

English And Ibibio Phonotactics: An Analysis Of Their Vowel Systems

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Abstract

This study investigates and contrasts the phonotactic structure of English and Ibibio focusing on vowels. Every language has its phonotactic structures which makes it different from the other. And those are restrictions or rules governing the arrangement of sound components to bring about well formedness in words. The phonological framework adopted in this study is the Optimality Theory (OT), which developed from Generative phonology. It is a constraint based theory, aimed at determining the performance of Ibibio speakers of English in their use of English phonotactic structures. The work postulates that for the Ibibio, the ability to communicate effectively in English is hinged upon an appropriate selection and ordering of phonotactic structures. To collect data, we prepared 20 items designed and administered to 100 informants selected from three secondary schools in Akwa Ibom State and Ibibio-English bilinguals of the University of Uyo and Akwa Ibom State Polytechnic. The data for the study was based on vowel combinations of the two languages under study. Their productions were analyzed particularly focusing on the phonotactic selection/orders in the two languages since transfer plays a role in the acquisition/learning process. Findings revealed among others, that human beings in speaking their different languages express themselves through the use of words which are made up of speech sound. These speech sounds (consonants and vowels) differ from language to language. How each language combines segments and what syllable structures allow such combinations depend on the particular language? For example, in the two languages under discussion, there are correspondences between Ibibio and English sound system. The front basic vowels /i/ and /e/ occur in different word environment. The phoneme /e/ does not occur at all word finally in English.

This problem is not peculiar to Ibibio, but other linguistic groups in Nigeria have similar problems with some English sounds.

1 INTRODUCTION

Language is commonly known as the system which human beings express themselves through the use of words. The communication could be verbal or theoretically

among people. Linguists like Bamgbose (1971), Oluikpe (1981), and others are of the opinion that English in Nigeria is the language of government, commerce, education and the mass media. Therefore, it becomes pertinent for Ibibio learners of English to communicate in English for national and international intelligibility.

In this paper, the concern is with the common errors in the use of English as it pertains to phonotactic structures of Ibibio learners of English as a second language. Tarmen (1985) in Maria et al. (2001) identifies two schools of language analysts which compare errors made by second or third year secondary schools' language learners in order to see why and how these errors are committed. They named them "Contrastive analysis school" and "Non-Contrastive Analysis school". He then suggests that while the contrastive analysis, basing their contentions on proved psychological factors argued that while a child who learns a second language, tends to use his native language structures in his second language speech and where structures in his first language (L_1) and his (L_2) differ, he will commit errors. The Non-contrastive Analysts also using empirical evidence contend that children actively organize the L_2 speech they hear and make generalization about its structure as children learning their first language do.

According to the principles of Contrastive Analysis (CA) more learning difficulties are predicted at points of differences. However, recent findings and results in L_2 studies have challenged the predictive power of CA. Such challenges have resulted in modifications to the approach Oller & Ziehosseiny (1970) modified s Contrastive Analysis into what is referred to as the moderate version which claims the Lado-Fries assumption to be "top strong". This modified version integrates the view that similar phenomenon can be difficult for L_2 learners. This paper does not want to take sides or join in the argument of the predictive power of contrastive analysis but to use the method of the contrastive analysis to study English and Ibibio phonotactic structures, in order to prove whether the contention of the contrastive analysts school are correct by studying, and comparing these phonotactic structures in both languages.

1.1 Explication of Phonotactics

Sommestein (1977) describes phonotactics as "the principles governing the arrangements of phonemes relevant to one another". He postulates a number of universal

conditions or rules which defines what is and what is not a possible combination in English.

The rules include the following:

1. that phonemes are grouped into sets such that no two members of any set occur in the same environment.
2. that in all phonemic analysis, phones are to be presumed distinct until the contrary is proved.
3. that two or more phonemes are capable of being phonemically identical only if it is possible to formulate a set of general phonological statements such that for every (utterance-long) environments such as that in a language:
 - a) none of the phonemes in question can occur in that environment.
 - b) all of them can occur in it.
 - c) the general phonological statements fully and correctly predict which of them cannot. Sommerstein (1977:20).

