A PHONOLOGICAL DESCRIPTION OF THE TWO-WORD STAGE OF LANGUAGE ACQUISITION: A CASE STUDY OF AN ENGLISH-HAUSA BILINGUAL

BY

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A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF ARTS DEGREE IN ENGLISH LANGUAGE

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DECLARATION

I hereby declare that this dissertation entitled: "Phonological Description of the Two-Word Stage of Language Acquisition: A Case Study of an English-Hausa Bilingual" has been written by me in the Department of English and Literary Studies under the supervision of Prof. T. Y. Surakat and Dr. Ahmad Abdullahi. The information derived from the literature have been duly acknowledged in the text and the list of references provided. There is no part of this Dissertation that was previously presented for the award of another degree

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CERTIFICATION

This dissertation entitled "A Phonological Description of the Two-Word Stage of Language Acquisition: A Case Study of an English-Hausa Bilingual" was written by me, Kabuk Murna Happiness in the Department of English and Literary Studies and has met the regulations governing the award of a Master of Arts (M.A) Degree in English Language of Ahmadu Bello University, Zaria, and it is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This work is dedicated to Juju, The Main Participant of this research,and to the Glory of God.

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LIST OF ABBREVIATIONS

AR- Audio Recording

CNS- Central Nervous System

DR-Diary Recording

ESNE- Educated Spoken Nigeria English

IDS- Infant Directed Speech

LAD- Language Acquisition Device

NE- Nigerian English

VR-Video Recording

ABSTRACT

Human language is primarily characterized by sounds formed and produced by the Organs of Speech. This dissertation entitled; "A Phonological Description of the Two-Word Stage of Language Acquisition: A Case Study of an English-Hausa Bilingual" particularly considered the sound development of a child at two-word stage. The area of focus includes Articulatory Phonology-Segmental and Suprasegmental phonemes. These were some of the approaches used to analyse and describe the sounds of two-word utterances of the main participant of research. The aim of the study was to document the utterances of the main participant from 20-24, 32 and 33 months, and to also conduct a phonological investigation/inventory of phonemic sounds of the same participant Juju and her articulation processes.

The objectives were to analyseand describe the sound constituents, both segmental and supra segmental phonemes of the main participant, investigate the influence of supra-segmental phonemes on the child's contextual use of language, and ascertain if the child's language at this stage couldbe regarded as truly connected. This was achieved via recording of Juju's (name referred to the participant) utterances consequently making repeated listening expedient. Aspects of two word utterances in English were the units on which the investigations were based. However, because she is bilingual, acquiring English and Hausa simultaneously and some elements of pidgin, the other languages (Hausa and Pidgin) were not completely disregarded in the analysis.The three-media-techniques of; the diary, the audio and video recording methods were employed in the data collection process. In the analysis and description of the recorded data, the research discovered that Juju's utterances were characterised by gross substitution (substitution of one consonant with another, one vowel with another, substitution of vowel with consonant and substitution of consonant cluster with single consonants), reduction, simplification, inventive reduplication and deletion/elision. The research arrived at the conclusion that Juju employed these strategies of substitution, reduction, simplification, inventive reduplication and deletion to articulate sounds at this stage because her organs of speech are still developing.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

From infancy, language development of a normal child occurs spontaneously and "effortlessly" where no formal instruction of language input to guide this development is required. The ease with which the acquisition operates poses questions such as: "How is the child able toprocess this information (language input) to decode what is meant? How is he able not to randomly utter anything he knows to be a word but carefully selects the 'right' word to communicate?" among many other questions. The curiosity over the processes of language acquisition in children motivated scholars to study the different aspects of language development in children as is the case in this research. This ability to acquire language is credited to brain laterization which "…is said to increase throughout childhood until it reaches adult level at puberty". Reich (1986:293)

