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THE EFFECT OF IRAQI EFL LEARNERS' PROFICIENCY LEVEL ON THEIR PRONUNCIATION OF NON-ARABIC CONSONANTS

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ABSTRACT

The effect of EFL learners' proficiency level on their pronunciation has been a debatable issue as some scholars reported a positive effect of proficiency level on pronunciation learning process, while others did not report any positive effect. Previous researches have investigated the impact of experience on the pronunciation of EFL learners, who belong to various linguistic and dialectal backgrounds; yet, Iraqi EFL learners have not been examined in terms of their pronunciation of consonants that are not found in their L1 sound system. Hence, the current study investigated the effect of Iraqi EFL learners' proficiency level on the pronunciation of the non-Arabic consonants (/ŋ/, /ʒ/, /p/, /g/, /v/, and /tʃ/). The study aimed to identify the sounds that are difficult to pronounce, the error patterns shown by learners, and the effect of learners' proficiency level on their performance. To this end, thirty Iraqi learners were divided into three groups (advanced, intermediates, and beginners) based on their results in a general English proficiency test. A production test was administered to ask learners to produce words containing the six non-Arabic sounds. Their pronunciation was directly recorded via mobile phones. The results showed that /ŋ/, /ʒ/, and /p/ sounds were problematic for Iraqi learners, while /g/, /v/, and /tʃ/ sounds were not. These results can be accounted for based on learners' dialect transfer, which makes the pronunciation of non-Arabic consonants easier than expected. The results also showed that proficiency level did not have statistically significant effect on Iraqi learners' pronunciation of non-Arabic consonants.

Keywords: English consonants, Iraqi EFL learners, L1 transfer, non-Arabic consonants, proficiency level

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INTRODUCTION

For decades, one of the most popular ideas in the literature has been the effect of experience on learning another language. Kennedy and Trofimovich (2008) define experience as the degree of listeners' exposure to L2 speech. Many scholars have investigated the role of experience on the pronunciation and perception of English vowels and consonants. Scholars such as Bohn and Flege (1990), Flege et al. (1995), Flege and Liu (2001), and Saito et al. (2019) have explored the effect of experience on the production and perception of English vowels and consonants. According to these studies, L2 experience measured as age of learning, age of arrival, length of residence, or length of exposure to the language has an effect in second language acquisition. They have found that learners with high level of proficiency achieve better performance in the perception and production of English sounds. However, other scholars such as Larson-Hall (2001) and Al Abdely et al. (2016) state that the high level of proficiency does not have that remarkable effect on L2 perception and production. These studies also show that proficiency level effect was influential with regard to some sounds but not with all. Thus, the effect of experience on the process of acquiring foreign language is a controversial matter. Similarly, Evans and Alshangiti (2018) identify a positive L2 experience effect in the pronunciation of English vowels and consonants by Saudi EFL learners; however, even experienced learners still encounter difficulties with certain sounds.

English pronunciation is often thought to be the first remarkable and prominent aspect of a foreign language that a learner should aim to acquire as it reflects learner's mastery of the language. However, Wong (1987 as cited in Celce-Murica et al., 1996) believes that pronunciation is not exclusively a linguistic matter. Factors such as attitude, motivation, mother tongue, age, and teacher instruction may all affect the pronunciation learning process. Among all these factors, experience is a challenging one, whose effect has not been fully explored yet. Based on the literature, no previous study has investigated the role of proficiency level in Iraqi EFL learners' pronunciation of non- Arabic consonants. There have been various researches exploring the effect of experience on Iraqis' perception and production of English vowels (Al Abdely et al., 2016), the difficulties Iraqi EFL college students encounter in acquiring English syllables (Abdul-Aziz & Habeb, 2010), and the effect of experience on the pronunciation of other EFL learners form different Arabic dialectal backgrounds. Nonetheless, this research is conducted to fill in this gap and identify the effect of proficiency level on the pronunciation of English consonants by Iraqi learners.

Accordingly, this paper is intended to identify the impact of experience in L2 on Iraqi learners' pronunciation of English consonants that do not exist in their Arabic inventory, identify which sounds among the six non-Arabic consonants (/ŋ/, /ʒ/, /p/, /g/, /v/, /tʃ/) pose more difficulty to Iraqi learners, and identify the reasons behind the difficulties encountered by Iraqi learners in the pronunciation of English consonants.

Factors Affecting the Pronunciation of L2 Sounds

Learning a second or a foreign language such as English requires learning the syntax, phonology, morphology, and semantics of that language. Moreover, pronunciation is very important in the process of learning English. Zimmermann, (2004, p. 29, as cited in El Zarka, 2013) states that "pronunciation is crucially important; as it is usually the first thing people notice about a language learner's English". Along with the factors that affect the learning process in general, there are certain factors that affect the acquisition process of pronunciation in particular. There are five factors that may positively or negatively affect pronunciation learning. These are attitude (Elliot, 1995; Karahan, 2007), motivation (Marinova et al., 2000 as cited in Rosyid, 2009; Masgoret & Gardner, 2003), mother tongue influence (Avery & Erlich, 1992 as cited in Val Barros, 2003; Thanasoulas, 2003), Age (Gilakjani, 2011; Nation & Newton, 2009 as cited in Rosyid, 2009), teachers' instruction on target language (Gilakjani, 2011; Kelly, 2000 as cited in Rosyid, 2009; Pennington, 2004 as cited in Rosyid, 2009), and experience which is the variable examined in this paper. The following is a briefing of these variables.

1. Attitude: Elliot (1995) found that the most important variable toward obtaining native or near-native pronunciation of target language was the subject's attitude. Moreover, it is supported by Karahan's argument (2007) that positive language attitudes offer learners positive orientation toward learning English. Hence, the pronunciation achievement of learners who were more concerned with the pronunciation of the target language was better than those who ignored it.

