

SEGMENTAL PHONOLOGY: A STUDY OF PERFORMANCE BY ANNANG SPEAKERS OF AKWA IBOM STATE UNIVERSITY

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Abstract

This research work set out to examine the performance of Annang speakers of English in Akwa Ibom State University in Segmental phonology. The objectives of the work were to examine the pronunciation of English vowels by Annang speakers of English, assess the articulation of English consonants by Annang speakers of English, determine causes of poor performance of Annang speakers in the realization of English phonemes, and suggest ways by which Annang speakers of English can improve upon their performance in English segments. The Robert Lado's (1957) Contrastive Analysis Theory formed the theoretical framework for this study. A reading test containing the forty-seven sounds of English was administered on ten informants and a tape recorder was used to record their oral performances which were played back several times and analyzed. Findings indicated that the informants did better on those English segments for which there exist equivalents in the vernacular than on English segments for which L₂ equivalents are none existent. The employment of competent models as teachers of English at the secondary school level was suggested.

Keywords: Segmental Phonology, Segments, Performance, Annang speakers, Language learning, teaching, Contrastive Analysis Theory, Monophthongs, Diphthongs, Triphthongs.

Introduction

It is pertinent to say that phonology is primarily concerned with the sound patterns of individual languages. Thus, the phonology of a language is the sound system of that language. It is also necessary to mention that phonology is a branch of linguistics whose concern is with the study of rules or systems of speech sounds within languages. Segmental phonology according to Eka (1996) is concerned with the patterning, grouping and distribution of the basic sounds of English: consonants and vowels. Davenport and Hannahs (2005) state that languages are made up of speech sound systems governed by rules that occur in a language, the rules about where speech sounds can occur in a word, how these sounds can be combined to form words, and how they are pronounced in words and their relationship to one another in the system. Annang speakers of English in Akwa Ibom State University who try to develop linguistic competence in the English language are classified as second language (L₂) learners. This is so because they learn the target language against the background of their mother tongue in which they already have a high degree of competence. Hence, second language learning is characterized by various problems as identified by Richards (1971): inter-lingual problems, intra-lingual errors, hypothesizing of false concepts and over generalization.

Similarly, Okono (2023a) in one of his researches reports that subjects had difficulty with words that are pronounced alike but have different orthography and different meanings. This language situation, according to him, is called malapropism. Malapropism is caused by

imperfect knowledge of the L₂, and in this case, English. Okono (2023b) avers that the pronunciation (of English) by Ibibio speakers is affected by factors such as surrounding segments, physical properties of the plosives, position of occurrence and the last but not the least, L₁ influence. The linguist concludes that non-release of plosives by Ibibio speakers of English is a defective language behaviour which can impede understanding and communication particularly before an international audience. Okono (2023)c observes that the production of fricative sounds by Nigerian speakers is variegated by the position of a particular fricative in the word: ability to pronounce the sound depends on whether the sound occurs word-initially, word-medially or word-finally. He asserts that it is observed and safe to say that voiced palato-alveolar fricative /ʒ/, voiced labio-dental /v/ and voiced dental fricative /ð/ are very difficult to articulate by Nigerians at word-final positions. Okono (2019) observes that generally Nigerian newscasters are not fully conscious of the release of plosives in word-final positions. On the contrary British and American newscasters depend on this to make meanings of words and sentences clear. As a solution, Okono (2020) opines that The Use of English programme in Nigerian Universities should be extended from the current one year to two years for a more thorough work in English considering our L₂ background.

In a study of performance on the English pure vowels, Okono (2024) reports that in the study, it was found out that the long front vowel /ɪ:/, the long back vowel /ɔ:/, the front short vowel /æ/, the central vowel /ʌ/ and the short back /ʊ/ gave the informants difficulty of realization. There is a contrary assertion by Okono and Enang (2023) who aver that mother tongue is the first language that a person learned, and that it is generally accepted in teaching and learning processes that the child's mother tongue is of utmost importance. They agree with Zergani (2016) that the child's mother tongue categorizes a large part of the child's environment. Countries around the world that speak English as their second or official language have a lot of people who desire to speak the language with correct pronunciation in terms of appropriate articulation of the consonant and vowel sounds. In Akwa Ibom State University, there are many ethnic groups who speak English as their official language. Among these groups are the Annang speakers of English which will be used as the subjects for this study. Since all humans are endowed with the same speech organs, it therefore means that the performances of the informants would be analysed based on the sounds of English which are substituted by their contiguous sounds in the mother tongue (L₁) of the informants in their reading test. Consequently, this work seeks to examine the performance of Annang speakers of English in Akwa Ibom State University in Segmental phonology.