The author used /h/ and /g/ to illustrate the above principles which he observes as being in complementary distribution in English, Sommerstein notes that (h) can occur only if a stressed vowel follows or a juncture proceeds whereas /g/ never occurs when either of these conditions occur. He maintains that to group the two phonemes together would certainly amount to poor analysis. Finally, he puts forward that “the phonotactics traces the whole sound system of a language, except for allophonic variation. It gives a certain amount of information about the arrangement of components in segments... on the one hand in the clusters, on the other hand in syllables” Sommerstein (1977:73). His contribution to phonotactics is useful to this present analysis since it touches on issue of rules of possible combinations of phonemes in the two languages under discussion.

Abercrombie (1967) observes that every language has a phonology which is peculiar to it, and different from that of another language in his treatment of general properties of sounds by means of Taxonomic model. To study language, the source regards the phonological approach as a major tool that will highlight the pattern forming capabilities “of sounds of that language.” Considering the nature of clustering of consonants permitted among language, the source reveals that differences still exist in the nature of clustering permitted. For instance, in the word hang, one may have ng at final position but the

restriction in English will not permit it to occur at initial positions. It is observed that in monosyllabic words, short vowels tend to occur medially than word finally in vowels.

Eka (1996) describes phonotactics as “rules of sound combination in respect of actual or potential words... whose ultimate aim is that of arriving at well formed sentence in natural languages” Eka (1996:44).The author observes that English has three set of possibilities within its phonological system. These are “actual” “potential” and “impossible” word combinations. According to Eka (1996) “actual words are those which are currently in the language and are usually made of consonants and vowels while the combinations which do not actually occur in English but are not prevented by the combinatorial requirements of the languages may be said to be “combinatorially possible”. For impossible word combinations, the author uses dlhtin as an example to show that it is impossible to have such sequences because the phonotactics (combinatorial) requirements of English do not permit four consonants initially in syllable/words. This is so because of the restrictions which occur in word formation in English.

1.2 Theoretical Framework

The Optimality Theory is the phonological framework adopted in this paper, which developed from Generative Phonology. Generative phonology according to Prince Smolensky (2003) in Mbah (2006) is to “construct a predictive theory of natural Languages’ sound systems, rooted in a finely-detailed account of the principles of defining linguistic representations and the possible relation between input and output is mediated by a number of elements. These elements include constraints (Con), generator (Gen) and evaluator (Eval).

Constraints (CON) according to Kager (1999:5) can be defined as “a structural requirement which satisfies constraint if it fully meet the necessary structural requirement where as a form may violate a constraint if it does not meet the necessary requirement”. Constraints can be said to be literally¹ untrue about the optimal output of the candidate. This means that constraints are violable. For a constraint to be violable does not mean that it does not satisfy the structural requirement, nor is absolute satisfaction of all constraints that fully meet the structural requirement. Instead if a constraint is more highly ranked than the other

constraint the candidate that best satisfies the more highly ranked one is selected as the optimal candidate. Hence “constraints are intrinsically in CONFLICT” according to Kager (1999). Therefore due to the existence of other constraints which are highly ranked, constraints are violated. The table below illustrates the workings of OT in selecting the optimal candidate.

TABLE 1

Candidates	Constraint A
☞ B ₁	* *
B ₂	* * *!

The ranking of a constraint can be demonstrated by a table. The cells contain violation marks usually indicated by asterisk (*). The optimal candidate is marked by the index. The candidate B₁ is the optimal candidate with respect to a constraint one (C₁) in table 1 since it incurs the least number of violation. The optimal candidate is shown by the index in the table. The candidate B₂ incurs more violation of the constraints (C₁). The violation of the constraint B₂ is fatal that is why it is shown with the exclamation mark (!).

Generator (Gen) is a mechanism which relates the input to a set of candidate representations.

GEN creates only linguistic objects. It is quite creative, in that it able to add, delete and rearrange things without restriction. It also indicates correspondences between input and output representations.

