

## Difficult Sounds in Ibibio 2 ½ To 4 ½ Years Old Monolingual Children: Pedagogical and Clinical Implications

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**Abstract** Our study aimed at finding out the difficult sounds that the Ibibio 2 ½ to 4 ½ years old monolingual children find difficult to acquire (50 subjects: 25 male and 25 female). We used imitation method of data collection and descriptive statistics for analysis. They were tested in the following sounds: 10 phonetic vowels [i ɛ e a ə ʌ ɔ o ʉ u] with [ɔ o] as the sub-variations; 17 phonetic consonants [p b t d k kp m n ŋ r f s R ɥ j w] with [b t d] as the sub-variations, bringing the symbols to 21. The following vowel sounds [ʉ] and [o] and mid vowels were found to be difficult sounds for Ibibio children. Among the consonants, [R], [d<sub>1</sub>], [ɥ], [t<sub>1</sub>], [d<sub>2</sub>], [r], [b<sub>1</sub>]; tap, trill and back are the difficult sounds and sound classes. Our study has both pedagogical and clinical implications.

**Keywords:** Difficult Sounds, Ibibio, Monolingual Children, Pedagogical, Clinical

### Introduction

So far, quite a few works exist on the development of the language of the Ibibio child, making it normal and appropriate that we start from the basics. This work focuses on the development of consonants and vowels in lexical items. When the norm for the phonology of the Ibibio child is established, a foundation would have been provided for further studies in child language development and disorders in Ibibio.

### Statement of the Problem

Our problem in Nigeria is that there is no norm set like in developed communities for planning language teaching programmes and for screening children for language disorders. Thus, there is the need to establish a linguistic norm from which deviations can be studied and addressed.

### Research Questions

In order to precisely investigate the research problem stated above, we attempted to answer the following questions:

- i. What are the difficult sounds in Ibibio normally developing monolingual children of the ages of 2 ½ to 4 ½ years?
- ii. What are the pedagogical and clinical implications of a study of the phonology of the Ibibio child?

### Subjects

Twenty-five (25) male and twenty-five (25) female, normal monolingual children, had no formal education, all came from Western Itam community in Itu Local Government Area of Akwa Ibom State of Nigeria.

## Target Sounds

Our target sounds in this study are 27 phonetic sounds of Ibibio with 6 sub-variations bringing the number to 33 sounds: 10 phonetic vowels [i i̇ e a ə ʌ ɔ o ʉ u] with [ɔ<sub>1</sub> o<sub>1</sub>] as the sub-variations; 17 phonetic consonants [p b t d k kp m n ɲ ŋ r f s R ɰ j w] with [b<sub>1</sub> t<sub>1</sub> d<sub>1</sub> d<sub>2</sub>] as the sub-variations, bringing the symbols to 21. The sounds with the subscripts which are so labelled for the purposes of calculations are those pairs of sounds used in free variation with each other, as presented:

[ɔ<sub>1</sub>] and [o<sub>1</sub>] are vowels used in free variation word medially before the velar nasal [ŋ]; [p] and [b<sub>1</sub>] are used in free variation word finally; [t<sub>1</sub>] and [d<sub>1</sub>] used in free variation word finally; [d<sub>2</sub>] and [r] used in free variation word medially or intervocalically.

## Test Material

Our test material was made up of one hundred and sixty two (162) single words which were mainly nouns, with a few verbs.

## Method of Data Collection

We used imitation method of child language collection to elicit data from our subjects.

## Method of Data Analyses

Percentage analysis, mean, variance, and standard deviation, tables and graphs were used for our analyses.

## Data Presentation, Analysis and Interpretation

### General Articulatory Performance

Performance scores in both consonants and vowels. A higher performance in the articulation of each of the sounds means the emergence of that sound in the phonetic inventory of the subjects.