Research Methodology

The methodology used for this research consists of a reading test. Ten sentences which contained the forty seven sounds of English were generated. A tape recorder was used to record the informants. The researcher held the script with the affected sounds and their transcriptions while the informants read from the normal sentence script. Sentence one contains fourteen sounds; sentence two has seven sounds; sentence three contains ten sounds; sentence four contains three sounds and sentence five examines five sounds. There were three sounds in sentence six, and two sounds in sentence seven, and one sound each in sentences eight, nine and ten. The ten informants or subjects were coded A to J. The reading of each subject was played and listened to a minimum of ten times for proper scoring. The scoring was carried out on the basis of accuracy of articulation of the segments tested. The score for each subject was calculated out of the total number of sounds in a sentence. For example,

sentence one contains 14 sounds and the score of subject A is 11/14. The computation in percentage is $11 \times 100 = 75\%$.

Quantitative and Qualitative Limitations

This study is limited to students of Annang origin in Akwa Ibom State University. The study is also limited to segments: consonants and vowels. Moreover, the research covers only oral productions of the informants recorded with android phone. The productions have not been subjected to electronic analysis in the language laboratory.

Theoretical Framework

The theoretical framework on which this work is based is the Contrastive Analysis theory founded by Robert Lado in (1957). The theory is hinged on second language learning/teaching. The claim of the theory is that the errors and difficulties that are encountered in our language learning and use of a foreign language are from the interference of our mother-tongue (L1). The theory further states that in the event of the structure of the target language (L2) being at variance with that of L1, it implies that some difficulties in learning and error in performance should be expected. The theory states that a foreign language is mainly based on learning to conquer these problems. The theory further states that where the structures of L1 and those of foreign language are similar, no difficulty should be anticipated in teaching/learning. Teaching is normally concentrated on where there are variations between the two languages. What the theory implies is that the problems of people learning English as a second language will vary in accordance with the mother-tongue of those learning it and the nature of the similarities and differences between the two languages. Once a contrastive study of the two languages is carried out, the possible areas of differences will be identified leading to the prediction of the difficulties the learners will encounter. Based on the result of the contrastive analysis, teaching materials, syllabuses, curricula, tests and research will be done to facilitate the teaching/learning of the second language. Different textbooks will then be produced for the different groups of learners. In summary, what the theory of contrastive analysis does is to help predict the anticipated or likely errors of a given group of learners and thereby supply the teaching materials required to teach the language (L2).

Data Analysis

Monophthong is another name for pure vowel. The English vowel system has four (4) front pure vowels, 3 Central pure vowels, 4 back pure vowels and one vowel that is nearer back than front. Out of the 12 pure vowels subjects B and C scored 67%; subjects A, D, F, I, and J scored 7 each representing 58% ; only subject G scored 50% and subjects E and H scored the lowest score of 5 representing 42%. Diphthongs are sounds made up of two vowels but realized as one. The first vowel marks the point of departure while the second signals the direction of movement. Diphthongs are called glides. The English sound system comprises eight (8) diphthongs. They are not conventionally numbered. Out of the 8 diphthongs there are three glides to /I/, 3 glides to /ə/ and 2 glides to /u/. In table 2 subjects A, B, D, I and J scored 5 representing 62% in the English diphthongs; subjects C, F, G and H scored 4 marks representing 50% and only subject E scored a total of 3 marks representing 37%. Triphthongs literally means triple sound. It is a triple sound produced as one. There are basically five (5) triphthongs in the sound system of English but only three of it will be considered in this study. Out of the three triphthongs tested in table 3 only subject G scored 3 representing 100%;

Subject I scored 2 representing 67% ; subjects B,C,D,F,H and J scored 1 each representing 33% and subject A and E scored 0 representing 0%.A consonant is a sound that is pronounced as a result of either a partial or complete obstruction of breath of air from the voacl tract. It can also be seen as a sound that is not a vowel. There are twenty-four (24) consonants in English sound system. In table 4 informants' performance in English consonants records that only subject B scored 23 representing 95% ; subjects D, E, F,G,H and I scored 20 representing 83% ; subject A scored 19 representing 79% and subject C scored 18 representing 75%. The data are presented in the tables 1-4 below:

Table 1: Showing the Performance of informants in English Monophthongs.

