

THE EFFECTS OF ACCENT FAMILIARITY ON ARAB EFL LEARNERS' PERCEPTIVE INTELLIGIBILITY

Ahmad Nazari¹ and Majid Rasim Younus²

Hamad Bin Khalifa University, Doha¹

College of Education/Ibn Rush for Human Sciences²

anazari@hbku.edu.qa; majid.r@ircoedu.uobaghdad.edu.iq

correspondence: anazari@hbku.edu.qa

DOI: 10.24071/llt.v24i1.3081

received 4 February 2021; accepted 26 February 2021

Abstract

In accord with the current status of English as an International Language, the aim of this article is to develop a methodological framework to investigate the effects, if any, of accent familiarity on perceptive intelligibility in an Arab EFL context. To this end, a perception intelligibility test was developed to measure the intelligibility of Arab EFL learners and to determine the extent to which intelligibility varied in relation to accent familiarity. A listening text in English from the Speech Accent Archives produced by three speakers of different first language backgrounds constituted the material stimulus for the perceptive intelligibility test. In this respect, three accent familiarity levels were determined when measuring the perceptive intelligibility of Arab EFL learners. These accent familiarity levels included matched, mismatched and unfamiliar. The listeners were 60 randomly selected Arab EFL undergraduate students. An analytic five-point rating scale was also developed to measure the extent to which Arab EFL learners understood the English speech produced by speakers from the three different first language backgrounds. The results, in general, showed that Arab EFL learners understood with little effort most of the English utterances produced by the three English language speakers from different language backgrounds. However, the learners faced more effort and misunderstanding regarding the third speaker who represented an unfamiliar accent. The article concludes with a description of the research implications and applications that derive from the findings of the study

Keywords: English as an International Language; English language phonology; perceptive intelligibility; accent familiarity

Introduction

Whilst discussing the use of English as an International Language (EIL), several researchers have emphasised the importance of accent familiarity (AF) in speech intelligibility. For example, Gimson (2001, p. 298) states that a targeted intelligibility performance level of universal validity requires EFL learners to master the basic English phonemic distinctions and to tune in to the speaker's accent. The basic assumption of AF is that a listener who has more exposure and

linguistic experience of the speaker's foreign accent will understand the speech even if it contains some mispronunciations. This assumption implies that the effect of a foreign accent on speech intelligibility will be minimised when AF is in place. Commenting on this issue, however, Munro and Derwing (1995, p. 75) point out that "there is as yet no indication that reduction of accent necessarily entails increased intelligibility." In fact, the pronunciation studies conducted on the effect of AF on intelligibility can be grouped into two categories. The first category confirms the facilitating effect of AF on intelligibility whereas the second category rejects this effect. The present study is an attempt to resolve this issue in an Arabic EFL milieu, i.e. the Iraqi EFL context. By investigating the effect of AF on the perceptive intelligibility of Iraqi EFL learners, the present researchers do not aim to fill in a contextual gap only, where a considerable number of pronunciation studies still adhere to the traditional approach whereby a native English speaker with the RP (Received Pronunciation) or GA (General American) accent is the only reference model to follow (see Rashid, 2009; Khudhair, 2015; Al-Abdely and Thai, 2016; Al-Owaidi, 2017). They also aim to develop a methodological framework to investigate the effects, if any, of accent familiarity on perceptive intelligibility in an Arab EFL context in line with the use of English for international communication

Literature Review

Due to the use of English as an International Language among native and non-native English speakers, most pronunciation researchers have abandoned the requirement of perfection in mastering the sound system of English. They have also abandoned the use of RP or GA as the only reference pronunciation norms (see, for example, Jenkins, 2000; Gimson, 2001; Derwing and Munro, 2005; Browne, 2016; Levis, 2018). Instead, these researchers have focused on issues of intelligibility and accent familiarity as the two most recurrent themes in studies dealing with the status of English as an International Language.

