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Investigating the Influence of L1 Interference and Analyzing Pronunciation Errors of English Consonant Sounds and Consonant Clusters Made by Libyan EFL Students

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Abstract:

Acquiring pronunciation accuracy and efficiency in the English language by EFL learners is crucial. Yet, this is a challenge affecting Arab Libyan learners as they face difficulties in pronouncing English consonant sounds and consonant clusters. This study focuses on investigating the influence of L1 interference and analyzing pronunciation errors of English consonant sounds and consonant clusters made by Libyan EFL Students, the case study is the International College (the pre-intermediate level) in 2024. Through an oral test, errors made by the students were analyzed, transcribed, and quantified. The study examines the students' pronunciation of specific consonant sounds /ʧ/, /p/, /dʒ/, /v/, /θ/, and /ð/, noting common errors in their production and studying consonant clusters in the initial and final position. The research employed a qualitative approach, including a test to evaluate students' pronunciation accuracy. A questionnaire was used to gather information from teachers on students' struggles with certain consonant sounds and consonant clusters. The findings highlighted that the primary reason for students' errors was the L1 interference, the influence of their native language on English pronunciation. The results indicated that Libyan EFL learners encounter challenges in pronouncing certain consonant sounds (/p/, /tʃ/, /dʒ/, /θ/, /ð/, and /v/), the highest error rate was /p/, accounting for 32% of the total consonant errors. In addition the consonant sound with the least errors was /v/, which was challenging for only 2% of the total errors. Regarding the consonant clusters, Libyan EFL students frequently simplify these clusters by inserting a vowel to separate them. The results showed that students made errors when they pronounced English consonant clusters that reached 48% in the initial position and it reached 52% in the final position.. Recommendations in the study emphasize the importance of teaching the distinctions between English and Arabic sound systems to help students improve their English pronunciation skills.

Keywords: Errors, L1 Interference, EFL, Pronunciation, Consonant sounds, Clusters

دراسة تأثير تداخل لغة الأم وتحليل أخطاء النطق في الأصوات الساكنة الإنجليزية ومجموعات الحروف الساكنة التي يرتكبها طلاب اللغة الإنجليزية كلغة من ليبيا أجنبية

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اكتساب الدِّقة والكفاءة في نُطق اللغة الإنجليزية من قِبَل متعلِّميها كلغة أجنبية أمرٌ بالغ الأهمية. ومع ذلك، فهذا تحدٍّ يؤثِّر على المتعلِّمين العرب الليبيّين حيث يواجِهون صُعوبات في نُطق الأصوات الساكنة والتجمُّعات الساكنة في اللغة الإنجليزية. تُركِّز هذه الدراسة على استكشاف تأثير تداخُل اللغة الأم وتحليل أخطاء النُّطق للأصوات الساكنة والتجمُّعات الساكنة في اللغة الإنجليزية التي يرتكبها الطلَّاب من ليبيا، وتتمثَّل دراسة الحالة في الكُلِّية الدولية (المستوى ما قبل المُتوسِّط) في عام 2024. من خلال اختبار شفوي، تم تحليل الأخطاء التي ارتكبها الطلَّاب وتسجيلها وتحديد كميتها. تَفَحَّصت الدراسة نُطق الطلَّاب ، مُلاحِظةً الأخطاء الشائعة في إنتاجهم ودراسة التجمُّعات الساكنة في المواقع الابتدائية /ð/ و /θ/ و /v/ و /dʒ/ و /p/ و /ʧ/ للأصوات الساكنة المحددة والنهائية. استخدمت البحث منهجًا نوعيًّا، بما في ذلك اختبار لتقييم دقة نُطق الطلَّاب. وتم استخدام استبيان لجمع معلومات من المعلِّمين حول معاناة الطلَّاب مع بعض الأصوات الساكنة والتجمُّعات الساكنة. أبرَزَت النتائج أن السبب الرئيسي لأخطاء الطلَّاب هو تداخُل اللغة الأم، أي تأثير لغتهم الأم على نُطق اللغة