### Vowels

Our subjects were tested on ten (10) phonetic vowels of Ibibio. These vowel sounds are: [i i̇ e a ɔ<sub>1</sub> ɔ o<sub>1</sub> o ʉ u ə ʌ] with [ɔ<sub>1</sub> o<sub>1</sub>] as sub-variations, bringing the number to twelve (12). The sub-variations are vowels used in free variation word medially, before the velar nasal [ŋ].

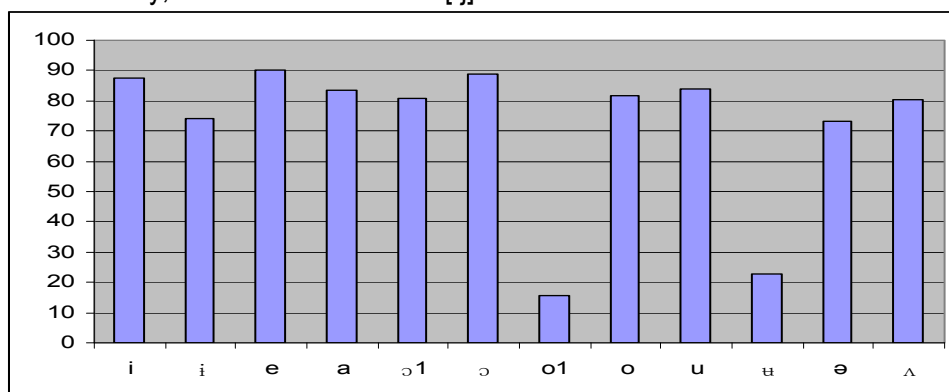


Figure 1: General Performance in Vowels

All the vowels [e ɔ i u a ɔ<sub>1</sub> ʌ ð ə] have been established in the speech of our subjects, except [ɰ] and [o<sub>1</sub>] which is the [o] that occurs in free variation with [ɔ] in the language.

The order of the emergence of back vowels are as follows: [ɔ u ɔ<sub>1</sub> o<sub>1</sub>].

### Front Vowels

Our sound production test covered three (3) front vowels of Ibibio [i e a].

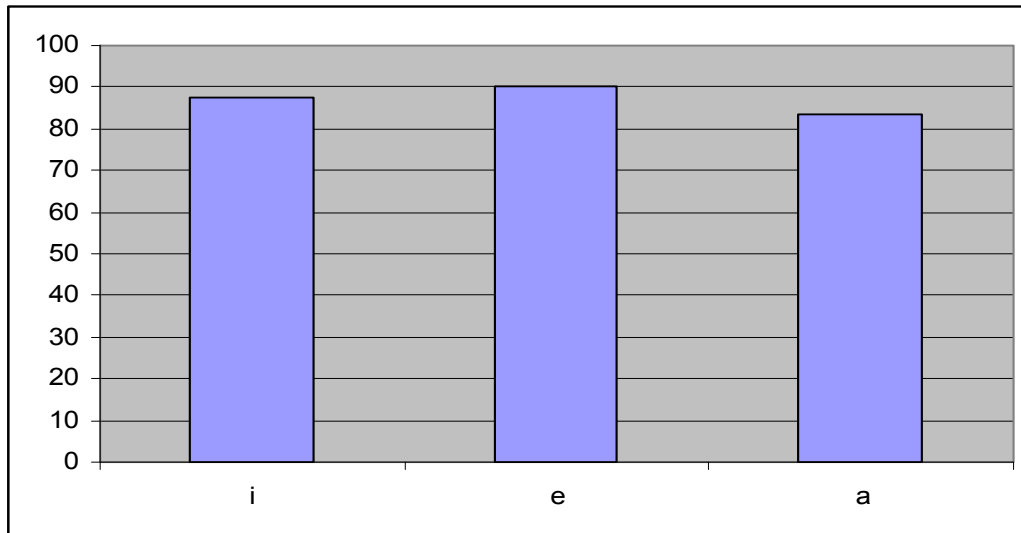


Figure 2: General Performance in Front Vowels

None of the front vowels constitutes an area of difficulty, agreeing with what is reported in the literature (Stork and Widdowson 1974: 143).