In the related literature, two distinct interpretations are given to the terms intelligibility and AF. As far as intelligibility is concerned, the first interpretation restricts the term to the production and recognition of the phonetic features of speech signals, leaving meaning to other levels of speech dimensions (see Smith and Nelson, 1985; Field, 2005; Browne, 2016). The second defines intelligibility in relation to listeners' understanding (see James, 2014; Derwing and Munro, 2005; Munro and Derwing, 1995). In the present article, the second interpretation of intelligibility is adopted from the listener's perspective. In other words, the term perceptive intelligibility is defined here as "the extent to which a listener actually understands an utterance" (Derwing and Munro, 2005, p. 385).

As far as AF is concerned, this term is defined differently based on the criteria used by researchers to establish its effect. For example, Browne and Fulcher (2016) draw on linguistic experience and language exposure to define this term. In this sense, the term AF refers to "a speech perception benefit developed through language exposure and linguistic experience" (Browne and Fulcher, 2016:39). By contrast, other researchers, such as Smith (1987) and Xie and Myers (2017), limit the term AF to language exposure only. In this sense, they attempt to exclude the criterion of linguistic experience from the AF construct. However, Bent and Bradlow (2003) make use of the criteria of linguistic experience and native

language backgrounds. In this sense, these researchers differentiate among three levels of AF: matched, mismatched and unfamiliar. According to Bent and Bradlow (2003), matched accent familiarity refers to interlocutors who share the same native language, mismatched accent familiarity refers to interlocutors who have different first language backgrounds but significant linguistic knowledge with the target language, and unfamiliar refers to the absence of AF. In the present article, the term AF is defined in the sense used by both Browne and Fulcher (2016) and Bent and Bradlow (2003).

As was mentioned before, the pronunciation studies conducted on the effect of AF on intelligibility can be grouped into two categories. The first category confirms the facilitating effect of AF on intelligibility whereas the second category rejects this effect. As far as the first category of the studies is concerned, the effect was confirmed by measuring AF and intelligibility separately then correlating the results. In this respect, most studies followed the same procedure whereby a non-native English speech was recorded and presented to native and non-native English listeners to be assessed for intelligibility and AF. The results were then correlated to arrive at the finding that listeners' accent familiarity affected speech intelligibility. This conduct of the studies was adopted by most researchers (see Bent and Bradlow, 2003; Ludwig, 2012; Browne, 2016; Bogorevich, 2018). In all these studies, intelligibility was assessed by a word transcription task whereas AF was rated in various ways. For example, Bent and Bradlow (2003) used a word familiarity rating, Ludwig (2012) used reaction time to rate the effect of AF and Browne (2016) used a rating scale based on listeners' efforts.

In the above studies, AF was established despite the use of different data collection tools. This would enhance the validity of the finding arrived at. However, the use of a rating scale based on listeners' efforts or reaction time to measure AF might be confused with the assessment of other speech dimensions like comprehensibility (Derwing and Munro, 2005) and perceived intelligibility (Beinhoff, 2014). In this respect, the researchers might not be assessing AF but the two speech dimensions of comprehensibility or perceived intelligibility. For this reason, we do not use correlation to establish the effect of AF on intelligibility. Rather, we manipulate the variable of AF when measuring intelligibility. This is done by having one English text spoken by three English speakers who represent different AF levels with the Iraqi listeners. Based on this position, the effect of accent familiarity will be determined when measuring the perceptive intelligibility of Iraqi EFL learners.

In the second category, several studies were conducted arriving at the findings which contradicted the facilitating effect that AF had on intelligibility. For example, Munro and Derwing (2006) observed opposing evidence related to matched and mismatched benefits emphasised by Bent and Bradlow's (2003) study. In their study, 40 speakers from different language backgrounds were assessed by 48 listeners from the same language backgrounds for AF and intelligibility. AF was assessed by a rating scale whereas intelligibility was assessed by a word dictation task. Although the findings revealed a matched accent familiarity benefit between native Japanese listeners and the Japanese English speakers, this speech intelligibility benefit was not found between Cantonese English listeners and speakers. Similarly, there was a mismatched

accent familiarity benefit between Mandarin listeners and Japanese speakers. However, this speech intelligibility benefit was not observed between Spanish speakers and Polish listeners.