الإنجليزية. وتؤكّد التوصيات في الدراسة على أهمية تعليم الفروق بين أنظمة الأصوات في اللغة الإنجليزية والعربية لمساعدة الطلّاب على تحسين مهارات النُطق في اللغة الإنجليزية.
الكلمات المفتاحية: الأخطاء، تداخل اللغة الأم، اللغة الإنجليزية كلغة أجنبية، النطق، اصوات الساكنة، التجمعات الساكنة

Introduction

Pronunciation represents a challenge for many foreign language learners which entails special instructional attention (Morley, 1991). Moreover, pronunciation is also considered as an essential part of learning English as a second/foreign language (Gussenhoven & Jacobs, 1998). English pronunciation plays a vital role in effective communication, serving as a key element for mutual understanding among speakers. However, learners of English as a foreign language (L2, henceforth) often struggle with fluency in English. This difficulty is anticipated when the first language of the learner (L1) has different backgrounds from (L2) (Lado, 1957). For instance, English and Arabic originate from distinct language families—the former being Indo-European and the latter Semitic—resulting in variations in their linguistic structures, including pronunciation difficulty.

In Libya, English is considered as a foreign language, primarily taught through formal education with an emphasis on written language skills over spoken proficiency. Moreover, Libyan EFL learners typically start learning English after acquiring Arabic as their first language, and because it is their mother tongue, the linguistic background has a significant influence on their English language acquisition, consequently, the influence of Arabic on their pronunciation can make learning English more challenging for EFL learners.

Libyan EFL learners often struggle with pronouncing specific consonant sounds due to the influence of L1, such as /ʧ/, /p/, /dʒ/, /v/, /θ/ and /ð/, as a result of the absence of certain phonetic equivalents in the Arabic language (Emran & Anggani, 2017). Additionally, this research underscores the significance of consonant clusters in language production, with varying degrees of difficulty for Libyan foreign language learners based on syllable structure. There are two types of consonant clusters, in the initial position (onset), the English cluster system permits two consonant clusters (CC-) (e.g. /sp-/ as in spoon). On the other hand, in the final position (coda), the coda cluster is asserted to be more complex than the onset one because it permits up to four consonants, it may consist of -CC, -CCC, or -CCCC patterns as /-sk/ in ‘ask,’/-kts/ in ‘acts’, and /-ksts/ in ‘texts ’. Therefore, mispronunciation of English consonants sounds and consonant clusters by Libyan EFL learners can lead to miscommunication.

This paper will delve into analyzing pronunciation errors made by Libyan EFL learners in pronouncing English consonant sounds, and examining the complexities surrounding consonant clusters.

Statement of the Problem

English language learners make many errors in pronunciation and they face difficulties to acquire a good English pronunciation. These errors made by English learners have many causes Brown (2000). These errors might be due to the inter-language process or from a limited proficiency in English, or they could be attributed to the transfer of the phonological structure from one's native language (L1) to the English phonological system (L2). Arab speakers, in particular, encounter challenges in pronouncing English consonant sounds and consonant clusters due to the absence of such sounds in Arabic, and duo to Arabic's avoidance of such clusters, especially at the beginning of a syllable (Esteeteh, 2005). Additionally, the differing systems of English and Arabic can result in significant difficulties, as noted by Keshavarz (1999) who highlighted the impact of negative transfer from the first language to the second language. For example, certain English consonants like /p/, /ʧ/, /dʒ/ are not present in the Arabic sound system.

In light of these observations, this study seeks to investigate the obstacles faced by Libyan students when attempting to articulate specific English sounds, such as /ʧ/, /p/, /dʒ/, /v/, /θ/ and /ð/, with some sounds being substituted for others, like replacing /v/ with /f/ and /p/ with /b/ etc. The participants also struggle with correctly

pronouncing English consonant clusters, as seen in examples like 'stand' pronounced as /ɪstand/ and 'street' as /ɪstiriːt/. The research will delve into this issue and analyze the impact of L1 on the pronunciation of a second language (L2).

Questions of the Study

1- What are the pronunciation errors of English consonant that are made by Libyan EFL learners due to interference from L1?
2- What are the errors made by Libyan EFL students when they pronounce English consonant clusters due to interference from L1?

