

The Effect of Accents Familiarity on the Intelligibility of Nigerian and Malaysian nonnative Englishes

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Abstract

This study is contextualised under the paradigm of world Englishes to investigate the roles of familiarity with nonnative English varieties in enhancing intelligibility. In essence, the study intends to examine how familiarity with a nonnative English variety augments the intelligibility of nonnative speech. Forty 40 Nigerians (Hausa) and eighty 80 Malaysian (40 Malay and 40 Chinese) ESL speakers participated in the study. The research employed intelligibility assessment task, using contrast as stimuli. A questionnaire was also used to assess familiarity levels of Nigerians with Malaysian English and vice versa. Findings indicate that there are significant differences between participants with familiarity with an English accent and those with no familiarity in rating intelligibility of English vowel sounds. This finding signifies that accent familiarity is an important factor in determining the intelligibility of world Englishes.

Keywords: Intelligibility; World Englishes; Accent familiarity; Nonnative varieties of English

Introduction

Speech intelligibility has been long documented to be the most important aspect of L2 learning/ acquisition (Bent & Bradlow, 2003; Quené & Van Delft, 2010). It has been argued that the most crucial thing that almost all language learners need when speaking an L2 is nothing more than to have the ability to produce intelligible sounds that could be

understood by many (Quené, & van Delft, 2010). However, the notion of speech intelligibility goes with different components which need to be distinguished from one another (Smith & Nelson, 1985). These components are comprehensibility and interpretability. The term, “speech intelligibility” signifies recognising the words or sentences within a particular utterance. Comprehensibility denotes knowing the meaning attached to the words, or sentences heard and interpretability represents the purpose or intent of the words and sentences heard. Bamgbose (1998, 11) defines speech intelligibility as “a complex factor comprising of recognizing an expression, knowing its meaning and knowing what the meaning signifies in the sociocultural context”. Additionally, Munro, Derwing & Morton (2006: 112) describe speech intelligibility as “the extent to which a speaker’s utterance is actually understood”. Hence, in this research, speech intelligibility implies recognising the words within a particular utterance.

The common stimulus used in assessing speech intelligibility include sentences, words, passages and interviews (Dayag, 2007; Munro & Derwing, 1995; Deterding, Brown & Low 2005; Deterding & Kirkpatrick, 2006; Suenobo, Kanzaki & Yamane, 1992; Smith, 1992). For example, spontaneous speeches, passages, and reading of list of words were employed by Dayag (2007) to evaluate the speech intelligibility of Philippine English using Kachruvian circles as representatives as subjects.

However, Deterding (2005) and Kirkpatrick (2008) used interviews in their studies to evaluate speech intelligibility. In addition, Deterding and Kirkpatrick (2006) have also evaluated speech intelligibility through recordings of group discussions on several topics in a language laboratory. Jenkins (2002, 2000) has also evaluated speech intelligibility through interaction in classroom settings. Furthermore, Safotso, (2015), carries out another study to investigate the mutual intelligibility between Indian and Cameroon English. The speech intelligibility was assessed through oral readings on phonological aspect of the English language. In addition, the speech intelligibility of Japanese accent in international setting had also been assessed in a study by Huckvale (2006) through recordings and a close transcription, where non-native English speakers were asked to transcribe the utterances they heard. It was found that through this method consonant sounds were more intelligible than vowels. Furthermore, a study by Hardman (2004) evaluates the speech intelligibility of Chinese students to Koreans, Indians, Chinese peers and American peers, through words recognition in a noisy background. In yet another study, the speech intelligibility evaluation on native and non-native vowel production was conducted by Souza & De Mora (2014), a forced-choice word identification task was used in the

intelligibility assessment, and it was found to be an effective measure in assessing speech intelligibility. Crocker (2010) used ratings to assess the intelligibility of Hindi-accented sentences that were manipulated acoustically on fundamental frequency and duration. One important observation in this review is that there were no criticisms in the choices of intelligibility assessment methods. All the methods used in measuring the speech intelligibility in these researches were effective in their respective contexts. Hence, discrimination task was used in the current research for assessing intelligibility.

