \ bəʊ\ instead of \ baʊ\, 'How' \ həʊ\ instead of \ haʊ\.

4.2.1.2. Second Research Sub-Question: Errors Made in Assimilation and Consonant Clusters

"What are the most frequent pronunciation errors made in assimilation and consonant clusters by EFL student-teacher learners in oral performance?"

Table 9: Frequency of errors in assimilation and consonant clusters in speaking test and classroom observation

Features	Frequency	Percentage
Assimilation	1065	78%
Consonant clusters	294	22%
Total	1359	100%

Generally speaking, errors made in assimilation and consonant clusters are less common than those made in vowel sounds. Table (4.6) shows that assimilation is the most problematic feature of pronunciation for learners than consonantal clusters. It scored a frequency of (1065) errors out of (1359). It means that 78% of the errors made in the targeted pronunciation features (broadly speaking, supra-segmental) above

the level of one sound are made in assimilation. The gathered data reveal that erroneous pronunciation occurred in progressive assimilation was the dominant type in all the data collected. Other types of assimilation were not noticed. This may be ascribed to the fact that learners have not achieved the level of fluency that enables them to demonstrate aspects of connected speech. Almost all the recordings obtained shows that learners speak in a slow careful speech which lacks aspects of connected speech that are strongly associated with causal rapid speech. Most of the errors noticed in progressive assimilation were restricted to the pronunciation of the inflectional suffixes –es, -ed, -ing. For example, some subjects pronounce the word 'adverbs' as \ ædvɜːbs\ instead of \ ædvɜːbz\. This also applies to other words such as 'sometimes', 'leaves', 'Things', 'Materials', 'Goals', 'skills' and so on. Regarding the suffix –ing, the subjects add a \g\ sound after \n\ instead of assimilating it as \ŋ \. Examples on this case are found in the following words 'following' , 'speaking' , 'talking', 'Eating', 'being', 'Lightning' and so on. In these instances, and many other, the subjects pronounce the inflectional suffix as \ng\ instead of \ŋ \.

Turning to consonant clusters, it is observed that learners insert short vowels between two consonant sounds. This is clearly a case of negative first language transfer. The population's language has as pattern (cvc) as the most dominant one in its phonological system. Consequently, leaners are negatively affected by the habits of their mother tongue which lead them to insert a short vowel. For example, subjects pronounce the word 'Its', as \ ɪtɪs\ rather than \ ɪts\, 'Incredible', as \ ɪnekredəbl\ instead of \ ɪnkredəbl\, 'Dictionary' as \ dɪkʃənəri\ instead of \ dɪkʃənri\, 'Next' as \ neksɪt\ instead of \ nekst\ . In some other cases, subject are noticed to drop one or more consonant in a cluster so that its pronunciation would be easier for them to articulate, for example, in the word 'students' which some has pronounce as \ stjuːdns\ and the word 'Question' \ kweʃən\ instead of \ kwestʃən\ in which they dropped the \s\ sound to ease articulation.

Two-consonant clusters are noticed to be much less problematic for learners to articulate. However, learners faced problem with three consonant clusters whether initially or finally in the syllable structure. This result may be explained in the light of the phonological system of population's native language; Arabic. Two-consonant clusters are noticed to be easier may be because there are equivalents to them in Arabic

in a process called geminates (double consonant with one letter). This, in fact, makes the pronunciation of two consonant clusters easy. On the other hand, three-consonant clusters are very rare, if found at all, in Arabic. So, this leads learners to either drop one consonant in the pattern or insert a short vowel sound to ease the process of articulation. All in all, consonants are generally less difficult to pronounce correctly than vowels since they have clear and tangible tongue positions.

4.2.2. Second Research Question: Comparing the Results of Speaking Test and Classroom Observation

"Are pronunciation errors more frequent in expressive speaking or when delivering a lecture?"

