



English Fricative Rendition of Educated Speakers of English from a North-Central City of Nigeria

Theodore Shey Nsairun

Obafemi Awolowo University, Ile – Ife, Nigeria/Federal University Lokoja, Nigeria
theodoreshey@gmail.com

Eunice Fajobi *(Correspondence Author)

eunicefaj@gmail.com

Obafemi Awolowo University, Ile – Ife, Nigeria

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Abstract

This paper examines the influence of ethnicity on the realization of the English fricatives articulated by selected educated speakers of English from four ethnic groups of Ebira, Igala, Hausa and Okun-Yoruba residing in Lokoja, a North-Central city of Nigeria. Data for the study consist of 1080 tokens elicited from 120 informants. The study was guided by a synthesis of the theoretical frameworks of Honey's (1997) Sociophonology and Azevedo's (1981) Contrastive Phonology. Perceptual and acoustic analyses of the data reveal that, although speakers tend to not articulate sounds that are absent in their phonemic inventory with the dexterity expected of their level of education, co-habitation seems a factor that has robbed off on the respondents' level of performance in this study. Results reveal further that 80% overcame their linguistic challenges to correctly articulate the test items while 30% generally had difficulty articulating the interdental fricatives /θ/ and /ð/ and the voiced palato-alveolar fricative /ʒ/; perhaps, because these sounds are absent in their respective phonemic inventories. The paper submits additionally that, phonology is still resistant to input (cf. Fajobi, 2013), level of education notwithstanding. However, positive social relations could impact positively on language use and competence in any plurilingual English as a second language (ESL) environment.

1. INTRODUCTION

In the face of multilingualism and multi-ethnicity pervading nations of the world in the 21st century, the English Language has undoubtedly become a dominant world language. The language has proliferated the world in such a way that strangers from any part of the world, who are meeting for the first time, would likely converse in it; and, participants would use the variety native to them. That variety may differ in form from the native speaker's and may even pose intelligibility problem for not only the native English speakers but also non-native speakers. Affirming this, Trudgill (2009:2) submits that the "English language has been brought to so many locations (of the world) and this has given rise to extreme diversification and the birth of countless 'new' varieties..." Owolabi (2012:1) observes that "the number of people, spread across the different continents that use the language for one purpose or the other, attest to the fact that English is, indeed, a global language." It is thus a truism to claim that linguistic variety is a feature of human life in both the social and the individual contexts.

Nigeria is a practical example as it has an estimated 394 to 513 linguistic groups, which according to Olaniyi and Josiah (2013:38) “culminate in the multifarious accents, dialects, varieties and diversities...” of the language; not exempting the spoken form.

The English language in Nigeria has been nativised as different ethnic groups come in contact with it. For instance, there are Igbo English, Hausa English, Yoruba English, Epira English, Okun-Yoruba English, Igala English, etc. in the country. This then makes the language to experience different “colorations” at the levels of Phonology, Morphology, Syntax and Semantics as each ethnic group adopts its use. To this effect, deviant and variant forms have emerged which have made the speaking of the English Language by some Nigerians a somewhat daunting task; even more daunting, perhaps, is the issue of (mutual) intelligibility, especially outside the Nigerian shores. Needless to say, “one of the formidable challenges that learners of English face, especially in the second language situation, is the pronunciation of English words” (Onuoha, 2015:1). For instance, speakers and listeners are confronted with different “English sounds” which are invariably articulated at the mercy of different ethnicised versions. Nevertheless, this huge resource of second language speakers of English use it for administration, education, mass media, business transactions, commerce, politics, advertisement, judiciary proceedings, science and technology, and so on. English language in Nigeria further performs functions of intra-ethnic, inter-ethnic, inter-religious, inter-cultural and international linkages for peaceful coexistence; the last being through the Educated Nigerian English (ENE) variety.

Scholars such as Banjo (1979, 1995), Jowitt (1991), Udofot (2004), Akinjobi (2004), Ubong (2009), Olaniyi (2011), among others have made submissions that the Educated Nigerian English is a variety of English which can be considered as having the same status with other standard non-native varieties in other parts of the world. It enjoys more social prestige compared to other ethnicised versions. It qualifies as a neutral dialect which draws an unbiased social attitude from all its speakers. Akindele & Adegbite (2005) note that ENE is associated with educated usage and it is the model for writing and speaking. In his description of standard Nigerian English, for instance, Odumuh (1987:37) noted that it is the variety that shows evidence of appropriate segmental and non-segmental distinctions; and can be understood both nationally and internationally. Thus, students in colleges of education, polytechnics and universities constitute the ‘educated’ Nigerian speakers of English (Banjo, 1979; Udofot, 2004). In other words, a graduate of any of the above higher institutions of learning is considered an educated person and is therefore expected to speak the educated variety of Nigerian English. In line with this description, this study is interested in describing some of the issues relevant to the articulation of English sounds, especially the fricatives among selected educated speakers of English from four ethnic groups within Lokoja, a city in the North Central part of Nigeria. The study is equally interested in the variant patterns of inter-ethnic realizations as well as account for the social variables affecting the production of English fricatives among the target participants.

2. LITERATURE REVIEW

2.1 Lokoja: A Multi-ethnic City in North Central Nigeria

Lokoja is one of the numerous cities in the North Central part of Nigeria. According to Ali (2008:1), Lokoja is the capital of Kogi State; it consists of several ethnic groups. Lokoja is located on the confluence of Rivers Benue and Niger. The indigenous ethnic groups in Kogi State are Bassa-Nge, Bassa-Komo, Bunu, Epira, Ebgura-Koto, Gwari, Igala, Ijumu, Kakanda, Magongo, Nupe, Ogori, Owe, Oworo and Yagba. There are several other non-indigenous but long-resident ethnic groups like Hausa, Okun-Yoruba, Igbo, Fulani, Edo, Urhobo, etc in different parts of the state, especially in Lokoja. The current study is interested in four ethnic

groups, namely Igala, Ebira, Okun-Yoruba and Hausa because they constitute the dominant ethnic groups in Kogi; and invariably much so in Lokoja (Cleen Foundation, 2011).

The Igalas are located in the Eastern flank and Kogi East Senatorial District of the state. Igala language is considered a dominant language in the Eastern part of Kogi State, and in other parts of Eastern Nigeria like Delta, Edo and Anambra States. It is also considered a Yoruboid language because it has some linguistic semblance with Yoruba. The Igalas are said to be in the majority in Lokoja city. They are found approximately between latitude 6 30 and 8 40N and longitude 6 30 and 7 40E (Tokula 2008). Their homeland is in Idah where the paramount ruler, the Attah Igala resides. Tokula (2008; quoting Akinkugbe 1976,1978) observes that Igala is not a dialect of Yoruba and it is not a fusion of Yoruba and Idoma, but it shares a common ancestor with Yoruba. Presently, it is neither taught nor used as a medium of instruction in schools. Ebira is the second-largest ethnic group in the state. It is located in the Western flank of Niger River and in the Central Senatorial District. The third major group is a cluster of ethnic minorities identified as Okun, following the common usage of the word for greeting. A large subset of the Okun people also identify themselves as Yoruba, hence the appellation– Okun-Yoruba. The Okun-Yoruba people are in the Western Senatorial District. Okun-Yoruba is a dialect of Yoruba which comprises Owe, Iyagba, Ijumu, Bunu and Oworo and is spoken in the Southern axis of Kogi State. The dialects are distinguishable but related, as they are mutually intelligible. This mutual intelligibility is evident in the common greeting ‘Okun’ from which these dialects have derived their name. Historically, the Okun-Yoruba people are said to have originated from Ile-Ife. For the purpose of this study, all the above-mentioned dialects of Okun will be treated as one language as they have a common name which identifies them as an ethnic group. The Okun-Yoruba is predominantly found in the Kabba area of Kogi State. The fourth is the Hausa language, spoken mainly in Northern Nigeria and Southern Niger. It is spoken both as a first language and as a second language in these areas (Maiunguwa, 2015:3). Furthermore, Buba & Kaigama (2015) observe that there are several dialects of Hausa language among which are the Eastern dialects of *Kananci* spoken in Kano, *Bausanci* spoken in Bauchi, *Dauranci* spoken in Daura, etc.; the Western dialects include *Sakkwatananci* in Sokoto, *Kutebanci* in Taraba, *Katsinanci* in Katsina among others. Among these dialects, Kano dialect is rated as the standard variety. The Hausa spoken in Lokoja is a fusion of all of the dialects mentioned above as their speakers are scattered all over Northern Nigeria. It should be noted, however, that Hausa is not indigenous to Kogi State or Lokoja. Rather, it is a language of vertical integration in the North and a settler language in Lokoja. It has nevertheless been selected in this study as one of the major languages in Lokoja because it is a language of wider communication that cuts across all the states in Northern Nigeria, in addition to being a settler language in Lokoja. Needless to say, a typical Ebira, Igala and Okun-Yoruba person can speak Hausa.