In a similar vein, Algethami's (2011) study revealed a small and not statistically significant difference between native and non-native speakers of English when correlating the scores assigned to intelligibility and AF. In his study, 19 native speakers of Australian English and 19 non-native Saudi speakers of English listened to 23 English sentences produced by ten Saudi speakers of English. Based on the mean ratings by native English listeners, the Saudi speakers fell into two groups: advanced level and low-level speakers. These Saudi speakers were instructed to do a grammatical paraphrasing task. They had to change sentences into other meaning equivalent forms, e.g. changing active sentences into the passive. These grammatical tasks would divert the speakers' attention, causing them to focus on content rather than on pronunciation. The recorded sentences were then presented to native and non-native listeners of English to be assessed for intelligibility. Intelligibility was judged by an orthographic transcription task. The results showed a small and not statistically significant difference between native and non-native ratings. Thus, accent familiarity had no effect on the intelligibility of the English speech.

Some researchers suggest that the non-native English speech is intelligible due to the proficiency level and the clarity of the acoustic signals. These researchers adopted almost similar methodology and data collection tools. For example, both Xie and Myers (2017) and Wolfswinkler and Reinisch (2016) confirmed that the speech intelligibility benefit was due to the existence of invariable acoustic signals rather than the effect of AF. In their study, Xie and Myers (2017) tested whether native English listeners' exposure to the target language was the main factor for intelligibility success or there were other factors involved. The researchers used single words spoken by a single Chinese English speaker and other words spoken by multiple Chinese English speakers. The native English speakers' success was judged on their ability to identify new words. By examining the acoustic signals in the speech of the two groups of speakers, the researchers concluded that the speech intelligibility benefit was due to the existence of invariable acoustic signals rather than exposure to language. Using a similar approach, Smith (1987) argued in his research that the speech intelligibility benefit of AF was due to the proficiency level in English. Highly proficient non-native English speakers were understood more than less proficient speakers.

We contend that the variations in the findings regarding the effect of AF on intelligibility can be related to how the researchers conceptualise the term AF. For example, Browne and Fulcher (2016) regard linguistic knowledge and language exposure as two basic components of AF. By contrast, other researchers, such as Smith (1987) and Xie and Myers (2017), limit the term AF to language exposure only. In this sense, they attempt to exclude the criterion of linguistic experience from the AF construct. The above different interpretations of AF will lead to opposing research findings. In the present study, we follow the interpretation and the findings arrived at by both Browne and Fulcher (2016) and Bent and Bradlow (2003). In this respect, three accent familiarity levels will be determined when measuring the perceptive intelligibility of Iraqi EFL learners. These AF levels

include matched, mismatched and unfamiliar. Against the above backdrop, the following research questions are formulated:

1. To what extent is English speech as uttered by native and non-native English speakers understood by Iraqi EFL learners?
2. Does accent familiarity cause significant differences in the overall perceptive intelligibility scores of Iraqi EFL learners?

As an ancillary objective, the study will point out the implications of the findings for the EFL pronunciation classrooms in Arab contexts.

Method

To measure the overall perceptive intelligibility of Iraqi EFL learners and to investigate the extent to which this aspect of intelligibility varies in relation to accent familiarity, a perception intelligibility test was constructed. The test was constructed based on consulting related works done by Bent and Bradlow (2003), Browne and Fulcher (2016), Browne (2016) and Cruz (2003). However, it differed from other tests in two respects. First, it was constructed mainly for EFL learners, where the meaning intended and received was limited to the literal meanings of words and utterances. All other connotative meanings and the one due to the suprasegmental aspect of phonology were excluded from this investigation. Second, the rating scale used was worded to reflect the two major criteria used when defining intelligibility, mainly understanding and listener's effort. In brief, the perception intelligibility test consisted of the material stimulus and the measurement tool. A description of the listeners (participants) is in order before elaborating on the material stimulus and the measurement tool.

The Listeners (participants)

The listeners were 60 Iraqi EFL undergraduate male and female students who were randomly selected from the list of third year students in the Department of English at one of the universities in Baghdad. The age range varied from 23 to 25. These students were taught English pronunciation at the first and second year of their university study and were considered advanced university EFL learners at the final stage of their academic study, as they had been tested regularly by their lecturers until they reached this level. When graduated, most of these students would use English for different communicative purposes. Hence, the test was to measure the extent to which these Iraqi students understood English in contexts similar to the global use of English. This test was also an updated version of a pronunciation assessment which captured this use of English rather than the traditional pronunciation assessment used in the Iraqi EFL context which limited communication to native English speakers with an RP or GA accent. See the following sections for further information.