Table (4.7) compares the results in both speaking test and classroom observation:

Table 10: Comparison of errors made in speaking test and classroom observation

Test type	Speaking test		Classroom observation	
Category of errors	Frequency	Percentage	Frequency	Percentage
Vowels	1745	35%	830	30%
Short vowels	997	20%	446	16%
Long vowels	426	8%	220	8%
Diphthongs	322	6%	164	6%
Assimilation and consonant clusters	790	16%	569	20%
Assimilation	619	12%	446	16%
Consonant clusters	171	3%	123	4%
Sum	5070	100%	2798	100%
Total 7868	64%		36%	

The previous tables have presented the results of errors made in general, that is, in both tests. However, table (4.7) compares the results obtained in each test. This would be helpful to find out whether errors are more frequent in direct expressive speech, which is when subjects reply to the questions they are asked by the researcher, or in formal settings like delivering lectures at schools. The results of table (4.7) show that (5070) errors are recorded in expressive oral performance while (2798) out of (7868) are recorded in formal setting speech. This indicates that 64% of the errors are

made while speaking in speaking test and 36% in classroom observation. The possible reason behind these finding could be justified by the fact that in expressive speech subjects are less prepared since they do not know the topic they are asked to speak about in advance. Therefore, more errors are expected due to psychological or anxiety reasons. In contrast, subjects are expected to be well prepared in formal setting speech. They consider themselves as correct pronunciation models to their students. Accordingly, they prepare the topic they want to speak about in advance so minimize the possibility of making pronunciation errors as much as possible.

4.2.3. Possible Causes of Errors

This section tries to answer the research question "What are the possible causes of the pronunciation errors made by Iraqi EFL student teachers in oral performance?" The researcher tried to elicit the possible reasons from the learners themselves. So, the method of focus groups was implemented. The researcher, after the data of the focus groups and also after a comprehensive analysis of the data collected by speaking test and classroom observation, concluded the following general reasons.

1. Instruction related reasons

Subjects claimed that they do not get sufficient time for practical pronunciation leaning during the period of study. They get practical leaning at laboratory only during the first two years of their academic leaning. Moreover, they claim that lectures are mainly teacher-centered in which lectures hold the floor most, if not all, the lecture time. Another group claimed that theoretical is the dominant part of their curriculum. This, of course, would reduce the chance of the practical training since in such topics the turn is to the lecturer because he is the authoritative part of the lecture. Some other groups claimed that poor feedback on the learner's pronunciation also a reason behind making errors since leaners will continue the same pronunciation of a given word unless being corrected by the lecturers. The method of teaching has something to do with the pronunciation errors. The dominant method of teaching at university is the method of lecture where the lecture is the center of the class and little chance is given to the learners to speak. Such a method would not provide enough information to the lecturer to get familiar with the errors of his\her leaners so as to provide suitable remedies.

2. Learning related reasons

The process of learning a new language involves learning a new linguistic system. The data revealed that learners demonstrated cases of first language negative transfer of inter-lingual errors. This was evident when the leaners shorted long vowels that are not found in their first language. Another case of inter-lingual errors is when the learners insert short vowels between consonant clusters or even when they drop a consonant sound in a cluster. This is obviously related to the contrast between the phonological systems of the first and the target language. Other reasons related to learning are intra-lingual reasons where leaners generalize the pronunciation of one sound to all other similar one. This was clear in the pronunciation of \ ɑ:\ sound as short \a\. Moreover, spelling also has a crucial role in making pronunciation errors. The population first language is a phonetic one, that is, letters represent sounds, however, this is not the case with English. English has a rather confusing writing system for leaners since letters do not necessarily represent the sounds. Therefore, this would lead learners of phonetic languages to made pronunciation errors as they would be misled by the orthographic form of the words they lean.

3. Learner related reasons

As learners, many of the respondents have acknowledged that learner's carelessness is one of the main reasons behind making mistakes as well as the lack of motivation. It is difficult, if not impossible, for the teacher to teach the learner every single word and how it is pronounced. This actually is the task of the learners. It is the learner who must check the correct pronunciation of any word they read and do not rely on spelling only. Another reason related to leaners is that they do not get sufficient exposure to the target language though the numerous facilities available to them. Moreover, leaners restricted use of the language also contributes in making errors since they do not give themselves a chance to practice speaking in the target language with partner where they make get feedback from one another about their pronunciation.