2. Motivation: Marinova-Todd et al. (2000 as cited in Rosyid, 2009), Masgoret and Gardner (2003), Bernaus et al. (2004), and Gatbonton et al. (2005 as cited in Rosyid, 2009) have found that if learners have personal or specific objectives for learning English, this can affect the need and desire to accomplish native-like pronunciation. Therefore, learners who have great motivation to learn a language very possibly achieve all aspects of the target language; among them is pronunciation.
3. Mother tongue influence: Donegan (1995) supports the claim that second language learning process is affected by the phonemic system of Ll. Avery and Ehrlich (1992, as cited in Thanasoulas, 2003) believe that the native language of the learner affects the ability to produce and hear English sounds. The learners sometimes apply the sounds, patterns, rules and intonation of their native language when they learn a foreign language. Flege and Port (1981 as cited in Rosyid, 2009, p. 9) found that "the most interference from L1 to L2 occurs at the level of phonetic implementation". As Avery and Ehrlich (1992 as cited in Val Barros, 2003) observe, "it is as if learners hear the second language through a (filter); the filter being the sound system of the native language"(p. xv). L1 learners hear the word through the sound system of their native language though it may seem that learners do not want to rectify themselves. Thus sounds that are frequent within the native language are heard rather than the actual sounds of English produced by the instructor. Therefore foreign learners are going to substitute the sounds that do not exist in their language with a similar sound from their inventory.

4. Age: Some scholars believe that starting to learn a foreign language at an early age is better than starting at a later age, and this is supported by the Brain Plasticity Theory. It assumes that younger children (till age 10) find it easier to acquire language due to cerebral receptivity when compared to older children and adults. The receptivity to language acquisition is related to the lack of cortex specialization. The older the age, the more the organization of the cortex becomes specialized and language is lateralized in the left hemisphere of the brain, which makes it more difficult to acquire language. Penfield and Roberts (1959) supported the theory of the organizational plasticity of the brain. Along with this theory, is The Critical Period Hypothesis. Lenneberg (1967) claims that beyond the biological or neurological period, which ends around the age of 12, it becomes extremely difficult to achieve complete mastery (grammar, pronunciation, syntax, etc.) of a second language. Asher and Garcia (1969) believe that language is acquired more easily during optimal period (before puberty), and after this period, language acquisition becomes more difficult due to the change in the cellular plasticity.
5. Teacher's instruction on target language exposure: Foreign language instruction usually concentrates on four main areas of development: listening, speaking, reading and writing. According to Elliot (1995 as cited in Gilakjani, 2011, pp. 77-78), "teachers tend to give pronunciation the smallest unit of attention and therefore they sacrifice teaching pronunciation to spend valuable class time on other areas of language". Pennington (1994, as cited in Gilakjani, 2011) claims that pronunciation is viewed as a linguistic component rather than conversational fluency; that is why it is given little importance in communicatively oriented classrooms.

Al-Kendi and Khattab (2021) claim "in naturalistic second language (L2) settings, age of learning (AoL) and length of residence (LoR) are among the most frequently studied predictors that have been found to affect second language speech learning". The effect of experience on EFL learners is a controversial matter. For some scholars, experience plays a very crucial role in second language pronunciation. Second language experience factors such as age of learning, age of arrival, length of residence, and length of exposure to the language have an effect on second language acquisition. Based on Kuo (2003), EFL learners' experience may be measured according to the years these learners spend in learning the L2. Kuhl et al. (2008) recommended that to examine age effect on learning an L2, one cannot merely rely on time. Alternatively, L2 experience is a critical factor driving phonetic learning and can be measured via valid and standardized placement tests (Ho, 2010). The current study interchangeably uses the terms L2 experience and proficiency since experience is measured through a placement test that serves to divide the study informants into groups.

Bohn and Flege (1990) found that adult German learners who have extensive language experience with the target language are able to produce and perceive a new vowel category accurately, and that L2 experience makes bigger difference in production improvement than in the improvement of perception. Flege et al. (1995), in a production study of English /r/ and /l/ by adult Japanese speakers, found that experienced Japanese learners, who had lived for more than twelve years in the US, performed very closely to the native speaker levels on the production of /r/ and /l/, but inexperienced Japanese speakers, who had lived for less than three years in the US, performed worse than the experienced Japanese speakers or English native speakers.

Flege and Liu (2001), in a study of the effect of experience on Chinese adults' acquisition of a second language, found that adults' performance in an L2 will improve measurably over time, but only if they receive a substantial amount of native speaker's input and that Chinese adults with relatively long length of residences (LOR) obtained higher scores than adults with relatively short LORs. For other scholars, experience does not play a big role in developing pronunciation. For instance, Larson-Hall (2001) in a reproduced study of Flege et al. (1995) concluded that L2 experience measured in length of residence did not make any difference in improving pronunciation performance. There was no statistically noteworthy difference between speakers who had lived for about 23 years in the United States and those who had spent about 1 year in the United States.

Similarly, some Japanese learners of English, who had lived for almost 20 years in an English-speaking environment, were rated as fairly high in general English proficiency, but they show poor production scores, and in sometimes even poorer than those who had lived in the US for a shorter time. Also, Al Abdely et al. (2016) in a study of the effect of proficiency level on the perception of English vowels by Iraqi learners found that high level of proficiency in English does not have much effect on the perception of vowels specially the vowel /ɒ/, and that more experience in the L2 may not improve perceptual ability. Based on the literature, no previous research has investigated the effect of experience on Iraqi pronunciation of non-Arabic consonant. Hence, this research is conducted to identify if L2 experience can affect the pronunciation of Iraqi EFL learners, or not.

Consonant sounds in English and Arabic

Realizing the importance of pronunciation, the factors that influence it, and its relation with perception, it is also so important to know the similarities and differences of the sounds systems of the native language and the target language by making a comparison between them. There is no doubt that English language differs from Arabic language; each one has its own linguistic system. They have differences in syntax, phonology, morphology and semantics. The phonological system of English, especially segmental features, is different from that of Arabic (Abbas, 2011 as cited in Yeaqub, 2018). English language descends from the Germanic sub-family of Indo-European language and has 24 consonant sounds and 20 vowel sounds, while Arabic language belongs to the Semitic family and has 29 consonant sounds and 6 vowel sounds.

