Research Paper

Intelligibility of English Vowels Produced by Nigerian and Malaysian Speakers

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Abstract

The widespread use of the English language raises concerns about maintaining the mutual intelligibility across different nonnative English varieties. Some have viewed nonnative English varieties as distorted forms of English that cannot stand on their own that would cause the language to disintegrate into mutually unintelligible varieties. This study is an attempt to ascertain if there is mutual intelligibility between Nigerian and Malaysian English speakers, as there is little exploration of the intelligibility of African English varieties to Malaysians and vice versa. Forty Nigerians and 80 Malaysian undergraduate ESL students took part in a vowel discrimination task. The Nigerians listened to the words recorded by Malaysian speakers while the Malaysians listened to the words recorded by Nigerian speakers. Seven pairs of vowels were chosen as target vowel contrasts tested. Results showed that the Nigerians and Malaysians performed well in the discrimination task with performance above the guessing threshold for most of the selected pairs of vowel contrasts. Findings suggest that mutual intelligibility exists between the 2 recognized nonnative English varieties.

Keywords: Nonnative English Varieties; Nigerian and Malaysian Englishes

1. Introduction

It is an established fact that the English language is one of the most widely spoken languages across the globe. People who speak English as nonnative speakers in many contexts outnumber those who speak this language as native speakers (House, 2003). For example, the population of L2 students learning English in China alone surpasses the number of people who speak the language as native speakers (Sonntag, 2003). The language is now associated with globalization and all its attendant processes.

The spread of the English language is not without consequences, and one of the most cited effect of international coverage and usage of the English language within nonnative contexts is *nativization* of the language into different varieties of English (Lowenberg, 1986). These nativized English varieties have developed new morphological, phonological, syntactic, stylistic, and semantic features that are systematic and that have been accepted in their sociolinguistic settings (Muhammad, Yap, Chan, & Wong, 2016; Tay, Chan, Yap, & Wong, 2016). In addition, the features of these nativized varieties are distinct from the established native English varieties, such as British English, American English, Canadian English, New Zealand English, and Australian English. Nevertheless, the usage and characteristics of New Englishes have raised academic debates among researchers on the intelligibility of the different varieties of English among different speakers or users of the English language (Kirkpatrick, 2007). Part of the concern stems from the fear that the emergence of nonnative English varieties around the world would cause English to disintegrate into mutually unintelligible varieties—just as how the Romance languages rose from Latin (Safotso, 2015).

To maintain the status of the English language, some researchers have called for the use of *standard* native English varieties in all native and nonnative settings (Chevillet, 1993). They believe that the standardized form of the English language should be the only form of English used for international and local settings. The goals of using a

standardized form of English are to ensure all L2 learners produce English sounds just like native speakers (Levis, 2005); otherwise, it is argued that the loss of the functional status of English as an international language would be the consequence. Prince Charles is reported to have said to the British Council that "we must act now to ensure that English—and that, to my way of thinking, means English English—maintains its position as the world language well into the next century" (Kachru, 2005, p. 217). This view on the maintenance of the *purity* of language has little tolerance for the use of English varieties that are accented due to some form of L1 influence (Trofimovich & Isaacs, 2012). However, a more accommodating view was expressed by other scholars for the simple reason that using the standard form of English in all contexts is problematic, considering the sociolinguistic reality in which the English language is used globally. Kachru (1985, 1997, 2005), for example, argues that the use of the English language varieties with accents in different forms is necessary and variation should not be seen as a threat to the development of the English language.

Another reason why nonnative English varieties should be valued is the fact that most of the nonnative speakers of English had little or no native input while learning the language. They learned mostly from nonnative teachers of English (Widdowson, 1994) and, for this reason, are exposed to the nonnative varieties of English, prompting Kachru (1997) to challenge the notion of the usage of standard English in all nonnative contexts, as such contexts are more likely to be available only to the inner-circle contexts and not to the other circles. Qian and Jingxia (2016) reported:

> Mutual intelligibility between interlocutors is achieved through accommodation and meaning negotiation, rather than conformity to prescribed codes. That is, nonnative English speakers do not need to conform to the norms of native English. Language cannot be viewed as the end-product generated by its user but the means through which users can achieve their purpose of communication, such as information exchange and business transaction. (p. 86)

Therefore, what appears to be important to nonnative speakers of English is to have the ability to produce intelligible English that will be mutually intelligible among themselves, which need not necessarily conform with the standard English varieties. This is because the essence of speech is to communicate and speech intelligibility stands for the overall degree of understanding of an utterance by listeners (Bresnahan, Ohashi, Nebashi, Liu, & Shearman, 2002). Hence, producing speech with an accent that is different from the available native accents does not mean that the speech will necessarily be completely unintelligible (Trofimovich & Isaacs, 2012). Whereas there is no doubt that heavily accented English may cause confusion and frustration for both speakers and listeners during conversation, many New Englishes share a number of common features that make them mutually intelligible (Ghobain, 2016). Research that aims to uncover features that make speech intelligible between speakers of different varieties of English would be more useful to English learning than focusing on ensuring L2 speakers produce native-like speech.