4.3.   Discussion of Findings

Having analysed the data collected, the study came up with the some findings that answer the research questions set in chapter one. These findings can be summarized as follows:

The study found that EFL student teachers at Mosul University, College of Education for Humanities, Department of English make pronunciation errors in the targeted features, namely, vowels, assimilation and consonant clusters.

It is found that leaners make more errors in vowels than consonants. Pronunciation errors made in articulating vowel sounds scored (2575) occurrences out of a total (3934). This means that they have scored 65% of the total percentage. On the other hand, pronunciation errors made in articulating supra-segmental features (consonant cluster and assimilation) are relatively much less frequent than the vowel errors. They scored (1359) occurrences out of a total (3934). This frequency forms 35% of the total percentage. The percentage of the vowel errors provides an evident statistical indication that vowels are much problematic for leaners than consonant clusters and assimilation. This is due to different reasons. Some of these reasons are related to the teaching process, others are related to the learning process and some are related to the learners themselves. Ababneh (2018) comes up with findings that go in line with the findings of the present study .He concluded that Saudi Arab students have pronunciation problems with vowel sounds. They confuse among the different vowels of English words. He also found out that they have pronunciation problems with consonant sounds, for example they replace sounds like /p/,/v/ with /b/,/f/.

As for short vowels, it is found that they are the most problematic for the learners than other types of vowels. Short vowels have scored (1443) out of (2575). This frequency forms a percentage of 56% of the total percentage. Some learners drop the short vowel others change it into another one. Learners make errors in these vowels as a result of the confusing spelling or the orthographic form of the words. Some vowels are rather troublesome than others. For example, the short vowel sound \ ə\ scores the highest percentage of all the other ones. The frequency of occurrence of this sound is (597) that forms (41%) of the total percentage. This percentage is a strong indication that it is the most problematic short vowel sound encountered by the targeted population. Other short vowels such as \e\ and \ʌ\ are also problematic for the

learner since they relatively scored a high frequency. The results show that the main cause of errors made in pronouncing these sounds is that they have no single sound, but rather any vowel many turn to be pronounced as \ ə \,\e\ or \ʌ\. Therefore, they seem confusing and cause pronunciation problems to the foreign learners.

Other short vowels have scored a lower frequency than the just mentioned ones. For example, the short vowel \ ɪ\, scored (168) out of (1443). It has a relatively low percentage in comparison with the previous ones. It has 12% out of the total percentage. This percentage indicates that it is easy to be learned by the learners. the sounds \ ɔ\, \ ʊ\ and \æ \ all have scored low frequency of occurrence. The short vowel \ ɔ\ scored (128) out of (1443) which forms a percentage 9%. This is relatively a low percentage. It is seen as an indication to the fact that the \ ɔ\ sound is less problematic. Less than this sound is the short vowel \æ \. It scored (62) out of (1443). It is relatively a low frequency with 4% of the total percentage. The short vowel \ ʊ\ scored (40) errors out of (1443) which is obviously a very low frequency. It forms only 3% of the total percentage. It is observed that learners rarely drop these sounds; however, they mostly change it into other ones as in the word 'Because' where \ɒ\ is changed into \ɔ:\. Learners also replace \æ\ by \ə\ as in the word 'Happy'. In the case of \ ʊ\ they frequently change it into to \ɒ\ as in 'Look', 'Put', 'Book' and many other words. A study carried out by (Fadhilloh 's, Miftakh and Mobot 2020) confirms that Indonesian students faced more pronunciation problems with vowels sounds. Moreover they found that interlingual causes of errors have a more crucial or significant role than intralingual ones. This finding has also been reached at in this study.

Concerning the findings of long vowels, the results show that they are less problematic than short ones. Nonetheless, learners make errors in the pronunciation of these sounds. Long vowels have scored a lower percentage if compared with short ones. The frequency of the errors made in long vowels is (646) out of (2575) which forms (25%) of the total percentage. It is found that \ ɜ: \ and \ ɑ:\ are the most problematic among the long vowels. \ ɜ:\ scored (291) out of (646) which means that 45% of the errors made in long vowels are made in this sound, whereas\ɑ:\ scored (119) out of (646) which is 18% of the total percentage. Such a long vowel is not found in the population's language with the same phonological quality and quantity. So, it would be difficult for them to articulate it since their tongues got stiff with the vowels of their first language.

