

Variations in Sound Production by Ehugbo Second language Learners

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Abstract: This study probed into variations in the production of dental fricatives and post alveolar affricates by second learners(L2) of English language. The study examined if the learners could produce the dental fricatives [θ], [ð] and post alveolar affricates [tʃ], [dʒ] because the sounds do not exist in their first language(L1) while [dʒ] and the voiced post alveolar fricatives [ʒ] are allophones in their L1 in congruence with the Contrastive Analysis Hypothesis. The data were collected from six government owned schools in Ebonyi State of Nigeria. The findings of the study showed that some of the learners substituted the voiceless dental fricatives [θ] with the voiceless alveolar plosive[t] and substituted the voiced dental fricative [ð] with the voiced alveolar plosive [d]. Furthermore, they substituted the voiceless post alveolar affricate[tʃ] with the voiced post alveolar fricative[ʃ] in production, in the beginning and middle positions while some substituted [θ] with [k],some substituted [θ] with [f] at the final positions and used [dʒ] and [ʒ] interchangeably. The result of the study seem to support the Contrastive Analysis Hypothesis which states that second language learners transfer the features of their first language to the target language. The findings gave insight into the diversities in language use and proffer suggestions to English language teachers handling students from such backgrounds to enhance pronunciation teaching/learning since wrong pronunciation can hinder meaning. The study also suggests that computer or visual aid should be employed in Language teaching classrooms for better learning and teaching.

Key words; Language variations, speech production, L1 transfer.

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I. INTRODUCTION

English language was left in Nigeria as a colonial heritage. Jenkins (2009) pointed out that Nigeria's first contact with English language was around the fifteenth century through the practice of slave trade. However, Akinnaso (1991) stated that Nigeria came in contact with English language in the sixteenth century through trade, in the eighteenth century the missionaries who came to the country used English language during their missionary work.

Subsequently, it became the language of colonialism which was used by the colonial masters. During that period, English language was not used as the language of the community but it was mainly used in education as institutional means of communication and administration (Cheshire 1999).

However, this is no more the case because, English language has grown in its usage among the Nigerian people. It is widely spoken as a second language especially among the educated ones (Adamo 2007). Furthermore, English language is not just spoken as a second language or used as an administrative language, but it is also learnt as a compulsory subject from the nursery till the final year in the secondary school. Before a student will be given admission into any tertiary institution in Nigeria he or she is required to get at least, a credit in English language in National Examination Council (NECO) or West African Examination Council (WAEC) and also in the Joint Admission Matriculation Board examinations (JAMB), irrespective of his or her prospective course of study (Ufomata 1996). In addition, English language is also used in the judiciary together with the three main indigenous Nigerian languages which are; Hausa, Yoruba and Igbo (Nigerian Constitution 1999, chapter five, section 55). It is also used in business, in the media house and for social functions alongside with the three main indigenous languages (Idowu 1999). It is worthy of note that the place of English language in Nigeria is of high importance because it is also used as a lingual Franca due to the multilingual nature of Nigeria (Jenkins 2000). In talking about the state of English language in Nigeria, Adegbite (2003) stated that it has grown dominantly among over four hundred languages which exist in the country, while Yoruba, Igbo and Hausa are the main three languages (Ndimele 2012).

Nevertheless, not minding how widely English language is spoken in Nigeria, there are still variations in the spoken English of many Nigerians because of wrong pronunciation of phonetic sounds. For example,

Nwankwo (2009) noted that Igbo students find it difficult to learn the pronunciation of English sounds because of the variations between the sound inventories of their L1 and English language.

II. LITERATURE REVIEW

This section is concerned with literatures and studies on variations in the production of the sounds of English language by non native users. It will also look at issues such as; transfer, intelligibility, production of speech sounds, fricatives and affricates and factors that hinder correct production of English speech sounds in Nigeria shall be examined.