One of the important factors that can affect speech intelligibility is familiarity with an English accent. The term “Accented English” is used to identify speech that is perceived to be different from that of the English native speakers (Munro & Derwing, 1999, 1995). Listeners detect an accent as an audible difference, which serves as a revealer of a speaker’s native or non-native position or status (Makoni 2003). There were different views reported in the literature on how accent familiarity facilitates speech intelligibility. Findings of some studies have revealed a facilitating effect between accent familiarity and speech intelligibility. These studies include that of Witteman, Weber & MacQueen (2013) who explored the effect of accent familiarity on the recognition of accented words. The participants were native Dutch listeners with limited or extensive prior experience with German-accented Dutch. Participants with limited experienced with the accent (n = 23, 19 females, mean age = 20.41 years) and those with extensive experience (n=19 females, mean age = 22.97 years). The outcome of the research reveals that recognition of accented speech depends largely on the listeners’ familiarity with the accents. In another study, Gupta and Gupta (2005) examine the influence of accent familiarity on perceptual intelligibility of English sounds. His subjects were Singaporeans and British students, and the results of the study indicated that the Singaporean students listening to Singaporean speakers obtained higher scores. Similarly, British students listening to British speakers performed relatively better. However, when the same participants were subjected to unfamiliar accents, their performances were all lower than the lowest scores of those to whom the accents were familiar. It was concluded that familiar accents are easier to understand than unfamiliar accents. Furthermore, similar findings were obtained in Huang, Alegre and Eisenberg (2016) when they investigated the judgment of non-native speech using familiar and unfamiliar raters. There were three groups of raters who were either from Spanish Heritage, Spanish Non-Heritage, or Chinese Heritage backgrounds (n= 16 in each group). The stimuli used were speech samples from speakers from Spanish and Chinese backgrounds. They found that familiarity with particular accents facilitated identification of that accent.

However, some researchers presented counter-arguments regarding the connection between accent familiarity and speech intelligibility. The researchers based their arguments on the finding of empirical studies which show no connection between familiarity with an accent and speech intelligibility. For example, Major et al. (2005) attempt to measure speech intelligibility of native speakers' accent on non-native listeners. The research was motivated by the argument that some listeners may find some speech more intelligible than others. One hundred and eighty participants from different linguistic backgrounds (Chinese, Japanese and Spanish) took part in the research. The finding indicates that there was no statistical evidence to support the notion that "familiarity with accent helps in understanding speech". Smith & Rafiqzad (1979), through an investigation of RP English and Standard American English conducted on second language speakers from different nationalities (India, China, Japan, Taiwan, Philippines, Indonesia, and Guinea) and native English speakers from different countries also found similar results. The study was conducted to see if there were any differences in terms of speech intelligibility scores among these people from different nationalities; they found none. It was concluded from the findings of the research that accent familiarity is not a determining factor for speech intelligibility. Since there are divergent views on the impact of familiarity on speech intelligibility, the present study intends to contribute to the above arguments using Nigerians (Hausa) and Malaysian Malay and Chinese ESL speakers to measure the mutual intelligibility of Nigerian and Malaysian English using accent familiarity as a variable.

The present research addresses the effect of accent familiarity on the intelligibility of English vowels. The research was conducted in stages, in stage one, an intelligibility test was done, after completing the intelligibility test, a short familiarity questionnaire adapted from Ockey and French (2014) was administered to the participants to assess their levels of familiarity with Nigerian or Malaysian English accents. The respondents' familiarity to each other's English accent was measured on a 15-item of 5-point scale (1=Never (not even once) 2= rarely (once or twice a year), 3= occasionally (every other month), 4= most times (Every other week) 5 = Often (Every other day). Forty Malaysian Malay and forty Malaysian Chinese respondents filled the questionnaire on their familiarity with Nigerian English. Forty Nigerians (Hausa) ESL speakers filled the questionnaire on their familiarity with Malaysian English. All their familiarity scores were subsequently aggregated to render overall composite scores of the measure of accent familiarity. These scores ranged from 15, never, to 75, often. On the familiarity continuum, 15, never, represents not at all familiar