2.2 Overview of English Language in Lokoja; and Fricatives in the Selected Languages

This section discusses the English language in Lokoja city. It also discusses the fricatives of English and those of the languages of the selected ethnic groups in this study which are: Igala, Ebira, Okun-Yoruba and Hausa.

2.2.1 Overview of the English Language in Lokoja

The educated members of the four ethnic groups in this study (i.e. the Ebira, Hausa, Igala and Okun-Yoruba) are exposed to the English language as part of the school curriculum that made them educated, to start with. They use English for other different purposes. They have equally “domesticated” the language in such a way that it projects identifiable ethnic “colourations” of each group so much so that, as stated earlier, varieties such as Igala English,

Ebira English, Hausa English, Okun-Yoruba English, etc. are identifiable. It is, therefore, “easy” to identify a particular ethnic group from the way they articulate certain sounds of the English language (Nsairun, 2016).

Studies of second language learning (e.g. Lawal, 2013; Awonusi, 2004; Jowitt, 1991; Jibril, 1986) have revealed that some learners have difficulty articulating certain sounds of the target language, especially those not present in their native language inventory. It is equally a general belief that there is an attendant problem of learning a second language after acquiring a first one; this problem is often associated with adult learners who have passed a critical stage of language acquisition (Olaniyi & Josiah, 2013:38). This is evident in the phonology of an adult second language learner and especially where there are various ethnic groups “struggling” to “use” the language in a second language situation (Olajide & Olaniyi, 2013:284). To this effect, some adult speakers are not able to communicate with others properly (since they cannot produce the sounds of the target language properly); they may even have problems with understanding the spoken language of some equally educated speakers of the language. Furthermore, scholarly works abound to demonstrate difficulties often encountered by learners of English in articulating aspects of the English fricative, especially those not present in their native language inventory. Given the paucity of research on ethnicised versions of all nine fricatives of English among the selected ethnic groups in the present study, therefore, the researchers are interested in examining the inter-ethnic renditions of the English fricative of selected educated speakers of English in Lokoja city. The study is also interested in the different forms, patterns and articulations of the English fricatives of the selected ethnic groups. To this end, the study aims at identifying, describing and acoustically analysing the variant patterns of inter-ethnic realizations of the English fricatives in the renditions of selected educated speakers of English in Lokoja city against the backdrop of the native English fricative rendition, using a “Control”. Some social variables affecting these renditions will equally be examined. Thus, the objectives are to:

1. identify and describe the variant patterns of inter-ethnic realizations of fricatives among the selected ethnic speakers of English from Ebira, Igala, Hausa and Okun-Yoruba,
2. measure the acoustic features of the identified patterns, and
3. discuss the social variables that account for the ethnicised renditions.

2.2.2 Fricatives in the phonemes of the selected languages

The phonemes or sounds of most languages of the world are categorized into two types: vowels and consonants. While vowel sounds are produced with little or no obstruction to the airstream in the vocal tract, consonant sounds are produced with some forms of obstruction to the airstream. The current study deals with the fricative which is a consonant sound. Consonant sounds are identified, classified and described using three criteria which are: (1) the manner of articulation; (2) the place of articulation; and (3) the state of the glottis. Omachonu (2010:31) posits that the Manner of Articulation suggests the way and manner the various organs of speech are employed to produce speech; the Place of Articulation refers to the point in the vocal tract where the greatest obstruction (constriction) occurs in the course of producing a particular speech sound such as bilabial, labiodental, alveolar, palatal, velar, glottal and others. The third criteria, which is the State of the glottis refers to whether the vocal cords vibrate or not in the course of producing a particular sound, that is, whether the glottis is open, narrowed or closed. When the vocal cords vibrate, the channel (glottis) is narrowed or closed thereby producing voiced sounds. However, their voiceless counterparts are produced if the vocal cords do not vibrate; in which case the channel (glottis) remains open in the course of producing such speech sounds. Examples of consonant sounds are plosives or stops, nasals, affricates, approximants or semivowels, and fricatives which is the focus of this study.

In his definition, Roach (2004) sees fricatives as consonants with the characteristic that, when they are produced, air escapes through a small passage and makes a hissing sound. Most

languages have fricatives, the most commonly found being the voiceless alveolar fricative /s/. Roach further explains that fricatives are continuants, which means that you can continue making them without interruption for as long as you have enough air in your lungs. Fricatives of the languages in this study are discussed in sub-sections 3.2.1 to 3.2.5.

2.2.2.1 Fricatives in English

Consonants constitute a major class in the English sound system. Out of a total of 44 phonemic sounds in English language, 24 are consonants while 20 are vowels. The 24 consonant sounds have been reclassified into 5 groups:

- i. six plosives /p,b,t,d,k,g/
- ii. three nasals /m,n,ŋ/
- iii. nine fricatives /f,v,θ,ð,s,z,ʃ,ʒ,h/
- iv. two affricates /tʃ,dʒ/
- v. four approximants/semivowels /l,r,w,j/

From the foregoing, the English Language has nine (9) fricative sounds which are grouped in Table 1 below according to their manner of production and places of articulation.

Table 1: The nine fricatives of English

Place of articulation

Manner of articulation	Labio-dental	Dental	Alveolar	Post-Alveolar	Glottal
Fricative (Voiceless)	f	θ	s	ʃ	h
Fricative (Voiced)	v	ð	z	ʒ	

With the exception of the glottal sound, each place of articulation has a pair of phonemes; one is voiceless while the other is voiced.

2.2.2.2 Fricatives in Igala

Igala language has 27 phonemic sounds made up of 20 consonants and 7 vowels as against 32 sounds published in the Igala orthography of 1978 (Omachonu 2011; Ejeba 2016). These sounds, represented more-or-less in letters for clarity, include: “a, b, ch, d, e, f, g, gb, h, i, j, k, kp, l, m, n, ng, nm, nw, ny, o, p, r, t, u, w, y”. As can be seen from the consonant chart in Table 2, there are four fricative sounds in the Igala language, i.e. the voiceless labiodental fricative /f/, the voiceless alveolar fricative /s/, the voiceless palato-alveolar fricative /ʃ/ and the voiceless glottal fricative /h/.

It is important to note that all the fricatives in the Igala consonant chart are voiceless; this is quite interesting as the researchers believe that this observation will surely provide insights into the nature of the Igala English pronunciation.

Table 2: Igala Consonant Chart

	Bilabial	Labio-dental	Alveolar	Palato-alveolar	Palatal	Velar	Labio-velar	Glottal
Plosive	b		t d			k g	kp gb	
Fricative		f	s	ʃ				h
Affricate				tʃ dʒ				
Lateral			l					
Nasal	m		n			ŋ		
Trill			r					
Approximant	w				j			

2.2.2.3 Fricatives in Ebira

According to Okene.blogspot.com (2010), Ebira is a dynamic language with a total of 39 sounds that are used to form words. These sounds comprise 9 vowels and 30 consonants. The consonant sounds, written in letters, include: b, ch, d, g, gw, h, hw, hy, j, k kw, m, mw, n, ng, ngw, ny, p, r, s, sw, t, tw, v, vw, w, y, z, zw, zy (Isiaka, 2017). As is noticed, some of the sounds are not overtly indicated in the Ebira phonemic inventory as they are mostly realized orthographically. This research will, by default, work with the fricative sounds indicated in the Ebira consonant chart in Table 3.