Other long vowels are noticed to be less problematic such as the long vowel sound \ ɔ: \. The results show that it scored (102) out of (646). It is the third most problematic sound to the learners. It has a percentage about 16% out of the total. Both \ i:\ and \ ʊ:\ have scored approximately the same rate of frequency. The sound \ i:\ scored (72) errors out of (646) which is 11% of the total percentage. The sound \ ʊ:\ almost similarly scored (64) errors out of (646) which is 10% of the total percentage. The results show that these two sounds are less problematic for the learners. A close look on table (3) would show that the equivalent short vowels of these two long ones have also scored a relatively low frequency. Errors made in these two sounds include shortening the vowel or, in some other instance, change it. The results show that instance of errors made in these vowels include changing it to other long or short vowels to ease the pronunciation or as a result of being misled by the spelling or as a result of first language negative transfer. In this regard, similar findings were found by Gusdian (2021). He (2021) concluded that learners tend to shorten long vowels specifically those vowels that are not found in their mother tongue, for example, the learners shorten \i:\ into \I\ ,\ ʊ:\ into \ ʊ\.

In relation to diphthongs, it is found that they are the least problematic for learners. Diphthong vowels have scored the lowest frequency of all the other types of vowel sounds, short and long. It scored a frequency of (486) out of (2575) which has a percentage (19%) of the total percentage. The results indicate that they are less problematic that other types. This could be contributed to the fact that there are some combination of sounds in the sample's language that have the almost the same way of pronunciation as that of English. The most problematic diphthongs are\ eɪ\ , \əʊ\ and \ ɪə\. They all scored a relatively high frequency of occurrence. \ eɪ\ hit the highest frequency among the other ones. It scored (145) errors out of (486). This means that 30% of the errors are made in the pronunciation of this diphthong. The sounds \əʊ\ and \ ɪə\ have the same percentage which is 21%. \əʊ\ scored (103) errors whereas \ ɪə\ scored (101) out of a total (486). It is evident throughout the instances collected that the main cause of difficulty that leads leaners to make erroneous pronunciation is that this diphthong has no specific letters. Many letters are used to give this sound. Consequently, it would be so confusing for foreign learners to figure out the sound when they are encountered by words they read the first time. The inconsistency of spelling then leads learners to pronounce sounds incorrectly.

The less problematic diphthongs are, \ aʊ\, \ ʊə\ and \ ɔɪ\ scored the lowest frequency of all the other ones. \ aʊ\ scored (22) out of (486), \ ʊə\ scored (19) out of (486) and \ ɔɪ\ scored (9) out of (486). The percentage of \ aʊ\, \ ʊə\ is almost exactly the same; both are 4% out of the total percentage while \ ɔɪ\ is 2% out of the total percentage. These statistical results show that these diphthongs are found as the least problematic for students to learn or to pronounce. It has been stated above that diphthongs are the least problematic for students than long and short vowels since they scored the lowest frequency of vowel sounds. In this concern, (Leston and Furani (2010) found out that diphthongs are less problematic than short vowels and long vowels and consonants .they found that learners made (48%) of errors in short and long vowels, while they made (29%) of errors in diphthong sounds .They found that \ eɪ\ and **aɪ**\ are the most problematic among diphthongs. This also comes in agreement with the findings of this study.

Concerning assimilation and consonant clusters, it is found that learners face some difficulty in these aspects of connected speech. Assimilation is found to be more problematic that consonant clusters. It scored a frequency of (1065) errors out of (1359). It means that 78% of the errors made in assimilation. The most erroneous type of assimilation is the progressive. Regressive assimilation is not found. This is because learners haven't yet achieved high level of fluency. So, such features of pronunciation are almost absent.

Errors in consonant clusters are less than those in assimilation. The obviously noticeable feature of errors in consonant clusters is that learners insert a short vowel between consonants as a result of negative transfer from the phonological system of their first language. Learners also dropped some consonant in three consonant clusters to ease pronunciation. It is found that two consonant clusters are less problematic that three.