with an accent, and 75, often, represents very familiar. Scores of 45 and below (occasionally (every other month), represent, or are categorised as not familiar, and scores from 46 upward were classified as familiar. The cut-off point was based on the score distribution in which the respondents understood “never”, “rarely” and “occasionally” to be inconsequential, while “most times” and “often” to be of significance in terms of familiarity with an accent.

Sequel to the above review, the present study intends:

- a) To evaluate whether familiarity with Nigerian English accent could affect Malaysian Malay and Chinese’s perceptual intelligibility of the Nigerian English accent.
- b) To assess whether familiarity with Malaysian Malay and Chinese English accent could affect perceptual intelligibility of the Malaysian English accent.

Methodology

The study was conducted using three groups of participants. These groups were (n=40) Nigerians whose L1 is Hausa, and Malaysian (n = 40) who spoke either Malay as their L1 or Chinese as their L1 (n = 40).

Table 1. Age distribution of the participants

	Gender	<i>F</i>	<i>M</i>	<i>SD</i>
Nigerian Hausa	Male	20	24.40	0.75
	Female	20	23.10	1.80
Malay Malaysian	Male	20	21.8	2.28
	Female	20	21.85	2.73
Chinese Malaysian	Male	20	20.75	2.44
	Female	20	21.50	2.52

They were students recruited from Bauchi State University in Nigeria and University Putra Malaysia that are within the moderate English proficiency level. The Oxford Placement

Test (OPT; Allan, 2004) was used in controlling the English proficiency of the participants. Table 1. above presents the distribution of age of the participants recruited for the study.

As part of the intelligibility test, PRAAT was used to design a discrimination task in which the participants have to intelligibly distinguish words that are closely related to one another by determining whether the words were same or different. Same or different option was provided. PRAAT software automatically scores right attempts and wrong attempts made by the participants. There was no fix time in the task. The vowel contrast include: [i] vs. [i:], [e] vs. [æ], [ʌ] vs. [ɜ:], [ɔ] vs. [ɔ:], [ʊ] vs. [u:], [æ] vs. [ʌ], [ɜ:] vs. [æ].

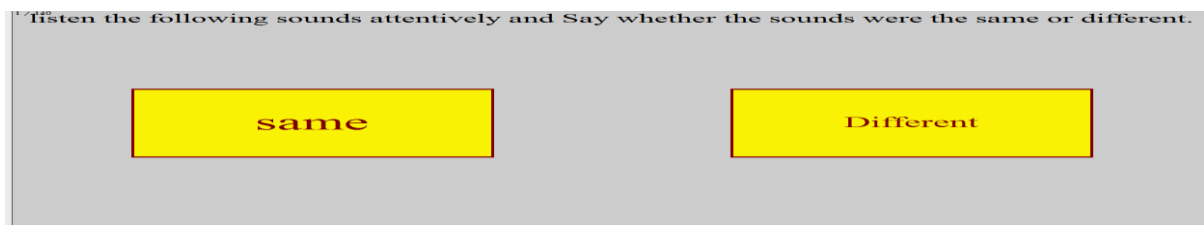


Figure.1: A screenshot of the PRAAT showing the 2 options

Results and discussion

The research treated the research questions individually, going with the first research question:

a. Does familiarity with Nigerian English accent affect Malaysian Malay and Chinese's perceptual intelligibility of the Nigerian English accent?

In the case of Familiarity issues, a familiarity questionnaire was administered to the participants. The result from Malaysian Malay responding to their familiarity with the Nigerian English indicates that 16(40%) Malaysian Malay have high familiarity with the Nigerian English. Those who indicated a level of low familiarity with the Nigerian English constituted 24 (60%). This shows that some of the participants were familiar with the Nigerian English while others were not. Table 2. The Table below summarises the distribution.