Table 3: Ebira Consonant chart

	Bilabial	Labio-dental	Alveolar	Postal-alveolar	Palatal	Velar	Glotal
Plosive	p b		t d			k g	
Nasal	m		n		ɲ	ŋ	
Trill			r				
Fricative		v	s z				h
Affricate				tʃ dʒ			
Approximant					j		
Lateral Approximant			l				

The consonant chart of Ebira has four fricative sounds namely: voiced labiodental fricative /v/, voiced and voiceless alveolar fricative /z/ and /s/, and the voiceless glottal fricative /h/. These fricatives can occur in different positions in a word, i.e. word initial position, word medial position and in between vowels.

2.2.2.4 Fricatives in Okun-Yoruba

There are 19 consonant sounds in Okun-Yoruba. Out of these, there are four fricative sounds: three can be found in the English consonant chart, i.e. the voiceless labiodental fricative, the voiceless alveolar fricative and the voiceless glottal fricative. The voiced velar fricative is unique to the Okun-Yoruba ethnic group.

Table 4: The Okun-Yoruba consonant chart

	Bilabial	Labio-dental	Alveolar	Palatal	Velar	Labio-Velar	Glotal
Plosive	(p) b		t d		k g	kp gb	
Fricative		f	s		ʋ		h
Affricate							
Lateral			l				
Nasal	m		n		(ŋ)		
Trill			r				
Approximant	w			j			

2.2.2.5 Fricatives in Hausa

There are 25 consonant sounds in the phonemic inventory of standard Hausa. Some of these are not present in the phonemic inventory of the English language. A couple of Hausa sounds are represented as letters while some others are reflected as two letters joined together as one sound. The sounds include /b, ɓ, c, d, d̥, f, g, dʒ, h, j, k, l, m, n, r, ɣ, s, ɸ, ʃ, t, tʃ, w, y, ỳ, z/. Table 5 reveals the 25 consonant sounds and some of their allophones, hence 32 are shown on the chart.

Table 5. Hausa Consonant Chart

	Bilabial	Alveolar		Post Alveolar	Dorsal			Glotal
					Front	Plain	Round	
Nasal		m	n					
	implosive	ɓ	ɗ					
Plosive	voiced	b	d	(d)ʒ	ɟ	g	g ^w	
Affricate	tenuis		t	tʃ	c	k	k ^w	ʔ
	ejectives		(t)s'	(tʃ')	c'	k'	k ^{w'}	
Fricative	voiced		z					h
	tenuis	ɸ	s	ʃ				
Approximant			l		j; j̄		w	
Rhotic			r	ɾ				

As can be seen, there are basically five fricative sounds in the Hausa consonantal phonemes. The voiceless bilabial fricative /ɸ/, the voiced and voiceless alveolar fricatives /z/ and /s/, the voiceless palato-alveolar fricative /ʃ/ and the voiceless glottal fricative /h/. The only one that does not have a corresponding sound in the English phonemic inventory is the voiceless bilabial fricative /ɸ/. In the Hausa orthography, /f/ is not produced like the English /f/, rather, the lips come together to produce /ɸ/. That is, the constriction of the lips by some educated Hausa speakers of English is so tight that /f/ sometimes sounds very much like the English /p/. Therefore, in Hausa, /f/ is a bilabial sound symbolized as /ɸ/.

2.2.2.6 Fricatives Compared in English and the Selected Ethnic Groups

Presented in Table 6 below are the test items and their occurrence in the inventories of the selected ethnic groups. The dash, wherever it occurs, indicates the absence of a particular sound in an ethnic group. Knowledge of this will help to make the analysis clearer as renditions of individuals will be analyzed vis-à-vis the presence or absence of the sounds in their ethnic languages, and in line with other social variables. From the table below, the inter-dental

fricatives /θ/ and /ð/ are not present in the phonemic inventories of any of the selected ethnic groups. The labio-dental fricatives /f/ and /v/, the palato-alveolar fricatives /ʃ/ and /ʒ/, the alveolar fricatives /s/ and /z/ and the glottal fricative /h/ are seen to be represented in part or in full in the inventories of the ethnic groups. Also, some sounds seem quite unique to some ethnic groups; examples are the Hausa voiceless bilabial fricative /ɸ/, and the Okun-Yoruba voiced velar fricative /ɣ/.

Table 6: Representation of fricatives in English and the selected ethnic groups

English Fricatives	Test Items	Ebira Fricatives		Hausa Fricatives		Igala Fricatives		Okun-Yoruba Fricatives	
Dental fricatives	/θ/, /ð/	–	–	–	–	–	–	–	–
Labio-dental fricatives	/f/, /v/	–	/v/	–	–	/f/	–	/f/	–
Palato-alveolar fricatives	/ʃ/, /ʒ/	–	–	/ʃ/[sh]	–	/ʃ/	–	–	–
Alveolar fricative	/s/, /z/	/s/, /z/	/s/, /z/	/s/, /z/	–	/s/	–	/s/	–
Glottal fricative	/h/	/h/	/h/	/h/	–	/h/	–	/h/	–
				/ɸ/	–	–	–	–	ɣ

Consequently, one may assume or make an inference that some respondents may encounter difficulties acquiring native-like pronunciation, especially in areas where discrepancies occur between the speakers’ sounds and those of English as reflected in the table.

3. METHODOLOGY

3.1 Theoretical Framework

This study seeks to analyze fricative articulation of four socio-culturally linked inter-ethnic groups that produce English sounds based on their mother tongue models, as well as affected by such variables as inter-ethnic influence, educational qualification, co-habitation, geographical location, social class, among others. Consequently, the study hinges on a combination of the theories of sociophonology by Honey (1997) and contrastive phonology by Azevedo (1981), for analysis.

On one hand, Honey (1997:92) defines Sociophonology as “that aspect of sociolinguistics which studies only those differences in pronunciation which are perceived as socially significant.” These differences may not form part of the repertoire of the idiolect of only one speaker, but they are synonymous of a speech community devoid of other spoken features of a regional or a social dialect. Spoken language is characterized by generalized sound features which mark a language as being distinct from other regionally related varieties. Hence, the pronunciation of particular words in distinctive ways form the basis for the variations in speech which are directly influenced by region, social group and situation. Sociophonology therefore, can be seen as the point of intersection of sociolinguistic and phonological studies. The current study deals with ethnicised educated English of four selected ethnic groups within Lokoja city which fall within the purview of sociophonology. On the other hand, contrastive phonology is a process of comparing the phonological systems of two or more languages (Azevedo, 1981; after Lado, 1957 and Ferguson, 1960). This means that the phonological systems of languages are different. No matter how genetically close two languages are, there

is always a point where they differ phonologically. Contrastive phonology deals, therefore, with similarities and differences in the phonemes and patterns of languages. A synthesis of sociophonology and contrastive phonology theories are suitable for this study; especially because both theories deal with the sound systems of languages.

3.2 Subjects for the study

Informants for this study are one hundred and twenty educated speakers of English purposively selected from four ethnic groups of Ebira, Hausa, Igala and Okun-Yoruba who live and work within Lokoja city. Thirty informants each were selected from the four ethnic groups. They are the higher echelon of senior non-academic university workers drawn from the three major higher educational institutions in Lokoja, namely: The Federal University Lokoja, Salem University Lokoja and Kogi Polytechnic Lokoja. However, forty respondents were purposively selected from each tertiary institution to ultimately reflect thirty respondents from each ethnic group, giving a total of the one hundred and twenty respondents in the study. It is expected that these groups of people have attained university education, and since the medium of instruction in Nigerian universities is English, it is assumed that such individuals (would) have attained a level of proficiency in the use of this language, especially the proper articulation of fricatives. Also, a “Control” was used as the yardstick for measuring the near-ness to native English or otherwise of the respondents’ productions. The “Control” is an educated Hausa male speaker of English who has had extensive rapport with natives of English, spanning over thirty years.

Furthermore, a questionnaire was used to elicit demographic data of the respondents, in order to achieve all the set objectives for the study. The questionnaire contains social-demographic information of the respondents such as sex, age, level of education, ethnic group, echelon category and place of residence, as well as the number of languages each respondent speaks (See Appendix 1). No respondent was excluded from the study data because all the 120 that were purposively selected filled out as well as returned the questionnaires.