S/N	SOUND	WORDS	INFORMANTS/SCORE									
			A	BC	D	E	F	G	H	I	J	
1	/I:/	Ideal	1	1	1	1	0	0	1	0	1	1
2	/I/	We	1	1	1	1	1	1	1	1	1	1
3	/e/	When	1	1	1	1	1	1	1	1	1	1
4	/æ/	Geography	0	0	0	0	0	0	0	0	0	0
5	/a:/	Heartily	0	0	0	0	0	1	0	1	0	0
6	/ɒ/	Was	1	1	1	1	1	1	1	0	1	1
7	/ɔ/	All	1	1	1	1	1	1	1	1	1	1
8	/ʊ/	Put	1	1	1	1	1	1	1	1	1	1
9	/U:/	School	0	0	0	0	0	0	0	0	0	0
10	/ʌ/	Flood	0	0	0	0	0	0	0	0	0	0
11	/ɜ:/	Thirsty	1	1	1	0	0	0	0	0	0	1
12	/ə/	Against	0	1	1	1	1	1	0	0	1	0
Total Score:			7	8	8	7	5	7	6	5	7	7
Percentages:			58	67	67	58	42	58	50	42	58	58

Table 2: Showing the Performance of Informants in English Diphthongs.

S/N	SOUND	WORDS	INFORMANTS/SCORE									
			A	B	C	D	E	F	G	H	I	J
1	/eI/	Face	0	0	0	0	0	0	0	0	0	0
2	/aI/	Favourite	1	1	1	1	0	1	1	1	1	1
3	/ɔI/	Boy	1	1	1	1	1	1	1	1	1	1
4	/əʊ/	Told	0	0	0	0	0	0	0	0	0	0
5	/aʊ/	Now	1	0	1	1	1	1	1	1	1	1
6	/Iə/	Fear	1	1	1	1	1	1	1	1	1	1
7	/eə/	Barefooted	1	1	0	1	0	0	0	0	1	1
8	/ʊə/	Pleasure	0	0	0	0	0	0	0	0	0	0
Total Score:			5	5	4	5	3	4	4	4	5	5
Percentages:			62	52	50	62	37	50	50	50	62	62

Table 3: Showing the Performance of Informants in English Triphthongs.

			INFORMANTS/ SCORES									
S/N	SOUND	WORDS	A	B	C	D	E	F	G	H	I	J
1	/aʊə/	Our	0	0	0	0	0	0	1	0	1	1
2	/aɪə/	Desire	0	1	1	1	0	1	1	0	1	0
3	/aɪə/	Prayer	0	0	0	0	0	0	1	1	0	0
Total Score			0	1	1	1	0	1	3	1	2	1
Percentages			0	33	33	33	0	33	100	33	67	33

Table 4: Showing the Performance of Informants in English Consonants.