Phonetic variation

Phonetic variation deals with the differences in which L2 learners/ speakers of another language produce the sounds of the target language (Brannen 2012). Owolabi (2012) stated that variations abound in the production of English sounds among L2 speakers like Nigeria. He maintained that if such variations do not hinder intelligibility, such models should be considered as one of the 'Englishes' in the world. Similarly, Jenkins (2009) noted that the spread of English language across other countries gives room for the development of different models and varieties in the spoken form of English language. These variations have resulted to the classification of English in terms of world 'Englishes'.

Therefore, Kachru (1992) classified the world 'Englishes' into inner, outer and expanding circles. According to him those classified as inner circles are the native users of English language, while the outer circles are those users at developing stage, the expanding circles are those that depend on the standards which is placed by the native users. Therefore he classified, Nigerian English as belonging to the outer circle. In the view of Bamgbose(1998) Nigerian English is a combination of Nigerian norms and the standard norms which bring about variations and errors in their usage of English language.

In contrast, Adamo (2007) argued that gone are the days in which Britain claimed ownership of English language, she claimed that English language has been nativized in Nigeria she therefore stated that what happens is that cultural influences affect the usage of English language in Nigeria. Cultural influence is a situation where the surrounding languages or dialects influence the use of another language in that setting.

Accordingly, Schneider (2011) agreed with the above assertion and suggested that instead of talking about native and non-native speakers, we should rather talk about the time each region got in contact with English language because those who use English as their L1 today also have their regional varieties of English which they speak, which vary from the standard or RP English.

In the view of Dunstan (1969), it should not be a compulsion to maintain that Nigerian learners should learn the pronunciation of English language rather it is essential that, they have sufficient knowledge of the grammar of English language to enable them to communicate and be mutually intelligible to other speakers around the world. This suggests that mutual intelligibility is more important among L2. This assertion seems to support the acquisition of grammar over pronunciation (Ellis 2003) which helps a speaker to make meaningful utterances. Perhaps, this is why traditional view which focuses on grammar teaching is still upheld in the teaching of English language in Nigeria.

Not minding the arguments of scholars about the importance of correct production of phonetic sounds, it is pertinent that English pronunciation is still important in Nigerian context and should be properly taught in schools since pronunciation or Oral English, forms part of the examinations in English language which students are expected to pass before they will be promoted to the next class. Most importantly, it forms part of the WAEC, NECO and JAMB examinations which the students are required to credit before they will be given admission into the tertiary institutions. Again, efficiency in pronunciation will help Nigerian students who travel abroad to communicate effectively and fluently with the native speakers. Indeed, correct pronunciation of speech is essential for mutual intelligibility and effective communication especially between the non native users and the native users of English language.

Jenkins (2000) pointed out that variations in the usage of English language by non native speakers tend to be obvious and noticeable when it comes to the pronunciation of phonetic sounds as a result of transfer of the sounds of their L1 which in turn hinders meaning and understanding. She reported that a study which investigated the degree of phonological hindrances to communication in inter-language talk, where a listener could not understand the speaker, in forty occurrences, twenty seven occurrences of communication breakdown occurred as a result of errors in pronunciation which was as a result of transfer of sounds from the L1 of the participants, eight occurred as a result of errors in lexis, whereas only one occurrence of the breakdown in the interaction occurred as a result of error in grammar, only one occurred as a result of error from the world knowledge and three occurred as a result of error from ambiguity.

Likewise, Brannen (2011) studied the substitution of the Quebec French, Russian, Japanese, and European French who studied English language as a second language. She reported that in Quebec French the voiceless and voiced dental fricatives [θ] and [ð] were substituted with the voiceless and voiced alveolar

plosives [t] and [d] by the learners and that they also related them in perception, while the European French and Japanese seemed to constantly mistake the dental fricatives, [θ] and [ð] with alveolar fricatives [s] and [z]. Again, she noted that the Russian learners were likely to join [θ] and [ð] with [s] and [z], in production and perception as well. According to her, all the learners have [t], [s], [z], and [d] in their first languages.