Purpose of the Study

The study aims to analyze and explain the pronunciation errors of English consonant sounds made by Libyan EFL learners due to interference from L1. Moreover, Investigates the errors made by Libyan EFL students when they pronounce English consonant clusters and in what position it happens.

Significance of the Study

Analyzing pronunciation errors of English consonant sounds and clusters made by Libyan EFL learners due to L1 interference holds significant implications for learners, teachers, and researchers in the field of English language learning. For English learners, this study aims to help students to understand the pronunciation errors they make in consonant sounds and clusters and inspire them to better their pronunciation caused by L1 interference, leading to improving their overall communication proficiency in English. Teachers can benefit from this study by gaining insights into effective teaching techniques and strategies to enhance students' pronunciation skills. Additionally, researchers can use the findings of this study to contribute to future studies as it serves as a valuable resource in the field. Ultimately, this study aims to empower teachers, learners, and researchers in the field of analyzing the common errors in the pronunciation of consonant sounds and clusters effectively.

Literature Review

Definition of Pronunciation

Pronunciation is the production of sounds that the speaker uses to transmit and convey the meaning (AMEP, 2002). One of the most important factors to ensure effective communication is good pronunciation, without which communication is hard or even impossible (Harmer, 2005). Pronunciation plays a vital role in second/foreign language learning and communication; it influences the speaker's perceived fluency and overall communicative competence. Poor pronunciation can lead to breakdowns in communication, misunderstandings, and negative perceptions of the speaker's language proficiency.

Differences in The Sound Systems of Arabic Libyan Dialect and English

The difference between the first language and the second/foreign language is a problem in learning pronunciation (Bell, 1995). Accordingly, one of the obstacles to achieve acceptable English pronunciation for most Libyan students is to know the differences between the sound structure of English and Arabic. In English, there are 44 phonemes; these are divided in 24 consonant phonemes and 12 vowel phonemes and 8 diphthongs. Modern Standard Arabic (MSA) has 36 phonemes; These are divided in 28 consonants 6 vowels, 2 diphthongs (Hago, 2015). Besides the vowel phonemes, Arabic has four more consonant phonemes, as a result of this, Arabic is considered a consonant-heavy language compared to English. Even though Arabic is a consonant-heavy language, English use many more consonant clusters to form words (Majeed, 1999), which might make some English consonants and clusters hard for Arabic students to pronounce.

Difficulties in Pronouncing Consonant Sounds and Clusters for Libyan EFL Learners

Consonant Sounds

In English, the essential factors or features to be included when describing English consonants are voicing, point of articulation and manner of articulation. English consonants play a crucial role in forming the structure of words and enabling clear and intelligible speech. Mastering the production of English consonant sounds is an important aspect of pronunciation learning for second/foreign language learners (Avery & Ehrlich, 1992).

According to Emran & Anggani, some English consonants do not exist in the Libyan dialect sound system like /p/, /tʃ/, /dʒ/, /v/, and even those consonants: /θ/ - voiceless "th" sound and /ð/ - voiced "th" sound, they don't exist in some areas in western of Libya like Tripoli while they do exist and pronounced properly in eastern of Libya.

Consonant Clusters

Clusters are sequences of two or more consonants at the beginning or end of a syllable. English consonant clusters are divided into initial consonant clusters and final consonant clusters (Balasabramanian, 2000; Verma & Krishnaswamy, 1996).

Kenworthy (1987) points out that English permits longer initial/final consonant clusters and sequences than Arabic language does. English is a language that allows for a wide variety of clusters in onset (0-3) and in coda (0-4) position. Formal Arabic, on the other hand, only allows for two-consonant clusters in final position (coda) and no consonant clusters in the initial position (onset) in all its dialects. (Kalaldeh, 2016).

Arabic language tends to avoid consonants clusters, so the sound system of Arabic tends to be more like CVC where English can be CCV, CCCV, VCC, VCCV, VCC, VCCC, VCCCC. Moreover, in medial word or syllable, consonant segments can be up to three or even four consonant segments. (Kalaldeh, 2016; Roach, 2000).