When a language is heard for the first time, what intrigues the listener the most are the obvious properties of sound such as tone, rhythm and stress (suprasegmental phonemes). This implies that sounds form an integral part of any verbal language or communication. These sounds can either be speech sounds or non-speech sounds such as whistling, humming etc. Some non-speech sounds and sign language may be rightly regarded as impaired use of language; even though communication still transpires in either of these contexts of language use.Due to thecentral role of sounds in human language, linguists and philosophers of language have found it difficult to exclude sounds from their definitions of language. This is sufficiently evidenced in such definitions as those of Sapir (1921), Hall (1968), Wardaugh, (1972), among others. Sapir (1921:7), for instance, has acceptably defined language as "…a purely human and non-instinctive method of communicating ideas, emotions and desires

bymeans of a system of voluntarily produced symbols.These symbols are, in the first instance,auditoryand they are produced by the so-called 'organs of speech" (emphasis added). Going by this definition, communication is the aim of any language user and this is achieved in many situations by sounds produced by the organs of speech. Reinforcing this definition, Hall (1968:158) submitted as follows: "language is the institution where by humans communicate and interact with each other by means of habitually used oral-auditory symbols" (emphasis mine).These oral-auditory symbols are continually in use for effective communication to take place. And this habit is acquired from childhood until teenage age or the critical period of language acquisition when the habit is said to be fully formed. Central to these definitions of language is sound, which is an indispensable factor in the discussion of any language.

A language learner or acquirer in the earliest stage of development begins by first internalizing the sounds and the rules of such a language, an ability every normal child possesses. How fast this occurs depends on the child's intellectual speed, memory, motivation, personality, among other learning conditions or factors. (McNeil, 1966, Surakat 2001). The production of sounds begins from the moment the child is born and this continues to develop to the stage where the child acquires universal sounds which later transform to a sound system (Surakat 2001 and Lenneberg 1964).

Noise or sounds made by infants and children in general have always stirred certain emotions in the adult; the adults admire and occasionally imitate these infants or children as the case may be. The language of children and the acquisition or learningmethods is an aspect of (developmental) psycholinguistics which Crystal (2003:350) defines as "a branch of linguistics which studies the correlation between linguistic behaviour and the psychological processes thought to underline that behaviour…the best developed branch of the subject is

the study of language acquisition in children". Developmental psycholinguistics includes stages in the acquisition of language and their features, theories to explicate the processes of acquisition, language triggering factors, creativity and errors in the use of language. These processes and the relationship between language and the mental state or the brain is the area of focus in psycholinguistics whichBerry (1975:4) defines as "…the field of study which considers linguistic questions and psychological questions in relation to each other. One question which is both a linguistic and psychological question is: How do children acquire language?"

In the words of Traxler and Gernsbacher (2006:1027), "The goal of developmental psycholinguistics is to map out the endogenous and exogenous forces that converge to shape and guide this set of developmental achievement". These endogenous and exogenous forces can be equated to the environmental factors and the mental processing of these factors in language use especially as the child develops. In the early stages, children are being spoken to in simple and short constructions, which is believed to be the samemodel the child will produce a-year-and-a-half or two later. "All infants pass through the same stage in the acquisition of a first language…." (Field 2005:144). But the acquisition of one particular stage by children of the same age group can vary in degrees and times. The child, in the 'real linguistic sense', commences with the production of one-word utterances linguistically regarded as Holophrase. This stage marks the emergence of real language (true speech). The moment a child begins the stringing of words together in one use, it is expedient to, at that point, assert that the child imitates the language of his role models - the adult. (This does not mean that the adult speaker has out grown single word utterances). This period in development is called the Two-Word Stage. In an article entitled "The Creation of Language", McNeil (1966) affirms that "by one and a half or two years, the child will begin to form simple two and three word sentences… this stunning intellectual achievement is

routinely performed by every preschool child." This language behaviour was sufficiently exhibited by the main participant of this research Juju.

1.2 Statement of the Research Problem

Early childhood is a critical period for language acquisition (Neuman, Copple and Bredekamp 1999, Shonkoff, and Philips, 2000). Child language development involves changes which occur in the speech form of the child from stage to stage. Researchers have been able to identify such language development stages and grouped them into (a) pre-linguistic stage, which is the making of sounds such as cooing, babbling, echolalia and (b) the linguistic stage which begins with holophrase, followed by pivot grammar or two-word stage and lastly, telegraphic stage. Emergent researches have also focused on the acquisition of English by a child in a second language environment especially the syntax, semantics/pragmatics or holophrase and telegraphic stages (Ndahi, 1982; Onyenobi, 1997; Phelps, 2003; Surakat, 2001; 2006; 2007; Wicham, 2013; Ngwu, 2015). The concern of such scholars however bothered on the child's psycholinguistic abilities, that is, how the child processes the words spoken to them. Where more than one language is involved, how/why code-mixing? Findings also abound that children of preschool age find it difficult to make complete pronunciation of phonological sounds (Zhu, 2000; Fox, 2000; Phelps, 2003; Schmitz, 2011; Wickham, 2013). Furthermore, McNeil (1966) terms the process of acquiring aspects of language relevant to the child from age one (1) as "inventive" on the basis that in the fundamental biological characters of the brain, only little understanding is available. These positions taken by these authors reveal conflicting opinions on why children speak the way they do.

