



Nigeria Journal

OF

SPEECH/LANGUAGE-HEARING DISORDER AND REHABILITATION

MAIDEN EDITION 2013

CONTENTS

■ Clement A. Bakare	<i>Developmental And Social Impacts of Speech And Hearing Disorders</i>	1
■ Nico Vander Marwe	<i>Assistive Listening Device: Implication For Intervention and Continued Auditory Gains</i>	4
■ Abe, O.T.	<i>Investigating cerumen impaction and evaluation of patients with conductive hearing loss in Akure Ondo State Nigeria</i>	8
■ Ayo Osisanya & Adedoja Adewumi Ojetoyinbo	<i>Patterns of Hearing loss Associated with Bomb Blasts</i>	13
■ Ibijade Olabisi Ajibade & Moji Oyebola (Ph.D.)	<i>Patterns of hearing loss among college students: a case study of federal college of education (Special) Oyo, and Emmanuel Alayande College of Education, Oyo</i>	17
■ Ayo Osisanya & Abiodun Adewunmi	<i>Development of auditory gains and cognitive ability in children with (central) auditory processing disorder using combined compensatory strategies and assistive listening devices</i>	20
■ Patrick N. Ojogwu	<i>The Importance of infant audiometry for curbing the Incidence of hearing loss amongst children</i>	26
■ Moji Oyebola, Ph.D & Isaiah Olugbenga Ojo,	<i>Benefits of Early Audiological Intervention to Inclusion of Children with Hearing Impairment</i>	29
■ Adebomi Oyewumi (Ph.D.) & Olufemi T. Adigun	<i>Modifying learning and assessment techniques to accommodate students with hearing impairment</i>	33
■ Edna R. Okoro (PhD)	<i>Early Intervention – A Panacea For Begging For Alms Among The Persons With Speech and Language Impairment in Nigeria</i>	39
■ Jacob Oludare Fadoro (Ph.D.)	<i>Do you call these speech errors or language disorder?</i>	46
■ Kufre R. Iseh & Elizabeth M. Agagwu	<i>Challenges of oesophageal voice rehabilitation post-laryngectomy in otorhinolaryngology clinic of a tertiary health institution</i>	51
■ AWONIYI, Folorunso Emmanuel	<i>Variations in aphasic language behaviours {a case study of some selected bilinguals at the UCH Ibadan}</i>	54
■ Abiola J. Ademokoya, Ph.D. & Grace Chinenye Nweke	<i>Survey of speech disorders among school children in selected Nigerian states</i>	61
■ Oluwatoyin R. Ogunwale	<i>Collaborative approach as a strategy in the assessment of learners with hearing impairment in a classroom</i>	66

DO YOU CALL THESE SPEECH ERRORS OR LANGUAGE DISORDER?

By

Jacob Oludare Fadoro (Ph.D.)
 Department of Linguistics and African languages
 University of Ibadan, Ibadan- Nigeria
 E-mail address: oluyemidara7@gmail.com

Abstract

It is often assumed that the apparent errors children make in terms of omissions or substitutions in an attempt to produce adult speech are generalised. Some even confuse them with speech disorders or errors. However, it has been proved that children are systematic in their production and they follow specific principles and patterns in the process of language acquisition. Literature showed that these processes are not only universal, but hierarchically ordered. Data for this study were obtained from the author's children at different ages, ranging from 1½ to 2½ years, and have been used to teach Language Acquisition and Second Language Learning- a final year course in the Department of Linguistics and African Languages, University of Ibadan (LIN 472) since 2006/2007 session with positive results. This paper further discussed 11 phonological processes which are involved in the development of linguistic skills and disagreed with the general assumption and misconception about apparent speech problems in children.

Keywords: Children, linguistic skills, speech errors, phonological processes, phonetics

Phonetics is the systematic or scientific study of speech sounds especially of their production, transmission and reception. These three aspects are referred to as articulatory, acoustic and auditory phonetics respectively. Some scholars simply refer to phonetics as the science of speech sounds (see Crystal 1987). Phonology on the other hand is the study of the sound systems of language. It aims at discovering the principles that govern the way sounds are organised in language, and explaining the variations that occur. Simply put, phonetics studies the individual speech sounds produced by man, while phonology examines how these speech sounds (consonants and vowels) are patterned together to form meaningful expressions like morphemes and words.

Babytalk refers to a simplified speech style used by adults to children. Some scholars view this as an immature form of speech used by children. The gradual process of acquiring adult speech pattern is called phonological development while the processes involved in phonological development are referred to as phonological processes by scholars (Salami, 2004).