Evaluator (Eval) on the other hand selects the optimal candidate/ candidates from candidate set created by GEN. It does this by making use of a ranking of the violable constraints. According to Oyebade (2004:197) in Mbah (2006:27) “Eval” chooses the candidate that best satisfies’ the constraint hierarchy where “best satisfaction” is defined as obedience of highest ranked constraint or violation of “lowest-ranked constraint” or violation of any single constraints the last degree possible”.

1.3 Ibibio vowels

Ibibio, Efik, Annang languages belong to the same language group which is the lower cross group and the form a cluster of dialects (Essien 1990:1x). They reflect the same

cultural and social environments because of their mutual intelligibility. According to Udoh (1983), Utip (1989) those languages form a cluster of mutually intelligible languages. However, a current orthography of Ibibio and Annang in particular reveals that it is not altogether easy to compare Annang with Ibibio because of the differences in pronunciation. Essien (1990:26-29) recognizes a 15 vowel system for Ibibio: / i, ī, ə, e, ʌ, a, u, ɛ, ɔ, ie, ai, ɔi, ei, ui/. Urua (2000:18) recognizes 16 vowels for Ibibio: /i, ī, ii, ʌ, e, ee, a, aa, ,uu,u,oo,o,ɔ,ɔi,ɔɛ /.

Ibibio vowels used in this study include both monophthongs and diphthongs. These are: /i,e,a, ʌ,o/ and /ai,oi,ei,ie,ui/ respectively. The vowel /i/ occurs as a prefix as in Iba /iba/ “two” and in open syllables as in di /di/ “come” which may be shown as cvc and cv respectively. Generally, Ibibio /i/ does not occur in c-c position. The variant that occurs is /+/ which is an allophone of /i/ in a c-c position. In an open syllable Ibibio /i/ is pronounced as [+] as closed high, front, unrounded vowel. Examples of Ibibio /i/ in an open syllable [+] includes: iso /i-so/ face, kpi /kpi/ cut, di /di/ come, ini /i-ni/ time.

In closed syllables the short vowel /i/ is pronounced as [+] as open high, central, unrounded vowel. This sound is slightly similar to the English vowel in sick or kick but is pronounced with the tongue much farther back and somewhat lower in the mouth. In reality, there is considerable variation in this sound depending on the phonological environment it occurs. Generally, it may be said that [+] is less centralized when the following consonant is a nasal than when it is the corresponding stop. Ibibio [+] is also “less” centralized after a voiced consonant than after a voiceless one. It could be concluded that the more voiceless consonants adjacent to Ibibio [+] (either before or after), the more centralized it is.

The vowel /e/ occurs as a prefix as in ebe /e-be/ “husband” and in open and closed c-v syllables as in me /me/ “endure” and bed /bed/ “close”. These may be shown as cv, vcv, cvc respectively.

The half open central front vowel /ʌ/ occurs in closed c-c syllables as k in kʌk /kʌk/ “close the door”, bʌkkʌ /bʌkkʌ / uproot (e.g. “something buried or planted”). This could be represented as cvc, cv ccv. /o/ is a half closed back rounded vowel and can occur as

a prefix and in open and closed c-c syllables as in owo /òwò/ which means “human being”, ebot /èbòt/ which means “goat”. These may be represented as cvc and vc vc.

The diphthong /ai/ occurs at the final positions as in wai /wái/ “tear into pieces”, tuai /twai/ “hit many persons/things” thus representing cv and ccv respectively. The phoneme /ɔi/ also occurs at final positions as in boi /bɔi/ which means “receive many things” and toi /tɔi/ which means “sprinkle”. These in English represent cv and cv respectively. The phoneme /ei/ as in beiyè /beiye/ “be tasteless”, ayei /ayei/ “palm frond”. This may be represented as cvcv and cvc respectively. /ie/ as in tiè /tiē/ “sit”, diè /diē/ “come” which may be represented as cv, cv respectively. /ui/ as in wui /wui/ “stick up poles” would be represented as cv.