3.3 Test Items, Research Instruments and Procedure for Analysis

Sentence Reading Task containing eighteen carefully-structured utterances (a pair each to test the nine English fricatives) constitute the major instrument used for this study, while the second is a questionnaire. Each pair of utterance in the Sentence Reading Task contains four fricative sounds/test items that have been sandwiched into them, so as to prevent the respondents’ easy identification. To guide the analysis, however, the test items are those underlined below:

Test Items in the Sentence Reading Task:

1. Voiceless labiodental fricative /f/

*Philip referred to the proof; *Switch off the lights, please.

2. Voiced labiodental fricative /v/

* This is a very good achievement. Your vote is your voice.

3. Voiceless dental fricative /θ/

*I think your thoughts are in tandem with his; *Thanks!

4. Voiced dental fricative /ð/

*I bathed at that river yesterday; *My brother took after our father.

5. Voiceless alveolar fricative /s/

*We sing hymns at our church; *Miss, your dress is beautiful.

6. Voiced alveolar fricative /z/

*My cousin is busy with her homework; *Zimbabwe is dizzy with inflation.

7. Voiceless palato-alveolar fricative /ʃ/

*She is into fashion in Chicago; *I drink champagne passionately

8. Voiced palato-alveolar fricative /ʒ/

*Your vision for a leisure park is good; *It measures with Asia.

9. Voiceless glottal fricative /h/

*We have to go home now; *Who hit you?

The Sentence Reading Task was designed to test the respondents' renditions of the fricatives that appear in particular words of English utterances, against the backdrop of what obtains in Standard British English or BBC English.

The respondents' renditions, which were subjected to both perceptual and acoustic analysis, were recorded directly into the pitch extraction software, PRAAT, using a laptop. The renditions and recordings took place behind closed doors in a very quiet place in order to avoid extraneous noise that could affect the quality of the recording. However, the respondents were given the liberty to silently read through the sentences before embarking on loud reading. All the recorded data were saved as WAV files to avoid acoustic compression as well as to preserve the quality of rendition. The relevant test items were then extracted, manually, from the utterances of the informants before being subjected to further acoustic analysis. The renditions were analyzed based on their conformity or otherwise to Standard English pronunciation. Also, causes and types of deviations from Standard English were patterned according to what obtains in the individual ethnic sound inventory in comparison to sounds in the IPA chart. And for further analysis, individuals' renditions were juxtaposed with the Control's rendition, which served as the yardstick for measuring each respondent's performance. Furthermore, the respondents were labelled according to their number on the recording list, ethnic group and sex such that respondent "*Resp.4HaF*" for instance will connote the following: *Resp* = Respondent, *4* = respondent's number on the list, *Ha* = Hausa and *F* = female (or *M* for male). By the same token, other groups are abbreviated as: Iga for Igala, Ebi for Ebira and Ok for Okun-Yoruba.

4. Results and Discussion

As mentioned already (section 4.2), data to be analyzed in this section were elicited from 120 respondents who read 18 carefully structured utterances in which the test items (four per each of the nine English fricatives) were sandwiched. Readers should note that, although four words (and four test items, effectively) were articulated per fricative by the informants, any or all of the four could be alluded to in the course of the perceptual analysis. For the acoustic analysis, however, except for test item /v/ where two words were used, only one of the group of four items was reckoned with at a time for substantiating the respondents' performance per fricative (cf. Figures 1 and 2; 3, 4, 5; etc.). That decision had to be taken by the researchers in order to avoid methodological drawback that "using" the four items haphazardly may pose for the acoustic evidence of the informants' rendition per fricative. Consequently, although the tokens generated altogether were 4320 (i.e. 9 fricatives uttered in

4 words each by 120 respondents/informants), we reckon with just 1080 tokens (i.e. 9 fricatives or test items uttered by 120 respondents) as presented in Appendix 2. The researchers believe that “1080 tokens” is robust enough for the study; more so because there was no perceptual difference in the way each informant articulated particular test item in each of the four words tested per fricative.

4.1 Respondents’ Rendition of the Fricatives

This section presents the interpretation of the fricatives as rendered by the respondents according to their ethnic group and population, as well as performances (See Appendix 2). Appendix 2 captures (in general) the respondents’ English-like and “ethnic-influenced” renditions of the test items according to ethnic origins; these are tagged ‘correct’ and ‘incorrect’ respectively on the table. Sequel to the explanation provided in Section 5 above, the underlined words in Appendix 2 are the test items used for the acoustic analysis in the study. In what follows from Section 5.2, we discuss the fricative by fricative performance of the respondents in relation to their ethnic groups. The acoustic analyses are also incorporated in our discussion to show the respondents’ performances at a glance; i.e. in figures.

4.2 Respondents’ Rendition of the Labiodental Fricatives /f/ and /v/

This sub-section presents the analysis of the respondents’ ethnic-by-ethnic group performance in the labiodental fricatives /f/ and /v/. Table 7 below provides an inference that the labiodental fricatives are relatively a challenge to some Hausa speakers of English. About 66.7% (20/30) of them tended to replace the voiceless labiodental fricative /f/ with the voiceless bilabial fricative [ɸ], while 53.3% (16/30) of them replaced the voiced labiodental fricative /v/ with the voiced bilabial plosive /b/ irrespective of the positions in which they occur in sentences.

Table 7: Respondents’ rendition of labiodental fricatives /f/ and /v/

Ethnic group	Fricative Sound	English-like	Deviation	Fricative sound	English-like	Deviation
Ebira	/f/	28	2	/v/	30	0
Hausa	/f/	10	20	/v/	14	16
Igala	/f/	30	0	/v/	30	0
Okun-Yoruba	/f/	18	12	/v/	20	10
Total		86	34		94	26
Overall Performance		71.7%	28.3%		78.3%	21.7%

For instance, some Hausa respondents rendered the test items *Philip* /fɪlɪp/, *referred* /rɪfɜːd/, *proof* /pruːf/ and *off* /ɔf/ as [ɸɪlɪf, ɸɪlɪɸ], [rɪɸɑːd], [pruːɸ] and [ɔɸ], respectively. In Figures 1 and 2 below, we show respectively, the Control’s and respondent *Resp.6HaM*’s rendition of the labio-dental fricative /f/ in the word *Philip* /fɪlɪp/.

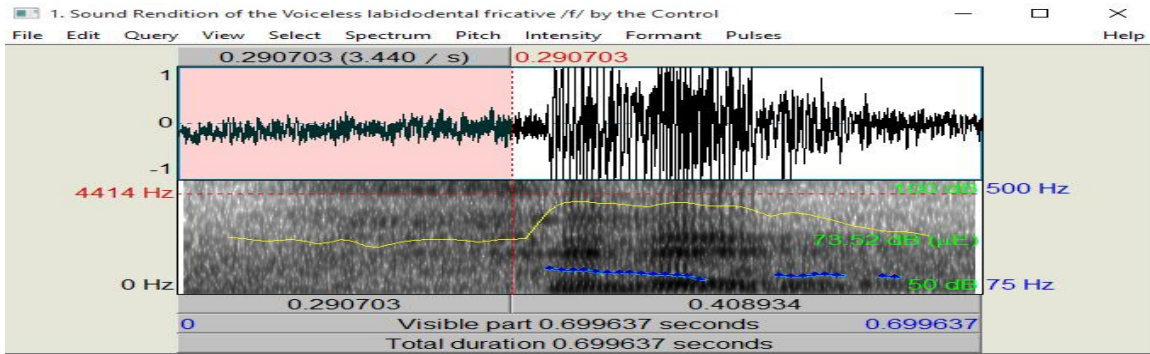


Fig. 1: The Control's rendition of the voiceless labiodental fricative /f/ in *Philip* /fɪlɪp/.