Table 2. Familiarity with Nigerian English (Malaysian Malay respondents)

Familiarity	No.	Percentage
Familiar	16	40%
Not Familiar	24	60%

Similarly, after calculating the composite scores of the questionnaire answered by Malaysian Chinese ESL speakers, it was discovered that 26 (65%) Chinese indicated a low level of familiarity with the Nigerian English while 14(35%) indicated high familiarity with the English variety as summarized in Table 3 below:

Table 3. Familiarity with Nigerian English (Malaysian Chinese respondents)

Familiarity	No.	Percentage
Familiar	14	35%
Not Familiar	26	65%

All respondents were already subjected to intelligibility test, those with the familiarity and those without the familiarity with Nigerian English. The scores of the participants were compared. Figure 1. below is a chart containing the descriptive summary of Nigerian English intelligibility scores as determined by the Malaysian respondents (those with familiarity and those with no familiarity with the accent). The bars in the chart pictorially show that participants with familiarity outscored those with no familiarity with Nigerian English accent in the intelligibility task. Further, to establish the statistical significance of the descriptive result obtained above (the effect of accent familiarity on intelligibility), inferential statistics was conducted. The descriptive charts and the results of the inferential comparisons are presented below:

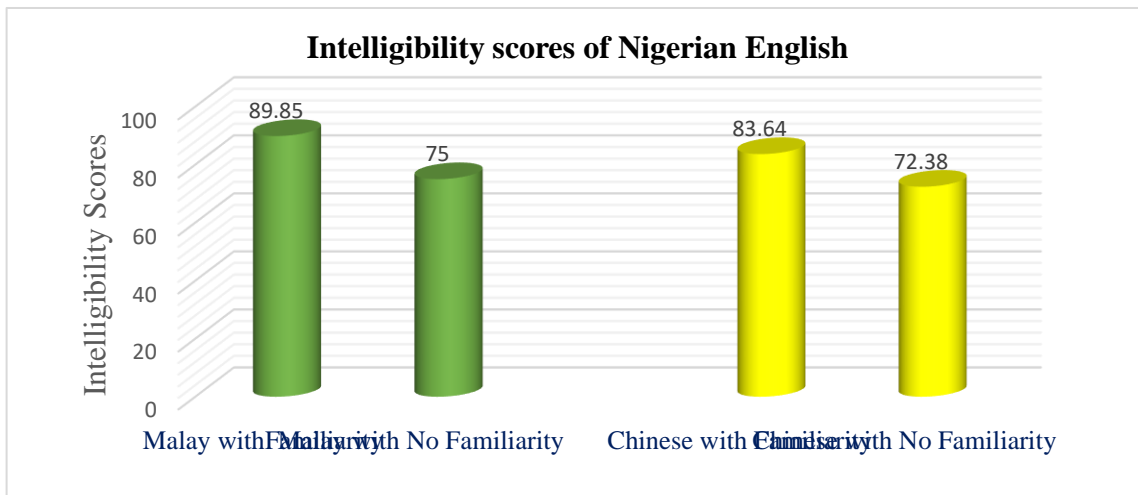


Figure 2: Familiarity with Nigerian English

Figure 2. shows that Malaysian Malay with familiarity with Nigerian English outperformed (M= 89.85) Malaysian Malay with no familiarity with Nigerian English (M=75) in the intelligibility of Nigerian English. Similarly, Malaysian Chinese with familiarity with Nigerian English outperformed (M=83.64) those with no familiarity with Nigerian English in the intelligibility task (M=.72.38).