Generally, in the production of the diphthongs, the first vowel marks the starting point of realization while the second vowel marks the direction of movement. Ibibio vowel segments (like those of English) are produced with the articulators getting very close as to cause any friction in the passage. However, it is important to note that what is crucial about Ibibio vowels used in this study is that the combinatorial possibilities of the diphthongs are more restricted than those of the basic vowels. We observed that at the initial position, the glides cannot be combined with either vowels or consonants whereas the monophthong can begin a word and can also combine freely at all word positions.

In Ibibio these diphthongs /uo, ei, ɔi/ do not begin a word. There are considerable variations which occur between the basic vowels and the glides in the sense that while the former are capable of occurring before the velar nasal /ŋ/, the later are not. As a corollary to the above information is the fact that Ibibio diphthongs tend to discriminate before the semi vowel /w/, whereas the monophthongs have no opposition. More so, the diphthong, tend to occur more freely with the plosives /t/ and fricative /s/ than they do with other consonants. Generally, in Ibibio, it is observed that both vowels and diphthong occur without restriction in closed syllables.

1.4 English Vowels

Naturally, in the English language the sound system falls into two major classes- vowels and consonants. Vowels are normally produced with sustained air flow, so that there is no audible obstruction in the speech organs at the time of production. Vowels are the

central parts of the syllables. They are twenty vowel sounds otherwise known as monophthongs and eight glides also known as diphthongs. The vowels are numbered conventionally. The following vowels feature in this study /e,i,æ,ɒ,a:/.

The English front vowels /e/ occurs in a closed syllable in initial and medial positions as in ebb /eb/ cv and bed /bed/ cvc. It also occurs with nasals: embassy, fricatives; effort; laterals elbow, plosives ebb and epitome. It is not frequent with the voiced alveolar fricative /z/ and rarely occurs with the voiceless velar plosive /k/ and the semi vowel /w/. Also, it does not occur at the final positions in any English word.

The front vowel /i:/ in English occurs freely in words beginning with voiceless and voiced consonants. When the long vowel /i:/ is enclosed in voiced consonants, it is shorter; for example bid /bid/. Again, it combines freely with most classes of consonants at the medial position as in: sit /sit/, (fricative) did /did/, (plosive) chin /tʃin/ (affricate), line /lain/ (lateral) and win /win/ (approximant). It never occurs with ɪ except in loan words and is infrequent word finally, perhaps because of combinatorial restrictions in English.

The study also made use of this back vowel /ɒ/. Like its front counterpart, there is a lot of variation in the back vowels in English so much so that they are easily analyzed. /ɒ/ occurs at initial and medial positions as in off /ɒf/ cv, cod /kɒd/ cvc. Finally, the front half open vowel /æ/ occurs freely with words beginning with voiced and voiceless sounds, for example, sat /sæt/ cvc, hand /hænd/ cvcc.

The following diphthongs feature in this study: /au,uə, ɔi,ei,iə/. These diphthongs could be classified for the purpose of a detailed grouping, and description as closing diphthong: /ɔi,au,ei,/ and centering diphthongs: /iə,uə/ respectively.

The glide /au/ occurs in all word positions as in out /aut/-vc, bound /baund/-cvcc, how /hau/ cv. The diphthong /uə/ occurs at words medial and final positions as in hour /auə/ - cv, queer /kuə/ - cv, assurance /əʃuərəns/- cvcvcc.

This phoneme /ɔi/ occurs in all words positions as in oil /ɔil/-vc, boy /bɔi/ cv, noise /nɔiz/ cvc. The diphthong /ei/ begins from the low quality and moves towards the midpoint of the /i/ as in eight /eit/ cv, day /dei/ cv, paid /peid/ cvc while this phoneme /iə/ begins with front closed vowel with lips spread and moves to the central half close /ə/ with lips in neutral positions as in: ear /iə/-v, tear /tiə/-cv, beard /biəd/ cvc.