### Back Vowels

Our subjects were tested on five (5) back vowels: [ɔ ɔ<sub>1</sub> o o<sub>1</sub> u], as presented below:

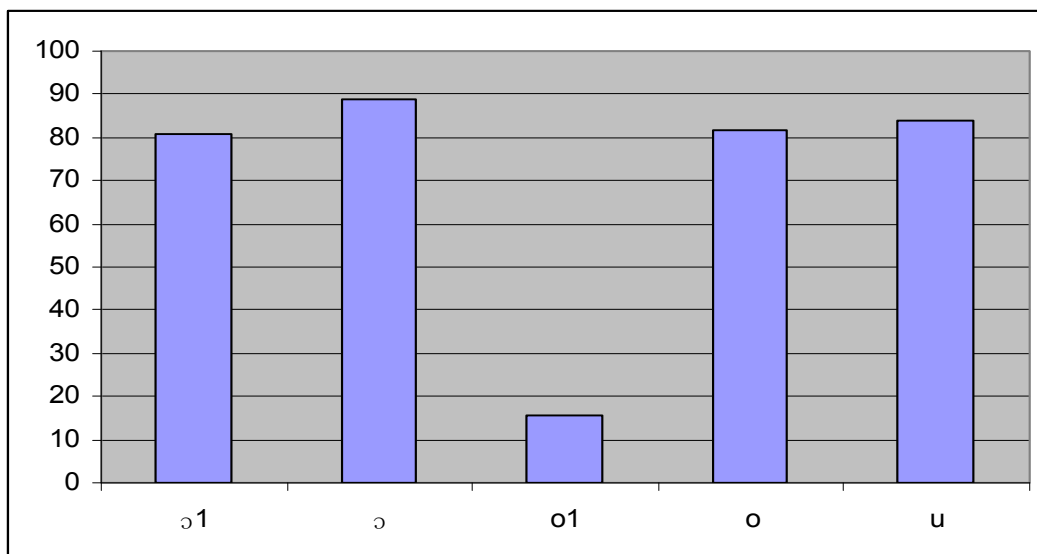


Figure 3: General Performance in Back Vowels

[o<sub>1</sub>] is the difficult back vowel sound and it is used in free variation with [ɔ<sub>1</sub>] before the velar nasal.

### Central Vowels

Our subjects were tested on the production of four (4) central vowels of Ibibio: [ɨ ʉ ə ʌ].