Recent trends in sociophonetic research call for the rigorous comparison and contrasting of different nonnative accents of English for the purpose of assessing mutual intelligibility (Pickering, 2006). A more appropriate evaluation of these nonnative varieties of English should be based on other nonnative speakers' judgments because nonnative speakers mostly interact more among themselves than they do with English native speakers. The comparison and contrasting of different nonnative varieties of English become necessary in almost all aspects of the language, but the aspects of phonetics and phonology are the most crucial ones in achieving mutual speech intelligibility (Saito & van Poeteren, 2012). In line with these arguments, this study was designed to investigate the extent to which mutual intelligibility exists between Nigerian and Malaysian Englishes, which are among the recognized nonnative English varieties in Africa and Southeast Asia (Kirkpatrick, 2010). The results from such a comparison will provide insights for the immediate communities involved (in this case, the Nigerians and the Malaysians), but it will also demonstrate the utility of exploring intelligibility among speakers of different varieties of New Englishes, in general. Insights for intelligibility training, if necessary, can also be made based on the findings from the study as shown in Salheen, Yap, Mohamad Ali, and Nimehchisalem (2019) where training in multiple foreign accents was found to result in better intelligibility performance in a novel accent: Iranian accented English.

2. Literature Review

2.1. Malaysian English

The English language has been used in Malaysia right from the colonial era in which the language is used as a language for administration and a tool for socioeconomic mobility (Nair-Venugopal, 2000). After achieving its independence, Malaysia continued to use English not only for sociopolitical communication, but also as a medium of instruction and language for business communication. There are 133 living languages spoken in Malaysia with 112 indigenous languages and 21 nonindigenous languages (Eberhard, Simons, & Fennig, 2019). Most Malaysians speak, at least, two languages (Banks, 1993; Low, Nicolas, & Wales, 2010; Nair-Venugopal, 2000). Therefore, the spread and development of the Malaysian English variety is heavily influenced by the L1s spoken as well as the official languages taught and used in the country, such as Bahasa Melayu, Mandarin Chinese, and other Chinese dialects, Tamil, and other Indian languages (Ahmad & Silahudin, 2007). These nativized English varieties spoken in Malaysia are used for both social and formal communication in the country and are considered as strong symbols of identity, as the varieties are very rich with the phonological influence of these three languages (Gill, 2002).

Schneider (2007) proposed a dynamic model of evolution of postcolonial Englishes to characterize the emergence and development of a new English variety in five progressive stages. These five stages of development are foundation, exonormative stabilization, nativization, endonormative stabilization, and differentiation. Following this model, Malaysian English can be classified as in the nativization phase, as there are L1 speakers of the local English variety which is characterized by a great range of variability resulting from contact within the local community of speakers. The nativization of Malaysian English involves two stages: The first stage of nativization involves incorporation of a number of culturally-loaded local words, which do not have an exact equivalent in the English language; the second stage is facilitated by the urge to be liberated from the imperialistic standards of English set by the native speakers (Vethamani, 1996). In this stage, Malaysian English witnessed the adoption of several features of the local languages into the English language, as it is used as the lingua franca uniting people from different linguistic backgrounds (Moag, 1982). Baskaran (2005) opines that the features of Malaysian English are not totally different from British or American English, but its grammatical features, pronunciation, and vocabulary have had considerable influence from the local languages spoken in the country, such as varieties of Malay and varieties of the Chinese and Indian languages.

According to Baskaran (1987) and Morais (2000), Malaysian English can be sociolinguistically categorized into three different subvarieties: The acrolectal variety, which is considered a near-native variety, is spoken by highly educated Malaysians who studied English in America, the U.K., Canada, and Australia and those who speak English right from the early years of their lives. However, only a small number of Malaysians speak this form of English. The second subvariety, the mesolectal variety, is spoken by professionals, academics, and other educated Malaysians who studied the English language as their core subject. This variety is often used in their daily communication. The term *Malaysian English* belongs to this group of users according to Wong (1982). The last subvariety is the basilectal variety which is a colloquial form of English which can only be found in the spoken form, due to its deviation in syntax, phonology, and lexis. This subvariety is only intelligible among speakers who can understand this subvariety, as there are large differences between the vocabulary and syntactic structures found in this variety when compared to the British and American English varieties (Baskaran, 1987). These varieties of Malaysian English (acrolect, mesolect, and basilect) have also been, further, classified in Baskaran (2004, 2005) as Official Malaysian English, Unofficial Malaysian English, and Broken Malaysian English (Thirusanku & Yunus, 2012).

Most earlier studies done on Malaysian English were based on impressionistic works, for example, Baskaran (2005), Platt and Weber (1980), Zuraidah (2000), and Hashim and Tan (2012). However, these earlier works served as the background for subsequent research. In the area of instrumental description of English varieties, studies on Malaysian English are still relatively scarce. A study conducted by Pillai, Zuraidah, Knowles, and Yong (2010) is one such study in which the phonological aspect of Malaysian English was explored instrumentally. The study investigated the distribution of Malaysian English vowels in the acoustic space; the contrastive differences between traditionally paired vowels were evaluated. The findings showed that Malaysian English lacks vowel contrast between /e-æ/, /i-ɪ/, and /ʌ-ɜː/. The lack of contrast between these adjacent vowels could have resulted from a vowel merger that was described in Platt and Weber (1980). Other two pairs of vowel merger described in Platt and Weber (1980) included the merger of the contrast for the following pairs of English phonemes: /i-ɪ/ and /u-uː/.