Phonotactically, the diphthongs can be analyzed as phoneme sequences whose quality is not consonant. In considering how diphthongs come into formation of word, our attention is drawn to the first segment in each glide since this is what will determine its combinatorial possibilities. In line with this therefore, we notice that English glides generally do not occur before the velar nasal /ŋ/ at a final word position. It may occur with other nasals as with name /neim/ and /m/ in home /həum/.

2.0 Research Procedure

Data for this paper were collected from secondary and post secondary schools in Akwa Ibom State. A total of 100 Ibibio-English bilingual students comprising 30 from three secondary schools, 40 and 30 from Akwa Ibom State Polytechnic and the University of Uyo respectively were selected for the study.

The sample consisted of only respondents from Ibibio speaking communities. Only the senior secondary three classes were considered in the secondary schools for the reason that they are considered proficient in their use of both Ibibio and English. A simple random procedure was used in selecting respondents. The sample was stratified along rural/urban locations and sex differences.

Table 1 below shows the distribution of the sample population.

Table 2: Schools Investigated

L.G.A	SCHOOL	SAMPLE SIZE	SEX	
			M	F
Uyo	Ikono Ibom Comp. Sec. School	10	5	5
Uyo	Adiahaobong Sec. Com. School	10	-	10
Uyo	Uyo High School	10	5	5
Ikot Ekpene	Akwa Ibom State Polytechnic,	40	20	20
Uyo	University of Uyo, Uyo	30	15	15
	Total		100	

The instrument used for collecting data was a set of questionnaire which consisted of two parts made up of:-

- (1) a recognition test requiring respondents to identify permitted combination and those not properly combined in Ibibio and English.
- (2) an achievement test requiring respondents to justify their choice in any type of items they had indicated in (1) above.

The test for vowels consists of 20 sound segments distributed into 20 test items of permitted combinations in Ibibio and English. At the end of the test, the items were collected, analyzed and discussed respectively.

2.1 Data Analysis and Discussion

An analysis of vowel combinations in Ibibio and English was carried out in this paper and the respondents were tested on twenty vowel sounds drawn from Ibibio and English. Ten basic vowels and ten glides were selected for the study. In the formation of lexical items under well-formed and ill-formed items, sound combinations peculiar to the respondents were used in Ibibio and English.

Respondents from the secondary schools tended to perform better in certain respects than those from the Akwa Ibom State Polytechnic and the University of Uyo. Again, the respondents had some difficulties identifying words in Ibibio as much as they did in English, which suggest the fact that they are not familiar with the phonological structures of Ibibio language.

Results on vowel combinations in Ibibio language under well formed items included pure vowels and diphthongs in the formation of items. Their segments were combined in such a way that they would be easy for the respondents to identify well-formed items from those not properly combined. The following are some of the monophthongs and diphthongs used in the lexical items that featured in the test:

/ə/ in /kpək/	/ai/ in /wai/
/e/ in /bém/	/ei/ in /ñséi/
/i/ in /bim/	/oi/ in /tɔi/
/a/ in /kpak/	/ui/ in /wui/
/ʌ/ in /kʌk/	/ie/ in /tie/

The test items were carefully selected so that they could be easily recognizable in the midst of other options that were ill-formed. Test on well formed items in English consisted of ten vowel segments selected from the basic vowels;

- /u:/ in ooze /u:z/ /uə/ in pour
- /puə/
- /i/ in naught /nɔ:t/ /au/ in louse
- /laus/
- /ɒ / in yacht /jɒt/ /ei/ in elevate
- /eliveit/
- /e/ in head /hed/ /ɔi/ in buoy
- /bɔi/
- /a:/ in sergeant /sa:dʒənt/ /iə/ in weird
- /wiəd/

In English, the ill-formed items were designed in a way that left very little room for error. However, a more impressive and revealing performance is recorded in English than in Ibibio. The test items were structured to reflect vowel combinations at initial, medial, and final word positions in English and in Ibibio. Details of the findings in respect of vowel combinations in Ibibio and English are presented in tables 2,3 and the permitted combination of words in 4 and 5 below:

Table 3: Results of test A
Recognition of well formed items in Ibibio

SOUNDS	NO. OF INFORMANTS	NO. OF ABLE	% ABLE	NO. NOT ABLE	% NOT ABLE
/i/	100	50	50%	50	50%
/e/	100	60	60%	40	40%
/a/	100	70	70%	30	30%
/ʌ/	100	30	30%	70	70%
/o/	100	40	40%	60	60%

/ai/	100	50	50%	50	50%
/ɔi/	100	55	55%	45	45%
/ei/	100	46	46%	54	54%
/ie/	100	50	50%	50	50%
/ui/	100	45	45%	55	55%

Table 4: Results of Test B**Recognition of well formed items in English**

SOUNDS	NO. OF INFORMANTS	NO. OF ABLE	% ABLE	NO. NOT ABLE	% NOT ABLE
/e/	100	45	45%	55	55%
/i/	100	45	49%	55	70%
/a/	100	40	40%	60	60%
/ɒ /	100	48	48%	52	52%
/u:/	100	65	65%	35	35%
/au/	100	38	38%	62	62%
/uə/	100	58	58%	42	42%
/ɔi/	100	70	70%	30	30%
/ei/	100	55	55%	45	45%
/lə/	100	65	65%	35	35%

Table 5: Recognition test: Ibibio Vowels

SOUND	WELL – FORMED WORDS	MEANING
/i/	Ikie	One hundred
/e/	Nem	Be delicious
/a/	Abasi	God
/ʌ/	kʌkkɔ	Open (e.g door)
/o/	Domo	Light (e.g lantern)
/ai/	Wai	Tear into pieces
/ɔi/	Tɔi	Sprinkle
/ei/	Abeiye	Tasteless
/ie/	Tie	Sit
/ui/	Wui	Stick up poles

Table 6: Recognition test: English Vowels

SOUND	WELL – FORMED WORDS
/u:/	Ooze
/i/	Naughty
/ɒ /	Yacht
/e/	Head
/æ/	Man
/au/	Louse
/ei/	Elevate
/ɔi/	Buoy
/uə/	Pour
/iə/	Weird

2.2 Ibibio Phonotactics- Ibibio Vowels Combinations

In table 2, the data revealed that the informants had some degree of difficulties in identifying well-formed items in Ibibio. The recognition of /ə/ in /kpək/ by only 30 informants representing about 70% could be traced to the fact that respondents were familiar with the spelling or the sound combination of most Ibibio words. The choice of options (B) Iesio must have been confused with esio meaning “pot”. An equally response was recorded for the item /i/ in imam and abeiye which means “laughter” and “tasteless” respectively. Respondents from the University of Uyo and the Polytechnic performed less significant than those from the secondary school. The choice of the closing diphthong /ei/ varied between ueiak and eikpu which are the corrupt forms of the words: unek and ekpu which means “dance” and “rat” respectively. The performance of respondents in the above items can be explained by their limited knowledge about vowel combinations in Ibibio. The average performance, 50% in Diong /diɔŋ / which means “blessed” indicates that the respondents were familiar with the word. Nevertheless, majority of respondents who missed the correct option for Bioim or Brot may have done so out of ignorance.

Performance in the phoneme /e/ in ebe and /a/ in Abasi stood at 60% and 70% respectively. These words are common occurrences in Ibibio. The number of respondents who could not recognize the correct option did so out of carelessness or ignorance. The diphthongs /ai/ and /ua/ in wai and duat which means “tear into pieces” and “shout” respectively also proved difficult for the respondents. The respondents tended to ignore the fact that /ai/ and /ua/ do not begin a word in Ibibio unlike in English language.

2.3 English Phonotactics - English vowel combinations

Results of analysis presented in table 3 on well-formed items in English show that the overall performance was better than that of Ibibio. This clearly shows that the respondents had a better grasp of the allowed combinations in English than in Ibibio, though none of the test items attracted a 100% score.