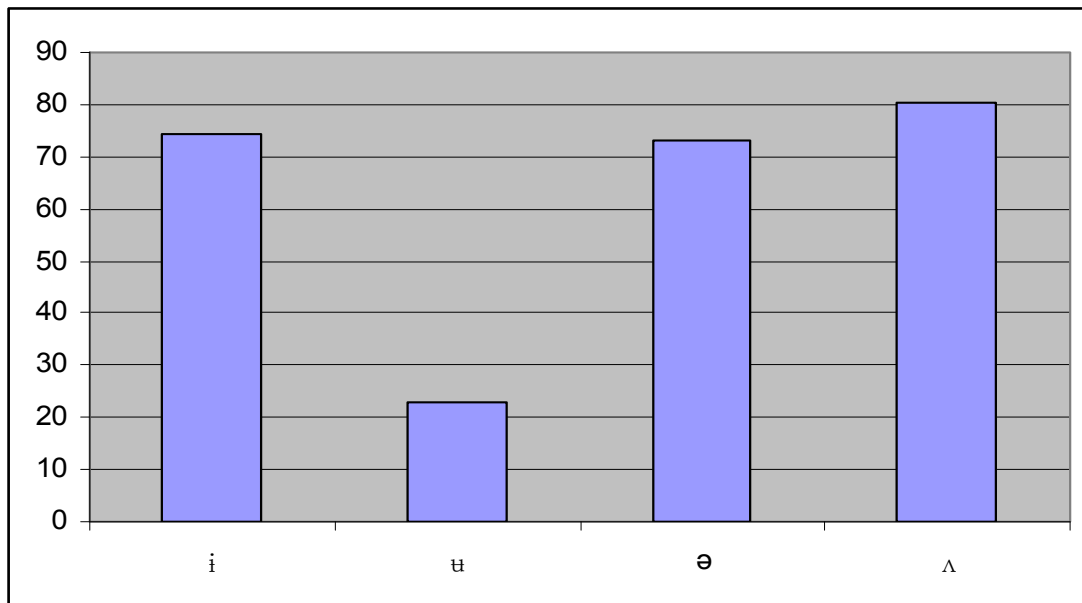


Figure 4: Performance in Central Vowels

The sounds emerge in the following order: [ʌ ɨ ə ʉ]. [ʉ] is the difficult central vowel sound. It is observed that our subjects performed better in the sounds that have higher frequencies of occurrence like [ɨ] and [ʌ] than in those that have lower frequencies of occurrence like [ə] and [ʉ], confirming Nicholas (1991) where Welsh children were found to acquire sounds which were more distributed in the language than those with more restricted distribution