The Material Stimulus

A listening text in English from the Speech Accent Archives (SAA) produced by three speakers of different first language backgrounds constituted the material stimulus for the perceptive intelligibility test. The SAA is "composed of read speech samples of more than eighteen hundred speakers. The speakers are from all over the world and they read the common elicitation paragraph" (Minematsu et al., 2014, p. 158). The first recording was produced by an Iraqi EFL English

speaker, representing a matched accent familiarity with the Iraqi listeners. The biographical data available about the Iraqi speaker in the SAA showed that the birth place was Baghdad, the native language was Arabic, the age was 29, the gender was male, and the English learning method was academic. The second recording was produced by a British English speaker, representing a mismatched accent familiarity. The biographical data available about the British English speaker in the SAA showed that the birth place was Leicester, the native language was English, the age was 35, the gender was female, and the English learning method was naturalistic. The third recording was produced by a Chinese English speaker, representing unfamiliar accent. The biographical data showed that the birth place was Hong Kong, China, the native language was Cantonese, the age was 20, the gender was male, and the English learning method was academic. The listening text used in the perception intelligibility test is provided in Appendix A.

The Instrument

The present study developed an analytic five-point rating scale to measure the extent to which Iraqi EFL learners understood the English speech produced by speakers from three different first language backgrounds. This five-point rating scale was developed based on the definition of perceptive intelligibility adopted in this research as well as the information contained in existing rating scales used by Browne (2016) and Cruz (2003). Although this five-point rating scale could be regarded as an adapted version of the scales used by the above researchers, it differed from them in that it emphasised understanding rather than the mere recognition of the phonetic properties of words. This was achieved by using a contextualised English listening text and extending the definition of the term perception to include phonetic, linguistic and meaning components. This was done in line with the definition of the term perception used by Albashir (2008, p. 24). In his PhD thesis, Albashir (2008) defines the term perception as “a process that involves a communicative act in which a listener derives meaning from a speaker.” Hence, the use of the term perceptive intelligibility with reference to listeners’ understanding was an updated version of the outdated one which associated perception with the recognition of the phonetic properties of words and utterances rather than meaning.

In conducting this test, the Iraqi EFL learners were told that they would hear one English extract spoken by three English speakers from different first language backgrounds: an Iraqi, a British and a Chinese English speaker. All the Iraqi EFL learners listened to one English speaker at a time and then assessed on a five-point scale their understanding of the speaker. The order of presenting these three speakers to the Iraqi students followed the levels of accent familiarity suggested by Bent and Bradlow (2003), starting with the Iraqi, the British and the Chinese speaker. The Iraqi EFL learners listened to the speech only once. Then, they assigned a particular score to the speaker reflecting their understanding of that particular speaker. The five-point scale used in the perception intelligibility test is provided in Appendix B.

Findings and Discussion

The quantitative data (see Appendix C) from the speech perception intelligibility test were analysed using the Statistical Package for Social Sciences

(SPSS). Three types of inferential tests were used: a one sample t-test, a one-way ANOVA and a post hoc Scheffe test. The one sample t-test was used to measure the overall perceptive intelligibility of the Iraqi EFL learners. Second, the test was used to measure the perceptive intelligibility of the Iraqi EFL learners in relation to the three levels of accent familiarity. A one-way ANOVA examined whether there were differences in the mean scores of the three levels of accent familiarity when assessing the perceptive intelligibility. If significant differences were detected, a post hoc Scheffe test was conducted to identify where these differences occurred. In the following sections, the results of the investigation are presented according to the related research questions.

Research Question One

To what extent is English speech as uttered by native and non-native English speakers understood by Iraqi EFL learners?

This question measures the overall perceptive intelligibility of Iraqi EFL learners. This was investigated by asking the 60 Iraqi EFL learners to listen to the English speech produced by three speakers from different first language backgrounds. These learners were then requested to rate on a five-point scale their understanding. The researchers conducted a one sample t-test using SPSS version 25. The results regarding the perceptive intelligibility of Iraqi EFL learners are shown in table 1.

