

**Gender Differences in The Productive
Intelligibility of Iraqi EFL learners**

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ABSTRACT

This study examines gender differences in the productive speech intelligibility among Iraqi EFL learners at university level. It aims to find out the extent to which foreign accent causes statistically significant variations in the productive intelligibility of Iraqi male and female EFL learners. The data come from 10 Iraqi university EFL learners (5 males and 5 females) enrolled at the department of English, college of Education for Humanities, university of Anbar, Iraq. The data obtained from the speech intelligibility test was analyzed using unpaired sample t-test method run using an SPSS application (Field, 2013). A production test was utilized to evaluate participants' intelligibility concerning a foreign accent. Based on Gimson's (2001) Minimum General Intelligibility (MGI), an intelligibility pronunciation principle, the study uses a quantitative research design to assess how much foreign accent features hinder these learners' productive intelligibility. Data were collected using a production test, which includes a passage where the participants were asked to read individually. The data have been analyzed based on Gimson's (2001) MGI model. The results show that Iraqi male EFL learners provided high productive intelligibility levels than their female peers. The study is expected to benefit those specialized in phonology to diagnose the role of foreign accent as well as learners' gender in their productive intelligibility.

Keywords: Productive intelligibility, foreign accent, gender, EFL learners, SPSS.

Introduction

English has become the most widely used language worldwide and has established itself as the world's common language. Its role in communication, as well as the attitudes towards different variations of English and English language education, are all significant aspect .One important tool for human communication is language. It makes it simple and effective for people to connect their thoughts and feelings. These days, most people pick up a second language, with English being a popular choice for foreign or second language learners. Non-native speakers of English are thought to develop new articulatory habits, generate new sound categories, and produce new distinctive sound features when learning the language. If these articulatory adjustments are not made, there will be a English speech that has been classified as having foreign accents (Sereno, Lammers, & Jongman, 2016).

In this regard, "The ways in which a foreign language speaker's speech differs from the local variety of English and the impact of that difference on speakers and listeners" is How foreign accents are defined by Derwing and Munro (2009, p. 476). This implies that phonetic discrepancies between the target and native languages may give rise to a foreign accent. Intelligibility is the capacity of a non-native English speaker to comprehend spoken English at a desired pronunciation level with little difficulty. (Gimson, 2001; Kim, 2008; Cruttenden, 2014).

Accordingly, Lochland (2020) focuses on a crucial concept in these discussions of intelligibility and its understanding, which refers to the ability of a listener to accurately recognize and record individual words in spoken text. Therefore, it can be suggested that intelligibility primarily relates to the phonology of speech. In this particular context, the term "intelligibility" denotes the capacity to articulate segmental phonemes in the English language that adhere to Gimson's (2001) MGI principle, advocating acceptable alterations to the English phonological system as proposed by Cruttenden

(2014). Productive intelligibility is thought to be closely associated with a number of factors, formant frequency, gender, and fundamental frequency. It was stated that one notable characteristic that may have an impact on comprehensibility is gender. It was noted that speaker gender is one of the main factors influencing the acoustic qualities of speech within a given language, and that male and female speakers displayed distinct speech characteristics. Gender differences, whether physical, social, cultural or all of these, have been the scope of research in different fields of sociophonological¹. (Nazari & Younus,2020).

Productive intelligibility refers to the ability of a learner to produce speech that can be understood by a listener. It involves the learner's ability to use the correct pronunciation, stress, and intonation patterns of the target language to convey meaning effectively. The intelligibility EFL learners can be influenced by various factors, including pronunciation, fluency, language proficiency, exposure to English, and other linguistic factors such as vocabulary, grammar, pragmatics, and discourse structure. The term "intelligibility" describes a targeted level of English pronunciation that allows non-native speakers to produce and comprehend English. This study investigates speech intelligibility and the dependent factor, which is productive intelligibility and how leaners are produced English appropriately by EFL learners from a sociophonological perspective (Younus, 2020).

Human speech is characterized by its variability, with each voice and utterance being unique. However, this variability is not random or chaotic; instead, it arises from distinct sources and can follow patterns governed by rules. A considerable number of studies in phonetics and phonology has focused on discovering these patterns and their origins in order to enhance comprehension of fundamental matters in these areas. Offering explanations for consistent variations in speech may lead to a better understanding of how speech is produced and/or perceived, or it may assist in differentiating between phonological knowledge and inherent phonetic processes (Foulkes, Dochertyb,2006). Non-native English speakers are expected to produce and comprehend English speech spoken by both native and non-native English speakers when learning the language. There hasn't been a significant attempt to look into Iraqi EFL accented English within the gender productive intelligibility concept . The majority of pronunciation research done in Iraq has focused on perfecting the English RP accent, almost completely ignoring intelligibility.