Table 1: Consonant clusters in English and Libyan Arabic

Consonant clusters in English		Consonant clusters in Libyan Arabic	
In onset:	(CV, CCV, CCCV)	In onset	(CV, CVC) → Maximum consonant in onset is C
In coda:	(VC, VCC, VCCC, VCCCC)	In coda	(CVC, CVCC, VC) → Maximum consonant in coda is CC

Error Analysis as Theoretical Framework for The Study

In this study, the methodology employed follows Corder's (1967) error analysis model/ theory, which includes five stages: collection, identification, description, explanation, and evaluation of errors. This foundational model in the field of error analysis is utilized to analyze language learners' errors systematically and provide insights into their language acquisition process. The emphasis is on analyzing pronunciation errors of English consonant sounds and clusters by EFL Libyan students studying general English at the pre-intermediate level.

Previous Studies

The issue of pronunciation has always been a serious topic to be discussed by learners of English. A number of researchers have conducted research in the area of pronunciation. This review of literature includes some of the most prominent research studies that were carried out in the field of pronunciation. Here are some studies were conducted in regard to consonant sounds and clusters and the influence of interfering the first language sound system, including Arabic Libyan dialect, with the second or foreign language.

One of these studies is what Abdulghani Mohammed Emran, Dwi Anggani (2017) have done in Libya. they conducted a study entitled *The Errors of Segmental Phonemes Among Libyans English Students Studying* in

Semarang City, Indonesia. This study attempts to investigate the errors of segmental phonemes that Libyan English students have when they pronounce English sounds. The participants in the study were fifteen, three females and the rest males, who study in Semarang city, Indonesia, and they were form different majors of master and Doctoral degrees (information system, public health, economic and bio-medic) at Semarang State University and Diponegoro University. The data was collected by two methods; recording test, in order to identify and evaluate the segmental errors, and questionnaire, in order to obtain participants' perceptions about the expected errors, the reasons behind these errors and how to cope with them. The results showed that the Libyan speakers in this study had errors while they produce consonant clusters and certain English sounds, such as: consonants" /p/, /v/, /θ/ , /ð/ , /ʧ/ , /dʒ/ and /ŋ/", vowels " /ə/ , /ɛ:/ , /i:/ , /ɑ:/ , /u:/ , /ɔ:/ and /ɪ/", and finally diphthongs "/eə/ , /ʊə/ , /əʊ/." This study also provides some helpful suggestions and recommendation that will reduce future errors regarding English segmental phonemes among Libyan English learners.

In a related context, another study was done by Mr. Mohamed Abdalla Elsaghayer (2014). he conducted a study under the title *Markedness Approach to the Production of English Consonant Clusters Among the Libyan Arabic Speakers of English*, the study was conducted at Misurata University, to investigate the 'markedness' effect of articulating CCC clusters in onset, and CC, CCC clusters in the coda, among Libyan speakers of English. Eckman's 'Markedness Differential Hypothesis' was employed as a theoretical framework to investigate the problem. The instruments used were a list of words containing the target consonant clusters, and unstructured interviews of the participants. 20 students, at Misurata University Language, participated in the study. The speech samples were analyzed to identify the difficulty of pronouncing the target clusters and their deviation in Libyans' English speech. The CCC clusters in the onset and both CC and CCC in the coda were the most difficult sounds to articulate. The answer to the research questions was clear that the Libyan speakers of English do have difficulty in articulating the complex consonant clusters because of their absence in their L1. The results of the study clearly prove and support markedness hypothesis. Some recommendations have been made to improve the pronunciation in the areas identified in the present study.

A growing body of literature, including significant contributions from Dr. Abbas Na'ama (2011) who conducted a study on 45 Yemeni students "*An Analysis of Errors Made by Yemeni University Students in The English Consonant Clusters System*". The study focused on English consonant clusters. The students were randomly chosen from three different levels and their pronunciations were recorded by using a cassette recorder. The students were asked to read some words that include the initial consonant clusters which contain two and three initial consonant clusters and words which contain three and four final consonant clusters. However, the results show that only 26 students out of 45 were able to utter the initial consonant clusters which contain two consonants. They uttered these sounds by inserting a short vowel. However, most students could pronounce the final consonant clusters which contain two consonants properly unlike the final consonant clusters made up of three or four consonants. They all failed to pronounce these words because the Arabic language doesn't permit three or four consonant clusters in the final position.