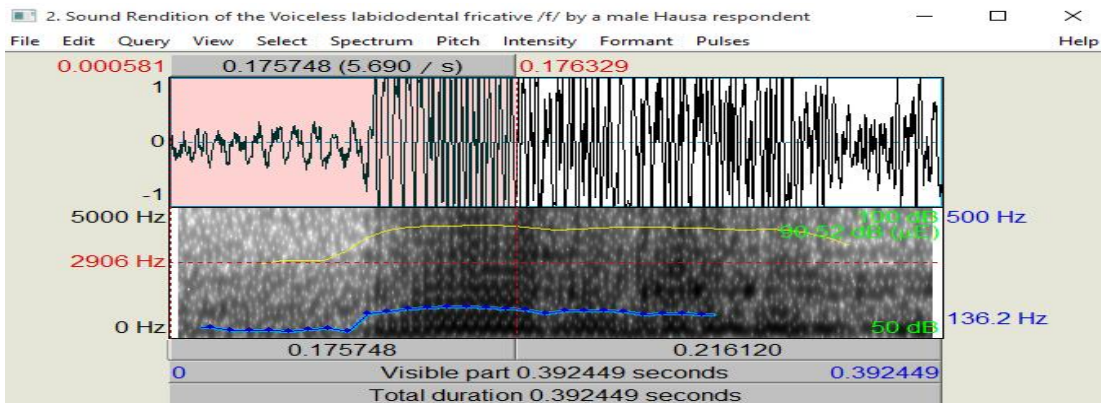


Fig. 2: Rendition of the voiceless labiodental fricative /f/ in *Philip* /fɪlɪp/ by Resp.6HaM

The highlighted portion in Figure 1 shows no pitch traces for the rendition of the test item /f/ in the word *Philip* /fɪlɪp/ by the Control. When this is juxtaposed with the rendition of the same test item in Figure 2 by *Resp.6HaM*, who is a Hausa respondent, we observe that there are pitch traces in the highlighted portion because this respondent articulated /f/ which is a voiceless sound as /b/ which is a voiced sound. The pitch traces are those shown in blue in the figures.

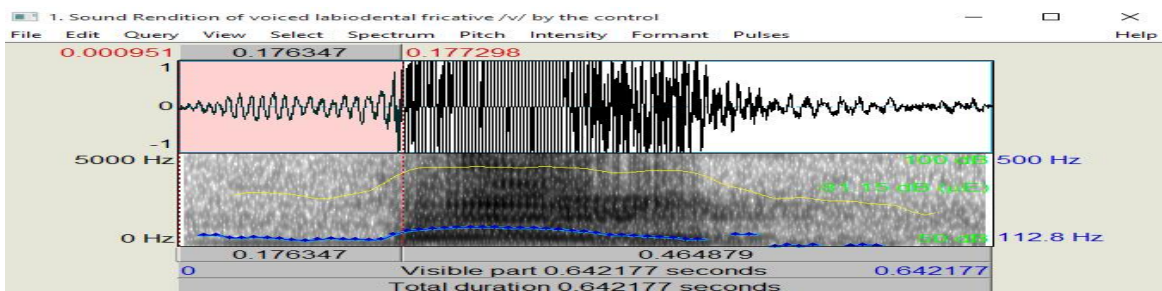


Fig. 3: The Control's Rendition of the voiced labiodental fricative /v/ in *very* /veri/

Figures 3 and 4 reveal the rendition of voiced labiodental fricative /v/ in the word *very* /veri/ by two Hausa speakers: the Control and *Resp.23HaF*. Perceptually, the Control pronounces it as /v/ while *Resp.23HaF* does it as /b/.

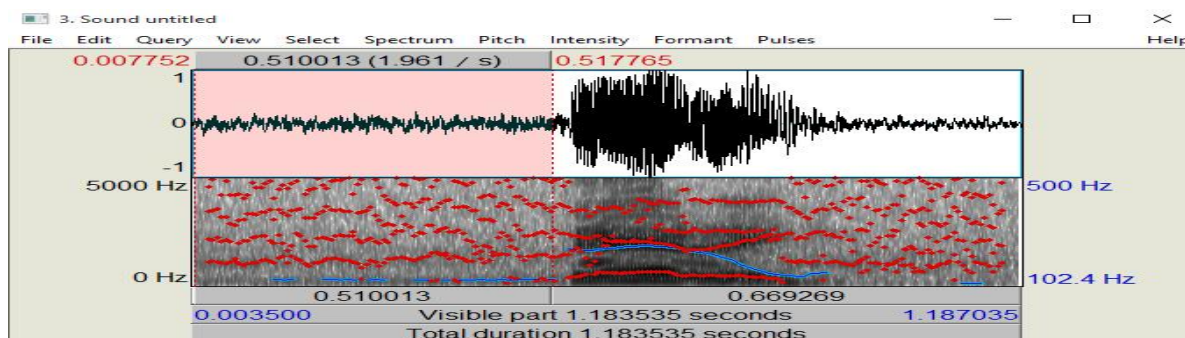


Fig. 4: Acoustic rendition of the voiced labiodental fricative /v/ in *very* /veri/ by Resp.23HaF as /b/

Although both are rendered as voiced sounds, the spectrographic displays of the articulation of the test item by the Control (Fig. 3) and a female Hausa respondent *Resp.23HaF* (Fig. 4) reveal that the pitch traces (in the highlighted portions of both figures) appear differently. While the test item in Fig. 3 shows the pitch traces to be linearly connected, the same test item by the female Hausa respondent in Fig. 4 reveals dotted pitch patterns that indicate a difference in the quality of the sound produced, perhaps to substantiate the auditory perception of the sound as /b/ rather than /v/. The formants in Fig. 4 (indicated by the red patches) reveal some sort of denseness to show that the sounds are voiced and are largely surrounded by vowels (see Section 4.3).

When the phonemic inventories of English and Hausa are placed side by side, /f/ and /v/ are not present in the Hausa inventory and this may be the reason why some respondents were not able to articulate the sounds. Hence, they replaced /f/ and /v/ with the nearest sounds that are available in their phonemic inventory, i.e. /p/ and /b/ respectively.

Similarly, despite their level of education, about 33% of Okun-Yoruba respondents (10/30) had difficulty articulating the voiced labio-dental fricative /v/ in particular. They tended to replace the sound with its voiceless counterpart /f/. The Okun-Yoruba phonemic inventory does not have the voiced labio-dental fricative /v/, hence, some respondents tended to replace it with the nearest sound to it which is the voiceless labio-dental fricative /f/. Their renditions of the test items as shown in Fig. 5 by informant *Resp.4OYF*, for instance, generally proved this point. For example, a cumulative assessment of the respondents' performance shows that *very* /veri/, *achievement* /əʃi:vmənt/, *vote* /vəʊt/ and *voice* /vɔɪs/ were rendered by about 75% of the Okun-Yoruba respondents as [ferɪ], [əʃi:fment], [fət] or [fəʊt] and [fɔɪs] respectively.

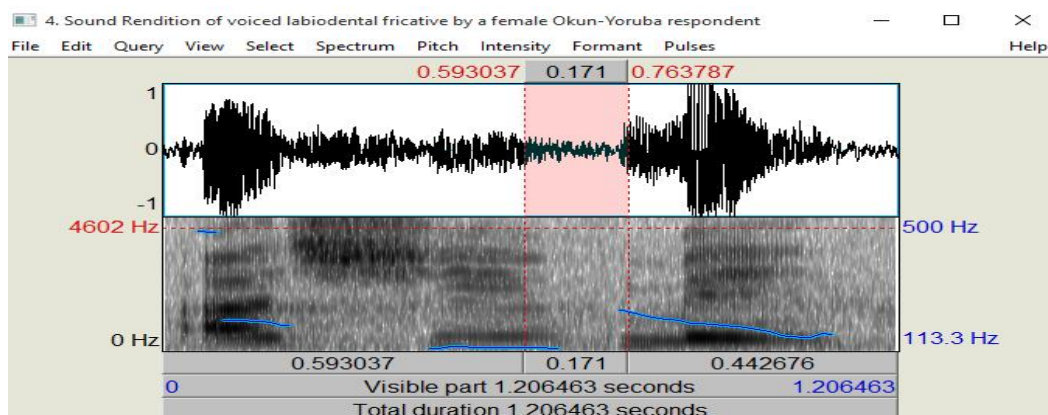


Fig. 5: Rendition of voiced labiodental fricative /v/ in *achievement* /əʃi:vmənt/ by Resp.4OYF

The highlighted portion in Fig. 5 above reveals no pitch traces for sound /v/ in the word *achievement* /əʃi:vmənt/ as rendered by respondent *Resp.4OYF* because it was produced as [əʃi:fment], i.e. with a voiceless /f/.