The current study aims to address a lack of research in the field by examining how gender influences the ability of Iraqi EFL university students to effectively communicate through speech. Additionally, the study will explore the impact of having a foreign accent on the speech intelligibility of Iraqi EFL learners at the individual sound level. This study aims to examine gender differences in the productive speech intelligibility among Iraqi EFL learners at university level. Moreover, the following research question is addressed: To what extent does foreign accent cause statistically significant variations in the productive intelligibility of Iraqi male and female EFL learners?

Samples of Iraqi students are participated ,they are from University of Anbar's College of Education for Humanities' department of English. It focuses on third-year students who have studied phonetics and phonology.

Literature Review

In EFL contexts, pronunciation studies, whether involving native or non-native English speakers, highlight the role of phonemic segments in achieving intelligibility (Hellmuth, 2014). The initial research on the impact of segmental phonemes on intelligibility utilized correlation studies (Anderson-Hsieh, 1995). Subsequent research focused on identifying the specific vowel or consonant phonemes with the greatest impact on intelligibility and examined the correlation between the intelligibility and foreign accent (Rogers, 1997; Kirkova-Naskova, 2010). A number of studies indicated gender differences in the pronunciation of EFL learners. When these distinctions are studied from an instrumental perspective including those of male and female speakers, problems might arise. Accuracy in learning English is influenced by a number of factors, The speakers' gender is one of these factors. There are some areas where the language behavior of females and males is different. Many studies presented the differences between male and female speakers due to the differences in English production.

The search results provided are not focused on gender differences in the productive intelligibility of Iraqi EFL learners. However, some related studies have investigated various aspects of Iraqi EFL learners' productive skills, such as speaking and writing performance, and the relationship between critical thinking and productive skills. The present research focuses on investigating the gender in productive intelligibility have been represented through data that is obtained from the Iraqi EFL learners. This section evaluates the most related previous researches that are conducted in a similar area to justify the need for the present study. Various recent studies are examined in a chronological order to emphasize the existing gaps that this research aims to address.

Ellis, et al. (1996) the study examined the impact of gender on listeners' intelligibility judgments. Participants (15 women; 15 men) provided magnitude-estimation scaling responses and overall impressions of speakers' intelligibility. Results showed no significant difference between genders, but overall impressions varied. Magnitude-estimation scaling may offer an objective evaluation method. However, the current study is different from the published study as it provides gender differences in productive speech intelligibility among Iraqi EFL learners at university level. Data from 10 learners, including male and female, was collected using a quantitative method. Results showed that male EFL learners had higher productive intelligibility than female peers.

Kashiwagi and Snyder (2008) examined Japanese learners of English as a foreign language were to both American and Japanese listeners. The study included speech samples from twenty intermediate Japanese students, which were evaluated by judges from Japan and America in terms of how easy they were to understand in the presence of a foreign accent. The level of understandability was assessed by comparing the students' spoken words with the transcriptions provided by the judges. This study is focused on examining how foreign accents affect how well university-level Iraqi learners of English as a foreign language are understood when they speak. Ten students, five males and five females, participated in a quantitative research approach, using a production test and Gimson's Minimum General Intelligibility to analyze the data.

Almbark (2012) investigated the perception and production of English vowels by Syrian EFL learners. The study incorporated concepts from speech perception and production theories, particularly Flege's Speech Learning Model (SLM) (1995). To

assess the difficulty level for Syrian EFL learners, a vowel discrimination task was implemented. The findings indicated that these learners were able to produce some of the challenging vowels as predicted by Flege's (1995) SLM. The researcher attributed the successful production and perception of these vowels to direct instruction, even though the participants had limited exposure to the target English vowels. In contrast, the present study focuses on exploring the impact of foreign accents on the comprehensibility of expressive speech in university-level Iraqi EFL learners. A sample of ten participants, consisting of equal numbers of males and females, engaged in a quantitative research methodology that involved a production test and the utilization of Gimson's Minimum General Intelligibility for data analysis.