One of the reasons why nonnative English speakers experience difficulties in the production of English vowels is the influence of their L1 (Bada, 2001). The influence of Malay in the production of English vowels was apparent in the study conducted by Zuraidah (2000). The findings of her research, like those of previous researchers, indicated that Malaysians do not have vowel length distinction, so the participants transferred features of their L1 in their production of English vowels. More specifically, they tended to merge adjacent vowels, as shown in Table 1. Thai, Eng, and Aziz (2010) also found evidence of assimilation in a vowel perception study with Malay speakers of English. However, these studies have not investigated the level of intelligibility of these sounds to other nonnative English speakers:

Table 1. *Vowel Merger in Malaysian English*

Phoneme Pairs	Realized as
/i/ and /ɪ/	[i]
/e/ and /æ/	[e]
/ʌ/ and /ɜ:/	[a]
/ɔ/ and /ɔ:/	[o]
/u:/ and /ʊ/	[u]
/ə/ and /ɜ/	[ə]

2.2. Nigerian English

There is no exact record of the first arrival of English to Nigerian shores; however, it is believed that Nigerians' first contact with English dates back to the missionary propagation and commercial activities of European explorers and Portuguese traders from the 15th and 16th centuries A.D. (Spencer, 1971). According to Spencer (1971), voyages of the English trader William Hawkins, in particular during 1530 and 1532, with coastal areas of Nigeria were among the early contacts of Nigerians with the English language. These contacts resulted in the emergence of Pidgin English (Bamgbose, 1995).

Nigerian English has been under linguistic scrutiny since the 1970s. For example, some studies conducted on Nigerian English in the 1970s include Adetugbo (1977) and Brann (1975). Some studies that were conducted on the phonological structure of Nigerian English include Aladeyomi and Adetunde (2007) and Gut (2004). Less attention, however, was paid to phonemic description of Nigerian English prior to the 1950s, probably because there were few speakers of the variety then. Most phonological studies of Nigerian English were carried out from 1950 onwards. One of the pioneering researches exploring the phonemic structures of Nigerian spoken English was conducted by Christopher in 1954. The study was an impressionistic observation based on the perceptual experience of "Nigerian English as it is commonly heard from the lips of many Africans . . ." (p. 20). In his description, Nigerian English consists of these vowel sounds: [i, ɛ, a, u, aɪ, ɔɪ, ɪ, au, ɪa, ua). Another study, which examined Nigerian English, was carried out by Brosnahan in 1958. In his study, he examined the sociolinguistic perspective of Nigerian English. He categorized Nigerian English into four different distinct varieties: The first variety is spoken by people who have not undergone any formal schooling, but have picked up the language outside the school system. Speakers of Pidgin English are within this category. The second variety is spoken by those who have been to primary school. A reasonable number of Nigerians can be categorized in this group. The speakers within the third variety are more advanced in terms of fluency and have the command of a richer vocabulary compared to the other two categories of speakers of Nigerian English because they have access to secondary education. The fourth category of speakers is those who have had university education. Brosnahan (1958) classified the fourth category of Nigerian English variety as the closest to the British English variety. However, Brosnahan's (1958) study is considered outdated, as it was conducted almost half a century ago; as such, some of his findings may not reflect the current sociolinguistic situation of Nigeria (Jowitt, 2007).

Generally, the English language in Nigeria has had the privilege of being the dominant language in the workplaces, schools, and the media. The language has spread widely to every corner of the country, as it has attained a status none of the indigenous languages has ever attained (Kaan, Amase, & Tsavmbu, 2013). The variety is categorized within the outer concentric circle of World Englishes as cited in Crystal (2003). Like most nonnative English varieties, Nigerian English has undergone localization, nativization, and domestication (Kaan, Amase, & Tsavmbu, 2013).

Although Nigerian English has diverted from the so-called native English variety in phonology, semantics, syntax, sociolinguistics, and pragmatics, it has continued to function as the official language alongside three other major languages in the country, namely Hausa, Yoruba, and Igbo (Olajide & Olaniyi, 2013). It has been unanimously agreed

that Nigerian English is a legitimate variety of English worldwide which has a place among New Englishes (Awonusi, 2004). This variety is being spoken by Hausa, Igbo, and Yoruba speakers—the three major Nigerian ethnic groups. The varieties of English spoken by these three major Nigerian ethnic groups are recognized in academic circles as the major nonnative varieties of English existing in Nigeria (Gut & Fuchs, 2013). The variety is spoken by 20% of the Nigerian population as a second language (Jowitt, 1997). Some recent research on the structure of spoken Nigerian English includes that of Bobda (2007) that indicated L1 interference in Nigerian English. He illustrated instances of vowel merger in Nigerian English, as shown in Table 2. One of the drawbacks of Bobda's (2007) study is that the data were collected from Nigerian elites that were residing in Nigeria and the diaspora in Hong Kong, USA, Cameroon, Germany, and Britain. Another study on Nigerian English is that of Gut (2004) who investigated the realization of word final consonant cluster and compared the phonological structures of Nigerian and Singaporean English. Her findings revealed that the L1 influenced the realization of the final consonant cluster in both English varieties:

Table 2. *Realization of Nigerian English*

Phoneme Pairs	Realized as
/iː/ and /ɪ/	[i]
/e/, /eː/, and /æ/	[e]
/æ/ and /aː/	[a]
/ɔː/ and /ɔ/	[ɔ]
/uː/ and /ʊ/	[u]

Despite past research focusing on illuminating features of Nigerian English, there is still a need to explore other aspects of Nigerian English such as its intelligibility within and outside the Nigerian context. To fill the gap in the research field on Nigerian English, the present study looks at the intelligibility aspect of Nigerian English focusing on vowels. With this work, we hope to contribute to the ongoing discussion on speech intelligibility of nonnative English varieties using the following research questions:

1. To what extents are English vowels produced by Nigerians (Hausa) ESL speakers intelligible to Malaysian ESL speakers of Malay Chinese ethnic backgrounds?

2. To what extents are English vowels produced by Malaysian ESL learners from Malay and Chinese ethnic backgrounds intelligible to Nigerians (Hausa) ESL speakers?

3. Methodology

3.1. Participants

Three groups of participants who were ESL speakers took part in the study: These groups were Nigerians who spoke Hausa as their L1 ($n = 40$) and Malaysians who spoke either Malay as their L1 ($n = 40$) or Chinese as their L1 ($n = 40$). The participants were students recruited from universities in Nigeria and Malaysia. Each participant took an English proficiency placement test. This gave the researchers the opportunity to select a homogenous group. The Oxford Placement Test (OPT; Allan, 2004) was used in controlling the English proficiency of the participants and the selected participants were those whose English placement test score fell within the moderate level, as determined by the standard of the Common European Framework of References for Languages (CEFR). Table 3 presents the distribution of age of the participants recruited for the study:

Table 3. *Distribution of Age of the Participants*

		f	*M*	*SD*
Nigerian	Male	20	24.40	0.75
	Female	20	23.10	1.80
Chinese Malaysian	Male	20	20.75	2.44
	Female	20	21.50	2.52
Malay	Male	20	21.8	2.28
	Female	20	21.85	2.73

The Malaysians were asked to listen to Nigerian English as produced by two Nigerians (Hausa ESL speakers: one male and one female speaker). The intelligibility of the variety was judged by the performance of the respondents in the task. A high percentage of correct attempts (above 50% which represents the guessing threshold) indicate high intelligibility, whereas a low percentage of incorrect attempts (below 50%) indicate low intelligibility. In the discrimination task, descriptive procedures using percentages are common means of obtaining results (McGuire, 2010).

3.2. Vowel Discrimination Task

A vowel discrimination task was designed with Praat (Boersma & Weenink, 2013) to assess the perceptual intelligibility of English vowels. The participants were asked to hear two words containing minimal pairs of English vowels that were identified as potentially difficult from the literature. The task was meant to explore the discriminatory intelligibility of two English vowels. The participants responded by choosing one of the two options provided on the computer screen: "Same" or "Different." A total of 140 trials (10 items for 7 pairs of vowels) were randomly presented. Praat automatically recorded correct and incorrect attempts made by the participants.

3.3. Stimuli

The stimuli consisted of seven pairs of contrasts as shown in Table 4. These pairs of vowels were chosen, as they were predicted to either lead to intelligibility difficulty to the participants or were predicted to be easy due to L1 influence, as discussed earlier on the features of Nigerian English and Malaysian English. Perceptual difficulties for both Nigerians and Malaysians were predicted based on Zuraidah's (2000) and Bobda's (2007) descriptions of Malaysian and Nigerian Englishes, respectively. However, due to the multilingual nature of Nigerian and Malaysian societies, there are variations among Nigerians and, similarly, among the Malaysian speakers of English too, there are differences in the various Malay dialects, and across Chinese dialects. However, because the objective of the study was to assess intelligibility of the English spoken by different groups of nonnative speakers and not to assess the linguistic factors influencing the perception of the speech, the variation in the linguistic background of the participants was not controlled at a fine-grained level. Moreover, because this study is the first attempt to measure the intelligibility between Nigerian and Malaysian Englishes, it was deemed acceptable to get a first brush of the phenomenon; subsequent studies can consider these factors and address these limitations in their research.

The stimulus items were recorded by a total of six speakers (i.e., three males and three females) to represent different language subgroups: Nigerian, Malaysian Malay, and Malaysian Chinese speakers. The stimulus items were recorded within a carrier phrase "Please say . . . (target words) . . . again," using a Logitech noise cancelling microphone attached to a laptop computer. The stimulus items with the target vowels were, then, spliced out and presented in a perception experiment using Praat. Three versions of the same experiment were created using the stimulus items from the different language subgroups. The first and second formants of the target vowels in the stimulus items were extracted at the midpoint of the vowel using Praat. Figures 1-3 present the distribution of the target vowels in the vowel space as produced by the Nigerian speakers, the Malaysian Malay speakers and the Malaysian Chinese speakers, respectively. As evident from Figure 1, there were obvious overlaps between some vowel categories in the stimuli items which resulted in the categories being less perceptible to the Malaysian speakers, as also found in an instrumental analysis of these vowels with more speakers in Bello, Yap, Chan, and Nimehchisalem (2020). Vice versa, there were also overlaps for a different set of target vowels produced by the Malaysian speakers that explained the lower performance in perceptibility of the contrast by the Nigerian speakers, as discussed in the Results section:

Table 4. *Vowels Contrast*

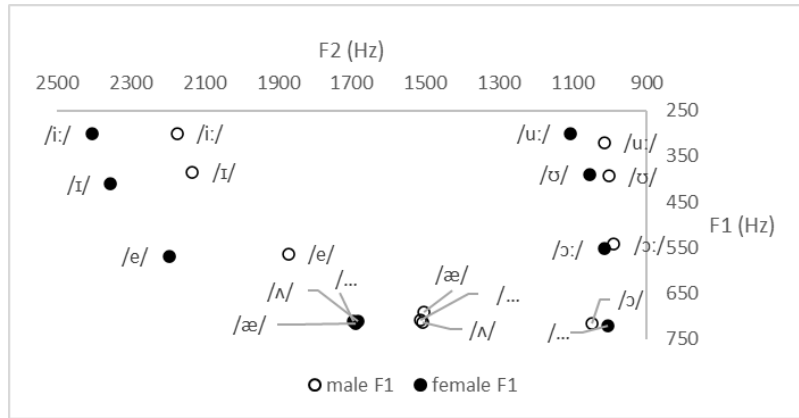| Number of Contrast	Vowel Pairs	Words Used
1	[i:] and [i]	*heed, hid*
2	[e] and [æ]	*hayed, had*
3	[ʌ] and [ɔ]	*hud, hod*
4	[ɔ] and [ɔ:]	*hod, hawed*
5	[ʊ] and [u:]	*hood, who'd*
6	[æ] and [ʌ]	*had, hud*
7	[ɜ:] and [æ]	*herd, had*

Figure 1. Vowel Space of Stimuli Items Produced by the Nigerian Speakers
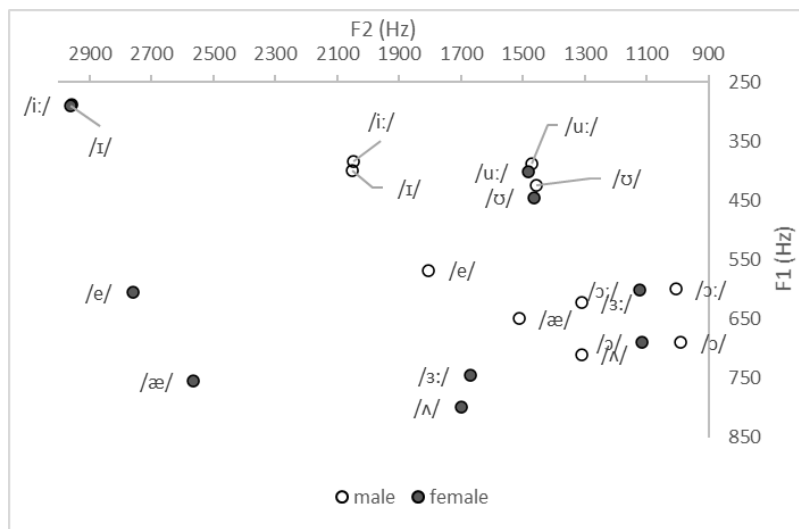

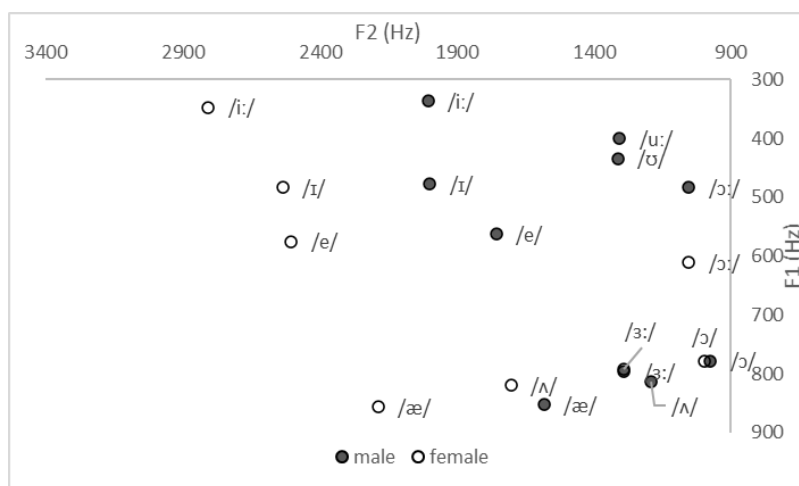*Figure 2.* Vowel Space of Stimuli Items Produced by the Malaysian Malay Speakers

Figure 3. Vowel Space of Stimuli Items Produced by the Malaysian Chinese Speakers

4. Results

The results of the intelligibility test involving the Malaysians (i.e., 40 Malaysian Malay and 40 Malaysian Chinese speakers) and the Nigerians (i.e., 40 Hausa speakers) are presented here. First, we will examine the results on the intelligibility of Nigerian English to Malaysian respondents. The results presented in Figure 4 show that the Malay participants successfully distinguished the four pairs of English vowels with high accuracy. These pairs include the pair of high vowels /iː-ɪ/ and /ʊ-uː/ as well as the mid back vowel pair /ɔ-ɔː/. The contrast between mid-front and low-front vowel /e-æ/ was also discriminated above the guessing threshold. However, they found it difficult to discriminate the vowel pairs with central vowels such as /æ-ʌ/ which were contrasted with only 37.25%, /ɜː-æ/ with 37.75%, and /ʌ-ɜː/ with 35.37% accuracy. These pairs appeared to be the most problematic for the Malaysian Malay ESL speakers when presented with the Nigerian English stimuli.