Ebira and Igala phonemic inventories have one of the sounds each, that is, Ebira sound system has the voiceless labio-dental fricative /f/ but does not have its voiced counterpart; while the Igala sound system has the voiced labio-dental fricative /v/ but does not have its voiceless counterpart. Nevertheless, respondents of both ethnic groups had little or no challenge with articulating the sounds. Only about 7% of the Ebira respondents found the voiceless labio-dental fricative difficult to articulate (cf. Table 7); the researchers believe that this success was because the respondents had found these sounds easy to articulate as a result of inter-ethnic co-habitation.

4.3 Respondents' Rendition of Inter-Dental Fricatives /θ/ and /ð/

In this sub-section, we present the analysis of the inter-dental fricatives /θ/ and /ð/.

Table 8: Respondents' rendition of inter-dental fricatives /θ/ and /ð/

Ethnic group	Fricative sound	English -like	Deviation	Fricative Sound	English -like	Deviation
Ebira	/θ/	4	26	/ð/	0	30
Hausa	/θ/	12	18	/ð/	18	12
Igala	/θ/	8	22	/ð/	14	16
Okun-Yoruba	/θ/	8	22	/ð/	10	20
Total		32	88		42	78
Overall Performance		26.7%	73.3%		35%	65%

Findings reveal that the inter-dental fricatives were somewhat a challenge to almost all the respondents. Only 13.3% of the Ebira respondents were able to articulate the voiceless dental fricative /θ/ the normal English way; the sound was replaced by the voiceless alveolar plosive /t/ and the voiceless labio-dental fricative /f/. No Ebira respondent was able to articulate the voiced dental fricative, rather, they replaced it with the voiced alveolar plosive /d/. This trend was basically the same for the Igala and Okun-Yoruba respondents respectively. Their renditions amounted to 26.7% native English-like articulation of the voiceless inter-dental fricative /θ/. For example, the test items were rendered (in general) as follows: **think** /θɪŋk/ as [tɪŋk]; **thoughts** /θɔ:ts/ as [tɔ:ts]; **with** /wɪθ/ as [wɪt] or [wɪf]; **thanks** /θæŋks/ as [tæŋks]. The voiced inter-dental fricative /ð/ was articulated in the test items as alveolar plosives /t/ and /d/. For example: **bathed** /beɪðd/ as [bat] or [bated]; **that** /ðæt/ as [dæt]; **brother** /brʌðə/ as [brɔdæ]; **father** /fɑ:ðə/ as [fædæ].

About 40% of the Hausa respondents tended to substitute the inter-dental fricatives with alveolar fricatives /s/, /z/ and alveolar plosives /t/ and /d/ as the case may be. Hence, the test items were rendered as follows: **think** /θɪŋk/ as [sɪŋk] or [tɪŋk]; **thoughts** /θɔ:ts/ as [tɔ:ts]; **with** /wɪθ/ as [wɪz,] or [wɪt]; **thanks** /θæŋks/ as [sæŋks] or [tæŋks]. For instance, a male Hausa respondent *Resp.17HaM* rendered the test item [thanks] /θæŋks/ as [sæŋks]. The researchers are of the view that such a realization is as a result of the absence of voiceless dental fricative in the phonemic inventory of Hausa.

Furthermore, some educated Hausa speakers of English articulated the voiced inter-dental fricative /ð/ as follows: **bathed** /beɪðd/ as [bat] or [bated]; **that** /ðæt/ as [zat] or [dat]; **brother** /brʌðə/ as [brʌzə] or [brɔdə]; **father** /fɑ:ðə/ as [faza] or [fada]. Further, an Igala respondent rendered the test item *brother* with a substitution of the voiced interdental fricative /ð/ with a voiced alveolar plosive /d/ thereby articulating it with a “denser” quality.

4.4 Respondents' Rendition of Alveolar Fricatives /s/ and /z/

Findings about the analysis of alveolar fricatives /s/ and /z/ revealed that the alveolar fricatives did not constitute much of a difficulty for the respondents; they were able to articulate them to near native competence.

Table 9: Respondents' renditions of alveolar fricatives /s/ and /z/

Ethnic group	Fricative sound	English -like	Deviation	Fricative Sound	English -like	Deviation
Ebira	/s/	30	0	/z/	30	0
Hausa	/s/	30	0	/z/	30	0
Igala	/s/	20	10	/z/	16	14
Okun-Yoruba	/s/	30	0	/z/	30	0
Total		110	10		106	14
Overall Performance		91.7%	8.3%		88.3%	11.7%

The voiceless alveolar fricative /s/ was articulated with a 91.7% competence to show that, relatively, educated speakers of each ethnic group did not find it too difficult to articulate. This is largely because the sound is present in the phonemic inventories of all the ethnic groups. However, quite a number of the Igala respondents had difficulty articulating both sounds regardless of where they occur in words. Invariably, some of them interchanged the voiceless alveolar fricative /s/ with its voiced counterpart /z/; for example, the test items *hymns* and *dress* were articulated by some educated Igala speakers as [hɪmz] and [drez]. We opine that the reason for this may have been as a result of inter-language influence of the Okun-Yoruba whose speakers tend to speak that way. A juxtaposition of the articulation of the voiceless alveolar fricative /s/ by the Control and an Igala respondent vividly revealed the difference in articulation of the test items. Some Igala speakers also interchanged the voiced alveolar fricative /z/ with the voiced palato-alveolar affricate /dʒ/, as in *busy* [bɪdʒɪ] instead of [bɪzɪ]; *Zimbabwe* /zɪmbɑ:bweɪ/ as [dʒɪmbɑ:bweɪ]; *dizzy* /dɪzɪ/ as [dɪdʒɪ]; *cousin* /kʌzɪn/ as [kʌdʒɪn, kʌsɪn]. The reason for this might be because /z/ is not a sound in the Igala phonemic inventory. Further analysis showed that some 46.7% of the Igala respondents amounted to those who could not articulate the voiced alveolar fricative correctly. That is, the sound proved difficult for some educated Igala speakers of English.

4.5 Respondents' Rendition of Palato-alveolar Fricatives /ʃ/ and /ʒ/

This sub-section presents the analysis of the recorded renditions of palato-alveolar fricatives /ʃ/ and /ʒ/ by the respondents.

Table 10: Respondents' rendition of palato-alveolar fricatives /ʃ/ and /ʒ/

Ethnic group	Fricative sound	English -like	Deviation	Fricative Sound	English -like	Deviation
Ebira	/ʃ/	16	14	/ʒ/	8	22
Hausa	/ʃ/	18	16	/ʒ/	14	16
Igala	/ʃ/	12	18	/ʒ/	6	24
Okun-Yoruba	/ʃ/	14	16	/ʒ/	10	20
Total		60	60		38	82
Overall Performance		50%	50%		31.7%	68.3%

Results in this study revealed that the voiceless palato-alveolar fricative /ʃ/ posed a challenge to most respondents. The /ʃ/ in test items *fashion* /fæʃən/, *Chicago* /ʃɪkɑ:ɡəʊ/, *passionately* /pæʃənətli/ and *champagne* /ʃæmpɛɪn/ were articulated as a voiceless palato-alveolar affricate /tʃ/, [fæʃɔn, fa:ʃɔn], [ʃɪkɑ:ɡɔ], [pæʃɔnətli] and [ʃæmpɛɪn]. Rendition of the test items *Chicago* and *champagne* with a [tʃ] is suggestive of the fact that most respondents confused the orthography of the words with how they sound in words (as is a general Nigerian English articulation; spelling pronunciation). The spellings of the said test items begin with ‘ch’ which most respondents interpreted as sounding [tʃ], hence their renditions of the sounds as [tʃ]. There was an overall 50/50 percent mark for English-like and deviant renditions of the voiceless palato-alveolar fricative /ʃ/; this therefore suggests that the sound could be relatively challenging for a number of the respondents. The sound is more of a challenge to some of the educated Igala respondents where, out of 30 respondents, only 12 were able to articulate it correctly. Most of them found it easy to replace the /ʃ/ with a /tʃ/ even though the sound is present in their phonemic inventory. However, /tʃ/ features predominantly in most native Igala words than the /ʃ/. That could explain why some respondents tended to replace more of /ʃ/ occurrences with a /tʃ/.