Within the framework of the Contrastive Analysis Hypothesis (CAH), "a comparison between native and target language is the key to ease or difficulty in foreign language learning" (Lado, 1957, p.1). CAH assumes that "those elements that are similar to the learner's native language will be easy to learn, and those areas that are different will be difficult" (Lado 1957, p. 2). Nevertheless, the Speech Learning Model (SLM) developed by Flege works on patterning the degree of success speakers achieve in producing non-native sounds. This model predicts levels of difficulty in producing identical, similar, and different sounds in the two systems depending on the phonetic distance between first and second language sound systems. SLM makes predictions about the degree of accuracy that the highly experienced learners will achieve in perceiving and producing L2 sounds. Tyler (2019, p. 607) states that SLM is very much concerned with EFL learning assuming that "that formal instruction should begin at an

early age, there should be intensive foreign language use over an extended period of time, learners should have exposure to high quality input, and there should be training focused specifically on perception and production".

SLM (Flege, 1990 as cited in Cheon, 2005) judged and classified L2 sounds as 'new', 'similar', or 'identical based on certain criteria for predicting similarity such as IPA symbols (phoneme representation), auditory-based judgments, and acoustic-based judgments. If an L2 sound differs acoustically and perceptually from the L1 sounds that most closely resemble it, it will be considered as a new sound, and it may be perceived better than similar L2 sounds as new sounds are robust and salient to L2 learners even though they do not have the corresponding sound in their L1. Whenever the perceived phonetic distance between an L2 sound and the closest L1 sound increases, the phonetic differences between the sounds are more likely to be detected and the phonetic category is to be established.

If an L2 sound is represented by the same IPA symbol of L1 sound but there are some acoustic 'audible' differences between the two, the L2 sound would be categorized as 'similar' (have the same phonetic category but different phonological status), and L2 learners will have difficulty in perceiving and producing them. L2 learners **tend to substitute an L2 sound with one from their L1 that mostly resemble an** L2 sound because they classify the two sounds as equivalent. On the other hand, L2 and L1 sounds are classified as identical with the same IPA symbol, and L2 learners do not notice any differences between the two sounds. Accordingly, L2 learners will perceive and produce them accurately due to positive transfer. The results of the present study will be basically accounted for based on SLM's assumptions.

English consonant system has a set of 24 English consonant, which are /p/, /b/, / t/, /d/, /k/, /g/, /f/, /v/, /s/, /z/, /m/, /n/, /l/, /w/, /r/, /j/, /ŋ/ , /h/, /θ/ , /ð/, /ʃ/ , /tʃ/, /ʒ/, / ʤ/. While the Arabic consonant system includes almost 29 sounds (/b/, /m/, /w/, /f/, /t/, /ṭ/, /d/, /ḍ/, /θ/, /ð/, /s/, /ṣ/, /z/, /n/, /l/, / l̲/, /r/, /ʃ/, /h/, /ħ/, /q/, /x/, /y/, /ɣ/,/z/,/k/, /• ð/, /ʕ/, /?/). The following paragraphs describe these consonants in short.

Phonemic Inventories of Consonants in English and Arabic

The following charts show the phonemic inventory of MSA, IA, and RP English consonants. Table (1) below provides the consonants of RPE with reference to their manner and place of articulation.

Table 1: The consonants of RPE (Roach, 2009, p. 52)

MANNER OF ARTICULATION | P F A N L A

S.No.	Phonetic symbol	Arabic letter	Three-term label	Example
1	b	ب	Voiced bilabial plosive	ḥʊb(love)
2	t	ت	Voiceless denti-alveolar plosive	tətabIq(match)
3	d	د	Voiced denti-alveolar plosive	daxIl(inner)
4	k	ك	Voiceless velar plosive	kita:b(book)
5	ʒ	ج	Voiced palate-alveolar affricate	ʒuʢ(hunger)

Table 2: The Consonants of MSA (Sabir & Alsaeed, 2014, p. 186)

6	q	ق	Voiceless uvular plosive	qəmər(moon)
7	l	ل	Voiced alveolar lateral	la: (no)
8	m	م	Voiced bilabial nasal	mətər (rain)
9	n	ن	Voiced alveolar nasal	nu:r (light)
10	f	ف	Voiceless labio-dental fricative	fən (art)
11	θ	ث	Voiceless inter-dental fricative	θəlaθəh (three)
12	ð	ذ	Voiced inter-dental fricative	ðəki(intelligent)
13	s	س	Voiceless alveolar fricative	su:q (market)
14	Ṣ	ص	Voiceless velarised alveolar fricative	ṣəḥḥəh(health)
15	z	ز	Voiced alveolar fricative	ruz (rice)
16	ʃ	ش	Voiceless palate-alveolar fricative	ʃəms (sun)
17	x	خ	Semi-Voiced uvular fricative	xəsarəh (lose)
18	ɣ	غ	Voiced uvular fricative	ɣuba:r (dust)
19	ḥ	ح	Voiceless pharyngeal fricative	ḥima:r (donkey)
20	h	ه	Voiceless glottal fricative	hawa:ʔ (air)
21	r	ر	Voiced alveolar trill	rəb (lord)
22	ʕ	ع	Voiced pharyngeal frictionless continuant	ʕəql (mind)
23	j	ي	Voiced palatal semi-vowel	jəd(hand)
24	w	و	Voiced labio-velar semi-vowel	wahid (one)
25	ŧ	ط	Voiceless velarised denti alveolar plosive	ŧi:n (soil)
26	đ	ض	Voiced velarised denti-alveolar plosive	đəʤi:f (weak)
27	*∂*	ظ	Voiced velarised alveolar fricative	*∂*ərf (envelope)
28	ʔ	أ	Voiceless epiglottal plosive	faʔr (rat)

Table 3 shows the consonants of IA with reference to their place and manner of articulation.