### Performance in Different Classes of Vowels

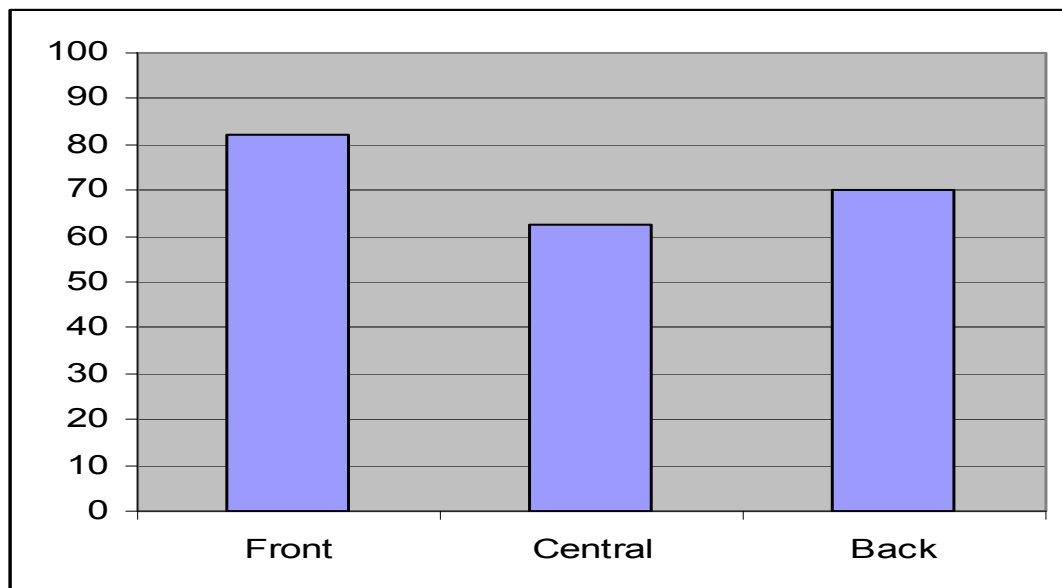


Figure 5: Performance in Front, Central, Back Vowels

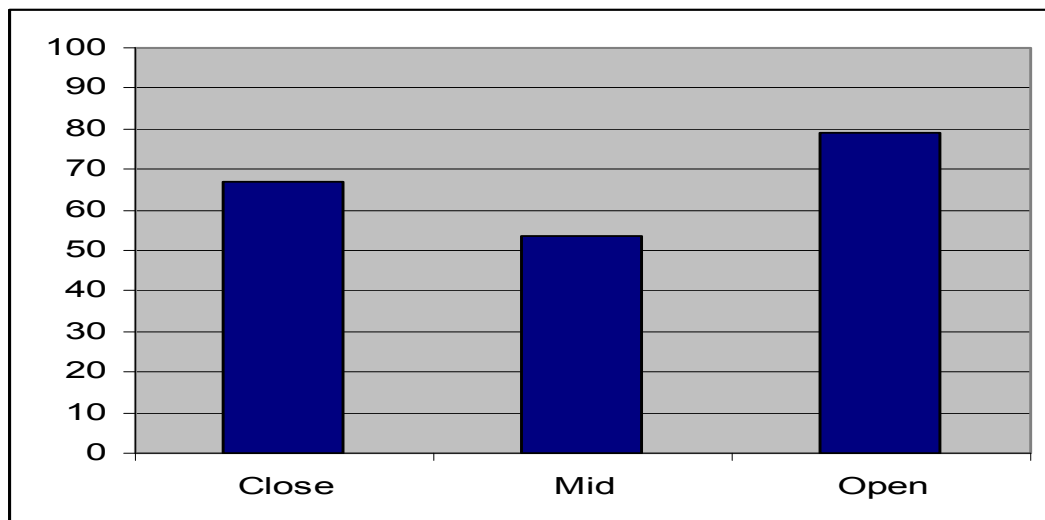


Figure 6: Performance in Close, Open, Mid Vowels

Our result shows that the order of emergence of different classes of vowels is as follows: front – back – central and open – close – mid. It is also reported that open and mid vowels appear before the close vowels, although the general performance of our subjects shows that the mid vowels appear last in their inventory.

The subjects find it more difficult to produce the central vowels indicating that [+ central] vowels are the most difficult vowel sounds for Ibibio children. This is also assumed to be so because these central vowel sounds are less distributed in the target language.

In summary, all the vowel sounds in our study have emerged. These are [i u e a ɔ ɒ ʌ o ɪ ə ɔ<sub>1</sub>], except [ɨ] which is also a central vowel, observed to be the most difficult among the different vowel classes, for our subjects to produce. The result implies that the production of most of the vowels do not constitute a problem area to our subjects, confirming Anthony et al 1971; Akpan 2008.

### Consonants

Our subjects were tested on seventeen (17) phonetic consonants [p b<sub>1</sub> b t<sub>1</sub> t d<sub>1</sub> d d<sub>2</sub> r k kp m n ɲ ŋ f s ʁ R j w] with some sub-variations [b<sub>1</sub> t<sub>1</sub> d<sub>1</sub> d<sub>2</sub>] bringing the number of symbols to twenty-one(21).