The voiced palato-alveolar fricative /ʒ/ posed more of a challenge to the respondents than its voiceless counterpart. The sound does not exist in the sound inventory of any of the selected ethnic groups in this study. Hence, some respondents' renditions of the test items proved this fact. Needless to say, the /ʒ/ sound in the test items *vision* /vɪʒən/, *leisure* /leɪʒə/, *measure* /meɪʒə/ and *Asia* /eɪʒə/ was rendered by some Ebira, Hausa and Okun respondents by replacing it with its voiceless counterpart /ʃ/ as in [vɪʃən], [leɪʃə, leɪʃə], [meɪʃə, meɪʃə] and [eɪʃɪə, eɪʃɪə, eɪʃɪə]. Acoustic interpretation of these sounds tended to show some stronger bands of frequencies which are dependent on the individual pitch that are called formants. It therefore means that the densities of the waveforms are dictated by the force of air that is used in the articulation of /ʃ/ and /ʒ/ by some selected respondents. The formants for this particular study are calculated at 5000.0 for male respondents and 5500.0 for female respondents (e.g. Kent and Read, 2002), and are located at the exact place where we have the dark bands of energy in the spectrogram.

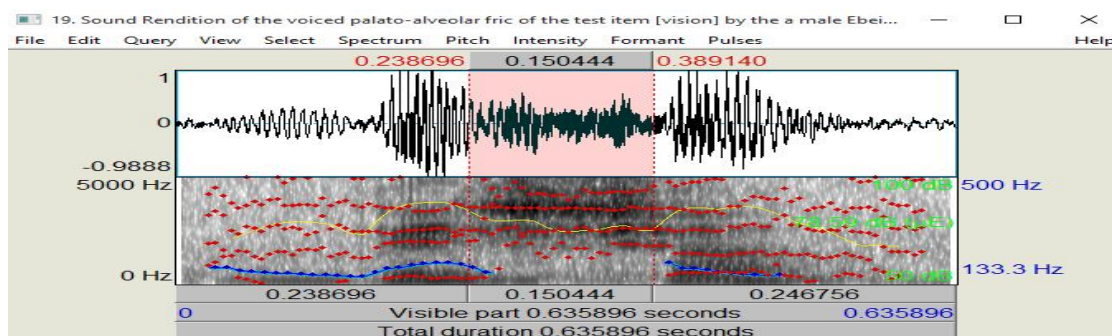


Fig. 6: Rendition of voiced palato-alveolar fricative /ʒ/ in *vision* /vɪʒən/ by Resp.20EbM

Majority of the Igala respondents, on the other hand, substituted the /ʒ/ sound with the voiced palato-alveolar affricate /dʒ/. Out of the 30 Igala respondents, only 6 (20%) were able to articulate the sound correctly as majority of them articulated the test items thus: *vision* as [vɪdʒən], *leisure* as [leɪdʒə], and *measures* as [medʒə, medʒəs].

4.6 Respondents’ Rendition of the Voiceless Glottal Fricative /h/

This section deals with the analysis of the respondents’ renditions of the voiceless glottal fricative /h/. Results revealed that this particular sound posed a challenge for some educated Okun-Yoruba speakers of English in Lokoja city. For the most part, respondents tended to delete the sound, especially when it appears at the initial position of words. This has been substantiated both perceptually and acoustically in this study. For instance, acoustic evidence is provided in Fig. 7 for the Control’s rendition of the word *home* /həʊm/, and the rendition of same by respondent *Resp.3OYF* in Fig. 8.

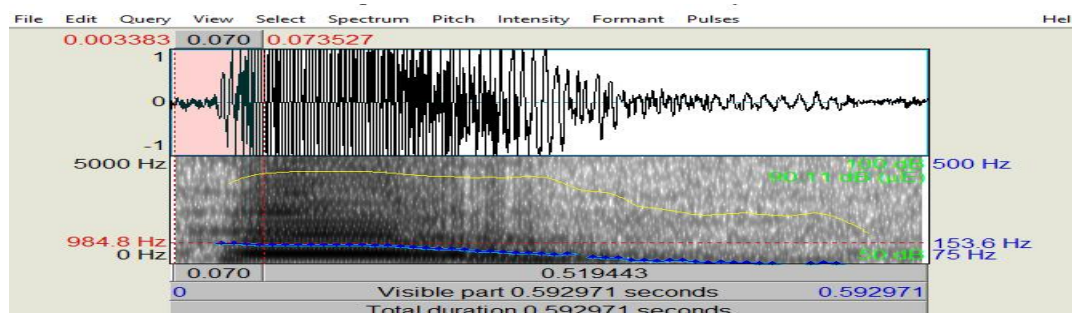


Fig. 7: Rendition of voiceless glottal fricative /h/ in *home* /həʊm/ by the Control

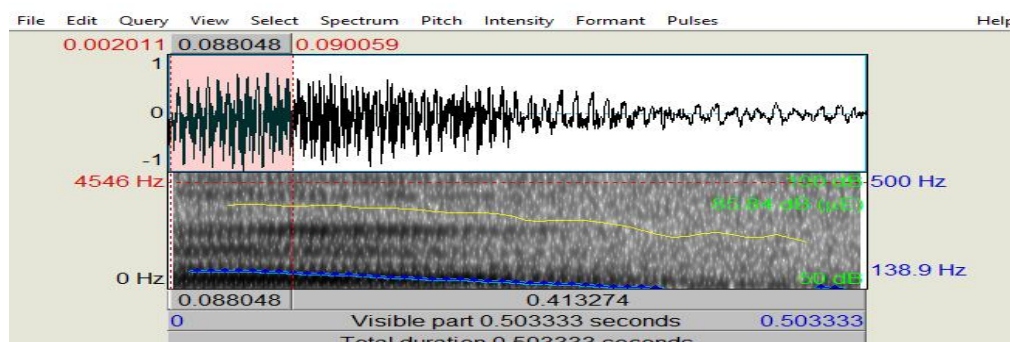


Fig. 8: Rendition of the voiceless glottal fricative /h/ in *home* /həʊm/ as [əʊm] by Resp.3OYF

Findings reveal further that about 15% of the Okun-Yoruba respondents articulated test items *have*, *home*, *who* and *hit* as [æv], [əʊm], [u:] and [ɪt] respectively. A hasty comparison of the highlighted portions of Figures 7 and 8 attests to this behaviour as pertinent to some Okun-Yoruba speakers of English: while the portion of “voicelessness of /h/” in *home* /həʊm/ is

visible in the Control's rendition (Figure 7), the Okun-Yoruba respondent *Resp.3OYF* deleted the /h/ to make **home** /həʊm/ sound /əʊm/ as acoustically demonstrated in Figure 8, where the rendition starts with /əʊ/ (a voiced sound) rather than with /h/. Since the sound /h/ is present in the phonemic inventory of the Okun-Yoruba people, it is not clear to us why speakers delete the sound in the initial position of words especially. Although we lack data to determine the respondents' articulation of the sound in other environments of English words, we are attributing the behaviour to what we term oversimplified articulation of target.

Thus far, the assertion that sounds like /ʃ, ʒ, ŋ, h, d, l, ə, ɡ, z, f, ð, s, v/ are articulated differently by diverse ethnic groups in Nigeria as a result of ethnic orthography, educational qualification, level of exposure to English, phonological environment, inter-ethnic influence/transfer, co-habitation, among others (e.g. Adetugbo, 2004; Awonusi, 2004; Jowitt, 1991; and Jibril, 1986) are, in part, in conformity with the findings in this study as we further enumerate in what follows. For instance, analysis of the socio-demographic information gathered through the administered questionnaire on the respondents suggest the following:

1. Recall that the respondents for this study are non-academic staff, who are educated speakers of English and who have attained university degree(s). They belong to any of the selected ethnic groups of Ebira, Igala, Okun-Yoruba or Hausa, who work in any of the three selected tertiary institutions within the Lokoja city (See Section 4.2). Findings reveal that the respondents do not have equal exposure to English even though they are university graduates. Furthermore, the educational qualification of the respondents may not be the root cause of their inability to articulate the sounds; the problem (in some cases) may lie with the course contents of the spoken English they were exposed to. As Dado (2014:2) observes, this course content is “grossly inadequate for students to acquire the requisite proficiency in English sounds for effective oral communication.” Therefore, respondents in this study may have had lessons in Spoken English but such lessons may not have been in-depth enough to make them articulate English sounds accurately; i.e. to articulate the sounds the Native-English-like manner.