Nevertheless, the study did not seem to show why there were differences in the sounds with which the learners substituted the voiceless dental fricative [θ] and voiced dental fricative [ð] with, since all of them have the voiceless alveolar plosive /t/, voiced alveolar plosive /d/, voiceless alveolar fricative /s/ and voiced alveolar fricative /z/ in their first languages.

Owalabi (2012) studied the perception and production of the dental fricatives [θ] [ð], by Yoruba learners of English language. According to the result of the study, the Yoruba learners replaced the voiceless dental fricatives [θ] with the voiceless alveolar plosive [t] and also substituted the voiced dental fricative [ð] with voiced alveolar plosive [d] both in perception and production. He reported that [t] and [d] occur in Yoruba language while [θ] and [ð] do not exist in Yoruba language. So the participants replaced [θ] and [ð] with [t] and [d] which exist in their L1.

Furthermore, Keys (2002) investigated how the L1 of a group of Brazilian learners affected the learning of phonological skills in English language. It was noticed that the learners allowed the occurrence of palatalization with voiceless sounds than it occurred with the voiced sounds, for example they showed palatalization of /t/ to /tʃ/ frequently than it occurred with [d] to [dʒ]. He noted that this kind of palatalization in Brazilian Portuguese occurs "when /t/ and /d/ are followed by the oral vowels /i/ and /ɪ/ for example "atividade" or the nasal vowel /i/ example "tinta". Palatalization here refers to the movement of the tongue "from its position behind the teeth and towards the hard palate" (Keys 2002, p. 44). According to him, palatalization is not permitted in Brazilian Portuguese in instances where /u/, /ɔ/ and /ʊ/ precede /t/. According to the result of the study, the learners seemed to transfer the features of palatalization from their L1, in instances where such palatalization is permitted for example, "/ t + /i, ɪ/ which they realize as /tʃ/ into English language in instances where such palatalization is also permitted in English language as well, for example, /t/ + /j/ = /tʃ/ for instance, I don't know what you mean)" (Keys 2002, p.44). Furthermore, he noted that the students also showed palatalization in circumstances where it is not permitted in their L1 and in English language as well. For example, /t/ + /u/ (to, two) = /tʃu:/ while palatalization is not permitted in Brazilian Portuguese before /u/, /ɔ/ and /ʊ/.

The research was able to show how L1 of the Brazilian learners influenced the learning of pronunciation skills as a result of transfer from their L1. It also revealed the errors in their production; however, it failed to show how perception problem can result to production problem as stated in the study. Again, the study seems to suggest that sometimes it does not seem easy to decide if error which learners make occur as a result of interlanguage which is described as a developmental errors which are common to learners in the process of learning another language or if errors which learners make occur as a consequence of transfer from their L1 (Ellis 2008).

Similarly, Idowu (1999) in a study, reported that Hausa people from the northern part of Nigeria substitute the alveolar fricatives /s/ and /z/ with dental fricatives /θ/ and /ð/, while the Yoruba native speakers do not seem to recognise the variation between the long vowel /i:/ and the short counterpart /ɪ/. Again she reported that Yoruba learners also seem to nasalize vowels when the vowel is preceded by a nasal consonant.

Factors that hinder correct learning of English Phonetic sounds in Nigeria.

It is imperative to consider some factors which hinder correct production and learning of English speech sounds. Scholars like Ufomata (1996) reported that the result of a pilot study which was carried out in Nigeria showed that in some government owned schools, some of the teachers do not seem to present the right pronunciation models to the students because the teachers themselves seem to lack adequate training on how to teach pronunciation and so, do not represent the appropriate models for the contrasts that are being tested in examinations. What seems to be happening may be that the teachers themselves are also being influenced by their L1, so that they do not pronounce the sounds which are not in their L1 correctly.

According to Egbuogu (2012), the challenges of learning pronunciation among Nigerian students is the lack of appropriate teaching materials such as audio-visual materials and unsuitable techniques which are being adopted in English classrooms.