A mild resolution to these varying ardent opinions as to the reason children speak in the manner they do at the developmental stage, is that; the preschool children who find it difficult

to pronounce words adequately invent their own pronunciations. De Villier and De Villier (1978) are of the opinion that the child listens to all the sounds produced by adults but only produces the sounds he has mastered, even though some mispronunciations happen, because the child misunderstands the adult's pronunciation of multisyllabic words. The issues that are if interest to this study are; (i) whether the language of children or their pronunciation of words are based on their inventive nature or that their developing speech organs contribute to the manner in which they speak and pronounce words. (ii) Whether their pronunciations is a result of the merger of their inventiveness and the still-developing speech organs. The research therefore investigates these issues,consequently making it imperative for a research of this nature to be undertaken.

1.3 Research Questions

This study therefore provide answers to the following questions:

1. What are the most notable segments of phonology present in the child's sound inventoryat Two-word stage of language acquisition and why?
2. What influence do supra segmental phonemes have on the child's contextual use of language at two stage of language acquisition?
3. To what extent would the child's language at two-word stage of language acquisition be regarded as truly connected?

1.4 Aim and Objectives

This is a longitudinal study aimed at documenting the utterances of the child from 20-24, 32 and 33 months and to also conduct a phonological investigation of phonemic sounds and the phonological processes of the (main participant, Juju) at Two-Word Stage of language acquisition. The specific objectives are to:

1. Present a sound inventory, both segmental and supra segmental phonemes of the main participant;
2. Investigate the influence of non-segmental phonemes on the child's contextual use of language; and
3. Ascertain whether or not the child's language at this stage can be regarded as truly connected.

1.5 Justification

This research aspires to particularly do a phonological study of the English language at two-word stage of language development of a simultaneous bilingual child: that is, do an investigation in the area of the phonology of multiple words. Features of Nigerian English of the child is also of interest to this study for the reason that the use of English Language by adults in Nigeria and school age children has attracted a large body of research from different scholars at different level of linguistic analysis: Phonology, Morphology, Syntax, Semantics and Pragmatics. Some of these prominent scholars include: Ayo Banjo (1976), Munzali Jibril (1981), Ayo Bamgbose (1982), Odumuh (1984), Jowitt (1991) etc. Unfortunately, similar attention has not been paid to the English of the preschool Nigerian child, especially from the psycholinguistic perspective and within the framework of Nigerian English.

Research in Child Language Development (CLD) in African countries and, particularly in Nigeria, though being attended to from the pioneering work of Ndahi (1982), is yet to obtain adequate scholarly attention when compared to the number of studies already carried out over the years in the continents of America, Asia and Europe. The implication of this scarcity of researches to the field of Psycholinguistics and to our knowledge of language acquisition in children is, "…a restricted idea (*knowledge*) about patterns of normal and abnormal language development" Surakat (2001:8). Some of the available researches conducted

include: Ndahi, 1982; (Yusuf, 1984; Oyebade, 1990) in Surakat (2001), Onyenobi, 1997; Surakat, 2001; 2006; 2007/2009; Ambrose, 2011; Ajayi, 2013; and Ngwu, 2015. These works are all based on the acquisition of aspects of first or second language in children. In the above mentioned works, Yusuf, 1984; and Oyebade, 1990; focused on the Phonological acquisition of Hausa and Yoruba respectively. The recent works of Surakat, 2006; 2007/2009 which this study is slightly related to, researched on the acquisition of English sounds and Nigerian English by the Nigerian child, therefore; adding to the number of works done in the area of Phonology of child language. The already covered areas of Phonology of child Language are either of the indigenous Nigerian Languages or of Holophrastic Speech. This affords this research the prospect of investigating/exploring different aspects of the Phonology of Two-Word stage from the utterances of the main participant, Juju, as contained in the data collected.