The performance of the Malaysian Chinese ESL speakers, as shown in Figure 5, also suggests that the same vowel pairs in Nigerian English were problematic. The Malaysian Chinese participants also distinguished the high vowels and mid-back vowel pairs with rather high accuracy rates: /iː-ɪ/ (75.87%), /ʊ-uː/ (72.50%), and /ɔ-ɔː/ (70.87%). The front vowel pairs /e-æ/ were also discriminated above the guessing threshold with 66.62% accuracy. However, with the vowel pairs that included the central vowels, performance was below the guessing threshold of 50% accuracy, which indicates that these vowel pairs were not intelligible to them. Like the Malay ESL participants, performance was below the 50% guessing threshold: /æ-ʌ/ (34%), /ɜː-æ/ (30.87%), and /ʌ-ɜː/ (30.87%):
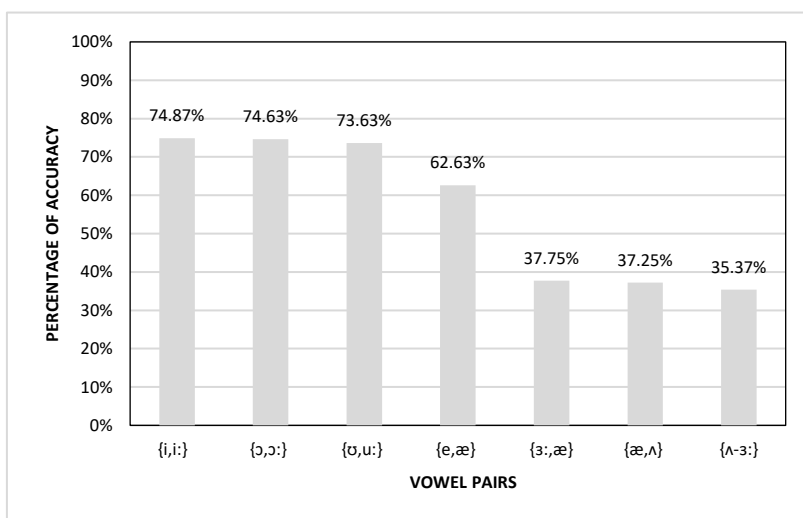

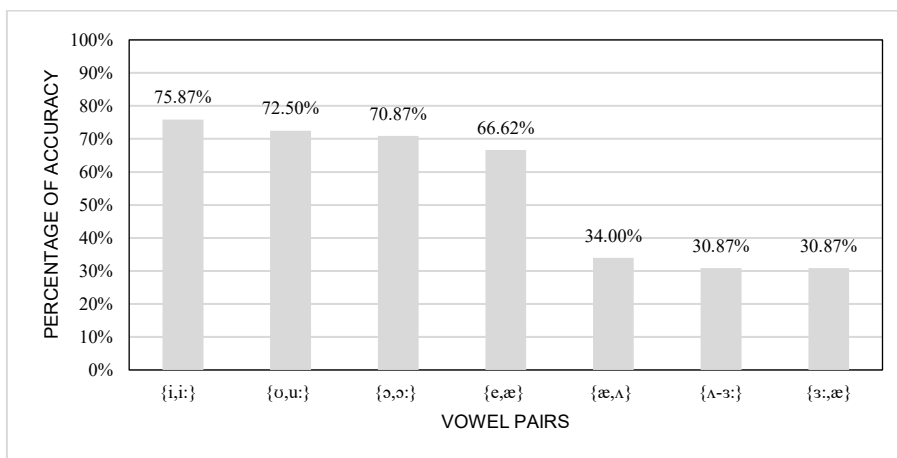*Figure 4.* Intelligibility of Nigerian English as Determined by the Malaysian Malay Respondents

Figure 5. Intelligibility of Nigerian English as Determined by the Malaysian Chinese Respondents