The respondents who found it difficult to recognize the sound /u:/ in Ooze were about 35 representing 25%. Vowel combination involving /i/ in Naughty attracted only an average of 55%. The choice of options (B) and (C) by some respondents illustrate the fact

that the respondents do not know the combination of some common English words up to the extent of identifying them or recognizing, when they are improperly combined. The performance in the test item /ɒ/ yacht stood at 48%. In the item /e/, the number of respondents able to recognize the permissible combination was 45 representing about 45%. Those from the University of Uyo and the Polytechnic performed significantly better than those from the secondary schools. The exposure of the respondents from the University and Polytechnic to a wider linguistic context may have enhanced their responses to the correct option.

Considering the vowel /a:/, we noticed that about 65 respondents representing about 65% could recognize sergeant as a well-formed word. Those who made the wrong choice failed to recognize that the sequence of combination ea makes the word Heaert an impossible combination.

The glide /au/ is not present in Ibibio except in informal expressions such as Kau meaning “go away please”. This may have contributed to the unimpressive performance by the respondents. But it was hoped that the presence of /a/ and /u/ in Ibibio could facilitate the recognition of louse in option (A). The other option’s contained very queer combinations that tend to violate English phonotactics.

About the diphthong /ue/, those who made a wrong option in pour were uncertain about the correct option. It is also possible to say that respondents failed to recognize pour as well-formed word because some of them may be used to pronounce it as por. Those who chose Uest were not aware that in English, the diphthong /uə/ does not occur in word initial position. Not all respondents could recognize /ɔi/ in Buoy. However, the University of Uyo and the Polytechnic informants performed better than the others from the secondary schools. This could be due to the fact that as undergraduates, they have a wider command of English and improved stock of vocabulary than their counterparts from the secondary schools.

With the exception of weird in /iə/, all other option for these items was wrong. The respondents were attracted by the wrong spellings of these options fierce, fears and tejar may be with the hope that they are the correct spelling of fierce, tears and tear respectively.

From the above discussion, it is to be noted that respondents could not recognize permissible vowel combinations in Ibibio with the same frequency as they did in English. The reason for these differences in performance is that respondents appear to use more

English words than Ibibio in their day to day interaction, with the result that they tend to lose sight of permissible combinations in Ibibio. Generally, it was observed that glides are more problematic at initial positions than pure vowels in both Ibibio and English.

Regarding the achievement test under “Additional information” it was revealed that not all the informants could justify their choice in any of the items identified as well formed. For those who could justify their choice, their responses varied considerably. Some respondents observed that the words contain the correct spelling; others maintained that “they are English words”, while a few of them said “no idea”. Surprisingly, none of the respondents could justify their choice by pointing out that these words are formed according to recognized pattern of word combination in their Ibibio or English. They could not observe that the ill-formed words do not follow acceptable combinations in the languages investigated. This further proved that the majority of the respondents lack the basic knowledge about the phonotactics and that some sounds are subject to the phonotactic rules of the language they belong, the similarities notwithstanding.

3.0 Cross Linguistics Insight - Similarities and Difference between Ibibio and English Vowel Combination.

In the previous sections, the discussion reveals that there are vowel correspondences between Ibibio and English sound systems. First, in the two languages the front basic vowels /i/ and /e/ occur but in different word environments. In Ibibio /i/ is capable of occurring initially with all types of plosives as in ibok “medicine”, idap “sleep” itiat “stone” and fricative as in ifia meaning “fire wood”, isang “walk”, nasal as in inan, “four” and imam, “laughter”. This is not applicable in English where it is found word initially, medially but rarely word finally. The phoneme /e/ does not occur at all word finally in English but it does in Ibibio and /i/ occurs in some words for example, lazy /leizi/, tidy /taidi/ etc.

Also, the phonemes /ʌ/ and /a/ were revealed to be present in the two languages under study but in different environments. In Ibibio /ʌ/ occurs in a close syllable as in fʌk (cover one thing), tʌm (arrange one thing properly). Phonologically in root morphemes, the tense or narrow vowels occur only in a cvc structure, except /u/. In words of more than one morpheme and one syllable, /ə/ and /ʌ/ can occur in an open syllable but such occurrences

are restricted to suffixes only. For example, in the word bΛkκΛ “uproot”, /Λ/ occurs in free variation with [ɔ] as in the bΛkκɔ “uproot”. In English, /Λ/ occurs in initial and medial position as in up /Λp/ and cup /kΛp/ and does not occur at the final position.