To test statistical significance of the differences, an independent sample T-test was run to compare the intelligibility scores of participants who had indicated familiarity with an English accent and who had indicated no familiarity with an accent. The T-test was intended to determine if there was any significant difference statistically. Based on the outcome of the test, it was found that there is significant difference between Malaysian Malay with familiarity with the Nigerian English (M = 89.8, SD = 4.6) and those with no familiarity with the Nigerian English (M = 75.0, SD=7.3), $t=6.865$, $df, 38$, $p.>000$). Similarly, there is also a statistically significant difference in the comparison between Chinese with familiarity with Nigerian English (M = 83.6, SD=4.12), and those with no familiarity with the Nigerian English (M = 72.03, SD= 5.6), $t=6.536$, $df, 38$, $p.>000$. As discussed, there was a significant difference in both cases. Therefore, this result suggests that accent familiarity does have an effect intelligibility.

With regard to the second reserch question:

- a) Does familiarity with Malaysian Malay and Chinese English accent affect perceptual intelligibility of the Malaysian English accent?

Nigerians were subjected to familiarity questionnaire as well as intelligibility test of Malaysian English. The overall composite scores for the 15-item questionnaire measuring familiarity with Malaysian English was also computed, and it was found that almost half of the respondents indicated familiarity with Malaysian English 17(42.5 %). However, slightly more than half of the participants indicated no familiarity with the Malaysian English 23(57,5%).

Table 4. Level of familiarity with Malaysian Malay English (Hausa respondents)

Familiarity	No.	Percentage
Familiar	17	42.5%
Not Familiar	23	57,5%

A comparison was made on the participants both with the familiarity with the Malaysian English and those with no familiarity. The chart below presents the performance of Nigerians (Hausa) respondents in the intelligibility task of Malaysian English accent spoken by Malaysian Malay and Chinese. According to their familiarity of the accent. Figure 2, indicates that those with familiarity with Malaysian English outscored those with no familiarity with the accents of the two Malaysian ethnic groups (Malaysian Malay and Chinese).

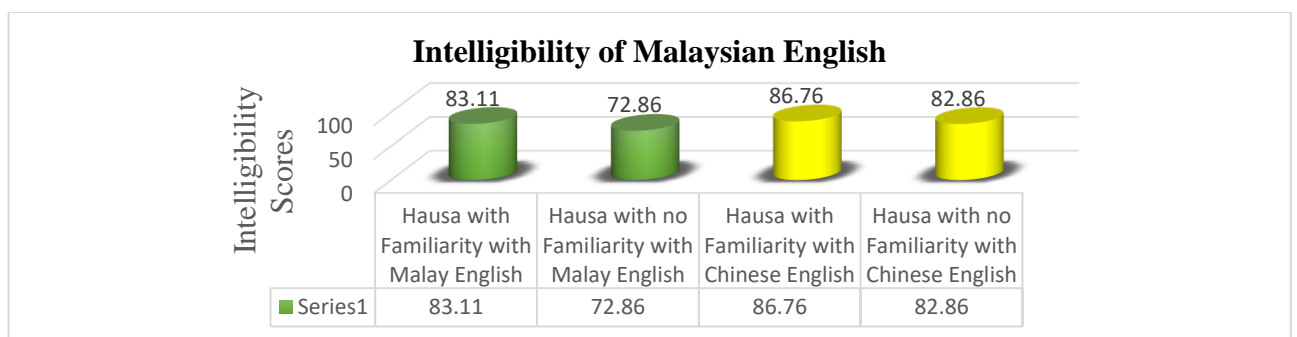


Figure 3: Familiarity with Malaysian English

Figure 3. Shows that Nigerians (Hausa) with familiarity with Malaysian English spoken by Malaysian Malay outperformed (M=83.11, SD = 3.23) better than those with no familiarity with Malaysian English (M=72.86, SD= 4.21). In the same way, Nigerians (Hausa) with familiarity with Malaysian English spoken by Malaysian Chinese outperformed (M=86.76, SD = 6.4) those with no familiarity with Malaysian English spoken by Malaysian Chinese (M= 82.86, SD=3.94).