Language Acquisition versus Language Learning

Language learning is a universal human activity. Research findings have indicated that all normal human beings are capable of learning language because they possess some internal capacity or innate ability, which enables them to do so. Language acquisition is a process wherein a child's mastery of his/her first language is a natural behaviour and natural process. It is often an

unconscious process and behaviour without being instructed formally. A child participates naturally in his or her natural communicative situations, while language learning is a conscious learning activity by a person who has already acquired a first language.

The ability of children to learn language without any formal instructions, the regularity of the acquisition process across diverse languages and environmental circumstances and the speed at which the basic rules of grammar are acquired have been discovered to be relatively similar from society to society and from generation to generation. However, it has equally been observed that there are slight differences in the ages at which children attain various levels of linguistic development. Factors that are believed to influence the differences bother on the general environment of learning the linguistic models, intelligence, sex, associates and heredity. For details on language acquisition and learning (Chomsky, 1957; Berko & Brown, 1960; Olmsted, 1971; Rockey, 1973; Brown, 1973; Prather, Hedrick & Ken, 1975; Bakare, 1986; Crystal, 1987; Bowen, 1998; & Salami, 2004).

Research Problem

All children make predictable "errors" when they are learning to talk like adults. The word 'errors' is put in inverted commas because the so-called errors are not really errors. They can only be regarded as errors by laymen. Scholars refer to them as "processes." This is because it has been scientifically established that children

are systematic in their articulation and they follow specific principles and patterns in the process of language articulation. To make matters worse, some mistakenly refer to these processes as speech or language disorder. However, this has been effectively countered by research. In fact, literature shows that children's phonological development consists of processes that are not only universal, but hierarchically ordered. These processes are universal because they are not language specific. What obtains in English language, for instance has been found to apply to other languages – German, Spanish, French, Yoruba, Igbo, etc. (see Salami, 2004).

Data for this Paper

Data for this research were collected over the years by the researcher from his three children – a boy and two girls David, Deborah and Dorcas. Additional data were collected from the researcher's nephew – Master 'S'. These data have been used over the years to teach LIN 472: Language Acquisition and Second Language Learning in the Department of Linguistics and African Languages, University of Ibadan by the researcher and students have confirmed the general applicability of the data.

The Phonological Processes

Eleven phonological processes involved in children's phonological development are discussed and exemplified in this paper. These phonological processes are context sensitive voicing, word-final devoicing, final consonant deletion, velar fronting, palatal fronting, consonant harmony, weak syllable deletion, cluster reduction, gliding of liquids, fricative stopping and simplification of complex segments. Many of the examples used are drawn from English language as these children were acquiring the language at ages ranging from 1½ to 4 years. Some examples were in Yoruba, which under normal circumstances should be the first language of these children but experience has shown that they are acquiring English as their first language while Yoruba is being learnt as their second language.

Context Sensitive Voicing

A sound is said to be voiced if its articulation involves the vibration of the vocal cords, whereas, it is said to be voiceless when it is made without the vibration of the vocal cords. For example /b/, /v/, /d/, /Δ/, /Z/ and /g/, are voiced sounds in English language while their voiceless counterparts are /p/, /f/, /t/, /T/, /Σ/, and /k/ respectively. When this process is in operation, a voiceless consonant is replaced by its voiced counterpart. Example 'pig' is pronounced as big in which /p/ is realised as [b]. Car /ka:/ is pronounced as gar /ga:/ in which /k/ is realised as [g]. 'tie' /ta/ is pronounced as die /da/ in which /t/ is realised as [d]. Other examples are part /pa:t/ realised as [ba:t], point/pɔɪnt/ realised as [bɔɪnt]. A careful look at the data above shows that the voicing

process is context sensitive in that it takes place at the word-initial position.

Word Final Devoicing

A voiced consonant is said to be devoiced when it becomes a voiceless consonant or when the normal amount of vocal fold vibration has been drastically reduced. For example, when /b/, /d/, /g/, etc change to their voiceless counterparts /p/, /t/, and /k/, they are said to have been devoiced. Let us look at some data to buttress this point.

'red' /rd/ pronounced as [rEt]

'bag' /baeg/ pronounced as [b@k]

'garb' /ga:b/ pronounced as [ga:p]

'big' /bg/ pronounced as [blk]

In the data above, /d/, /g/, /b/ are pronounced as [t], [k], and [p] respectively.