Another notable factor which has hindered improvement in pronunciation or Oral English among Igbo learners is the influence of the learners' L1 (Nkamigbo 2010). This seems to suggest that in Pronunciation classes, emphasis should be made on the differences in the sound pattern of Igbo and English languages to enable learners to attain a level of proficiency in pronunciation of English sounds. Therefore, for teachers to teach pronunciation effectively, Jenkins (2000) stated that teachers should have a good knowledge of the phonological features of the target language.

L1 Transfer

The influence of transfer from a learner's L1 has been seriously examined in second language learning (Ellis 2008). Some researchers have found the word transfer difficult to define and so it has raised arguments among them, while some are of the opinion that it should be abandoned, or that its use should be controlled, some use the term always to refer to the influence which the native language exerts over L2 learning (Odlin 1989). Transfer may be seen as the influence which the previous linguistic knowledge of a learner exerts on another language which the learner is trying to learn. This influence may come from areas of similarities between the L1 of the learner and the target language. The influence can also come from areas of differences between the L1 of the learner and the target language (Odlin 2006). For instance, the studies reviewed above showed instances where the learners transferred the phonological features from their L1 into English language.

The above assertion is in congruence with the contrastive analysis hypothesis which stated that the previous knowledge of a language learner interferes in the process of learning a new language (Lado 1957). Hence, the proponents of this theory believed that for a language learner to effectively learn a new language, the learner should replace the knowledge of his L1 with the knowledge of the L2 (James 1980). However, Ellis (2008) argued that it may not be appropriate to say that language learners should forget their native language totally so as to learn a second one, nevertheless, he pointed out that learners may gradually lose the knowledge of their L1 in the process of learning a second language.

Furthermore, there has been lack of agreement among scholars in regards to the role which transfer plays, whether it has positive or negative impact among second or foreign language learners (Hui 2010). Transfer is seen as being positive when learners transfer features from their L1 to L2 when such features exist both in their L1 and the L2, while negative transfer occurs when second language learners transfer features which exist in their L1 when such features do not exist in the L2 which they are trying to learn (Hui 2010). This means that positive transfer occurs when the L1 of learners shares some features or similarities with the target language while negative transfer occurs when there are differences between the L1 of language learners and the target language.

Similarly, Keys (2002 p. 42) pointed out that transfer can also be negative when L2 learners transfer linguistic features which do not exist in their to the target language. He asserted that negative transfer could be "convergent or divergent". Negative transfer is seen as being convergent if L1 has two different sounds against one sound which exists in L2, in this case, the learner may tend to transfer any of the two sounds which exist in his/her L1 to L2. It could also be divergent in a case where there is only one sound which is in existence in the L1 of the learner while the L2 has two sounds in such instance, in that case, the learner may see such sounds as allophones when they are not. Allophones are described as different sounds which do not cause a change in the meaning of a word (Udoh 2003).

Intelligibility

Intelligibility refers to the ability to identify an utterance, understand the meaning and what the expression represents based on the social and cultural background where such expression is used (Bamgbose 1998). In the view of Kenworthy (1987) intelligibility may be seen as the process by which a listener is able to understand a speaker at a particular point in time and in a particular situation. In discussing intelligibility, Bamgbose (1998, p.11) stated that in the process of interaction, that the person who makes an utterance and the listener both contribute to "interpretation and speech act" and that both of them tolerate the accent and features of their speeches. That is to say that there should be a mutual understanding between a speaker and the listener for communication to be considered intelligible.

Smith and Nelson used three different words interchangeably; firstly, interpretability, they described, interpretability as the understanding of the expression of a speaker based on the meaning by the speaker himself. The second one is comprehensibility which refers to the meaning of words and expressions, while the third one is intelligibility which can be used to identify expressions and words (Smith & Nelson 1985).

Furthermore, James (1998) viewed comprehensibility to mean being able to access the content of an expression while intelligibility is the ability to access the literal or exact meaning of an expression. James' view of intelligibility seems to support what Smith and Nelson meant by comprehensibility.