Hassan (2014) investigated the role of segmental errors in causing communication challenges for Sudanese students who are learning English as a foreign language. The study involved 50 university students and 30 English teachers. Observations, recordings, and a questionnaire were used as data collection tools. Both quantitative and qualitative analysis were conducted on the data collected. The results indicated that mispronunciation of vowel sounds was the main cause of communication breakdowns. The researcher linked these challenges to the distinctions in sound structures between the English and Arabic languages. The interference of the first language (L1) was identified as the primary reason for pronunciation challenges faced by Sudanese English learners. whereas the current study aims to investigate the how foreign accents affect the understandability of spoken English among university-level EFL learners in Iraq. Ten participants, including five men and five women, took part in a quantitative research study that used a production test and Gimson's Minimum General Intelligibility to analyze the data collected.

Khudhair,2015 conducted a study on the comprehension skills of 50 Iraqi university students, defining these skills in terms of understanding. The participants were asked to read a list of individual words with possible pronunciation features, while the researcher, a native-like speaker with an RP accent listened to the recordings. A word dictation task was used to assess the intelligibility of Iraqi EFL learners. The findings revealed that Iraqi EFL learners struggled with both segmental and suprasegmental aspects of pronunciation errors. These errors were primarily observed in the production of vowel phonemes. The current study looks into how foreign accent influences Iraqi university-level EFL learners' abilities to understand spoken English. Ten students participated in a quantitative study. The data was analyzed using Gimson's Minimum General Intelligibility and a production test.

Boff, Juliana (2018) investigated how word frequency influences speech production and the variations in pronunciation between male and female speakers. It was proposed that articulatory flexibility accounts for the differences in speech output between males and females, with female speakers exhibiting more adaptability and more production changes based on word frequency. The findings indicated that gender and word frequency had a substantial impact on duration measures, indicating that women's vowel durations are longer and more variable in relation to word frequency. Future studies should examine how articulatory flexibility and gender affect intelligibility. However, the current study investigates how Iraqi undergraduate EFL learners' comprehension spoken English is impacted by foreign accents. Gimson's Minimum General Intelligibility and a production test were utilized to examine the data gathered from ten participants five men and five women in a quantitative research study.

Gender Differences in The Productive Intelligibility of Iraqi EFL learners

Sarah E, et al. (2019) conducted a study to studied the influence of talker and listener sex on speech intelligibility. The findings revealed that female talkers had higher levels of intelligibility compared to male talkers, although there was variability observed across different talkers. The study also observed an interaction between talker and listener sex in laboratory data, which was not evident when using crowd-sourced data. This suggests that subjective ratings of intelligibility may be prone to bias and researchers should consider these factors when assessing speech intelligibility. Additionally, this research focused on how foreign accents affect Iraqi university-level English as a Foreign Language (EFL) learners' ability to comprehend expressive speech. The study involved ten participants, with equal gender representation, and employed a quantitative research design. Analysis of the collected data was conducted using Gimson's Minimum General Intelligibility in conjunction with a production test.

In a study conducted by Kwon, (2010), the objective was to compare speech intelligibility between men and women, assess the validity of objective acoustic parameters, and establish standard data for future studies in prosthodontics. The study involved twenty subjects who were tested and analyzed by comparing scores and acoustic parameters, as well as examining the correlation between intelligibility values and acoustic variables. The findings indicated that women had higher speech intelligibility scores and better acoustic parameters than men, although the correlation between these factors was low. These results are valuable for future research on maxillofacial prosthodontics patients, although further investigation is necessary. Similarly, this research focused on the impact of a foreign accents on the comprehension of expressive speech among Iraqi university-level English as a Foreign Language (EFL) learner. The study utilized a quantitative design with ten participants, evenly divided between males and females. Gimson's Minimum General Intelligibility was applied to analyze the collected data, along with a production test.