With respect to the results of formal setting speech (lectures) and expressive speech (conversation), the study found that errors of pronunciation are less frequent in formal setting speech while they are common is informal expressive speech when respondents are asked to speak. The reason was attributed to the student-teacher's preparation of the topic they want to speak about in advance. So, errors are less common.

Finally, the study, throughout data analysis and information gathered from the focus groups method, found that there are many reasons behind making pronunciation errors. Some of them are related to the teaching process which is theoretically rather than practically oriented. In such methods less time is allocated to practicing pronunciation. Other more crucial reasons are first language negative transfer and intra-lingual errors where learners overgeneralize the pronunciation of some letters to all sounds. Another important and sensitive reason is the spelling of the target language. English is not a phonetic language where letters do not always represent sounds. Another important reason is the contrast between the phonological systems of the two languages. Learners' tongue got stiff to the pronunciation of their first language. So, it is not easy for them to cope with the pronunciation of the new sounds of the target language. Other reasons are related to learners themselves. The learners' carelessness and little exposure to language as well as poor use of the soft or hard dictionary are all reasons behind errors in pronunciation.

CONCLUSIONS, PEDAGOGICAL IMPLICATIONS, RECOMMENDATION AND SUGGESTIONS FOR FURTHER RESEARCH

Conclusions

Based on the findings obtained in this study, the following conclusions can be drawn:

1. Iraqi EFL student teachers face pronunciation problems both in English vowels, aspects of connected speech as well as consonant clusters.

2. It is found that vowel sounds are more problematic than the other targeted features of pronunciation.

3. Short vowels scored the heights rate of errors frequency that passed the half of the total percentage. Additionally, within the category of short vowels, the results showed that short vowels \ə \, \e\ and \ʌ\ are the most problematic ones. They scored more than half of the total percentage among all the other short vowels. On the other hand, the short vowels \ɪ\, \ɔ\, \Æ\ and \ʊ\ are noticed to have relatively a lower percentage. It is important to note that errors made in these vowels include dropping the vowel, replacing it by another vowel.

4. Long vowels came second in rate of errors recorded. They scored (646) errors. The sounds \ɜ:\, ɑ:\ and \ɔ:\ are the most troublesome among long vowel sounds. They scored almost two thirds of the total percentage. However, \i:\ and \u:\ are observed to be the least problematic. Errors in this category involve shortening the long vowel, replacing it by another one as a result of being misled by the spelling or give it the quality and quantity of the first language due to the negative transfer.

5. Diphthongs are the least problematic category within the set of vowel sounds. It is found that \eɪ\, \əʊ\ and \ɪə\ are the most problematic diphthong vowels since the results showed that they scored almost 75% of the total percentage among other diphthongs. Possible reason behind this findings is that they have no regular spelling, that is, they are not predictable depending on the spelling only. In contrast, \eə\, \ɑɪ\, \ɑʊ\, \ʊə\ and \ɔɪ\ are the least problematic ones.

Among these sound, \ɔɪ\ scored a very low percentage which is 2%. This can be attributed to the spelling in which it is written since it has so restricted spelling that can be easily predicated when one tries to pronounce the combinations \-oy, -oi, \.

6. Although scored pronunciation errors, assimilation and consonant clusters are less problematic than vowels. Of these two features, assimilation scored the highest frequency of errors. Progressive assimilation is the only detected type whereas regressive one was almost absent. The possible reason is that regressive assimilation needs advanced level of fluency a thing which was almost absent in the targeted population. With regard to consonant clusters, it is found that leaners tend to insert a short vowel between two consonant in many cases. Moreover, consonant clusters of the pattern (cccv) were more problematic than the (ccv). This is possibly due to negative transfer of features or habits from the first language phonological system to that of the target language.

7. The study found that leaners make fewer errors when delivering a lecture than when they are talk in informal situation like interview. This was attributed to the fact that, in lectures, student-teacher learners are more prepared and cautious about making mistakes than other cases. Therefore, this has a role to play in minimizing the rate of errors made in pronunciation.