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Next, we look at the results on the intelligibility of English spoken by the Malaysian speakers to the Nigerian respondents, who were all native speakers of Hausa. Figure 6 shows the percentage of the correct attempts on the discrimination of the English vowels produced by the Malaysian Malay ESL speakers, as determined by the Nigerian respondents. The results show that the Nigerian respondents could discriminate the vowel pairs with central vowels rather well, all above the guessing threshold of 50% accuracy: /ɜ:-æ/ (70.87%,) /æ-ʌ/ (68.62%), and /ʌ-ɜ:/ (65.75%). Performance for the mid- and low-front vowel pair /e-æ/ was also good at 69.50%. In contrast, the Nigerian respondents found the mid-back and the high vowel pairs less intelligible. Performance for /ɔ-ɔ:/ was 53.62%, which is very near the guessing threshold of 50% accuracy. Performance for the high vowel pairs was all below the guessing threshold: /ʊ-u:/ (43.75%) and /i:-ɪ/ (26.50%):
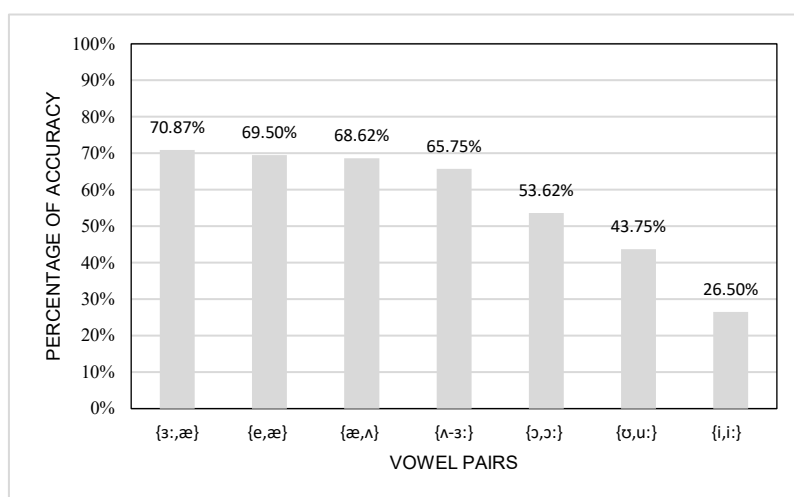

Figure 6. Intelligibility of Malaysian Malay English as Determined by the Nigerian Respondents

A very similar trend was also observed with the English vowels produced by the two Malaysian Chinese ESL speakers (male and female). The Nigerian respondents discriminated the pairs of English vowels with the central vowel well, but performance was poor for the high vowels (see Figure 7):
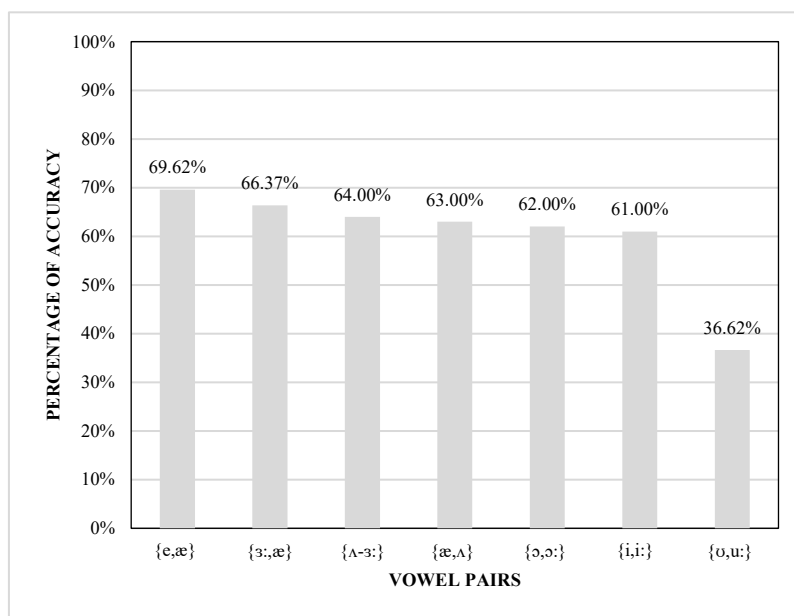

Figure 7. Intelligibility of Malaysian Chinese English by the Nigerian Respondents

5. Discussion

The results show that the Malaysian Malay speakers could distinguish the majority of the vowel contrasts produced by the Nigerian Hausa speakers of English, with more than 50% accuracy. Likewise, the Malaysian Chinese participants were able to distinguish the vowel pairs; accuracy rates were also high. The performances of the Nigerian speakers on Malaysian English produced by the Malaysian Malay and Chinese speakers of English showed that a majority of the vowel pairs were also discriminated well. This is an indication that when the Nigerians and the Malaysians speak English to each other, they are likely to understand each other because the intelligibility rates between speakers of these nonnative English varieties were found to be above 50% the guessing threshold. It has been observed that the vowel contrasts of /æ-ʌ/, /ɜː-æ/, and /ʌ-ɜː/ produced by the Nigerians were the most difficult for the Malaysian participants to discriminate; however, the Nigerians did not have difficulty discriminating these vowels when the speakers of Malaysian English produced them. This shows a possible dissociation between production and perceptual abilities. This finding is in contrast to the findings of Flege (1993) and that of Kluge, Rauber, Reis, and Bion (2007) who investigated the connection between production and perception in nonnative phonological processing where their findings revealed a moderate relation between perception and production of nonnative sounds.