In addition, Bamgbose (1998) also pointed out that the native users of English language have been seen by many people as possessing the right to determine what is considered to be intelligible in English language and what is not accepted to be intelligible. However, Jenkins (2000) argue that the above assertion is no more the case because looking at intelligibility from that perspective do not seem to consider listeners, who are not native users of English and the part which a listener has to play during interaction. Therefore, she pointed out that studies on intelligibility currently focus on the listener and issues like, the processing skills of the listener and their background knowledge.

In summary, the concept of intelligibility is concerned with the understanding which exists between a speaker and a listener in the process of interaction. This implies that unintelligibility occurs when the listener

cannot deduce meaning from an expression. More so, errors in the use of sounds by second speakers of English language may cause unintelligibility.

Production of Speech

Speaking involves the production of sounds, with the use of speech organs in the mouth (Schneider 2011). During the process of speech production, air goes through the vocal cords and passes out through the oral cavity or through the nasal cavity to release either an oral or a nasal sound (Pisoni&Remez 2005). The vocal cords may be widely opened so that the air goes through without obstruction to release voiceless sounds, but when the vocal cords are slightly closed, the air passes through the narrow space, causing vibration in the vocal cords, sounds released during this process is known as voiced sounds (Anagbogu et al 2001).

Furthermore, a research in phonology which tried to study how words of a language vary from each other and how speakers modify words during production in various contexts has revealed that sounds may be separated into units known as gestures which initiates the movement of various articulators in order to accomplish a linguistic goal (Goldstein et al. 2007).

Since this study aims to study the variations in the production of the dental fricatives and post alveolar affricates by Afikpo learners of English language, it is important to examine the production of the dental fricatives and post alveolar affricates.

Fricatives

In the process of producing the fricatives, the speech organs which are involved in their production come closely together, thereby causing audible noise as a result of the transitory of the speech air between the articulators (Kelly 2000). Roach (2009) pointed out that many languages seem to have fricative sounds while /s/ has been commonly noticed among them. An example of fricatives which are relevant in this study are the interdental fricatives which are represented by the following phonetic symbols /θ/, /ð/.

Affricates

Affricates are speech sounds which are produced when there is a total closure in the oral cavity while the velum or soft palate is raised, the pressure of air increases after the closure which is gradually released afterwards (Kelly 2000). Examples of affricates which are relevant in this study are the post alveolar affricates, they are phonetically represented as; /tʃ/ and /dʒ/. The production of affricates seems complex because their production start as plosives and end as fricatives (Roach 2009). Likewise, Yavas (2011) agrees that affricates start with total closure like plosives and then end like the fricatives. Though affricates are represented by different sounds, it is important to note that they do not form two different sound segments in English language, rather, they are seen as one unit which cannot be separated(Yavas 2011). In the same manner, Davenport & Hannahs (2010) asserted that phonetically, affricates are treated as one unit of sound. The common point in the description of affricates is that in the process of their production, the manner of articulation is a combination of the plosives and the fricatives, yet they represent a single sound segment.

Methodology

The data for the study was collected using the following techniques;

Research design

Mixed method was employed in the study, this involves using both qualitative and quantitative methods to study the same concept in a particular study(Dörnyei (2007).

RESEARCH INSTRUMENTS

A reading task containing the dental fricatives /θ/, /ð / and post alveolar affricates / tʃ /, /dʒ / were used to collect data, the words were arranged in threes with the dental and post alveolar sounds appearing in the beginning, middle and final positions of the words. The reason is to find out if the positions of the sounds can affect their production.

PARTICIPANTS

The population of the research is Afikpo learners of English language while the sample used in the research are students who are in their final year in the secondary school. This is also the class in which the students write WAEC, NECO or JAMB examinations. The participants were thirty in number from six different government owned schools. All of them have been learning English language as a second language from their primary school till the present class and they all speak Ehugbo dialect as their L1. The students are between the ages of sixteen to eighteen years. None of them has travelled to any country where English language is being used as the L1.