8. After analyzing the data of the focus groups and the results obtained from the speaking test and classroom observation about the possible reasons behind pronunciation errors, it is concluded that there are many reasons. These reasons are grouped into three sets. The first one is related to the teaching process which include little practical lesson, more theoretical lesson, limited opportunity to speak, poor corrective feedback, and traditional activities. The second group is related to the learning processes which are inter-lingual transfer, intralingual transfer, phoneme grapheme non-correspondence and little exposure. The third group is related to the learner himself. It includes reasons as anxiety, lack of motivation, carelessness, poor use of the dictionary, limited speaking activities and relying on spelling. All in all, these three groups of reasons work together to hinder the accurate and appropriate learning of pronunciation.

Pedagogical Implications

1. Since their main objective is to improve their student's skill   to speak effectively and fluently, educators should make every effort to update conventional techniques of teaching the specified topic in the simplest way.

2. Errors Analysis investigation needs to be done to find out where and why their pronunciation errors come from so that the instruction can be modified to make them better for learners.

3. Learners need to speak more during the lecture to improve their pronunciation and avoid making the same errors As well as getting suitable corrective feedback on their pronunciation.

4. Learners should be given more oral activities   in class and homework to help them get used to sounds are pronounced in the targeted language.

5. Pronunciation errors should be addressed by teachers, recorded, and discussed with students. This would help teachers to raise learner's awareness about pronunciation errors.

6. When designing the pronunciation materials, syllabi developers should take the requirements and interests of the students into account. Moreover, they should give teachers enough instructions and suggestions on the way of teaching pronunciation.

Recommendations

In the light of the findings reached in this study, the following recommendations are forwarded:

1. Learners need to be assisted to think in English when they speak so as to master the articulatory habits of the English pronunciation and avoid the mother tongue negative transfer.

2. Learners should be sufficiently exposed and motivated to expose themselves to spoken English by native speakers via different educative media available online.

3. Teachers of pronunciation are highly recommended to give their students opportunities to speak in English. This would help instructors to assess

learners' pronunciation and provide the suitable corrective feedback, if necessary.

4. Teachers of phonetics and phonology should increase the practical lessons so that learners would have more chance to speak in the target language and to actually practice pronouncing the sounds.

5. New activities can be incorporated in laboratory lessons such as presenting short videos of native speakers articulating the targeted sounds and then asking the leaners to mimic that pronunciation. This would be beneficial since it is more authentic and would increase leaners' motivation.

6. Activities such as speaking with partner and sharing constructive corrective feedback are also recommended.

7. Summative and formative tests of pronunciation should not only be restricted to questions that require learners to transcribe words, but also questions that require oral and aural performance on the side of the learners.

8. Theoretical lessons should be followed by direct practical activities to help internalize the concepts as well as to actually practice them.

9. Learners' awareness should be raised about the importance of using the dictionary especially dependable soft copies dictionaries that are provided with recorded pronunciation of words that learners can listen to.

10. Teaching pronunciation should not only be at the first two years but it should be taught at higher levels. Students may master segmental feature in two years, supra-segmental features need more advance level of fluency to be taught.

11. Learners should always be informed that learning pronunciation means leaning a new habit that may contrast with the habits of the native language. This habit may need months or even years to be mastered. So, they need to be motivated and told to work hard and consistently with regular practice to overcome the habits of the mother tongue and learn new habits of the target language.

Suggestions for Further Research

This study, based on the reached findings, suggests the following areas to be investigated:

1. This study is a relatively small-scale one in which only one university is targeted. So, a large-scale study may be carried out to cover large populations.

2. This study was limited to selected pronunciation features, so other features of pronunciation may be studied in a similar way.

3. An experimental study that implements new teaching techniques to improve pronunciation can be conducted to test the improvement of learners' pronunciation for example using authentic materials such as videos of native speakers.

4. Other studies that may take other variable such as age, gender, motivation or anxiety into account may be carried out.

5. A cross-sectional study that investigates errors made in pronunciation by different learners in different levels of education can be done to find out the nature of errors in each level and how they develop.

6. A study that assesses the effectiveness of pronunciation teaching materials can also be undertaken.

7. A longitudinal study that traces the development of learners' pronunciation errors in order to check areas of difficulty may be done.

8. A contrastive study that compare the findings of studies that use different instruments in assessing errors to come to a general statement may be done.