	stop		fricative		affrica-tive		trill	appro-ximant	nasal	empha-tic
	VL[1]	V	VL	V	VL	V				
bilabial	p	b						w	m	[ḅ][2]; [ẉ]; [m̰]
labio-dental			f	v[3]						
inter-dental			ṯ	ḏ						ḏ
dental	t	d								ṯ
alveolar			s	z			r	l	n	ṣ; [ẓ]; [l̰]; [n̰]
post-alveolar			š	ž[4]	č	ǧ				
palatal								y		
velar	k	g	x	ġ						
uvular	q									
pharyn-geal			ḥ	ʿ						
glottal	ʾ		h							

Table 3: The IA Consonants (Blanc, 1964)

Based on the place of articulation, /b/ and /m/ are Bilabial sounds (the sounds are produced by closing the lips firmly) in both English and Arabic. English /p/ and /w/ are both bilabial while Arabic /w/ is labio-velar (the sound is produced by using both the lower and upper lips, and the tongue assumes a position required for the articulation of a vowel between back close and back half-close depending on the closeness or openness of the vowel that follows it), and there is no /p/ sound in Arabic inventory.

The sounds /θ /and /ð/ are dental (the tip of the tongue is close to the upper front teeth) in English, while in Arabic they are interdental (the tip or blade of the tongue is placed between the two rows of the teeth and leaving a very narrow gape between them). The /j /sound is palatal (the front of the tongue against the hard palate) in both English and Arabic. In English and Arabic, the sounds /t/, /d/, /s/, /z/, /l/, /n/ are alveolar (the tip alone or tip and blade of the tongue are against the alveolar ridge). In English /k/, /g/, and /ŋ/ sounds are velar (the back of the tongue is in firm contact with the soft palate), while in Arabic /g/ and /ŋ/ are not found; however, the velar sound /k/ is found.

In English, the sounds /ʃ/, /tʃ/, /ʒ/, and /dʒ/ are palato-alveolar (the tip of the tongue is just behind the alveolar ridge), nevertheless, in Arabic, /dʒ/ sound is also palato-alveolar, but /ʃ/ sound is palatal, and there are no /tʃ/ and /ʒ/ sounds in MSA. Yet, both /tʃ/ and /ʒ/ are found in some accents of Arabic such as Baghdadi and Gulf Arabic. As for the sound /r/, it is a retroflex or post-alveolar in English ("the tongue has a curved shape with the tip pointing towards the hard palate at the back of the alveolar ridge, the front low and the back rather high" (O'Connor, 1967, p. 60); yet it is an alveolar sound in Arabic.

Both English and Arabic have the glottal sound /h/; the two vocal cords are brought very close to each other leaving a narrow passage and the tongue takes the position of the next vowel (Al-Hattami, 2000). However there is another glottal sound /?/ (الهمـزة) which exists only in the Arabic sound inventory and does not exist in English. In addition, pharyngeal /ʕ/(العين) and /ħ/ (الحاء), which are produced when the root of the tongue is brought very close to the back wall of the pharynx leaving a very narrow gap and the vocal cords are wide apart. These two sounds are only found in Arabic.

The dental /ṭ/ (الطـاء), /ḍ/ (الضـاد), the interdental /• ð/ (الظـاء), the post-dental or blade-alveolar /ṣ/ (الصـاد), and the velar or uvular /q/ (القـاف), (which is produced when the back of the tongue is in firm contact with the uvular), do not exist in the English sound inventory, while in the Arabic they do exist. Both English and Arabic /f/ sound are labio-dental (the bottom lip is very close to the upper front teeth). English /v/ is also labio-dental, when there is no /v/ sound in Arabic sound inventory.

According to the manner of articulation, the plosive or stop sounds (the two articulators come together in firm contact and the air is trapped for a short time then the two organs suddenly come apart from each other allowing the air to rush out with a slight explosion or popping noise) are /p/, /b/, /t/, /d/, /k/, /g/ in English, while in Arabic there are /b/, /d/, /ḍ/, /t/, /ṭ/, /k/, /q/, /?/. The sounds /f/, /v/, /s/, /z/, /θ /, /ð/, /ʃ/, /ʒ/, and /h/ are fricatives (two organs of speech come close together leaving a narrow space to allow the air to go out causing friction) in both English and Arabic except for /v/ and /ʒ/ which do not exist in the Arabic sound inventory. Furthermore, Arabic /ħ/, /ṣ/, /•ð/, /x/, /ɣ/ (الغين), and /ʕ/ sounds are also fricatives and do not exist in English.

The sounds /m/, /n/, and /ŋ/ are nasal sounds (the soft palate is lowered and the nasal cavity is opened so the air goes freely through the nose) in both English and Arabic inventory with the exception of /ŋ/ sound that is not found in Arabic. The sound /l/ is lateral "(the tongue-tip and the sides of the tongue-blade) are in firm contact with the alveolar ridge, obstructing the center of the mouth, the sides of the remainder of the tongue are not in contact with the sides of the palate, so air can pass between the sides of the tongue and the palate, round the central obstruction formed by the tip and blade of the tongue and so out of the mouth)" (O'Connor, 1967, p. 54) in both English and Arabic. Moreover, English /l/ is lateral approximant (there is usually much less contact between the articulators).

The sounds /w/, and /j/, in both Arabic and English are considered as gliding or semi vowels (there is a quick, smooth, non-friction glide towards a following vowel sound, so phonetically they are vowels because there is no clear obstruction to the air flow by the organs of speech during their production, while in terms of distribution (phonologically) they are consonants as they occur under onset and coda in the syllable, which is a place filled up by consonants). In English /r/ sound is considered as gliding, and approximant, while in Arabic, it is alveolar trill (Kharma & Hajjaj, 1989).

In English, there are two affricates /tʃ/ and /dʒ/. They are produced when the tip of the tongue touches the back part of the alveolar ridge, the rest of the tongue is in the /ʃ/ and /ʒ/; then, the tip of the tongue moves away from the alveolar ridge a little way and the whole tongue is in the position of /ʃ/ and /ʒ/; consequently, a short period of friction is heard (O'Connor,

1967). On the other hand, in Standard Arabic (SA), /dʒ/ sound is found while /tʃ/ sound is not; however, it is found in some Arabic dialects.