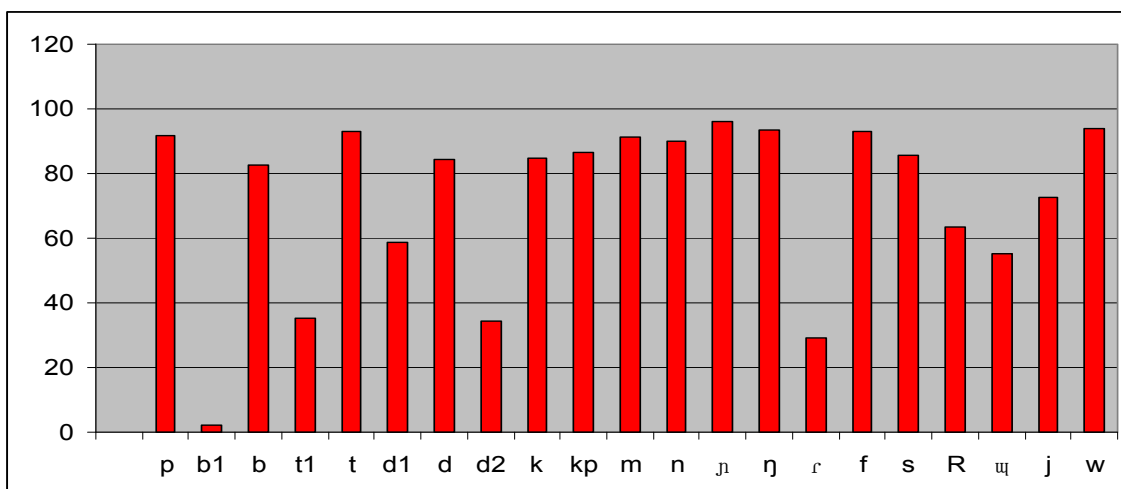


Figure 7: General Performance in Consonants

The order of correct articulation from highest to lowest is as follows:

[ŋ - w - ŋ - t - f - p - m - n - kp - s - k - d - b - j - R - d<sub>1</sub> - ɥ - t<sub>1</sub> - d<sub>2</sub> - r - b<sub>1</sub>].

Comparatively, [R], [d<sub>1</sub>], [ɥ], [t<sub>1</sub>], [d<sub>2</sub>], [r], [b<sub>1</sub>] appear more problematic than other consonant sounds as shown above. This indicates that the subjects prefer the use of certain sounds that occur in free variation (Akpan 2003; Yul-Ifode and Akpan 2004). This does not constitute a difficulty, but a matter of preference for certain sounds in free variation. The approximant [ɥ], the tap and the trill constitute areas of difficulty.

### Trill

There is only one trill [R] in Ibibio, a uvular trill. This result shows that even though the sound has emerged in their inventory, most of the subjects are unable to produce this sound which agrees with what is in the literature that the trill is one of the last sounds to be acquired by children.

### Tap

There is only one tap [r] in Ibibio, an alveolar tap. This sound has not yet been mastered by all our subjects. This tap sound is the one used in free variation with [d<sub>2</sub>], as earlier found in the literature.

### Approximants

These are [ɥ j w].