Additionally, Hassan's (2014) study examined 1) the relationship between pronunciation errors and the factors affecting the errors such as L1 interference, and 2) the differences in sound systems between L1 and L2, namely Arabic and English. The participants consisted of 50 students from the Sudan University of Science and Technology (SUST), who were required to record their pronunciation, and 20 English language teachers who were asked about the exact sounds that students mispronounced and the reasons for the pronunciation problems. From the study, it was discovered that there are several English consonant sounds which are not present in Sudanese spoken Arabic. This causes problems for Sudanese learners of English to pronounce the consonants, which are /p/, /b/, /f/, /v/, /s/, /z/, / θ /, /ô/. Hassan (2014) also stated that English language learners at SUST claimed that they were confused with the pronunciation of some set of words that do not exist in Sudanese spoken Arabic such as /p/ as in 'experience', /ɵ/ as in 'thank' and /ð/ as in 'this'. The students also could not differentiate some of the English vowel sounds. Spellings of the words are almost similar with different

pronunciation, for example, vowel as in ‘mat’/mæt/ and ‘mate’ /meɪt/, which make it difficult for students to distinguish.

Similar findings were found in a study conducted by Irawan, Y., Pratama, D., & Kurnia, N. (2023) entitled *Proficiency and Error of English Final Consonant Cluster Pronunciation Produced by Sundanese Students*. This study aims to examine Sundanese students' proficiency and errors in performing final consonant clusters in English. The research used a qualitative approach. The participants in this research were 40 college students. Their mother tongue was Sundanese. The data were recordings, which were collected through a pronunciation test of the target clusters in a provided word list. A perceptual approach was applied to analyze the data recordings. The results of this research found that the Sundanese students were not satisfactory when performing consonant clusters in English. They were only at intermediate levels. Omissions were major errors made by the students. The Sundanese students typically omitted the last consonant for-CC and the middle consonant for-CCC and-CCCC. In addition, the Sundanese students' semester and their English grades affected the Sundanese students' proficiency. It seemed that the differences in clusters' phonological structure between English and Sundanese and unfamiliar sounds contributed to the errors. This research suggests that teachers perform explicit instruction to improve students' cluster proficiency and enhance students' phonetic knowledge of English clusters. Accurate pronunciation is an important factor affecting communication intelligibility.

Previous studies have separately explored various errors in the field of pronunciation, involving errors in consonant sounds and consonant clusters, and the studies examined a range of student levels, including undergraduate and graduate students. However, the research gap exists in specifically investigating the issues of consonant sounds and clusters among Libyan EFL students at International College center that provides general English courses. Unlike the study by Emran & Anggani (2017), which focused on Libyan ESL students studying in Indonesia, aiming to investigate the errors of segmental phonemes that Libyan English students have when they pronounce English sounds, it concentrates on consonant sounds and vowels but not clusters. On the other hand, rather than investigating consonant sounds, Elsaghayer (2014) has conducted a study at Misurata University in Libya, and his study focused on investigating the ‘markedness’ effect of articulating clusters in onset, and clusters in the coda, among Libyan speakers of English without concentrating on consonant sounds. This paper will explore the influence of L1 interference and the pronunciation errors made by Libyan EFL learners when articulating English consonant sounds, as well as investigating the consonant clusters at the initial and final positions.

Methodology

The methodology of research is the core of any research. It gives a clear picture about steps taken in the procedures to collect and analyze data for the sake of answering the research question.

Design/ Research and Instruments

The current study used a qualitative method to analyze findings qualitatively. Two types of research instruments were employed to collect data for this study which are a pronunciation diagnostic test to collect data from the sample of Libyan EFL learners and a questionnaire to collect information from the teachers.