One-Sample Statistics			
N	Mean	Std. Deviation	Std. Error Mean
180	2.4611	.85425	.06367

One-Sample Test					
Test Value = 2.5					
T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
				Lower	Upper
8.464	179	.000	.53894	.6646	.4133

Table 1: Overall perceptive intelligibility of Iraqi EFL learners

The above SPSS statistics show that the mean score of all Iraqi EFL learners is (2.4611) with a SD of (0.85425) and the calculated t-value is (8.464), whereas the tabulated value is (1.960) at an alpha level of (0.05) and the df of (179). When comparing the sample mean of (2.4611) with the hypothesised mean of (3), the difference is statistically significant for the hypothesised mean: $t(179)=8.464, p < 0.05$. Thus, Iraqi EFL learners can understand with little effort most of the English utterances produced by the three English speakers from different language backgrounds, with a mean difference of (.53894).

To measure the perceptive intelligibility of Iraqi EFL learners to each of the three levels of accent familiarity, the researchers used a one sample t-test. The results of a one sample t-test of the perceptive intelligibility of Iraqi EFL learners are presented below.

Matched Accent Familiarity

The researchers conducted a one sample t-test using SPSS version 25. The results of the perceptive intelligibility of Iraqi EFL learners in relation to matched accent familiarity are shown in table 2.

One-Sample Statistics					
N	Mean	Std. Deviation	Std. Error Mean		
60	1.8107	.46964	.06063		

One-Sample Test					
Test Value = 3					
			Mean	95% Confidence Interval of the Difference	
T	Df	Sig. (2-tailed)	Difference	Lower	Upper
19.616	59	.000	1.18933	1.3107	1.0680

Table 2: Matched accent familiarity

The above statistics show that the mean score of Iraqi EFL learners is (1.8107) with a SD of (0.47) and the calculated t-value is (19.616), whereas the tabulated value is (2) at the df of (59) and an alpha level of (0.05). When comparing the sample mean of (1.8107) with the hypothesised population mean of (3), the difference is statistically significant for the hypothesised mean: $t(59) = 19.616, p < 0.05$. Thus, Iraqi EFL learners need to make very little effort to understand English speech produced by Iraqi EFL speakers (matched accent familiarity), with a mean difference of (1.181).

Mismatched Accent Familiarity

The researchers conducted a one sample t-test using SPSS version 25. The results regarding the perceptive intelligibility of Iraqi EFL learners to an English speaker representing a mismatched accent familiarity are shown in table 3.

One-Sample Statistics					
N	Mean	Std. Deviation	Std. Error Mean		
60	2.2552	.66728	.08615		

One-Sample Test					
Test Value = 3					
			Mean	95% Confidence Interval of the Difference	
t	Df	Sig. (2-tailed)	Difference	Lower	Upper
8.646	59	.000	.74483	.9172	.5725

Table 3: Mismatched accent familiarity

The above statistics show that the mean score of Iraqi EFL learners' perceptive intelligibility is (2.2552) with a SD of (.66728). The calculated t-value is (8.646), whereas the tabulated value is (2) at the df of (59) and an alpha level of (0.05). When comparing the sample mean of (2.2552) with the hypothesised population mean of (3), the difference is statistically significant for the hypothesised mean: $t(59) = 8.646, p < 0.05$. Thus, Iraqi EFL learners can understand English speech produced by an English native speaker, representing a mismatched accent familiarity with a mean difference of (.74483).

No Accent Familiarity

The researchers conducted a one sample t-test using SPSS version 25. The results regarding the perceptive intelligibility of Iraqi EFL learners in relation to an unfamiliar English speaker are shown in table 4.

One-Sample Statistics			
N	Mean	Std. Deviation	Std. Error Mean
60	3.3173	.57380	.07408

One-Sample Test					
Test Value = 3					
T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
				Lower	Upper
4.284	59	.000	.31733	.1691	.4656

Table 4: English language speaker having an unfamiliar accent

The above statistics reveal that the mean score of Iraqi EFL learners is (3.1733) with a SD of (.57380). The calculated t-value is (4.284), whereas the tabulated t-value is (2) at the df of (59) and an alpha level of (0.05). When comparing the sample mean (3.1733) with the hypothesised population mean (3), the difference is statistically significant for the sample mean: $t(59) = 4.284, p < 0.05$. Thus, the extent to which the Iraqi EFL learners can understand an unfamiliar English speaker is with a mean difference of (.31733).