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LIST OF TABLES

LIST OF FIGURES

APPENDICIES

Appendix (a)

Information Form

Dear student,
Kindly respond to the following questions:

1. What is your name?	( )
2. What is your birth date?	(/ /)
3. Sex:	☐ Male ☐ Female
4. Which group are you currently in?	☐ A ☐ B ☐ C
5. Have you ever failed in one of the college years?	☐ yes ☐ no
6. Have you ever been to an English-speaking country?	☐ yes ☐ no
7. What is your mother tongue?	☐ Arabic ☐ Kurdish ☐ Turkmen ☐ Syriac ☐ Other
8. In addition to English, what other languages do you speak? _____	

Mohammed Mustafa Abdulqader Aljabar

M.A. student

MASTER THESIS

Department of English Language and Literature

University of Karabuk

Appendix (b): Ensuring face validity of speaking test

A Letter to Jury Members

Dear jury member

I have the pleasure to benefit from your expertise and knowledge of Linguistics and applied linguistics. Would you please go through the items of the attached test and state your recommendations and remarks on their suitability to the title "**Investigating Pronunciation Errors of Iraqi EFL Student-teachers in Oral Performance: An Errors Analysis Study**" The test consists of six questions taken from IELTS website. The items aim to elicit information about learners' errors in oral performance; pronunciation errors. It targets fourth year students as the sample of the study.

As specialists in the field, we would like to kindly ask you to read the designed test for the elicitation task in the attached paper. We would be grateful for your assistance checking the items and expressing your opinion concerning their efficiency, suitability and relevance. All remarks and modification will be highly appreciated and taken into account.

Thank you for your cooperation

Name: _____.
Academic Status: _____.
Specialization: _____.
Address: _____.

Supervisor   Researcher

Lecturer Dr. Khalid Ibrahim Alahmed   Mohammad Mustafa AbdulQadir

Jury committee

NO	Name	Academic status	Specialization	University
1	Dr. Kamal Hazim Hussein	Prof	linguistics	Mosul
2	Dr. Ziyad Rakan Qasim	Asst. Prof.	Linguistics / phonetics	Mosul
3	Salah Yassin Rashid	Asst. Lect.	Linguistics / phonology	Mosul
4	Dr.Shoaib Saaed Abdulfatah	Prof.	Linguistics and language teaching	Mosul

Speaking Test

Each participant is met by the researcher, who gives them 5 minutes to answer a series of questions. These questions primarily come from the IELTS exam. In order to cover as many diverse words and sounds as possible, the researcher selects six questions as follow:

1. What is your opinion of children who use internet without parent's supervision? Why?

2. In your opinion, what are the needed skills for getting a good job nowadays? Talk about your future goals.

3. Talk about the influence of social media on the way we think.

4. Why do some people enjoy eating out?

5. What makes a good student?

6. Why do so many people move to live in cities?

Appendix (C)   Errors in Short Vowels

Sounds	ɪ		E		æ		ʌ		ɒ		ʊ	
No.	Word	Error	word	error	word	error	Word	error	Word	error	word	error
1							Cup	ʌ to ʊ				
2							Flood	ʌ to ʊ				

Appendix (D)   Errors in Long Vowels

Sounds	iː		ɜː		ɑː		ɔː		uː	
No.	Word	Error	word	error	word	error	word	error	word	error
1	feeding	iː to e								
2	Sheep	iː to ɪ								
3										

Appendix (E)   Pronunciation Errors in Assimilation

No.	Words	Student's pronunciation	Dictionary pronunciation	Error
1	Ten boys	/ ten bɔɪz/	/ tem bɔɪz/	m to n

Appendix (F)   Pronunciation Errors in Consonant Clusters

No.	Words	Student's pronunciation	Dictionary pronunciation	Error
1	street	/sətriːt/	/striːt/	str to sətr

CURRICULUM VITAE

Mohammed Mustafa Abdulqader ALJABAR he received his B.A. in English Language from the University of Mousel, Iraq in 2017-2018. He works in different fields related to the English language and literature, especially teaching. His research interests include linguistics and English language teaching. In 2021, he joined Karabuk University to get his master's degree in Applied Linguistics.