Final Consonant Deletion

Deletion is said to have taken place when an element, in this instance a consonant has been omitted or removed. This usually takes place at the word-final position in child's language. Let us exemplify with data.

'home' /hʊm/ is pronounced as 'hoe' [hʊ]

'Calf' /ka:lf/ is pronounced as [ka:l]

Group /gru:p/ is pronounced as [gru:]

Part /pa:t/ is pronounced as [pa:]

Kick /kIk/ is pronounced as [ki:]

In the examples above, /m/, /f/, /p/, and /k/ have been deleted.

Velar Fronting

A consonant is said to be velar if it is produced with the back of the tongue in contact with the 'velum' otherwise referred to as 'the soft palate'. A consonant is said to be fronted if its articulation in the mouth is made further forward than normal. In other words, the consonant is moved from the middle or back of the mouth to the front, /k/ and /g/ are velar sounds in English language. If they are pronounced as [t] and [d], then they are 'fronted'. Also /N/ is a velar nasal in English language, if it is pronounced as [n], then it has been fronted. Let us exemplify this process with some data.

'kiss' /ki:Σ/ pronounced as 'tiss' [ti:s]

'give' /gi:v/ pronounced as [di:v]

'wing' /wIN/ pronounced as [wIn]

'king' /kIN/ pronounced as [kIn]

'garage' /θradZ/ pronounced as [ɪlθɪdZ]

In the data above, /k/, /g/ and // which are velar sounds are replaced with [t], [d] and [n] which are alveolar sounds. In one instance /g/ was replaced with [ŋ] which is an alveolar liquid.

Palatal Fronting

The palate is the arched bony structure that forms the roof of the mouth; divided into the hard and soft palates (velum). A sound is referred to as a palatal sound

if it is articulated in the area of the hard palates for example, [j]. Palatalisation refers to an articulation in which the tongue moves towards the hard palate while another sound is being made. This explanation is necessary because it involves technical terms which have to be simplified. In child's language, fricative consonants that are made at the palatal region are fronted that is, replaced by fricatives that are made further forward on the palate, towards the front teeth. Usually, /Σ / and /Z/, voiceless and voiced palato-alveolar are replaced by /s/ and /z/, voiceless and voiced alveolar fricatives. Let us look at some data.

'ship' /Σ Ip/ was pronounced [sIp].

'measure' /mEZ□/ was pronounced [mEZ(r) □]

'shout' /Σ aYt/ was pronounced [saYt]

'treasure' / / was pronounced [].

Consonant Harmony

When two consonant sounds which are different especially in terms of their places of articulation are adjacent in a word, children tend to 'harmonise', that is, pronounce the two consonants alike and ignore the differences between them. I noticed this process in my first child, David, when his younger sister was born and named 'Deborah'. My son would pronounce her name as Boboyah [b□b□Yjah]. The first consonant 'd' which is a voiced alveolar plosive is labialised, thus an alveolar consonant becomes a labial plosive to harmonise with 'b'. Other examples are given below:

'take' /telk/ was pronounced as 'cake' [kelk]

'David' /deIvId/ was pronounced as [teIvIt]

'biscuit' /biskIt/ was pronounced as [tI'tIk]

Dorcas /d:k□kas/ was pronounced as /'k:□kas/

My nephew is an attempt to pronounce 'sibi' /sibi/, the Yoruba word for 'spoon' pronounced bībī [bībī] in which /s/ is made to harmonise with /b/.

Weak Syllable Deletion

The unstressed syllable is technically referred to as weak syllable. Children tend to delete (omit) a syllable that is not stressed in fast speech. For example:

'telephone' /tElIfoun/ was pronounced as [tE'foun]

'Calabash' /kaI□baΣ/ was pronounced as 'cabash' /kabaΣ/

'categorical' /ka□g□rik□/ pronounced as 'cagorical' /k□g□rik□/

'history' /'hist□ri/ was pronounced as 'history' [histri]

Masturbate /'mast□beit/ was pronounced [masbeit].

As shown in the data above, the weak syllable which is technically referred to as schwa (shwa) vowel and represented by the phonetic symbol [□] is often deleted. Sometimes, this process occurs in adult language

in fast speech.

Cluster Reduction

Consonant cluster occurs when two or three consonants occur in a sequence (one after the other) in a word. In cluster reduction, part of the cluster is omitted. Let us look at the following examples.

'spider' /'spaid□/ was pronounced as 'pider' /'paid□/

'spray' /'spreI/ was pronounced as /'peI/

'pray' /'preI/ was pronounced as /'peI/.