In terms of intelligibility of nonnative English varieties, the results from the present research suggest that there exists mutual intelligibility between the two broad categories of nonnative English varieties in comparison, that is, Nigerian and Malaysian English varieties. This finding also contradicts the findings of Kaur and Raman (2014) in which the nonnative English varieties were found to be less intelligible, less pleasant, and less acceptable to their listeners. Perhaps, the context in which the study was conducted may have influenced the results of the study; it is possible that some nonnative varieties may be less intelligible than others. However, there are also studies that have corroborated the findings of the present study. For example, Deterding and Kirkpatrick (2006) explored the mutual intelligibility of Englishes in Malaysia, Brunei, Singapore, and the Philippines as members of Association of South East Asian Nations (ASEAN) countries. They found that there is mutual intelligibility among these nonnative English varieties spoken in Southeast Asia. Similar findings were found in a study conducted by Munro, Derwing, and Morton (2006) in which the mutual intelligibility of the English speakers who were familiar with regional varieties of English was explored. The English speakers who spoke Japanese, Cantonese, and Mandarin as their L1 were more intelligible to one another, whereas the English speakers with Polish and Spanish backgrounds were more intelligible to their European counterparts. The study found moderate to high correlations on intelligibility scores between the speakers of different English backgrounds. These groups of speakers can be argued to be from the same region of the world, but in the context of the present study, mutual intelligibility was found even among nonnatives of different regions of the world, that is, between African nonnative English and Southeast Asian nonnative English varieties.

On a similar vein, a study conducted by Bent and Bradlow (2003) concluded that the intelligibility level of highly proficient nonnative speakers of English was as equal to that of the native speakers. The implications of the findings of Bent and Bradlow (2003) suggest that nonnative English speakers are equally intelligible which points to the direction of the core essence of the findings of the present study, suggesting that even among those who were not highly proficient nonnative speakers, such conclusions are likely in given contexts. In another study by Sripracha (2005), mutual intelligibility between Singaporean and Thai English varieties was explored; however, Singaporean English was found to be more intelligible to the Thai university students than Thai English was to the Singaporean university students due to its heavy L1 influence. Thus, studies evaluating the effect of L1 transfer when producing L2 sounds have suggested the possibilities of learners substituting some segments in their attempt to produce L2 sounds. They may produce right phonemes or sounds, but with wrong segmental or suprasegmental features (Riney, Takada, & Ota, 2000). A study conducted by Simonet (2010) shows that L2 learners do transfer the features and properties of the most frequently used dominant language (L1) unto the target language (L2), even when they have received a reasonable amount of native input.

Even though these nonnative varieties contain features stained from their respective L1 influence, they were still found to be intelligible. Salheen, Yap, Mohamad Ali, and Nimehchisalem (2019) also found that when EFL learners who are not familiar with the Malaysian English accent may have difficulty with intelligibility of the speakers, a short training session could easily improve the intelligibility of the new variety of English and it may also be transferred to other novel varieties of English, such as English spoken by Iranian speakers of English. Thus, the findings reported in the present research are in conformity with many empirical findings reported in the literature and that there exists mutual intelligibility

between nonnative English varieties. This phenomenon has long been predicted in the literature, due to the wider spread use of the English language across the globe. Crystal (1997, pp. 130-132) opines that "an inevitable consequence of this development is that the language will become open to the wings of linguistic change in totally unpredictable way."

6. Conclusion

Based on the results presented, it is concluded that there is mutual intelligibility between the Nigerian and Malaysian English varieties, as is the case with many other nonnative English varieties found in other studies (e.g., Deterding & Kirkpatrick, 2006; Munro, Derwing & Morton 2006). The findings of this research, therefore, negate postulations that nonnative English varieties are deviant and not intelligible among speakers of different varieties of English. Most studies suggesting that nonnative English varieties are not intelligible were judged from the native speakers' perspectives. However, with the increasing use of English as an international language and the emergence of different nonnative varieties, the findings of the current study suggest that there may be a need for a shift from the one-sided perspective on the issue of intelligibility because there are more nonnative English speakers in the world who acquire English to serve their social, economic, and personal needs, of which communicating with native speakers of English is but one of them (Jenkins, 2003).

This research renders a considerable contribution to the field of World Englishes by providing empirical evidence on intelligibility between Nigerian and Malaysian Englishes, which could provide further insight into the possible cross-intelligibility between West African and Southeast Asian Englishes in the world of rapidly growing trade, tourism, commerce, and education. Whereas the study showed that the two varieties are mutually intelligible, we do not refute the possibility that there may be varieties that are less intelligible to other groups of listeners, as shown in Salheen, Yap, Mohamad Ali, and Nimehchisalem (2019), Sripracha (2005), and Kaur and Raman (2014). The way forward is to develop greater awareness and tolerance toward these new varieties of Englishes and ensure intelligibility training is provided when needed, as more online learning and international education bring students from different regions of the world together in the classrooms. Salheen, Yap, Mohamad Ali, and Nimehchisalem (2019) showed that EFL learners who are not familiar with a new English accent can benefit from being given a short training session in these new varieties of English and the benefits of such training are transferable to other novel accents, as the learners learn to accommodate more variation and possibly develop better listening skills.

Failure to regard the nonnative English varieties as independent entities that need not rely on any native variety is far from the current realities of the international status of the English language, spoken by people from different sociolinguistic backgrounds, for example, Nigerians interacting with Malaysians, Japaneses, or Germans and Ghanaians speaking with Koreans. It is concluded that because the most important function of any speech variety is to get a message across, there seems to be no reason at all to consider nonnative English varieties as deviants and to insist that nonnative speakers must attach themselves to any native English variety. Recognizing different cultural aspects and norms of different sociolinguistic contexts of nonnative English varieties helps ESL students understand people from other linguistic backgrounds more easily and understand their cultures more profoundly.

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