Participants

This research was administered on 25 students who were involved in the study from an English language course called the International College. For the student participants, 10 male and 15 female students, whose ages were between 18 to 27 years old.

Data Collection

In this study, the data has been collected from 25 students at International College, the students were given a list of words that contain more than 40 words to be pronounced, twenty-two words contain initial and final consonant clusters, other eighteen words contain consonant sounds that are difficult to articulate, the data (Samples of the students' pronunciation) was recorded and observed in which some notes were written about their pronunciation. A structured questionnaire to be answered by the college teachers to write their opinions and answers using a close-ended questionnaire that contains 15 questions and an open-ended questionnaire that has two questions, in order to gather information about the exact reasons that make Libyan EFL students mispronounce some English sounds and suitable ways that help them improve their pronunciation. The test lasted for two hours because the students were tested one by one. Students' pronunciation was recorded by using a voice recorder. All the data were analyzed later on.

Data Analysis

Table 2: The percentage of students with the correct and incorrect pronunciation of the consonants under study

Words	Read correctly		Read incorrectly	
	#students	%	#students	%
Pain	8	32%	17	68%
Paper	7	28%	18	72%
Pepsi	5	20%	20	80%
Park	12	48%	13	52%
Champion	12	48%	13	52%
Church	20	80%	5	20%
Launching	3	12%	22	88%
Germany	19	76%	6	24%
Judge	5	20%	20	80%
Value	23	92%	2	8%
Van	22	88%	3	12%
Therefore	5	20%	20	80%
Those	6	24%	19	76%
Brother	7	28%	18	74%
Tenth	22	88%	3	12%
Think	10	40%	15	60%

Table 3: The percentage of errors in each consonant sound among the total errors in consonant sounds

No	Sound	Total number of students	Number of words	Total number of words pronounced	Total No. of words pronounced with errors	Errors percentage %
1	/p/	25	4	100	68	32%
2	/tʃ/	25	3	75	40	19%
3	/dʒ/	25	2	50	26	12%

4	/v/	25	2	50	5	2%
5	/ð/	25	3	75	57	26%
6	/θ/	25	2	50	18	9%
Total					214 errors	100%

Table 4: The percentage of students with the correct and incorrect pronunciation of the consonant clusters in the initial and final position

Words	Read correctly		Read incorrectly	
	#students	%	#students	%
Squeak	2	8%	23	92%
Stew	10	40%	15	60%
Spread	2	8%	23	92%
Snake	5	20%	20	80%
Splay	3	12%	22	88%
Stopped	0	0%	25	100%
Smile	0	0%	25	100%
Spin	4	16%	21	84%
Stop	0	0%	25	100%
Next	10	40%	15	60%
Glimpsed	2	8%	23	92%
Thousandths	0	0%	25	100%
Fifths	2	8%	23	92%
Mask	25	100%	0	0%
Last	25	100%	0	0%
Attempt	5	20%	20	80%
Sixths	5	20%	20	80%
Texts	5	20%	20	80%
Strength	19	76%	6	24%
Kept	12	48%	13	52%
Facts	9	36%	16	64%
Months	10	40%	15	60%
Twelfths	9	36%	16	64%

Table 5: The percentage of errors in initial and final consonant clusters

No	Sound	Total number of students	Number of words	Total number of words pronounced	Total No. of words pronounced with errors	Errors percentage %
1	Initial clusters	25	9	225	199	48%

2	Final clusters	25	14	350	212	52%
Total					411	100%

Table 6: The percentage of errors in both consonant sounds and clusters

No	Sound	Total No. of words pronounced with errors	Errors percentage %
1	Consonant sounds	214	34%
2	Consonant clusters	411	66%
Total		625	100%

Students' Pronunciation Error Analysis and Transcription

In the following tables, twenty-five students' pronunciations of words that have consonant sounds and clusters are transcribed and compared to IPA phonetic transcription. This is done to identify EFL Libyan students' pronunciation of consonant sounds and clusters in an attempt to answer questions of the study.