In terms of voicing, the sounds /f/, /θ/, /s/, /ʃ/, /h/, /t/ and /k/ are voiceless (there is no vibration in the vocal cords during the production of the sound) in both English and Arabic. Furthermore, English has the voiceless /p/, and /tʃ/, while Arabic does not have them. Similarly Arabic has the voiceless /ʔ/, /ṭ/, /ṣ/, /q/, /x/, and /ħ/ that are not found in the sound inventory of English (Yeaqub, 2018).

The sounds /b/, /d/, /m/, /n/, /l/, /r/, /w/, /z/, /ð/, /dʒ/, and /j/ are voiced (there is vibration in the vocal cords during the production of these sounds) in both English and Arabic. However, the English voiced /g/, /v/, /ʒ/ and /ŋ/ do not exist in the SA sound inventory. At the same time, Arabic voiced sounds /ḍ/, /ɣ/, /•ð/ and /ʕ/are not existent in English (Yeaqub, 2018).

To sum up, English language has certain sounds which are /p/, /v/, /g/, /tʃ/, /ʒ/ and /ŋ/ that do not exist in SA even though /g/, /tʃ/ are existent in some Iraqi dialects (Altoma, 1969 as cited in Al-Bazi, 2006). In the same way, SA has certain sounds which are /ṭ/, /ḍ/, /ɣ/, /•ð/, /ʔ/, /ṣ/, /q/, /x/, /ħ / and /ʕ/ that do not exist in English. In spite of the differences between the two languages, they have eighteen consonants in common, which are /b/, /t/, /d/, /f/, /s/, /z/, /m/, /n/, /l/, /w/, /j/, /r/, /k/, /ʃ/, /h/, /θ/, /ð/, and /dʒ/.

The learners in this study are divided into three levels: beginners, intermediate, and advanced learners. Based on the lack of experience along with CAH, the mother tongue influence and the teacher's instruction on target language exposure, beginners and intermediate Iraqi are expected to commit several mistakes in different L2 sounds such as pronouncing the English /v/ as /f/ as in the word live /lɑɪv/→/lɑɪf/, /p/ as /b/ as in the word play /pleɪ/→/bleɪ/, and /ŋ/ as /ng/ or /ŋg/ in both medial and final positions as in the word (racing) / reɪsɪŋ/→ / reɪsɪng/ or /reɪcɪŋg/. Iraqi learners are familiar with the sound /g/, which is a very frequent sound in their Arabic accent; thus, its presence here is highly expected. As for the second pronunciation, it is true that /ŋ/ is found neither in MSA nor in Iraqi Arabic; learners seem to be motivated by spelling where the two letters (ng) should result, according to the consistent spelling-pronunciation relationship, into two sounds. Thus, learners prefer to have two sounds (ng, ŋg) instead of one sound.

These L2 sounds have no counterparts in their inventory, and they are almost similar to each other assuming negative transfer. English /tʃ/ and /g/ are expected to be pronounced correctly because of its existence in their dialect like the word (baachir) (tomorrow), (yigdar) (he can) assuming positive dialectal influence.

METHODOLOGY

To achieve the objectives of this study, a quantitative method was employed. The quantitative method was applied because the study was intended to identify difficulty rank order and error patterns based on error counts committed by Iraqi EFL learners. Moreover, a statistical test was conducted to identify Iraqi EFL learners' L2 experience effect on their pronunciation of non-Arabic consonants. Accordingly, the results are processed in the form of numbers, percentages, and values.

Study Samples

The participants of this study were 30 Iraqi learners, who were randomly selected and later divided into 3 groups (beginners, intermediates, and advanced), 10 participants in each group according to their marks in Oxford Placement Test (GPET). Having ten participants in each group was meant to give the statistical analysis more robustness. Moreover, having equal group size also makes it easier to detect heterogeneity. This test measures the general English proficiency of the participants and places them in different proficiency levels. Participants' age ranged from 30-40 years old. All of the participants involved in this study were college students majoring in English; 28 participants were females and only 2 participants were males. Due to the fact that the researchers are working in the Education College for Women, it was more convenient and easier to find female participants than males. Nonetheless, gender variable is beyond the scope of this study.

A total of forty eight (48) stimuli were used in the study. Nine words for each of the six non-Arabic consonant sounds (/p/, /v/, /g/, /tʃ/, /ʒ/, and /ŋ/). Three words were selected to include all positions (initial, medial, and final) except for the sounds /ʒ/ and /ŋ/, which cannot be found initially. Most of the words were of one syllable and two syllables. Almost all of the words were familiar and sound to the participants.

Data collection

The participants were collected first by applying Oxford Placement Test on fifty Iraqi learners. Then, they were classified into three groups which were advanced, intermediates and beginners. The participants, who got the highest ten marks were classified as advanced learners, while those who got the lowest ten marks were classified as beginners, and the last ten participants got marks in between the highest and the lowest marks, and they were included as intermediate learners. Then, each one of the participants was given the forty-eight words that contain the non-Arabic consonant sounds (/p/, /v/, /g/, /tʃ/, /ʒ/ and /ŋ/) and asked to read. Their pronunciation/response was directly recorded via mobile phones.

Data analysis

The data were analyzed by one of the researchers and an expert, who is an instructor of phonetics and phonology at the English Language Department, University of Anbar, Education College for Women. The researcher and the expert used a scoring rubric based on which they listened and responded to the questions given. The errors made by the participants were identified by the researcher and the expert. Pearson correlation test was conducted to validate the rating provided by the two raters (the researcher and the expert). There was a strong, positive correlation between ratings of the two raters, which was statistically significant, p = .004). They were required to listen to each word carefully and more than once if needed paying the whole attention to the pronunciation of the non-Arabic consonant sounds in each word. They were required to decide if the targeted consonants were correctly pronounced or not, and they were also asked to identify the sound produced instead of the targeted one whenever they considered the pronunciation incorrect. Afterwards, the error counts, error percentages, and error patterns were identified to be processed and presented in different ways. In addition to descriptive statistics used in this study to identify difficulty rank order and confusion matrices, the study also used a One-Way ANOVA test to identify any significant difference in the performance of participants in the three groups resulting from varying general English proficiency levels.