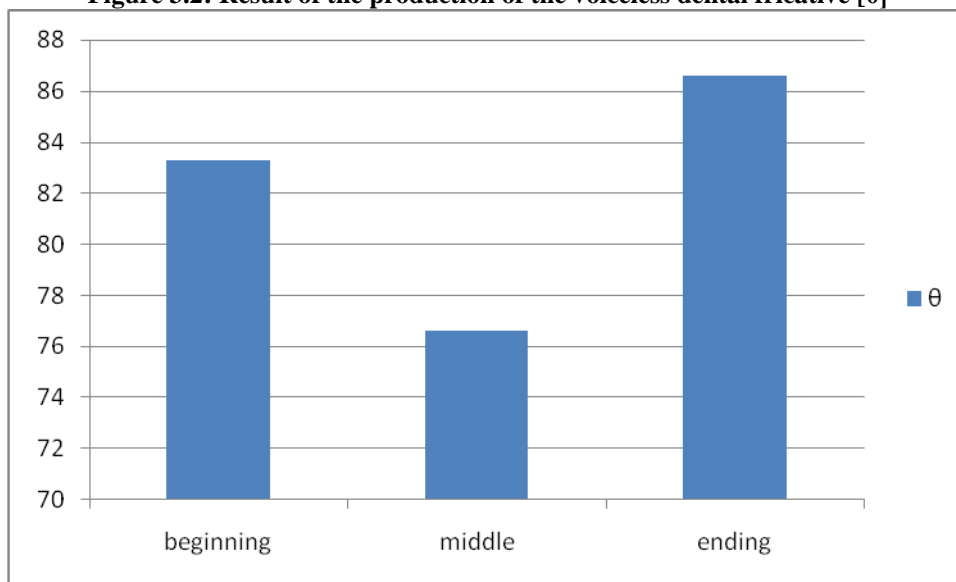
PROCEDURE FOR THE PRODUCTION TASK

Each of the participants were given one to three minutes to complete the reading task while their voices were recorded one after the other using a recorder. The results were calculated using the total number of wrong pronunciation divided by the total number of participants multiplied by 100, this can be represented thus;

$$\frac{\text{number of wrong pronunciation}}{30} \times 100$$

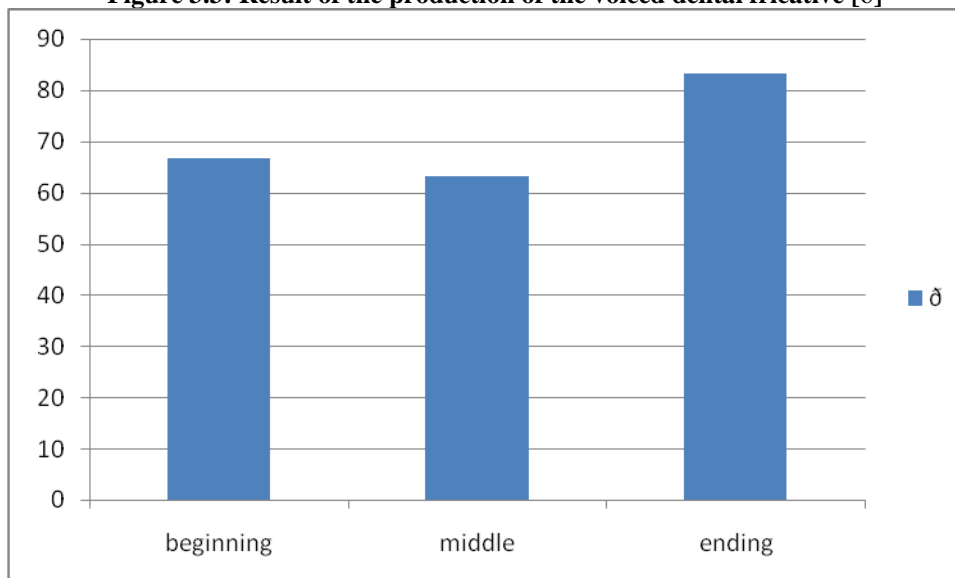
III. RESULTS AND ANALYSIS

Figure 3.2: Result of the production of the voiceless dental fricative [θ]