Table 7: Students' pronunciation error analysis and transcription in consonant sounds

The word	IPA transcription	Students" pronunciation	Number of students
Pain	/peɪn/	/peɪn/ /beɪn/	8 students 17 students
Paper	/ˈpeɪ.pər/	/ˈpeɪ.pər/ /ˈbeɪ.bər/	7 students 18 students
Pepsi	/ˈpep.si/	/ˈpep.si/ /ˈbeb.si/	5 students 20 students
Park	/pɑːrk/	/pɑːrk/ /bɑːrk/	12 students 13 students
Champion	/ˈʧæm.pi.ən/	/ˈʧæm.pi.ən/ /ˈʃæm.bi.ən/	12 students 13 students
Church	/ʧɜːrʧ/	/ʧɜːrʧ/ /ʃɜːrʧ/	20 students 5 students
Launching	/ˈlɔːn.ʧɪŋ/	/ˈlɔːn.ʧɪŋ/ /ˈlɔːn.ʃɪŋ/	3 students 22 students
Germany	/ˈdʒɜː.mə.ni/	/ˈdʒɜː.mə.ni/ /ˈʒɜː.mə.ni/	19 students 6 students
Judge	/dʒʌdʒ/	/dʒʌdʒ/ /ʒʌdʒ/	5 students 20 students
Value	/ˈvæl.ju/	/ˈvæl.ju/ /ˈfæl.ju/	23 students 2 students
Van	/væn/	/væn/ /fæn/	22 students 3 students
Therefore	/ˈðɛr.fɔːr/	/ˈðɛr.fɔːr/	5 students

		/ˈdɛr.fɔːr/	20 students
Those	/ðoʊz/	/ðoʊz/ /doʊz/	6 students 19 students
Brother	/ˈbrʌð.ər/	/ˈbrʌð.ər/ /ˈbrʌd.ər/	7 students 18 students
Tenth	/tɛnθ/	/tɛnθ/ /tɛnt/	22 students 3 students
Think	/θɪŋk/	/θɪŋk/ /tɪŋk/	10 students 15 students

Consonant Cluster in The Initial Position (Onset)

Table 8: Students' Pronunciation Error Analysis and Transcription in Consonant cluster in the initial position (onset)

The word	IPA transcription	Students" pronunciation	Number of students
Spread	/spɹɛd/	/spɹɛd/ /ɪsipɹɛd/	2 students 23 students
Squeak	/skwiːk/	/skwiːk/ /ɪskuwiːk/	2 students 23 students
Stew	/stuː/	/stuː/ /ɪstuː/	10 students 15 students
Snake	/sneɪk/	/sneɪk/ /əsneɪk/	5 students 20 students
Splay	/spleɪ/	/spleɪ/ /ɪsipileɪ/	3 students 22 students
Stopped	/stɑpt/	/ɪsitɑpit/	All students
Smile	/smaɪl/	/smaɪl/ /ɪsmaɪl/	5 students 20 students
Spin	/spɪn/	/spɪn/ /ɪspɪn/	4 students 21 students
Stop	/stɒp/	/əstɒp/	All students

Consonant Cluster in The Final Position (Coda)

Table 9: Students' Pronunciation Error Analysis and Transcription in Consonant cluster in the final position (coda)

The word	IPA transcription	Students" pronunciation	Number of students
Next	/nɛkst/	/nɛkst/ /nɛkəst/	10 students 15 students
Glimpsed	/glɪmpst/	/glɪmpst/ /glɪmpsɪd/	2 students 23 students
Thousandths	/ˈθaʊzənθs/	/θaʊzəndθɪs/	All students
Fifths	/fɪfθs/	/fɪfθs/ /fɪfθɪs/	2 students 23 students
Mask	/maːsk/	/maːsk/	all students