The phone /a/ occurs in all word positions in Ibibio. For example /a/ can occur at the beginning as in aba “forty”, at the middle as in kpák “insist on” and at the final position as in bákká “divide”.

The pure central phoneme /ə/ is present in the two languages under study but occur in different environments. For example, in Ibibio the short vowel /ə/ cannot occur in an open syllable phonologically but can occur in free variation with [o] as in the following examples.

kpekə	}	Behave in a rowdy
kpekko		
bok	}	“Pad the hair”
bək		“Gather together”
kpək	}	“cut into pieces”
kpək		

Concerning the diphthongs /ei, ɔi, ai/, they are found in both languages, but tend to have different distribution : in Ibibio they occur only medially and finally, never initially as in English: I /ai/, oil /ɔil/, able /eibl/

However, each vowels system comprises rounded/unrounded vowels as in Ibibio /i,a,e,ú,ɔ,o/ and English /i,e,æ,a,u/. But there is an opposition between the sounds themselves in that where we have /u/ for instance, we cannot have /i/. This is because of the presence of /u/ which posses a constraint. In both languages, vowels become nasalized in environments before nasal consonants as in:

tank /tæŋk /

ɔbɔŋ /ɔbɔŋ/

Considering the English vowel system phonologically, it is observed that it is usually more congested than that of Ibibio and even Annang for that matter. Essien (1990) and Urua (2000) recognises fifteen vowels segment for Ibibio. Following the early works of

Daniel Jones (1966), English has twenty vowel segments. From these opposition's differences, we can deduce from here that phonological representation is language-specific. This may be part of the reason why the English long vowels /i:, ɔ, u: and a:/ are lacking in Ibibio. To rather obtain the long vowels in Ibibio is the process of doubling as in:

/buk/	(bury)
/buuk/	(be buried)
/ben/	(carry)
/been/	(carry many things)

Generally, most English words in all normal styles of speech end in consonant sounds while those of Ibibio end in a vowel as in bag /bæg/ cvc and ebe /ebe/ "husband" vcv respectively. In Ibibio, the glides /ie,iə and ua/are used in place of their English counterparts /ɔi,iə,au/ as exemplifies in the following.

English	Ibibio
/ɔi/ -boy /boi/	/iɔ / - dioñ / diɔŋ/
/iə/ - tear /tiə/	/ie / - tie / tje/
/au/ -house /haus /	/ua / - tua /twa/

Concerning tense and lax vowels, there is opposition before certain English consonants. For example, before /r / only tense vowels occur as in bar /ba:/; dear /diə/; before the velar nasal /ŋ/ only lax vowels will occur as in bring /briŋ/; lenth /leŋθ/ and before alveolar fricatives only lax vowels will occur as in trash /træʃ/. In Ibibio, there is no distinction between tense and lax vowels in their manner or word formation.

From the above analysis, it could be posited that most of the vowel sounds, which are common to English and Ibibio, are more liberally distributed in English than in Ibibio.

4.0 Conclusion

It could be observed that phonotactics represents a very interesting way of looking at the characteristics of natural languages, particularly, those which directly relate to sound combinations. In Ibibio the rules are simple; vowels combine with consonants easily word initially. In English the rules are check complex; vowels combine with consonants word initially.

In the study, significant similarities were observed to exist between the sound system of English and Ibibio but in the matter of sound combinations, a number of subtle underlying dissimilar patterns surface. The phonotactic structure exhibited in the performances of the Ibibio speakers of English in relation to vowels has transfer implications from the L₁, and requires close attention.

In more specific terms, our findings show that Ibibio speakers/learners are likely to confuse their relevant ordering restrictions in their utterances and sentences. At any level of phonological exposure, there is still some difficulty in recognizing permitted and impossible structures. In most SLAL situation, familiarity with the parameter-settings of L₁, and L₂ enhance progress of the acquisitions process.

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