Table 5. The effects of familiarity with the Malaysian English (Hausa respondents)

Mean	(SD)	t statistics	(df)	p –value
Group 1 (Familiarity)	Group 2 (No Familiarity)			
83.11 (3.23)	72.86 (4.21)	8.359	(38)	.000

Further inferential statistics was carried out to test whether the intelligibility scores of Nigerians (Hausa) with familiarity with Malaysian English spoken by Malaysian Malay and Chinese will be significantly different from that of those with no familiarity with Malaysian English. It was found that there is a significant difference $t=8.359$, $df, 38, p.>000$ in the intelligibility scores between those with familiarity with Malaysian English and those with no familiarity.

Table 6: The effects of familiarity with the Malaysian English (Hausa respondents)

Mean	(SD)	t statistics	(df)	p –value
Group 1 (Familiarity)	Group 2 (No familiarity)			
86.76(6.4)	82.86(3.9)	2.356	(38)	.000

Independent sample T-test was conducted to compare the intelligibility scores of Nigerians (Hausa) with familiarity with Malaysian English spoken by Malaysian Chinese and those with no familiarity with the Malaysian English. It was found that there was a significant difference $t=2.356$, $df, 38, p >.000$ in the scores between the two groups, those with the familiarity (M=86.76, SD= 6.4) outperforming those with no familiarity (M=82.86, SD=

3.94). The results in both cases suggest that familiarity with Malaysian English does effect its intelligibility.

The question addressed by the above results is whether accent familiarity aids speech intelligibility. The finding from the above research question indicates that familiarity with Nigerian or Malaysian English varieties affects intelligibility. The results from the comparison of the performances of Malaysian Malay and Chinese who developed familiarity with Nigerian English and those who do not suggested relevance of familiarity to speech intelligibility. Similarly, the comparison of intelligibility scores of Nigerians (Hausa) between those with familiarity with Malaysian English and those with no familiarity with the accent shown the importance of familiarity to speech intelligibility. Even though, the findings stated in Majoret al. (2002) revealed that accent familiarity does not necessarily improve understanding, however, findings from numerous published literature have suggested the relevance of familiarity in facilitating speech intelligibility. For example, Smith & Bisazza (1982) sought to determine whether familiarity with an accent helps intelligibility. In his study Indian listeners were found to have comprehended English spoken with Indian accent more than English spoken with other accents. Similarly, Japanese subjects found English spoken with Japanese accent easier than forms of English spoken with other accents. Therefore, he concluded that accent familiarity that is achieved through repeated exposure informed intelligibility. Bent & Bradlow (2003) and Adedeji (2014) found that listeners' amount of familiarity with an accent enhances their understanding of the accent. Similar findings reported in Tauroza & Luk (1997) showed that speech familiarity facilitates its intelligibility. Relevance of accent familiarity to speech intelligibility has been widely reported in the literature (Newman & Evers, 2007; Nygaard, Sommers & Pisoni, 1994; Perry et al. 2018; Souza et al. 2013; Tjaden & Liss, 1995).

Summary and conclusion

The finding of this research that intelligibility is facilitated through accent familiarity has supported the propositions of exemplar theory, which suggested that familiarity (which is attained through repeated exposures) facilitates second language perception (Walsh et al., 2010). The memories of speech accent are arranged in human cognitive map based on frequency and similarity. All related events are stored very close to each other for easy recalling. However, unrelated events are stored quite a distance from each other; thus, it is

very difficult to be remembered easily. It can be concluded that familiarity affects intelligibility. The theoretical implication deduced from the finding of this research is that so long as there is familiarity among non-native English varieties, intelligibility is assured. This negates proclamations of some researchers hypothesising that non-native English varieties are deviants and will not be mutually intelligible. Considering the global spread of English among different non-native English users, this study gives evidence for a need for students, learners and teachers to develop a greater familiarity with lots of non-native English varieties because, accent familiarity is relevant to intelligibility in any accented speech. Sequel to the conclusions in this study, therefore, it could be inferred that intelligibility is achieved when the listener is familiar with a speech accent, this view is more pronounced in the literature than the contrary.

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