Research Question Two

Does accent familiarity cause significant differences in the overall perceptive intelligibility scores of Iraqi EFL learners?

To answer this question, a one-way ANOVA was used. The one-way ANOVA was used to identify whether there were statistically significant differences in the perceptive intelligibility of Iraqi EFL learners and to look for differences among the means of more than two groups. If significant differences were detected, then a post hoc Scheffe test was used to identify where these differences occurred. The results regarding the means differences of Iraqi EFL learners across the three English speakers are shown in table 5.

ANOVA					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	71.916	2	35.958	108.410	.000
Within Groups	58.709	177	.332		
Total	130.625	179			

Table 5: The means differences of perceptive intelligibility

The ANOVA statistics show that the f-value is (108.41), which is larger than the critical value of (3.04) at the two df of (2-177) and an alpha significant level of (0.05). There are significant differences among the mean scores of Iraqi EFL learners' perceptive intelligibility: $F(2,277) = 108.410, P < 0.05$. To indicate where these differences occur, a Scheffe post hoc test for multiple comparisons was conducted. The SPSS results are shown in table 6.

Multiple Comparisons						
Dependent Variable: degree						
Scheffe						
(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	-.44450*	.10515	.000	-.7041	-.1849
	3.00	-1.50667*	.10515	.000	-1.7662	-1.2471
2.00	1.00	.44450*	.10515	.000	.1849	.7041
	3.00	-1.06217*	.10515	.000	-1.3217	-.8026
3.00	1.00	1.50667*	.10515	.000	1.2471	1.7662
	2.00	1.06217*	.10515	.000	.8026	1.3217

* The mean difference is significant at the 0.05 level.

Table 6: Scheffe test among the three English speakers

The results above indicate that the Iraqi EFL learners were able to understand with a certain level of effort the speech produced by the first and second speaker, representing the matched and mismatched accent familiarity levels respectively. However, the Iraqi EFL learners faced considerable effort and misunderstanding regarding the third speaker who represented an unfamiliar accent.

It must be reiterated that the term perceptive intelligibility in this study refers to the understanding of the literal meanings of spoken words and utterances as uttered in a contextualised discourse (James, 2014, p. 212). The overall quantitative findings revealed that Iraqi EFL learners could understand with a varying degree of effort the English speech produced by the three English speakers: $[t(179) = 8.464, p < 0.05, \text{ with a mean difference of } (.53894)]$. When examining the overall perceptive intelligibility across the three accent familiarity levels, significant variations in Iraqi EFL perceptive intelligibility were observed: $[F(2,277) = 108.410, P < 0.05]$.

As the above results revealed, the positive effect of accent familiarity was observed most frequently with the Iraqi EFL speaker: $[t(59) = 19.616, p < 0.05]$, representing a matched accent familiarity level. The same significant finding was

also observed with the British English speaker: $[t(59)= 8.646, p < 0.05]$, representing a mismatched accent familiarity. However, the finding related to the unfamiliar Chinese English speaker revealed that the speaker's accent caused a considerable number of problems in understanding: $[t(59)= 4.284, p < 0.05]$. Unfamiliarity with the Chinese accent had a negative impact on understanding the English spoken discourse by the Iraqi EFL listeners.

The above findings of the study supported the ones arrived at by Bent and Bradlow (2003), Browne (2016) and Bogorevich (2018). In commenting on the facilitating effect of accent familiarity on intelligibility, Browne (2016) confirmed in his study that the overall pronunciation scores and intelligibility were significantly affected by listeners' accent familiarity levels. There were variations in these two aspects according to the scores assigned by the listeners. The effect of accent familiarity on intelligibility also supported the ideas expressed by Kuhl's (1991) Perceptual Magnet Theory. This theory emphasised that listeners could develop the ability to perceive the targeted words if they shared the same first language with the speaker or had enough exposure to the language. Similarly, Pierrehumbert's (2001) Exemplar Theory maintained that listeners would be able to identify not only single phonemes but all other non-linguistic information accompanying the speakers' utterances. These exemplars represented a constellation of various linguistic experiences which could be associated with particular words, people, accents and sounds, all stored for a considerable time in what was referred to as 'exemplar clouds' (Pierrehumbert, 2001, p. 3).