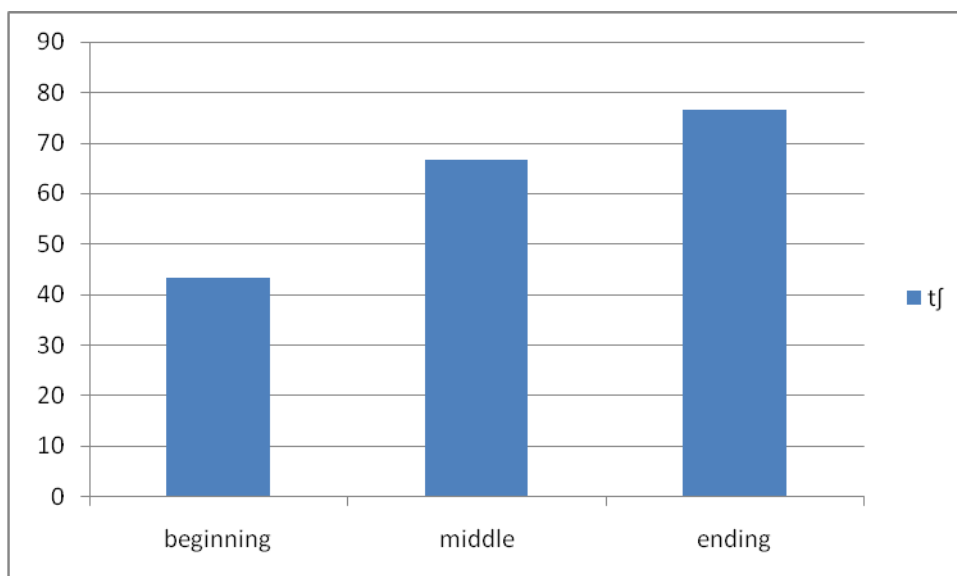
From the above figure, it can be seen that the total number of participants who took part in the study were thirty. From this number, 83.3% could not pronounce [θ] correctly at the beginning position of the words, it was discovered that they all realized [θ] as [t]. However, 16.6% pronounced [θ] correctly at the initial position. Then at the middle position, 76.6% could not pronounce [θ] correctly, they also pronounced [θ] as [t], nevertheless 20% pronounced the sound correctly at the middle position. It was noticed that 3.3% avoided the sound at the middle position. Furthermore, at the final position 86.6% could not produce [θ] correctly, from the 86.6% that could not pronounce [θ], 63.3% substituted [θ] with [t], 6.6% substituted [θ] with the voiceless velar plosive [k] while 6.6% substituted [θ] with the voiceless labio dental fricative [f] at the final position. Again 3.3% avoided the sound at the final position.

Figure 3.3: Result of the production of the voiced dental fricative [ð]



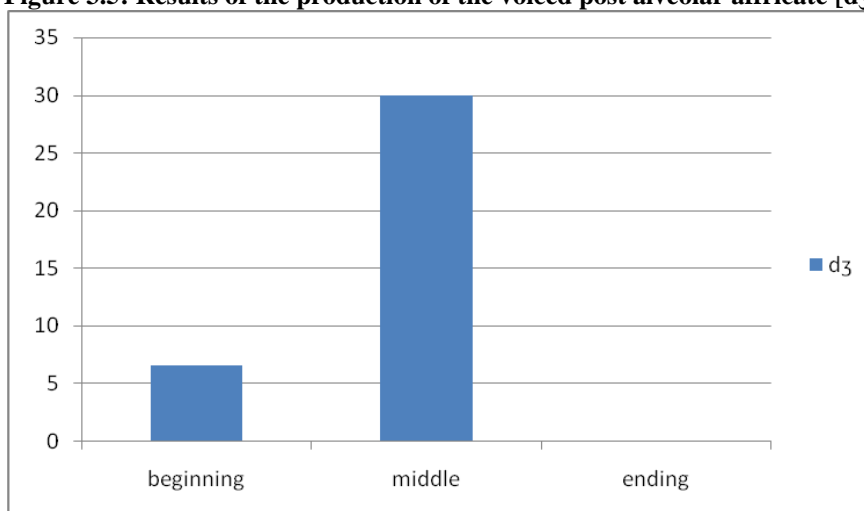
The above figure shows the errors in the production of the voiced dental fricatives by the participants. It can be seen that 66.6% could not pronounce [ð] correctly when it appeared at the beginning position of the words, they substituted [ð] with [d] at that position, however, 26.6% produced the sound correctly at the initial position, while 6.6% avoided the sound at the initial position. At the middle position, 63.3% could not pronounce [ð] correctly, they also substituted [ð] with [d], nevertheless, 30% was able to pronounce [ð] correctly at the middle position, while 6.6% avoided the sounds at the middle position. Furthermore, at the final positions of the words 83.3% could not pronounce [ð] correctly, they realized [ð] as [t]. However, 10% pronounced [ð] correctly at the final position of the words while 6.6% avoided the sound at the final position.