In the examples above, the consonant clusters – 'spr' was reduced to 'pr' – 'sp' was reduced to 'p' while 'pr' was reduced to 'p'. An interesting illustration occurred when my son was two years old. We had a neighbour whose name is Ibrahim, an undergraduate law student. My son started by calling him [him], later he moved to [□him] and eventually he started pronouncing it correctly as [Ibrahim]. As could be seen, this is a gradual process.

Gliding of Liquids

Consonants /r/ and /□/ are referred to as 'liquid' because their articulation does not involve any stricture, that is the airstream is not restricted or 'stopped', rather, there is partial contact between the active articulator (the front of the tongue (tip) and the passive articulator (the alveolar ridge). Also, the contact is quickly released without perceivable friction noise. A consonant is a glide if the sound is a transitional one made as the vocal organs move towards or away from an articulation. In English language /j/ and /w/ are described as glides. When /r/ and /l/ (liquid) are replaced by [w] and [j] respectively, the process is referred to as 'gliding'. Some data are presented below:

'real' /ri:l/ was pronounced as 'weal' [wi:l]

'leg' /lEg/ was pronounced as 'yeg' [jEg]

'bread' brEd/ was pronounced as byed [bjEd]

'rice' /rais/ was pronounced as wise [wais].

'sorry' /s□ri/ was pronounced as 'toy' [tDji]

'lorry' /'l□ri/ was pronounced as 'yoyi' [jDji]

In the data above /r/ and /l/ are replaced with [w] and [j] respectively.

Fricative Stopping

A fricative sound is produced when two vocal organs come so close together that the air moving between them produces audible friction noise. In English language; /f/, /v/, /s/, /z/, /Z/, /Σ/ and /h/ are fricatives. A 'stop' is a consonant made by a complete closure in the vocal tract, for example, t, /t/, /d/, /p/, /b/, /k/ and /g/. A stop is otherwise called plosive because of the sudden release of a complete closure in the vocal tract. Fricative stopping takes place when a fricative consonant is replaced by its stop or plosive counterpart. We present some data below to exemplify this process.

'funny' /'fAni/ was pronounced as 'punny' [pAni]

'van' /van/ is pronounced as 'ban' [ban]

- 'phone' /foun/ was pronounced as 'pone' [pɔ̃n]
- 'fan' /fan/ was pronounced as 'pan' /pan/
- 'faith' /fei/ was pronounced as 'pait' [peit].

Simplification of Complex Segment

The data for this process is exclusive to Yorùbá language in this paper. The process is also applicable to other African languages in which the complex consonants are attested. The complex sounds referred to in this context are doubly articulated consonants /kp/ and /gb/. These sounds are labeled voiceless and voiced labiovelar plosives respectively. Their production involves two simultaneous places of articulation – the lower and the upper lips as well as the back of the tongue in contact with the velum (soft palate). My three D's all started by pronouncing /kp/ as [p] and /gb/ as [b]. Let us present some data to exemplify this process:

- 'òpá' (rod) /kpa/ was pronounced as òpá [pã]
- Qpẹ (thanks) /kpE/ was pronounced [pE]
- 'Dupẹ' (name) /dukpE/ was pronounced as [dúpE]
- 'Egbá' /gba/ (cane) was pronounced as [ba]
- 'Egbo' (sore) /egbo/ was pronounced as [ebo]
- /gbogbo/ (all) /gbogbo/ was pronounced as [bobo].

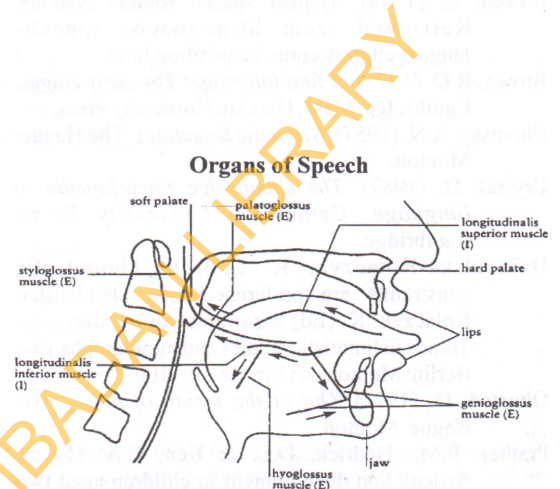
In all the examples above, /kp/ and /gb/ were pronounced as [p] and [b] respectively. Thus, the complex segments have been simplified.