In a study conducted by Nazari (2020) and Younus (2020), the focus was on investigating how the Iraqi Arabic accent impacts the ability of Iraqi English as a Foreign Language (EFL) learners to effectively communicate in English at the individual sound level. Adhering to Gimson's Minimum General Intelligibility principle (2001), a mixed methods approach was employed to assess the hindrances imposed by this accent on learners' communication skills, as well as to identify the strategies they employ to overcome communication challenges. The study utilized two data collection tools: a test measuring spoken intelligibility and a speaking task. The quantitative analysis results indicated that the English spoken by Iraqi EFL learners with a foreign accent was generally comprehensible at the individual sound level. However, most breakdowns in communication were attributed to mispronunciation of English sounds that do not exist in Arabic. However, the present study aims to conduct gender differences in the intelligibility of Iraqi EFL learners. Previous studies have generally lacked a detailed analysis of representation of gender productive intelligibility, but this study focuses on productive intelligibility to gain a deeper understanding of the portrayal of production of males and females. It will explore the phonological choices by examining the role of foreign accent and gender in shaping the representation of Iraqi EFL learners, this study contributes to a broader understanding of the sociophonology.

Methods

According to Creswell , (2007), a research design is the "procedures for collecting, analyzing, interpreting and reporting data in research studies." It is the overarching strategy for connecting the relevant and achievable empirical research to the conceptual research challenges. A quantitative research design was followed to measure the level of purposive intelligibility.

It measures the productive intelligibility of English vowels and consonants between male and female Iraqi EFL learners by adopting Gimson's (2001) MGI. This model is chosen because it focuses on intelligibility rather than achieving perfection in mastering English pronunciation. When proposing the model, Gimson highlights two crucial aspects that are significant for utilizing English in a global context. Firstly, the model is grounded on the selection of the most distinctive features of the two native English varieties, namely Received Pronunciation (RP) and General American (GA). The second characteristic, which is highlighted by the model emphasizes on exposing English as a Foreign Language to a variety of English accents, both native and non-native.

Sampling Method and Sample Size

Sampling methods can be categorized into two main types, namely probability and purposive sampling. Purposive sampling is predominantly utilized in qualitative studies, while probability sampling is commonly employed in quantitative studies. The application of probability sampling necessitates a substantial number of participants. As mentioned by Tashakkori and Teddlie (1998), one of the subcategories of probability sampling is stratified purposive sampling. In this study, a stratified purposive sampling method was employed because it is considered suitable for productive intelligibility studies .The stratified purposive sampling method was used to recruit desirable participants.

The rationale of adopting this sampling technique is due to its focus on restricted features of a population selected to answer the research questions. In addition, Ritchie, Lewis, Nicholls, and Ormston (2013) stated that purposive sampling is appropriate for studies that involve in-depth and detailed explanation of issues of interest. In order to achieve balanced population proportions, stratified random sampling seeks to supply roughly equal numbers of various individuals or components (Luborsky and Rubinstein, 1995).

For the current study, 10 (5 males and 5 females) participants were selected based on having traits in common to represent the sample of the research. They were enrolled in Department of English, college of Education for Humanities, University of Anbar for the academic year 2023-2024 at the time being recorded. They were all third-year Iraqi EFL learners of both genders and roughly the same age ranging between 21 and 23, who received the same formal instruction in English at university and had Arabic as their first language. This made them reflect the general characteristics of the targeted population.

The Production Intelligibility Test

The purpose of the production intelligibility test was to assess how a foreign accent affects the gender productive intelligibility of Iraqi EFL learners. The participants, stimuli, and measurement aids for the test were outlined in the respective sections of

Gender Differences in The Productive Intelligibility of Iraqi EFL learners

the study conducted by Nazari and Younus (2020). This test typically entails having listeners transcribe or identify the words spoken by the speaker, and the obtained results are utilized to calculate an intelligibility score. This score represents the percentage of speech that was successfully comprehended.

The Participants

The current study included a sample of 10 Iraqi EFL university students, with an equal number of male and female participants (5 each). These students were aged between 21 and 23 and were at an advanced level of English proficiency, being in their final academic stage..

The Stimulus Material

In this study, the reading material chosen was "Coma Gets A Cure," which contained specific segmental phonemic characteristics related to the English language. The main objective of using this passage was to evaluate the communicative proficiency of Iraqi EFL learners and to determine if they exhibited a foreign accent based on Flege's (1995) Speech Learning Model (SLM). To ensure accuracy, the passage was carefully selected to incorporate words representing three distinct difficulty levels outlined in Flege's (1995) SLM: identical phonemes, partially similar phonemes, and different phonemes.

The Instrument

To transcribe the words spoken by Iraqi EFL learners, an orthographic method was employed, utilizing dictionaries from Oxford and Merriam-Webster, as well as Gimson's MGI principle. Only content words were transcribed, and their pronunciation was evaluated to identify any mispronunciations made by the Iraqi EFL learners. These mispronunciations were then compared to the pronunciation norms of native English speakers..