Figure 3.4: Result of the production of the voiceless post alveolar affricate [tʃ]



Result of the production of the voiceless post alveolar affricate shows that 43.3% could not pronounce [tʃ] correctly at the beginning of the words; however, 46.6% was able to pronounce [tʃ] correctly at the beginning position while 10% avoided the sound at that position. Again, when [tʃ] appeared at the middle position, 66.6% could not pronounce it correctly, nevertheless, 16.6% pronounced [tʃ] correctly at the middle position, while 16.6% avoided the sound at that position. Furthermore, when [tʃ] appeared at the final position, 76.6% could not produce it, however, 10% pronounced it correctly at the final positions of the words while 13.3% ignored the sound at the final position. The participants substituted [tʃ] with [ʃ] at the beginning, middle and final positions of the words.

Figure 3.5: Results of the production of the voiced post alveolar affricate [dʒ]



The above figure shows the result in the production of the voiced post alveolar affricate [dʒ], it can be seen that 6.6% could not pronounce [dʒ] correctly at the initial position of the words. Interestingly, 80% pronounced the sound correctly at the beginning position. It was noticed that 13.3% ignored the sound at the initial position, then at the middle position, 30% could not pronounce [dʒ] correctly, however, 56% pronounced the sound correctly at the middle position. Interestingly, at the final position, there was no error in the pronunciation of [dʒ], that means that 86% pronounced the sound correctly at the final positions, while 13.3% avoided [dʒ] at the final position.

Pedagogic implication and recommendation

Based on the result of this study, it has been seen that some Afikpo learners of English language seem to have difficulty in the production of the dental fricatives and post alveolar affricates, they substitute the sounds with the ones available in their L1. The variation in the production of English speech sounds is largely attributed to their L1. Therefore, it is recommended that teachers who are teaching Oral English in Afikpo north local government area should pay more attention to the dental fricatives and the voiceless post alveolar affricates which do not occur in their L1 and the voiced post alveolar affricate and the voiced post alveolar fricative which occur as allophones, to enhance efficiency in pronunciation and communication, though knowledge in other areas such as stress and intonation will also be helpful. Again, the use of computer technology in the classroom may be helpful, in this case, online illustrations of the RP English phonetic sounds can be used in the classroom, this will expose the students to the correct models of pronunciation, for example the DVD on how to teach pronunciation by Kelly (2000) also gives a practical guide on how to pronounce some of the phonetic sounds. Nevertheless, it was observed that to an extent, some can produce the sounds though they do not exist in their L1. This may be as a result of their backgrounds because those who came from educated families seemed to perform better than those that came from illiterate families.

IV. CONCLUSION

In conclusion, this research studied the variations in the production of speech sounds by Afikpo learners of English language which it was set to study and it is worthy of note that despite how widely English language is learnt and spoken in Nigeria, there are still variations in the production of English speech sounds unlike the native speakers, this is traceable to their L1. Nevertheless, it was observed that training can enhance pronunciation among the learners/speakers.

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