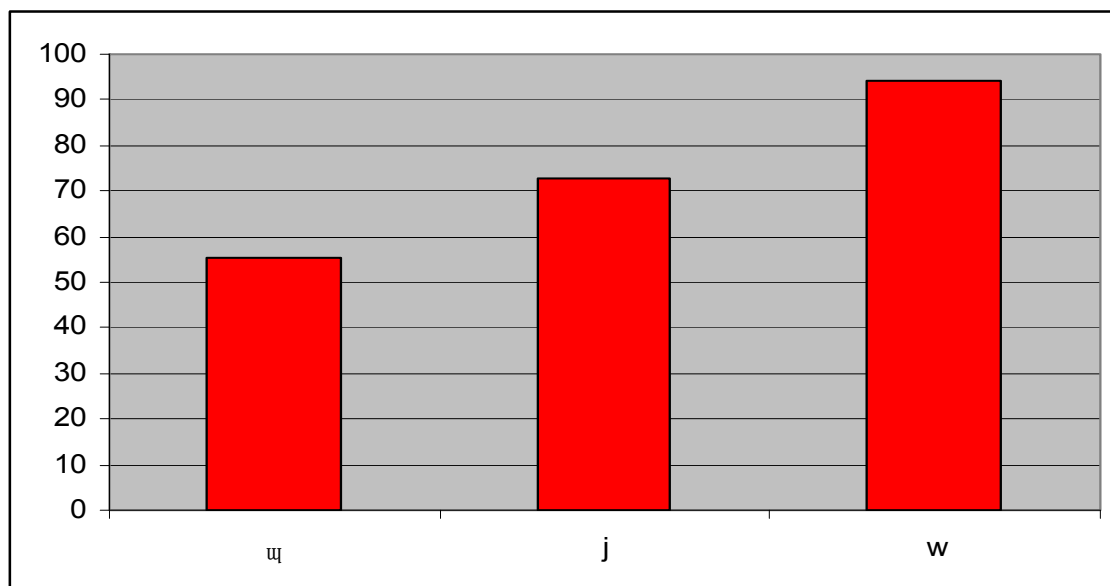


Figure 8: General Performance in Approximants

The approximants have emerged in their inventory. The labial-velar approximant [w] has fully emerged, while the palatal approximant [j] is in the process of being mastered by a lot of the subjects, considering the high degree of standard deviation of subjects from the mean which is 24.05. However, [w] is seen to emerge before [j] and [ɥ]. We therefore state the hypothesis that the higher the frequency of occurrence, the higher the performance. [w] is more distributed in the standard than [j] and [ɥ].

### General Performance In Different Manners of Articulation

The manners of articulation are plosives, nasals, trill, tap, fricatives and approximants.

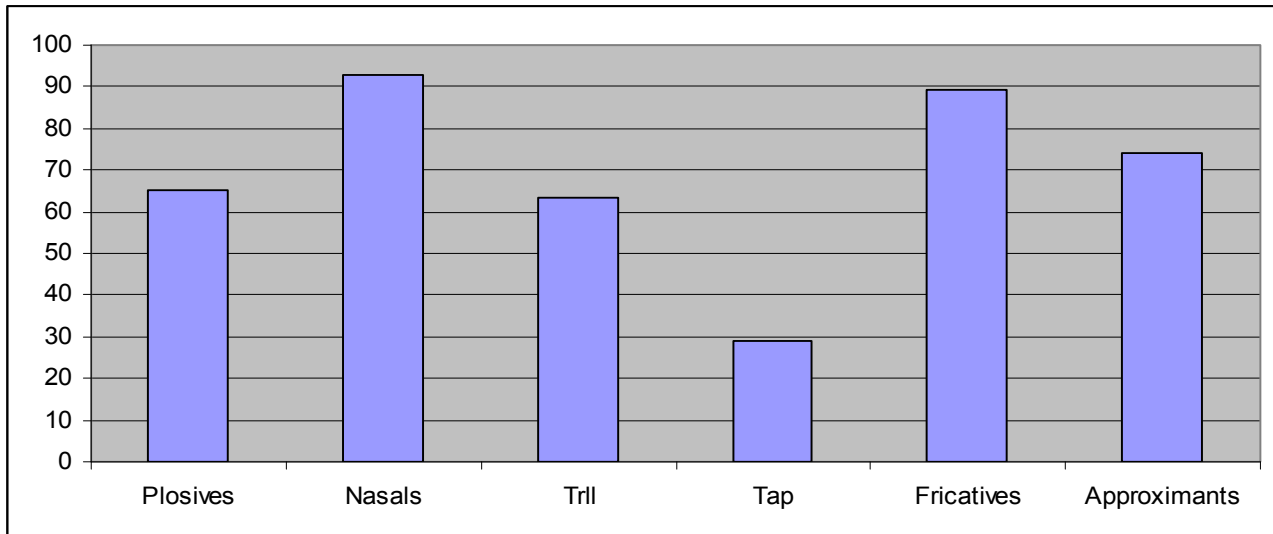


Figure 9: Performance in Different Manners of Articulation

The order of emergence of sounds according to manner of articulation is: nasals - fricatives - approximants - plosives - trill - tap. This order is contrary to what is in the literature that plosives emerge before fricatives. The situation is accounted for by the fact that a number of plosives occur in free variation with each other, resulting in divided attention of the subjects.

Standard deviation shows the order as: nasals - plosives - approximants – fricatives - tap – trill.

Subjects' scores are more consistent in nasals and plosives, than in the approximants, fricatives, tap and the trill, where some subjects score very high and others score very low.

The consonants which although they have merely emerged are still in the process of being fully established are [ʀ d<sub>1</sub> ɥ t<sub>1</sub> d<sub>2</sub> r b<sub>1</sub>], in a descending order.

### Performance in different places of articulation

The different places of articulation are bilabial, alveolar, labio-dental, palatal, velar, labial-velar and uvular.