RESULTS AND DISCUSSION

The results of the study showed that the sound /ŋ/ is the most difficult to pronounce for Iraqi EFL learners with a very high error percentage as shown in Table 4 below. The sounds /ʒ/ and /p/ were moderately difficult to pronounce as well. The sound /g/ was somehow easy to pronounce, while the sounds /v/ and /tʃ/ were very much easy to produce. The error patterns in Table 4 show that, apart for the sound /ŋ/, there is a clear tendency shown by learners to replace a particular sound instead of the targeted one.

Table 4: Overall Difficulty Rank Order & Error Patterns

Rank	sounds	Errors Counts	Error Percentages %	The mispronounced sound
1	/ŋ/	177	98.3	/ŋg/, /ŋk/, /ŋdʒ/
2	/ʒ/	44	24.4	/dʒ/, /ʃ/
3	/p/	42	15.5	/b/
4	/g/	18	6.6	/dʒ/,/k/
5	/v/	6	2.2	/f/
6	/tʃ/	1	0.37	/dʒ/

The following is an account of the difficulties encountered by Iraqi EFL learners in each group to identify if there is any significant difference among these groups due to proficiency level difference. Table 5 below shows the results of the production test with regard to the advanced group. Again the sound /ŋ/ is the most difficult to pronounce with very high error counts and error percentages. The next difficult sound is **/ʒ/** with a moderate difficulty level. Nevertheless, the sounds /p/, /v/, and /g/ are easy to pronounce with low error percentages 8%,

2.2%, and 2.2% percentages respectively. The sound /tʃ/ was produced with 100% accuracy percentage.

Table 5: Advanced Group Error Counts and Error percentages

sounds	Number of errors			Number of errors in all positions	Errors percentage
	Initial	Middle	Final		
/ŋ/	0	30	29	59	98.33
/ʒ/	0	0	10	10	16.66
/p/	3	5	0	8	8.88
/v/	0	0	2	2	2.22
/g/	0	1	1	2	2.22
/tʃ/	0	0	0	0	0

Table 6: Intermediate Group Error Counts and Error percentages

sounds	Number of errors			Number of errors in all positions	Errors percentage
	Initial	Middle	Final		
/ŋ/	0	30	30	60	100
/ʒ/	0	3	16	19	31.6
/p/	3	8	2	13	14.44
/g/	3	4	1	8	8.88
/tʃ/	0	0	0	0	0
/v/	0	0	0	0	0

As for the intermediate group, a very similar rank order was identified. As shown in Table 6 above, the sound /ŋ/ is very difficult to pronounce as all participants in this group failed to pronounce this sound with 100% error percentage. The other sounds were ranked similarly with a moderate difficulty level for the sounds /ʒ/, /p/, and /g/ with 31.6%, 14.14% and 8.8% error percentages respectively. The sounds /v/ and /tʃ/ were produced with 100% accuracy percentage.

Table 7: Beginners Group Error Counts and Error percentages

sounds	Number of errors			Number of errors in all positions	Errors percentage
	Initial	Middle	Final		
/ŋ/	0	29	29	58	96.66
/ʒ/	0	6	9	15	25
/p/	6	13	2	21	23.3
/g/	3	2	3	8	8.88
/v/	0	0	4	4	4.44
/tʃ/	0	0	1	1	1.11

A similar difficulty rank order was also revealed for the beginners group, where participants suffered the utmost with the pronunciation of the velar sound /ŋ/ with a 96.66% error percentage. Moderate difficulty was identified in terms of the pronunciation of the sounds /ʒ/ and /p/ with 25% and 23% error percentages respectively. However, the sounds /g/, /v/, and /tʃ/ were much easier to pronounce with 8.8%, 4.4%, and 1.1% error percentages, respectively.

The consonant sound with which all participants experienced difficulty in pronunciation was the sound /ŋ/. It was mispronounced whenever it occurs whether medially or finally. The majority of the participants substituted /ŋ/ sound with the sound /ŋg/ as in the word /brɪŋ/ that became /brɪŋg/. However, some participants from beginners, intermediate, and advanced groups substituted /ŋ/ with /ŋk/ sound as in /sɪŋə/= /sɪŋkə/, and one case from the advanced group substituted it with /ŋdʒ/ as in the word longing /ləŋɪŋ/ which is mispronounced as /ləŋdʒɪŋg/. These substitutions happened due to different phonological distributions between English and Arabic assuming L1 negative transfer.

The sound /ŋ/ is not found as a distinct sound neither in SA nor in Iraqi Arabic (IA). Iraqi learners consider it as an allophone of the phoneme /n/ only before a velar stop like /k/ and /g/, and it never occurs at the end of a word; thus, they pronounce it as /ŋg/ or /ŋk/. This result supports the claim made by O'Connor (1967) and Baker (1990), who stated that Arabs tend to replace /ŋ/ by /ŋg/ or /ŋk/. Therefore, this number of errors in all the three groups showed that experience had no effect on the pronunciation of /ŋ/ sound. This supports the well-established assumption that "the relationship between the L1 and L2 phoneme systems affects learning" (Evans & Alshangiti, 2018, p. 2). Moreover, this sound is problematic sound even to English speakers because of its unusual phonological distribution.