/N	SOUND	WORDS	INFORMANTS/SCORE									
			A	B	C	D	E	F	G	H	I	J
1	/p/	Packed	1	1	1	1	1	1	1	1	1	1
2	/b/	By	1	1	1	1	1	1	1	1	1	1
3	/t/	Lot	1	1	1	1	1	1	1	1	1	1
4	/d/	Secondary	1	1	1	1	1	1	1	1	1	1
5	/k/	Secondary	1	1	1	1	1	1	1	1	1	1
6	/g/	Girl	1	1	1	1	1	1	1	1	1	1
7	/f/	Geography	1	1	1	1	1	1	1	1	1	1
8	/v/	Endeavours	1	1	0	1	1	1	1	1	1	1
9	/θ/	Thing	1	1	0	0	0	0	0	0	1	0
10	/ð/	The	0	1	0	0	0	0	0	0	0	0
11	/s/	Secondary	1	1	1	1	1	1	1	1	1	1
12	/z/	Was	1	1	1	1	1	1	1	1	1	1
13	/ʃ/	Cessation	0	1	1	1	1	1	1	1	1	1
14	/ʒ/	Pleasure	0	0	0	0	0	0	0	0	0	0
15	/h/	hostilities	1	1	1	1	1	1	1	1	1	1
16	/tʃ/	Challenges	1	1	1	1	1	1	1	1	1	1
17	/dʒ/	Geography	0	1	0	0	1	1	1	1	1	1
18	/m/	Complained	1	1	1	1	1	1	1	1	1	1
19	/n/	When	1	1	1	1	1	1	1	1	1	1
20	/ŋ/	Belongings	0	1	1	1	0	0	0	0	0	0
21	/l/	Daily	1	1	1	1	1	1	1	1	1	1
22	/r/	Favourite	1	1	1	1	1	1	1	1	1	1
23	/j/	Yelled	1	1	1	1	1	1	1	1	1	1
24	/w/	When	1	1	1	1	1	1	1	1	1	1
Total score:			19	23	18	20	20	20	20	20	21	20
Percentages			79	97	75	83	83	83	83	83	87.5	83

Discussion

Monophthongs

Sounds in natural languages are traditionally known to fall into two groups: vowels and consonants. A vowel is a syllabic speech sound pronounced without any structure in the vocal tract. It is also known to be a single sound or monophthong realized at any point at the mouth cavity without any audible obstruction due to the presence of what refers to as the vowel limit. The 12 pure vowels of English are subdivided into 5 long vowels and 7 short vowels respectively. Vowels vary in quality and quantity. They are conventionally numbered. The tongue and the lips are the major organs for vowels production. Vowels are described according to the part of the tongue used in its production and the height to which the tongue is raised towards the hard palate. The other criterion for the description is the posture of the lips in the vowel production in that the lips can be rounded or spread or neutral. Consequently, the vowels of English are further classified into diphthongs and triphthongs. Considering the performance of informants in English monophthongs in table 1, Thirty percent of the respondents shortened the long, front vowel number one /I:/ in "ideal"; subject F replaced "ideal" with "idle". 100% of the informants substituted the short half open vowel number 4 /æ/ in "geography" with a local variant. Another problematic aspect was the inability of the respondents to distinguish one vowel from another as evidenced in the realization of vowel number 5 /a:/ in "heartily". 80% of the subjects replaced the long vowel /a:/ with vowel number 3 /e/ in the word "heartily". In vowel number 6 only 10% out of the total number of respondents replaced the back sound /ɔ:/ with /ɔ:/ as found in the word "was". Similarly, shortening of the long closed back vowel number 9 /u:/ to /u/ in "school" which was realized as /skull/ by all informants was another identified problematic area. Also, 30% of the informants substituted vowel number 10, a central sound, /ʌ/ in "flood" with /ʊ/, while 70% replaced it with a local variant /o/. Notably, the distinction between vowel number 3 /e/ and number 11 /ɜ:/ tended to be lost in the speech of these subjects as 60% of the informants substituted /ɜ:/ in "thirsty" for /e/. In addition, spelling induced pronunciation accounted for the way some the respondents pronounced words. They could not differentiate between letters and sounds, thereby making them pronounce according to the orthographic words. For e.g out of the 50% of the respondents who failed in the production of a central and half open sound vowel number 12 /ə/ in "against". 20% substituted /ə/ with /e/ while 20% replaced /ə/ with /a/ in that same word.

Diphthongs

A diphthong is a double sound or two pure vowel sounds combined and realized as one long sound. It is a sound that is made by gliding from one vowel tongue position to another. Naturally, the first pure vowel sound combined always shows the starting point whereas the second vowel sound combined usually indicates the direction of movement. The first vowel usually carries more stress than the second. They are eight in number. Out of the eight diphthongs, those which glide toward /I/ and /u/ are called closing diphthongs while those gliding to /ə/ are called centering diphthongs. The performance of informants in table 2 shows that the diphthong /eɪ/ in "face" tend to pose a problem for informants as 100% of the subjects performed badly in the articulation. They all substituted the diphthong /eɪ/ with vowel number 11 /ɜ:/. In the word "favourite" only 10% of the subjects substituted the diphthong /aɪ/ with a local variant. Another problematic diphthong was /əʊ/ in "told". 100% of the informants performed badly during the sound production; they replaced /əʊ/ with a local

variant. Nevertheless, 50% of the respondents replaced /eə/ with vowel number 3 /e/ in "barefooted", although subject B made a fair trial or attempt, her production lacks quality of the diphthong /eə/. All informants replaced /ʊə/ in "pleasure" with vowel number 6 /ɔ/ in their articulation of the word.