We do not claim that these 11 processes are exhaustive by any means. Scholars can still point out other processes, especially in relation to vowels. All our examples in the data involve consonants. For instance, D. Olmsted, (1971) shows that at least 8 vowels or diphthongs were usually in use by the end of the second year. These, according to him are: [I], [i:], [a], [u], [u:], [ɔ], [a:] and [al]. In this survey, he equally claims that by the age of 4, all the vowels and diphthongs were in use and only a few consonants were still posing problems. These, according to him are [T], [Δ], [dZ], and [z]. Likewise, Bakare (1986) demonstrates that Yoruba children reached articulatory efficiency at an earlier age than their English peers for similar sounds that occur in both languages. According to him, /v/, /d/, /ε /, /T/, /Δ/ which do not occur in Yoruba are some of the most difficult sounds for English children. Other sounds like /s/, /Σ/, /dZ/, /ɔ/ which are common to both languages were mastered much earlier by the Yoruba subjects used for the study. The scholar asserts that most Yoruba children achieve articulatory efficiency on all the sounds in the repertoire of their speech by the age of 6 years.

Conclusion

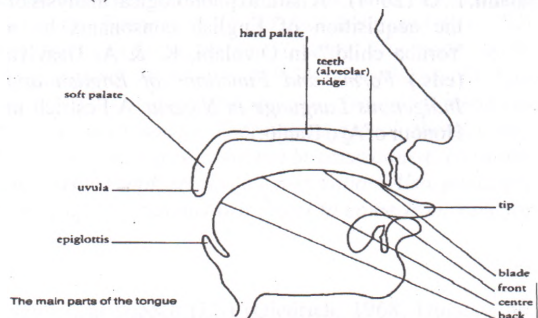
Having compared the data obtained from our subjects with similar data elicited by other scholars and some of our LIN 472 students over the years, we have come to the conclusion that obviously these are not instances of speech disorder, rather, they are systematic processes because they are not arbitrary. As observed

earlier, scholars have proved through research that the phonological processes involved are not only universal,

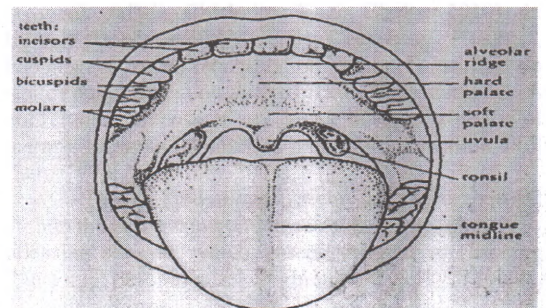


The Movements of Tongue

In relation to the position of the main extrinsic (E) and intrinsic (I) muscles.



The Anatomy and Physiology



The Structure of the Oral Cavity

References

- Bakare, C.A. (1986). Age of articulatory efficiency in selected Nigerian children. *Nigerian Journal of Education Psychology*.
- Berko, J. & R. Brown. (1960). Psycholinguistic research methods. In P.H. Mussen (ed.), *Handbook of Research Methods in Child Development* (New York: Wiley), 517–157.
- Bowen, C. (1998). Typical speech sounds systems. Retrieved from <http://www.speech-languagetheory.com/acquisition.html>.
- Brown, R.O. (1973). *A first language: The early stages*. Cambridge, Mass: Harvard University Press.
- Chomsky, A.N. (1957). *Syntactic Structures*. The Hague: Mouton.
- Crystal, D. (1987). *The Cambridge Encyclopedia of language*. Cambridge University Press, Cambridge.
- Dziubalska-Kolaczyk, K. (2001). 'Phonotactic constraints are preferences.' In Dziubalska-Kolaczyk, K. (Ed) constraints and preferences. Trends in linguistic studies and monographs 134. Berlin: Mouton de Gruyter. 69–100.
- Olmsted, D. (1971). *Out of the mouth of babes*. The Hague: Mouton.
- Prather, E.M., Hedrick, D.L. & Ken, C.A. (1975). Articulation development in children aged two to four years. *Journal of Speech and Hearing Disorders*. 40, 179–91.
- Rockey, D. (1973). *Phonetics lexicon*. London: Heyden.
- Salami, L. O. (2004). "A natural phonological analysis of the acquisition of English consonants by a Yoruba child." In Owolabi, K. & A. Dasylya (eds.) *Forms and Functions of English and Indigenous Language in Nigeria*. A Festrich in Honour of Ayo Banjo.

UNIVERSITY OF BADAN LIBRARY