The next difficult sound in the difficulty order was the English palate-alveolar /ʒ/. This sound was substituted with the palatal sound /dʒ/ by beginners, intermediates, and advanced participants whether medially or finally. This could be due to the fact that this sound does not have a counterpart in the Arabic sound inventory. Furthermore, IA does not have this sound; hence, Iraqi learners tend to substitute this sound with the closet sound from their inventory, which is /dʒ/. The word (garage) /gærɑʒ/, for example, was pronounced as /gærɑdʒ/. The sound /ʒ/ might be pronounced as /ʃ/ (closure) (/kləʊʒə/= /kloʃə/), or as /z/ (vision) (/vɪʒən /= /vɪzən/). This is supported by Baker's claim (1990) that Arabs pronounce /ʒ/ sound as /z/ or /ʃ/. Besides, some participants from the beginners group tend to substitute /ʒ/ sound with /k/ or /g/ sound only when it occurs finally as in (rouge) (/ru:ʒ/= / ru:k/), and (beige) (/beɪʒ/= /beɪg/).

Aside from the fact that this sound does not exist in Arabic, spelling has played a very important role in causing errors. Kharma and Hajjaj (1989) believe that the irregularity of the English spelling often leads to mispronunciation. Because the spelling in Arabic is regular, Iraqi learners sometimes are misled by the graphic representation of sounds in English. Based on the results above, experience played a slight effect on the pronunciation of /ʒ/ sound as only the advanced group had shown improvement in the pronunciation of this sound.

The third sound that Iraqi learners experienced difficulty with was the sound /p/. The participants replaced the English voiceless stop /p/ with the Arabic voiced /b/ like in the word /sɪmpl/ pronounced as /sɪmbl/. Because /p/ sound does not exist in the Arabic inventory, the Iraqi participants tend to substitute it with one that is already existent in their language which is /b/ sound. However, this replacement was supported by the SLM Flege (1990 as cited in Cheon, 2005), that L2 learners tend to substitute an L2 sound with one from their L1 that mostly resemble an L2 sound because they classify the two sounds as equivalent. Moreover, having the most errors in medial and final position; especially in the middle suggested that Iraqi learners had much difficulty in pronouncing /p/ sound when it was at initial and middle positions. On the other hand, less difficulty was reported at final position; this means that difficulty encountered in the pronunciation of English consonants is position sensitive.

With regard to the pronunciation of /p/ sound, the number of errors decreased in accordance to increase in proficiency level. Advanced group showed the lowest number of errors, intermediate group committed more errors, and finally the beginners group showed the highest number of errors. However, this conclusion is based on numerical bases. This proficiency level effect on Iraqis performance was also examined statistically to show if the numerical effect is significant or not.

Iraqi learners faced less difficulty in the pronunciation of the sound /g/ showing low error percentages in the three groups. Though, this sound is not found in SA, positive influence of the mother dialect (Iraqi Arabic) could be the reason behind this high accuracy in /g/ sound pronunciation. The sound /g/ is frequently found in some Iraqi dialects as an allophone or diaphone of the phoneme /q/ (Al-Bazi, 2006); thus, most participants pronounced it accurately. Nonetheless, the participants who mispronounced the sound/g/ as /dʒ/ in initial and medial positions as in /gæp/=/ʤæp/, /ængl/= /ændʒl/ and as /k/ when it occurred finally like /dɔg/= /dɔk /did so due to either familiarity or lack of enough experience. Learners usually replace the sound /g/ with sounds nearly produced in the same place of articulation. Moreover, Kharma and Hajjaj (1989) believe that the irregularity of the English spelling often leads to mispronunciation. Because the spelling in Arabic is regular, Iraqi learners are sometimes misled by the graphic representation of sounds in English. However, the advanced group got the lowest number of errors in this sound while intermediates and beginners group got the same number of errors reflecting the less experience they have compared to the advanced group.

The participants did not experience much difficulty in the pronunciation of /v/ sound. Despite being not existent in Arabic, /v/ sound was pronounced correctly by most participants. This result finds support in Flege's claim (1990 as cited in Cheon, 2005), that if an L2 sound differs acoustically and perceptually from the L1 sounds that most closely resemble it, it will be considered as new sound and it may be perceived and pronounced easily. However, some participants from the advanced and beginners groups mispronounced the sound/v/ as /f/ as in /lɑɪv/= /lɑɪf/ only in final position. Thus, Iraqi learners have no difficulty in pronouncing /v/ sound in initial and medial positions. Therefore, experience did not have much effect on the

pronunciation of this sound as the participants did not show improvement in their pronunciation of this sound. However, the very limited number of errors committed here weakens the conclusion drawn regarding experience effect.

The sound that obtained the lowest number of errors was /tʃ/ sound. It was pronounced correctly in all three positions by the three groups. Only one participant from the beginners group mispronounced this sound in the word /kætʃ / for the sound dʒ (/kædʒ/). Although this sound does not exist in SA, it is existent in Baghdadi SA, which is spoken in most parts of Iraq. The participants pronounced this sound correctly due to positive L1 transfer and it was also supported by CAH that assumes "those elements that are similar to the learner's native language will be simple for him, and those areas that are different will be difficult" (Lado, 1957, p. 2). The only participant that mispronounced /tʃ/ sound was from a dialect that did not have /tʃ/ sound assuming negative mother tongue influence.

Most of the analysis presented above is motivated by the effect of L1 transfer, which may lead to correct or incorrect representation of the L2 sound. However, to what extent can one rely on inaccurate production as a diagnostic of non-nativelike representation? Archibald (2021, p. 2) states that idea of ease and difficulty in the acquisition of L2 sounds requires answering an important question that is related to "whether the individual is… producing an inaccurate representation accurately or…producing an accurate representation inaccurately". Obtaining an answer for this reasonable question may require further study.