Triphthongs

Triphthongs are sounds with three vowels combined together. The realization of the triphthongs needs a gradual production. These vowels are simultaneously produced in one syllable. As the vowels glide from one to another, they become weaker towards the end. It should be noted that in some situation of speech, these triphthongs may be reduced to long vowels and sometimes diphthongs. This may account for why some scholars are of the opinion that there are no triphthongs in English in the real sense of the word. Three out of the five triphthongs of English were considered in this research. In this aspect of performance by informants in English triphthongs, 60% of the subjects replaced the triphthong /aʊə/ with a local variant/a:/ in the word "our". 40% of the subjects found the sound /aɪə/ in "desire" very challenging to produce. Subject H in this regard replaced the word "desire" with another word "deserve". 90% of the subjects realized the triphthong /eɪə/ in "prayer" as /pr'eja/.

Consonants

The consonant as earlier mentioned is one of the sounds in a natural language. Consonant sounds are sounds that are produced with some form of obstruction of air along the speech tract by one or more organs of speech. There are 24 consonants in the English sound system. There are further classified into 14 voiced and 10 voiceless sounds. It is however said to be voiced when there is a vibration of the vocal cord. It is voiceless when the air passes freely without vibration of vocal cord. They are identified according to the place of articulation, manner of articulation and as well as the state of the glottis. From the view point of place of articulation, English has four bilabial consonants, two labio-dental consonants, two interdental consonants, seven alveolar consonants, four palato-alveolar consonants, one palatal consonant, three velar consonants and one glottal consonants. From the view point of manner of articulation, English has six plosive consonants, nine fricative consonants, two affricate consonants, three nasal consonants and two liquid consonants. The data in table 4 record that the informants or respondents had problems with some of the sounds which are not available in their mother tongue, and they replaced them with local variants. In sentence 2 only subject C replaced the word "endeavour" with "live". Consequently, 70% of the subjects in this study reflect their natural language command on the voiceless inter dental fricative /θ/. Although their production is in between the voiceless interdental fricative /θ/ and voiceless alveolar plosive /t/, they tended to substitute the voiceless inter dental fricative /θ/ in "thing" with a local variant /t/. In a similar vein, 90% of the subjects substituted the voiced inter dental fricative /ð/ in "the" with the voiced alveolar plosive /d/. Another problematic phoneme was the voiceless palato-alveolar fricative /ʃ/ in "cessation". 10% of the informants hardly articulated it. 100% of the subjects could not produce the voiced palato-alveolar fricative /ʒ/ in "pleasure". 90% of the subjects replaced the voiced palato-alveolar fricative /ʒ/ with the voiceless palato-alveolar fricative /ʃ/ while 10% substituted the voiced palato-alveolar fricative /ʒ/ with the palatal semi-vowel /j/. The voiced palato-alveolar affricate /dʒ/ in "geography" as found in sentence one was another problematic phoneme to be realized by the Annang speakers of English. 30% of the subjects replaced the voiced palato-alveolar affricate /dʒ/ with the palatal semi-vowel /j/. Also, it was discovered that the voiced velar nasal /ŋ/ was very

problematic as 80% of the subjects exercised an intrusive velar plosive/g/ in the word "belongings". Surprisingly, all informants in this study happened to produce the voiced alveolar lateral /l/ in "daily" and the voiced alveolar liquid /r/ in "favourite" beautifully as typical of some Annang speakers of English.

Conclusion

This study examined the segmental issues among speakers of English from Annang extraction in Akwa Ibom State University. It identified problematic issues in spoken English as associated with phonetics and phonological elements of the English language. It also suggested possible ways of not only curbing pronunciation problems but of articulating some difficult sounds in English language.

Recommendation

Based on the study, the writer recommends the use of a functional language laboratory and employment of competent models to teach oral English so as to reduce speech and listening problems.

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