Data Analysis

The data collected from the assessment of speech intelligibility was analyzed using both descriptive and inferential statistical methods, with the assistance of SPSS (Field, 2013). A comprehensive examination of productive intelligibility was carried out to determine how easily Iraqi students, who are learning English as a foreign language, could be understood when speaking with a foreign accent. A specific type of inferential test called unpaired-sample t-test was used for this purpose. The one-sample t-test was also employed to evaluate the overall productivity of Iraqi students' spoken English with an accent. Furthermore, this test was utilized to assess the gender-based productivity of Iraqi students at different levels of foreign accent.

Results and Discussion

In order to assess the overall productive intelligibility, unpaired sample t-test utilizing IBM SPSS statistics version 25 was carried out. Descriptive statistics were implemented to determine the average and standard deviation values of intelligibility among the participants.

Overall Productive Intelligibility Results

Table 1 presents the results of Iraqi EFL learners' overall productive intelligibility towards native English. The data is categorized using Flege's (1995) SLM to distinguish between English and Iraqi Arabic (IA) phonemes.

Table 1. Overall productive intelligibility of consonants, vowels and diphthongs

Consonants Total					
Gender	No.	Mean	T Value	P Value (Sig)	Statistical difference
Male	5	3.4	- 2.357	0.04 < 0.05	Significant
Female	5	6.4			
Vowels Total					
Gender	No.	Mean	T Value	P Value (Sig)	Statistical difference
Male	5	7.6	0.000	1.000 > 0.05	Insignificant
Female	5	7.6			
Diphthongs Total					
Gender	No.	Mean	T Value	P Value (Sig)	Statistical difference
Male	5	4.00	1.089	0.308 > 0.05	Insignificant
Female	5	3.20			

As illustrated in Table 1 unpaired sample t-test was employed to measure gender differences in the productive intelligibility. Iraqi male and female EFL learners tend to be more distinguished in relation to consonants than in vowels and diphthongs. As for mispronounced consonants, there are highly statistically significant differences among Iraqi EFL learners in the productive intelligibility ($p: 0.04$). Specifically, females reflected higher accuracy of consonants production than males with mean values as 6.4 and 3.4 for female and male participants, respectively with calculated t-value as (-2.357). This indicates that the females' abilities to control English consonants are higher than males' in the Iraqi academic setting. In this regard, it can be stated that gender plays a crucial role in the production of consonants and performing appropriate pronunciations in the social context and academic setting. However, gender variations were statistically insignificant for vowels and diphthongs with p values as 1.000 and 0.308, respectively. Surprisingly, the mean scores for Iraqi male participants for vowels were (7.6 with a T value (0.000)). The p value for diphthongs indicates that the difference between both groups is greater than 0.05 indicating low significant gender differences

Gender Differences in The Productive Intelligibility of Iraqi EFL learners

Results of Consonant Phonemes

Table 2. Statistics of consonants

Identical Consonants					
Gender	No.	Mean	T Value	P Value (Sig)	Statistical difference
Male	5	1.8	- 1.192	0.268 > 0.05	Insignificant
Female	5	3.2			
Partially Similar Consonants					
Gender	No.	Mean	T Value	P Value (Sig)	Statistical difference
Male	5	0.60	- 3.5	0.008 < 0.05	Significant
Female	5	2.00			
Different Consonants					
Gender	No.	Mean	T Value	P Value (Sig)	Statistical difference
Male	5	1.00	- 0.408	0.694 > 0.05	Insignificant
Female	5	1.20			

The results of the examination on the intelligibility of Iraqi EFL learners with respect to identical consonants between male and female participants are displayed in Table 2. The results reveal that the mean score of Iraqi EFL learners gender production of identical consonants is (1.8) for males and (3.2) for females and the calculated t-value was (- 1.192). This did not prove to be statistically significant as the p-value is 0.268.

For partially similar consonants, the mean score of Iraqi EFL learners' production was (0.60) for males and (200) for females, and the calculated t-value was (- 3.5). As illustrated in Table 2, the general intelligibility of male and female students in terms of productivity (p Value **0.008**) demonstrates statistically significant disparity, as the significance value was found to be lower. This indicated higher accuracy of consonants production for females to use partially similar consonants more than males in the Iraqi academic context. In this sense, we can conclude that gender significantly influences the use of many words and their pronunciation efficiency in social context and academic context. Hence, there is notable statistical distinction between the female and male populations. The *P* values for both groups were less than 0.05 suggesting highly significant differences between the advanced and beginner groups (see table 2).