Last	/la:st/	/la:st/	all students
Attempt	/ətempt/	/ətempt/ /ətempət/	5 student 20 students
Sixths	/sɪksθs/	/sɪksθs/ /sɪksθɪs/	2 students 23 students
Texts	/teksts/	/teksts/ /teksɪts/	5 students 20 students
Strength	/strɛŋkθ/	/strɛŋkθ/ /strɛŋkəθ/	19 students 6 students
Kept	/kɛpt/	/kɛpt/ /kɛpət/	12 students 13 students
Facts	/fækts/	/fækts/ /fæktəs/	9 students 16 students
Months	/mʌnθs/	/mʌnθs/ /mʌnθəs/	9 students 16 students
Twelfths	/twelfθs/	/twelfθs/ /twɛlfəθs/	9 students 16 students

Results and Findings

The results of the data analysis showed that the majority of students made errors when pronouncing English consonant sounds and consonant clusters. After transcribing the participants' pronunciations and analyzing the data, the research findings related to the consonant sounds revealed that students made numerous errors in pronouncing consonant sounds. The sound with the highest error rate was /p/, accounting for 32% of the total consonant errors; Libyan EFL students tend to pronounce /b/ instead of /p/. The second highest error rate was for the sound /ð/, with 26% of the total consonant errors; students tend to pronounce /d/ instead of /ð/. However, the least errors in producing consonant sound was /v/, which was challenging for only 2% of the total consonant errors; students tend to pronounce it as /f/ instead of /v/.
Regarding consonant clusters, Libyan EFL students tend to simplify consonant clusters by inserting a vowel to break them. The findings indicated that students encountered difficulties in pronouncing English consonant clusters, with error rates reaching 48% in clusters at the initial positions and 52% in clusters at the final positions.

The results of the analysis on errors in both consonant sounds and consonant clusters showed that the error rate for consonant clusters was nearly double that of consonant sounds. The error rate for consonant clusters was 66% of the total errors, while the error rate for consonant sounds was 34%. This indicates that Libyan EFL students struggled more with pronouncing consonant clusters correctly compared to consonant sounds.

Discussion

This study aims to analyze and explain the pronunciation errors of English consonant sounds and consonant clusters together made by Libyan EFL learners due to interference from their L1. The findings were that Libyan students made numerous errors, Specific problem sounds included /p/ (32% error rate) out of total error rate, /ð/ (26% error rate), /tʃ/ (19% error rate), /dʒ/ (12% error rate), /θ/ (9% error rate), and /v/ (2% error rate). This result aligns with the findings of Emran & Anggani's study which revealed that Libyan speakers had difficulties with particular consonants (such as /p/, /v/, /θ/, /ð/, /tʃ/, /dʒ/, and /ŋ/), vowels (such as /ə/, /ɛ:/, /i:/, /ɑ:/, /u:/, /ɔ:/, and /ɪ/), and diphthongs (such as /eə/, /ʊə/, and /əʊ/).

Regarding consonant clusters, the results of the current study showed significant errors made by the Libyan students in pronouncing consonant clusters in both initial position and final position by 48% & 52%

respectively. This result was similar to the result drawn by Elsaghayer (2014) revealing that Libyan speakers had the most trouble articulating CCC consonant clusters in the onset position and both CC and CCC clusters in the coda position.

Conclusion

This study was meant to answer two questions. The first one is, 'what are the pronunciation errors of English consonant that are made by Libyan EFL learners due to interference from L1?" and the second one is "What are the errors made by Libyan EFL students when they pronounce English consonant clusters?". The results of the study showed that Libyan EFL learners have difficulty in pronouncing some consonant sounds such /p/, /tʃ/, /dʒ/, /θ/, /ð/ and /v/ with the highest percentage of errors made in the sound /p/ (32%), which was almost always pronounced /b/ instead, due to the absence of the sound in the first language of the participants. Regarding consonant clusters, the results showed that Libyan students made errors when they pronounce English consonant clusters in both positions initial and final. The frequency of the errors in producing clusters was almost double the frequency of errors in producing the consonants; confirming that Libyan EFL students often simplify consonant clusters by adding a vowel to separate them.

Recommendations

Based on the findings of this study, the researcher suggests the following:

- The distinctions between English and Arabic sound systems should be emphasized to improve the English pronunciation skills of the learners.
- Future research should expand to examine a broader variety of pronunciation errors.
- Subsequent research should consider broader testing methodologies to provide comprehensive assessment.

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