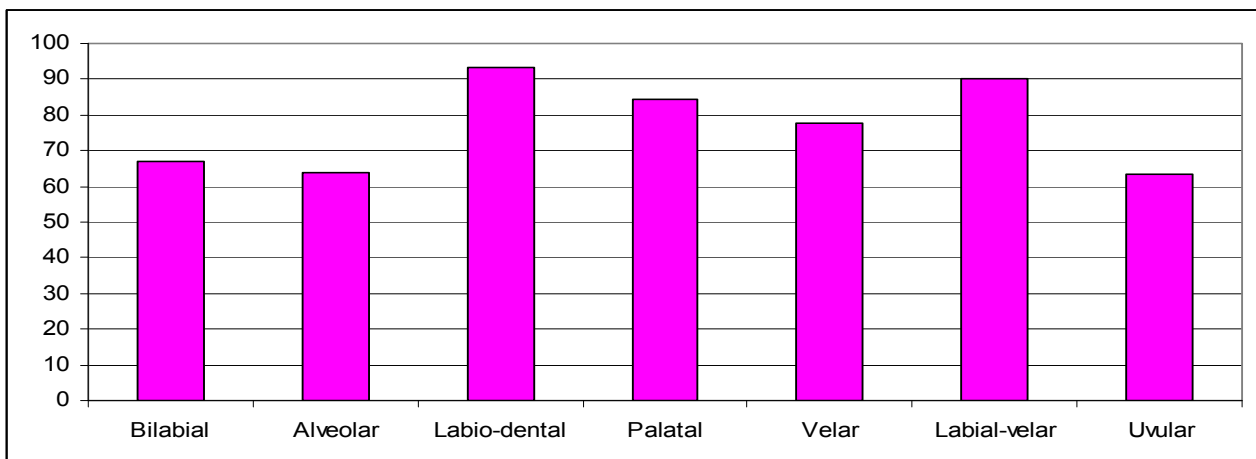


Figure 10: General Performance in Places of Articulation

The order of emergence of sound classes is as follows: labio-dental - labial-velar - palatal - velar - bilabial – alveolar - uvular.

Standard deviation of scores gives a different picture and corresponds to earlier reported cases in the following order: bilabials - labial - velar - alveolar - velar - labio-dental - palatal - uvular. A lot of bilabial and alveolar sounds occur in free variation in the Ibibio language. This accounts for divided attention among the subjects in the acquisition of sounds.

### Pedagogical and Clinical Implications

The results of this work have some implications for language teaching especially in the areas of planning, training and teaching of English as a second language (L2), and French as a foreign language (FL). Teachers will predict what the problem sounds of the Ibibio child could be in L2 and FL situations. The problematic sounds include the central, the high vowels, the tap, the trill and the velar and the palatal approximants of English or French as would be applicable.

The clinical implications could be in the areas of screening, identification, diagnosis, assessment or therapy. When the language disordered children are identified, the necessary therapy would be planned and administered, if needed.

### Conclusion and Recommendations

In conclusion, therefore, it could be predicted that areas of language difficulty in Ibibio are likely to constitute areas of difficulty in L2 or FL learning situations in Nigerian educational system or elsewhere. This in turn will guide the language teacher to plan and execute his teaching experience successfully. For the language pathologist/therapist, our study will guide him to establish whether the child's language difficulties are as a result of negative transfer of learning or a language disorder which should be taken care of. We do hope that this study is a good attempt which should be encouraged, as it will aid in designing language teaching materials to screen two to six years olds for phonological disorders. This is the period when children start pre-nursery, nursery and primary schools. The picture here implies that we need more of such studies on different languages of the world, to come up with a theory of language/phonological development in children.

It is by this recommendation that the training programme for language teachers should incorporate both the normal and abnormal stages of language development, the basic knowledge of the processes of identification and therapy for the language disordered children.

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