2. We opine that linguistic features of co-existing languages can rob on one-another. Findings in this study revealed, for instance, that there is (to some extent) mutual phonological/linguistic intelligibility in the renditions of the Igala and Okun-Yoruba respondents. Their renditions of certain fricatives (especially the voiced palato-alveolar fricative /ʒ/ as voiceless palato-alveolar fricative /ʃ/) have some natural semblance in their phonetic form, largely as a result of co-habitation in Lokoja. Respondents of both ethnic groups articulated the voiced palato-alveolar fricative as voiceless palato-alveolar fricative. For example: **vision** /vɪʒən/ was articulated as [vɪʃən], **leisure** /leɪʒə/ as [leɪʃə], **measure** /meɪʒə/ as [meɪʃə] and **Asia** /eɪʒə/ as [eɪʃə or eɪʃɪə]. Many scholars have labelled this phenomenon of phoneme semblance as a psychological reality. Such a view emphasises the phoneme as a mental concept which is believed to be what the native speaker conceives in his head which may not be what is uttered in reality.

3. Inter-ethnic-influencing has equally been demonstrated in this study. The selected ethnic groups of Ebira, Hausa, Igala and Okun-Yoruba live within Lokoja while sharing a combination of historical traits and local conditions which are believed to strongly influence one another's language. The tendency of L2 learners transferring some phonological traits which are a result of the influence of a neighbouring language was evidenced in some respondents' articulation of certain fricatives. For instance, the voiceless palato-alveolar fricative /ʃ/ poses a challenge to some educated Igala speakers of English as they tend to substitute it with the voiceless palato-alveolar affricate /tʃ/. And because the Igala ethnic group is the largest ethnic group within the Lokoja city, the possibility that the other ethnic groups like the Ebira and Okun-Yoruba will articulate sounds the same way as the Igala, is high. Hence, the test items **fashion**, **Chicago**, and **champagne** in particular, were rendered as [fʌʃən], [ʃɪkɑ:ɡɔ] and [ʃæmpɛɪn] by the Igalas.

5. CONCLUSION

This study has attempted an analysis of the English fricatives as articulated by selected speakers of Educated Nigerian English living within the Lokoja city, who are from the ethnic groups of Ebira, Hausa, Igala and Okun-Yoruba. It has described the features, patterns and social variables responsible for the way the respondents realize the English fricatives. Findings from this study show that ethnic differences in phonemic inventories of the respondents, the tendency of respondents to wrongly voice or devoice fricatives, substitution of fricatives with other consonant phonemes and social variables such as inter-ethnic influence, educational qualification, geographical location, co-habitation are largely responsible for the respondents' demonstration of some relatively good mastery of the English fricative articulation. Sex was not considered as a variable in the study because the data revealed no remarkable difference in the renditions by both male and female respondents.

Acoustic analyses of the data in this study showed that about 30% of the respondents from the selected ethnic groups found the interdental fricatives /θ/ and /ð/ and the voiced palato-alveolar fricative /ʒ/ difficult to articulate largely because such sounds are not present in their L1 phonemic inventories. Despite this challenge, about 80% of the respondents were able to articulate the tested sounds perfectly. This has been attributed to appropriate internalization of input on the part of the respondents through to the university level. Nevertheless, some findings about the respondents' general performance show additional interesting fact about phonology that, regardless of one's level of education, speakers' ethnic language may sometimes impact negatively on one's articulation of the target language, which in this case is English. This position corroborates Fajobi's (2013:75) submission that "phonology is [...] resistant to input."

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APPENDIX 1: The Questionnaire

Instruction: The questions below are meant for research purposes only. Kindly answer the questions as objectively as you can. Thank you.

Section A: Socio-Demographic Characteristics of Respondents

1. Sex: Male () Female ()
2. Age: 21-30 () 31-40 () 41 years and above ()
3. Level of Education: SSCE/ND/NCE () B Sc./B.A/B Ed./HND () Postgraduate ()
4. Name of University/Polytechnic:
5. Echelon or Staff Category: Senior () Junior () Casual ()

Section B:

6. Do you live within Lokoja Metropolis? Yes () No ()
7. Which ethnic group do you belong to? Ebira () Igala () Hausa () Okun-Yoruba ()
8. Do Speakers of your language have challenges with English Language? Yes () No ()
9. Are these challenges in the spoken () or written () form?
10. Are you aware that there are some sounds in the English language called fricatives? Yes () No ()
11. If yes, do people of your ethnic group have problem articulating any of them? Yes () No ()
12. Which of the following fricatives do they have problem articulating?
Voiceless labiodental fricatives /f/ ()
Voiced labiodental fricative /v/ ()
Voiceless dental fricative /θ/ ()
Voiced dental fricative /ð/ ()
Voiceless alveolar fricative /s/ ()
Voiced alveolar fricative /z/ ()
Voiceless palato-alveolar fricative /ʃ/ ()
Voiced palato-alveolar fricative /ʒ/ ()
Voiceless glottal fricative /h/ ()

APPENDIX 2: Interpretation of the fricatives produced by respondents

Fricative Sound	Words used for Generating Test Items	30 Ebira respondent	30 Hausa respondents	30 Igala respondents	30 Okun-Yoruba respondents	Total 120	Overall Performance by %
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(W-GIT)							
/f/	Philip, referred, proof, off	28 correct, 2 incorrect	10 correct, 20 incorrect	30 correct, 0 incorrect	18 correct, 12 incorrect	86 correct, 34 incorrect	71.7% Correct, 28.3% incorrect
/v/	Very, achievement, vote, voice	30 correct, 0 incorrect	14 correct, 16 incorrect	30 correct, 0 incorrect	20 correct, 10 incorrect	94 correct, 26 incorrect	78.3% correct, 21.7% incorrect
/θ/	Think, thoughts, with, thanks	4 correct, 26 incorrect	16 correct, 18 incorrect	8 correct, 22 incorrect	8 correct, 22 incorrect	36 correct, 88 incorrect	26.7% correct, 73.3% incorrect
/ð/	Bathed, that, brother, father	0 correct, 30 incorrect	18 correct, 12 incorrect	14 correct, 18 incorrect	10 correct, 20 incorrect	42 correct, 78 incorrect	35% correct, 65% incorrect
/s/	Sing, hymns, miss, dress	30 correct, 0 incorrect	30 correct, 0 incorrect	20 correct, 10 incorrect	30 correct, 0 incorrect	110 correct, 10 incorrect	91.7% correct, 8.3% incorrect
/z/	Cousin, busy, Zimbabwe, dizzy	30 correct, 0 incorrect	30 correct, 0 incorrect	16 correct, 14 incorrect	30 correct, 0 incorrect	106 correct, 14 incorrect	88.3% correct, 11.7% incorrect
/ʃ/	She, fashion, Asia, Champagne	16 correct, 14 incorrect	18 correct, 12 incorrect	12 correct, 18 incorrect	14 correct, 16 incorrect	60 correct, 60 incorrect	50% correct, 50% incorrect
/ʒ/	Vision, leisure, measure, prestige	8 correct, 22 incorrect	17 correct, 16 incorrect	6 correct, 24 incorrect	10 correct, 20 incorrect	38 correct, 82 incorrect	31.7% correct, 68.3% incorrect
/h/	Have, home, who, hit	30 correct, 0 incorrect	30 correct, 0 incorrect	30 correct, 0 incorrect	12 correct, 18 incorrect	102 correct, 18 incorrect	85% correct, 15% incorrect
Total		270	270	270	270	1080 ÷ 9	
Grand total						120	

The W-GIT column represents “Words used to Generate the Test Items.

AUTHORS' BIO

Nsairun, Theodore Shey was a graduate student at the Obafemi Awolowo University. He teaches in the Department of English and Literary Studies, Federal University Lokoja, Nigeria. His main research focus is Phonetics and Phonology.

Eunice Fajobi is a Senior Lecturer in the Department of English, Obafemi Awolowo University, Ile-Ife, Nigeria. She specializes mainly in Phonetics and Phonology, and in the fields of Second-Language-Acquisition, Applied Linguistics and Sociolinguistics; where she has widely published both locally and internationally.