The statistics above indicate that the average score of Iraqi English as a Foreign Language learners were (1.00) for males and (1.20) for females, the T value (- 0.408). As evidenced by the data presented in Table 2 concerning the different consonants of male and female students with regards to their productivity (with a p-value of 0.694) exhibits no statistical significance, as the level of significance was observed to be reduced.

This indicated higher accuracy of females to use different consonants more than males in the Iraqi academic context. In this sense, we can conclude that gender significantly influences the use of many words and their pronunciation efficiency in

social context and academic context. Thus, there exists no noteworthy statistical differentiation between the female and male. The p value shows the differences in both groups were more than 0.05 indicating low significance differences between gender.

Results of Vowel Phonemes

Table 3. Statistics of vowels

Identical Vowels					
Gender	No.	Mean	T Value	P Value (Sig)	Statistical difference
Male	5	2.20	0.272	0.792 > 0.05	Insignificant
Female	5	2.00			
Partially Similar Vowels					
Gender	No.	Mean	T Value	P Value (Sig)	Statistical difference
Male	5	1.40	0.492	0.636 > 0.05	Insignificant
Female	5	1.00			
Different Vowels					
Gender	No.	Mean	T Value	P Value (Sig)	Statistical difference
Male	5	4.00	- 3.91	0.706 > 0.05	Insignificant
Female	5	4.60			

The mean values of the ten Iraqi EFL learners with regard to the identical vowels are presented in Table 3 is (0.272). For identical vowels, the mean value of participants' production was (2.20) for males and (2.00) for females. Productive test results show differences in performance according to p value 0.792, when considering gender, male and female speakers display no clear distinctions. Both Iraqi groups are not able to produce short and long vowels correctly. This lack of distinction may be attributed to the influence of the learners' first language on their second language vowel articulation and leads to insignificant statistical differences.

Table 3 concerning Partially Similar Vowels presents the average scores of the ten Iraqi EFL learners, which are 0.492. The average production score of Iraqi EFL learners was (1.40) for male and (1.00) for female. The results of the productive test indicate variations in performance, with a p value of 0.636, when considering gender. However, there are no noticeable differences between males and females speakers. Both Iraqi groups struggle with accurately producing short and long vowels. Nevertheless, there is no indication of a disparity in speaking rate between the two groups. This lack of distinction can be attributed to the influence of the learners' native language on their articulation of second language vowels, resulting in insignificant statistical distinctions.

Gender Differences in The Productive Intelligibility of Iraqi EFL learners

The average scores of the Iraqi EFL learners in terms of different vowels 4.00 for male and 4.60 for female. The table above indicates that Iraqi females' were higher in the use of different vowels than males. The results from the productive test show differences in performance when considering gender, but there are no significant variations between males and females speakers. Both groups of Iraqi learners face challenges in accurately producing short and long vowels. However, there is no evidence of a difference in speaking rate between the two groups. The p value is 0.706, this lack of distinction can be attributed to the impact of the learners' native language on their pronunciation of second language vowels, leading to insignificant statistical differences.

Results of Vowel Diphthongs

Table 4. Statistics of diphthongs

Identical Diphthongs					
Gender	No.	Mean	T Value	P Value (Sig)	Statistical difference
Male	5	1.4	0.632	0.545 > 0.05	Insignificant
Female	5	1.2			
Partially Similar Diphthongs					
Gender	No.	Mean	T Value	P Value (Sig)	Statistical difference
Male	5	0.6	0.894	0.397 > 0.05	Insignificant
Female	5	0.2			
Different Diphthongs					
Gender	No.	Mean	T Value	P Value (Sig)	Statistical difference
Male	5	2.00	0.25	0.809 > 0.05	Insignificant
Female	5	1.80			

Table 4 presents the results of the investigation on the intelligibility of Iraqi EFL learners concerning the identical diphthongs for both male and female participants. The calculated t-value was (0.632). The results show that the mean score of Iraqi EFL learners gender production of identical diphthongs is (1.4) for males and (1.2) for females. Considering that the p-value is 0.545, this failed to turn out to be statistically insignificant.