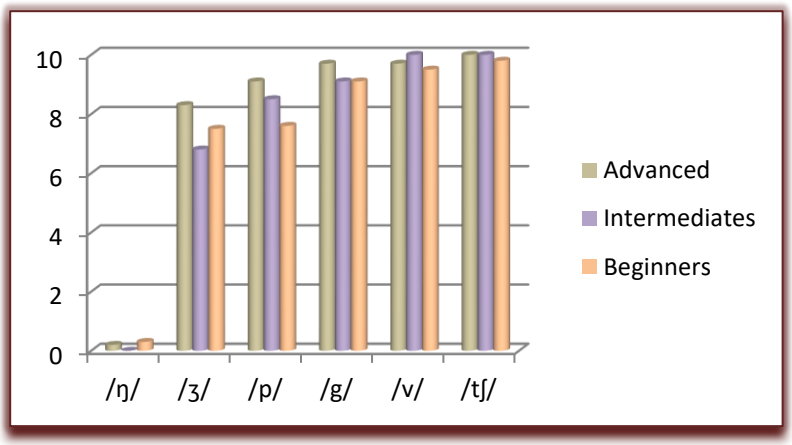

Figure 1: Numerical Representation of the three Groups based on Correct Counts

One-Way ANOVA test was conducted to show if the numerical difference reported in error counts and error percentages is statistically significant or not. Table 8 below shows the results of the One-Way ANOVA test.

Table 8: One-Way ANOVA test Results

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
v	Between Groups	.800	2	.400	1.080	**.354**
	Within Groups	10.000	27	.370		
	Total	10.800	29			
g	Between Groups	2.400	2	1.200	1.558	**.229**
	Within Groups	20.800	27	.770		
	Total	23.200	29			
tʃ	Between Groups	.067	2	.033	1.000	**.381**
	Within Groups	.900	27	.033		
	Total	.967	29			
p	Between Groups	8.600	2	4.300	1.341	**.279**
	Within Groups	86.600	27	3.207		
	Total	95.200	29			
ŋ	Between Groups	.200	2	.100	.600	**.556**
	Within Groups	4.500	27	.167		
	Total	4.700	29			
ʒ	Between Groups	4.067	2	2.033	.658	**.526**
	Within Groups	83.400	27	3.089		
	Total	87.467	29			

According to the results shown in Table 8 above, there is no statistically significant difference among the three groups based on proficiency level in English. A critical >0.05 value was found with regard to all sounds examined in this study. This means that general English proficiency level increase does not result in better performance; especially with regard to the difficult non-Arabic sounds, which are /ŋ/ and /ʒ/. All participants in the three groups encountered consider difficulties in the same sounds.

CONCLUSIONS

This research aimed to investigate the difficulties encountered by Iraqi EFL learners of English in the pronunciation of the non-Arabic consonant sounds /ŋ/, /ʒ/, /p/, /g/, /v/, /tʃ/. Based on the quantitative analysis adopted in this research, it can be concluded that Iraqi EFL learners encountered the greatest degree of difficulty in the pronunciation of the sound /ŋ/, which exists neither in SA nor in IA. Moreover, the consonant system of IA does have the sound /g/ as a very frequent velarized form of the sound /q/ (qaaf). The same is true for the sound /ʒ/, which has been ranked the second in difficulty rank order. This fricative palatal sound exists neither in SA nor in IA. This result finds support in CAH, which assumes that new sounds are difficult to pronounce by learners.

Among the six non-Arabic consonants, /v/ sound shows a very peculiar condition. Although it is found neither in SA sound system nor in IA sound system, Iraqi EFL learners find this sound very easy to pronounce. Based on SLM, this new sound is acoustically distinct from L1 sounds; hence, it was easy to categorize and later to pronounce by learners. With more learning and exposure to the L2, young generation started to correctly pronounce /v/ sound in borrowed

words such as video, viber, etc. Nevertheless, old generation with limited education still replace /v/ with /f/ (fideo, fiber). Nonetheless, Iraqi learners make use of the effect of their mother tongue in a very distinguishable way. They consider this sound as a new sound and they establish a new category for it, thus, they pronounce it very easily assuming positive influence in a new way. Hence, /tʃ/, /g/, and /v/ can be considered as easy sounds for Iraqi learners assuming positive mother tongue influence. While, /ʒ/, /ŋ/, and /p/ can be considered as difficult and problematic sounds for Iraqi learners and this difficulty was due to the negative influence of the mother tongue.

Another the primary aim of the present study was to identify proficiency level effect in the pronunciation of non-Arabic consonants. The results obtained revealed that experience does not have a positive effect on Iraqi learners' pronunciation of the sounds that are not existent in their Arabic sound system. The results indicated that although some participants showed a high level of proficiency in English, this has not been reflected in their pronunciation of English consonants. This hints to an adequacy in the instructions or techniques used in teaching pronunciation. This study is an invitation to English learners and teachers, textbook designers, and English language policy planners to take this study results into consideration to direct their instructions and efforts towards the sounds that were reported to be difficult and the possible reasons behind such difficulties. It is worth noting that the lack of proficiency level effect could be perceptually explained. In other words, the errors reported in the pronunciation of non-Arabic consonants are the result of perception errors as the learners are familiar with incorrect pronunciation they were exposed to at the early stages of their English learning process.

Although experience does not show significant effect on the pronunciation, other factors have played a very notable effect. The interference of the mother tongue seems to be the major and most affective factor on the pronunciation learning process. Sounds like /g/ and /tʃ/, despite being non-existent in the SA system, exist in the participants' dialect. Thus, Iraqi participants find these sounds easy to pronounce assuming positive L1 transfer. Therefore, these two sounds can be characterized as easy sounds for Iraqi learners. As mother tongue shows its positive effect on the pronunciation of certain sounds, it also shows its negative effect on other sounds. The sounds /ʒ/, /ŋ/, and /p/ are not existent neither in the SA nor in the Iraqi learners' dialect, yet the Iraqi learners have a substitution for these sounds with one already existent in their system and very close to these sounds which are /dʒ/, /ŋg/, and /b/, respectively. Accordingly, Iraqi learners have difficulty in pronouncing theses sounds assuming negative L1 transfer.

Bouchhioua (2019) states that accented pronunciation may result in classifying EFL/ESL learners "as uneducated or lacking proficiency. Even though the people, who are judging them as such, are only reacting to their pronunciation, their general proficiency in English seems to be questioned", the present study recommends more attention to be allotted to the pronunciation of L2 sounds. Improving pronunciation abilities will not be achieved without offering EFL learners substantial and accurate L2 exposure.

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