By contrast, the above significant variations of intelligibility due to the effect of accent familiarity were not supported by some other studies such as those of Munro, Derwing and Morton (2006), Kennedy and Trofimovich (2008) and Algethami (2010). In their studies, these researchers claimed that the learners' proficiency level and the sound system of the target language were responsible for the success or failure of intelligibility. For example, Algethami (2010) emphasised the role of phonological transfer in facilitating or impeding the intelligibility of non-native English speakers. His findings showed a small and not statistically significant difference due to the effect of accent familiarity.

However, one might argue that the findings of the present research were influenced by the context of the discourse. The review of the literature on intelligibility confirmed that native English listeners as well as non-native English listeners could use the context, linguistic or non-linguistic, to infer the words intended by the speakers even if they were mispronounced (Kim, 2008). Once the context of the discourse was known, English speech could be easily recognised and understood even if some words were mispronounced (Zielinski, 2006, p. 25). Inferring words and meaning from context is also confirmed by Kirkpatrick's (2007, p. 122) lexical anticipation and Jenkins' (2000, p. 81) co-text, where the existence of certain words in speech will help listeners to infer other words. In the present research, the element of context was considered part of the construct validity of the perception intelligibility test used. In this test, the researchers included the appropriate parameters of the context by having a contextualised listening text rather than words in isolation. In this respect, Kim emphasised that a researcher should employ "an elicitation measure that captures the context of speech" (2008, p. 9).

Conclusion

The present study suggested an alternative pronunciation assessment which could capture the use of English in its international context. It emphasised that the traditional assessment of pronunciation whereby a native English speaker with the RP or GA accent was the only reference model was no longer valid in the global context of English. The study also confirmed the importance of accent familiarity in minimising the effect of foreign accented English in this context. Based on its findings, this study also suggested the necessity to make changes related to the goal of teaching pronunciation in the Iraqi EFL context, the type of the pronunciation model and the factors emphasised for speech intelligibility.

The first implication of this study is related to the goal of teaching English language pronunciation in Arab EFL contexts. At present, most researchers emphasise the importance of setting intelligibility rather than perfection as the most practical and achievable goal for the pronunciation instruction. However, in the Iraqi EFL context, and certain other Arab EFL milieus, perfection in mastering the sound system of RP or GA is still regarded as the required goal for the pronunciation instruction (Rashid, 2009; Al-Abdely and Thai, 2016; Al-Owaidi, 2017). Being impractical and less likely to achieve for EFL learners, the present study recommends that intelligibility should be incorporated in Iraqi and other similar Arab EFL pronunciation classrooms.

The second implication of this research is related to the use of English in its global or international context among native and non-native English speakers. For this purpose, the study proposes a methodological framework which can be used to assess the pronunciation of Iraqi EFL learners, and other Arab EFL learners, in this context. This was done by developing a perception intelligibility test which consists of the material stimulus and the measurement tool.

The third implication relates to the effect of accent familiarity on intelligibility. This effect implies that Iraqi EFL learners, and EFL learners in similar Arab countries, should be exposed to various native and non-native varieties of English. This can be done by having native and non-native pronunciation tutors as well as including a variety of English language accents using audio, video and digital teaching materials.

References

- Al-Abdely, A., & Yap, N. (2016). Learning English vowels by Iraqi EFL learners: Perceived difficulty versus actual performance. *3L: Language, Linguistics, Literature®*, 22(1), pp. 1-18.
- Albashir, A. (2008). *Production and perception of Libyan Arabic vowels*. PhD thesis, Newcastle University, UK.
- Algethami, G., Ingram, J., & Nguyen, T. (2010). The interlanguage speech intelligibility benefit: The case of Arabic-accented English. In *Proceedings of the 2nd Pronunciation in Second Language Learning and Teaching Conference*, 114, 30-42.
- Al-Owaidi, R. T. (2017). *Investigating the awareness of Iraqi EFL learners of English morphophonemic derivations*. PhD thesis, University of Baghdad, Iraq.
- Altufaili, I.R. (2016). *Education policy and practices of English as a Foreign Language (EFL) in Iraq*. MA thesis, Missouri State University, USA.