Furthermore, the score with respect to partially similar diphthongs, Iraqi EFLs, there were no statistically significant differences in pronunciation between the two Iraqi study groups the results indicate that the average score of gender production in partially similar diphthongs among Iraqi EFL learners (0.6)for males and (0.2)for females. Thus, their t-test result is 0.05 above significance since the p value is 0.397. Therefore, it can be concluded that the gender does not have an impact on the production of diphthongs.

Finally, the results above indicate that the average score of gender production in different diphthongs among Iraqi EFL learners is (2.00) for males and (1.80) for females. That there is no statistically significant difference in the pronunciation rates of the two Iraqi subject groups on one of the equivalent versions, Iraqi EFLs, so their t-test results are above significance by 0.05 because p value is 0.809. As a result, it can be stated that the production of diphthongs is not influenced by the independent variable (gender).

Conclusions

The objective of the current research is to determine if foreign accent results into significant differences in the productive intelligibility of Iraqi male and female EFL learners. Thus, the research investigates how well Iraqi EFL learners could be understood when speaking, specifically focusing on segmental deviations that result in a foreign accent. The quantitative results demonstrated that Iraqi male EFL learners' speech is more intelligible than females in terms of consonants vowels and diphthongs. Significant differences were observed when evaluating the overall productive intelligibility across the three rows of sound difficulty in a foreign accent, indicating that foreign accent had a noticeable impact on the results related to productive intelligibility.

Results of the current study go in line with several previous studies (Kashiwagi and Snyder, 2008; Lochland, 2020; Nazari and Younus, 2020; Khudhair 2015). However, it differs in terms of their methodology and procedures, participants, and the type of independent variables. This results differ from previous pronunciation studies in the Iraqi EFL context. Prior research indicated that Iraqi EFL learners were consistently seen as lacking gender production intelligibility in speech. This improvement in students' English performance might be attributed to the knowledge related to the language aspects gained by the students when they were studying in groups form both males and females learning English. Students with varying gender productive intelligibility have distinct learning styles, produce English in different ways, and are learning the language both inside and outside of the classroom. Students are more motivated to practice and advance their English language learning when they are able to overcome language production difficulties, feel comfortable in the classroom, and use the language independently thanks to this productive intelligibility. The average speech intelligibility score of males and females Production intelligibility of consonants were significantly ($P = 0.04$). While the average of production intelligibility test in vowels between males and females were statistically insignificant ($P = 1.000$). In addition, the average of gender production intelligibility in term of diphthongs test were insignificantly the ($P = 0.308$).

The study's second conclusion reveals how sound features of a foreign accent impact the gender productive intelligibility of Iraqi EFL learners. The analysis focused on segmental production at three levels as suggested by Flege (1995). Flege (1995) describes three possible routes for learning English vowels, diphthongs and consonants: distinct phonemes are considered relatively easy to learn, identical phonemes are viewed to be easiest to master, more partially similar phonemes are seen as the most challenging to control. The results revealed that English phonemes that do not exist in IA were responsible for most intelligibility failures with ($p > 0.004$) for consonants compared to identical, partial and different phonemes. Additionally, partially similar, or different phonemes have shown no statistically significant differences among

Gender Differences in The Productive Intelligibility of Iraqi EFL learners

participants ($p < 1.000$). While the results of gender production in terms of diphthongs were the ($p < 0.308$). Although the results of the present study support those obtained by previous studies confirming the importance of vowel production in intelligibility (Al-Abdely & Thai, 2016; Hassan, 2014), they differ in relation to the impact of gender in productive intelligibility and its effect on the use of consonants, vowels and diphthongs identified as causing gender production difficulty.

Concerning practical implications, the present study demonstrates the presence of language learning strategies and gender productive intelligibility in the EFL Learners. It would be beneficial to teachers in language learning strategies so that they can familiarize themselves with them. Subsequently, teachers could then educate male and female foreign language learners on these strategies to enhance their English language learning techniques. Teachers could then design their lessons and activities based on the learning strategies of their students. Additionally, more emphasis on production intelligibility instruction is necessary, as our findings indicate that male and female learners typically possess a productive intelligibility of around 39 words. However, knowledge about the production intelligibility is essential to effectively communicate both orally in a foreign language. By implementing these strategies, language learning could be enhanced, and learners could potentially become more independent in their foreign language acquisition.

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Gender Differences in The Productive Intelligibility of Iraqi EFL learners

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