- Beinhoff, B. (2014). Perceiving intelligibility and accentedness in non-native speech: A look at proficiency levels. *Concordia Working Papers in Applied Linguistics*, 5, 58-72.
- Bent, T., & Bradlow, A.R. (2003). The interlanguage speech intelligibility benefit. *The Journal of the Acoustical Society of America*, 114(3), 1600-1610.
- Bogorevich, V. (2018). *Native and non-native raters of L2 Speaking Performance: Accent familiarity and cognitive processes*. PhD thesis, Northern Arizona University, USA.
- Browne, K., & Fulcher, G. (2016). Pronunciation and intelligibility in assessing spoken fluency. In Isaacs, T. and Trofimovich, P. (eds.), *Second language pronunciation assessment: Interdisciplinary perspectives*. Bristol: Multilingual Matters, pp.37-53.
- Browne, K.C. (2016). *Raters' accent familiarity levels and their effects on pronunciation scores and intelligibility on high-stakes English tests*. PhD thesis, University of Leicester, UK.
- Cruz, N. (2003). An exploratory study of pronunciation intelligibility in the Brazilian learner's English. *The ESPecialist*, 24, 155–175.
- Derwing, T.M., & Munro, M.J. (2005). Second language accent and pronunciation teaching: A research-based approach. *TESOL Quarterly*, 39(3), 379-397.
- Field, J. (2005). Intelligibility and the listener: The role of lexical stress. *TESOL Quarterly*, 39(3), 399–423.
- Gimson, A.C. (2001). *An introduction to the pronunciation of English* (6th ed).. London: Edward Arnold.
- Jenkins, J. (2000). *The phonology of English as an international language: New models, new norms, new goals*. Oxford: Oxford University Press.
- Kennedy, S., & Trofimovich, P. (2008). Intelligibility, comprehensibility, and accentedness of L2 speech: The role of listener experience and semantic context. *Canadian Modern Language Review*, 64, 459–490.
- Khudhair, H.J. (2015). The role of accurate pronunciation in determining intelligibility of speech. *Al-Jam'ah Al-Iraqia*, 31(1), 501-522.
- Kim, T. (2008). Accentedness, comprehensibility, intelligibility, and interpretability of NNESTs. *CATESOL Journal*, 20(1), 7–26.
- Kirkpatrick, A. (2011). English as an Asian lingua franca and the multilingual model of ELT. *Language Teaching*, 44(2), 212–224.
- Kuhl, P.K. (1991). Human adults and human infants show a 'perceptual magnet effect' for the prototypes of speech categories, monkeys do not. *Perception & Psychophysics*, 50, 93–107.
- Levis, J. M. (2018). *Intelligibility, oral communication, and the teaching of pronunciation*. Cambridge: Cambridge University Press.
- Ludwig, A. (2012). *Interlanguage speech intelligibility benefit for non-native listeners of English*. MA thesis, Universitat de Barcelona, Spain.
- Munro, M.J., & Derwing, T.M. (1995). Foreign accent, comprehensibility, and intelligibility in the speech of second language learners. *Language Learning*, 45(1), 73-97.
- Munro, M.J., Derwing, T.M., & Morton, S.L. (2006). The mutual intelligibility of L2 speech. *Studies in Second Language Acquisition*, 28(1), 111-131.
- Pierrehumbert, J. (2001). Exemplar dynamics: Word frequency, lenition and contrast. In Bybee, J. and Hopper, P. (eds), *Frequency and the emergence of*

- linguistic structure*. Amsterdam: John Benjamins Publishing Company, p.137-57.
- Rashid, B. (2009). Phonological intelligibility in Iraqi EFL classrooms. *Journal of Basrah Researches (Humanities Series)*, 48(4), 43–73.
- Smith, L.E., & Nelson, C.L. (1985). International intelligibility of English: directions and resources. *World Englishes*, 4(3), 333-342.
- Zielinski, B. (2006). The intelligibility cocktail: An interaction between speaker and listener ingredients. *Prospect*, 21(1), 22-45.