Surakat (2006), is a general linguistic investigation of the process of acquisition of the English of a preschooler who has already acquired a first language. His later work (Surakat 2007/2009) "The Acquisition of English Sounds by a bilingual Nigerian child" hascertain similarities with this research's segmentals but this study proceeds furtherto analyse suprasegmental phonemes and connected speech with particular reference to two-word stage. It is as a result of this that the researcher embarked on a research on English phonology of the Nigerian preschool child, at two-word stage. This research is one of the few longitudinal studies focused on the phonological acquisition of English at two-word stage of a developing child, that is yet to attract the attention of linguists, governmental and non-governmental organizations, national and international groups dealing with the affairs of children. Parents and intending parents will benefit from this work because they are or would be part of the formative period in the development of these children. This work will also give parents,

teachers and speech therapists insights into language of children (the manner the different Phonemes are produced) and its development, therefore rendering it indispensable.

The data collected from the natural environment of the main participant, will contribute immensely to psycholinguistics, phonology and sociolinguistics because developmental psycholinguistics studies language for what it can reveal about the stages in language acquisitionand series of changes in the acquisition process. Lastly, this study seeks to contribute to and/or complement other works already conducted in phonology and psycholinguistics or any other related fields.

1.6Scope of the Study

This is a naturalistic case study (not a cross-sectional or experimental study) of a single participant, Juju; who is a Nigerian and whose major language of communication is the English language and,in very few instances, Hausa. This is because the parents are from different linguistic backgrounds but share two languages in common - English and Hausa. The child is spoken to in English most of her waking hours and due to the multi-linguistic nature of the parents' area of residence, English and Nigerian pidgin serve as the major languagesof communication.

This research, is therefore, focused on the phonology of two-word utterances. Aspects of phonology to be considered are the segmental and non-segmental phonemes of words as produced by the participant; the concept of word by extension is therefore within the scope of study because these sounds are not produced in isolation but within words.Segmental and suprasegmental phonemes are discussed as complimenting each other, but emphasis is on segmental phonemes and their manner of articulation.

Utterances said in a language other than English are disregarded unless found relevant for discussion. Holophrastic and telegraphic utterances are discussed for comparison or reference purposes since they constitute part of the formative processes of language developmentof children. Acoustic and auditory phonology are discussed briefly and where necessary to complement the main thrust which is,articulatory phonology - articulatory phonology studies how speech sounds area made by the users of the language. Aspects of semantics and vocabulary inventory are mentioned only in instances where they are found relevant to the discussions on phonology. And lastly, a brief account of the anatomy of infant and the changes that occur as they develop is included.

CHAPTER TWO

REVIEW OF LITERATURE

2.0 Introduction

In child language studies, there is a consensus among scholars that phonological development and vocabulary acquisition are connected to the language development of any normal growing child. (Stoel-Garmmun and Dunn, 1985; Smith and Locke, 1988; Shore, 1995; Beckam and Edwards, 2000; McCune and Vihman, 2001; and Storkel 2004), cited in Redford and Miikulainen (2007).The articulation of early words by children is characterized by general avoidance of problematic words – such as multi-syllabic words or consonant clusters. They also employ idiosyncratic strategies which may vary from child to child. These strategies, according to Ferguson and Farwell (1975:437), include "preference for certain sounds or sound classes, extensive use of duplication and special marker of certain classes of words". But all these features may not necessarily be present in a child. It can just be a combination of two or three of the mentioned features.

The words the child produce are a consequence of the most frequent and semantically transparent subsets of words in adult vocabulary. Articulatory ease also determines the child's choice of vocabulary (Redford and Miikkulian, 2007). When a child produces a word without much difficulty, the tendency of continued use of such a word is certain, as against words that by the virtue of their 'complex' structure are difficult to produce. In the summation of Gleason and Weintraub (1976) the social conditions set by adults lead to many of the routines-routines of specific vocabularies used in certain context of usage, the child acquires. In the case of their research, they are words used during Halloween, such words include- 'thank you', 'bye-bye', 'fine' and so on. These words are typical of some of the early words acquired by children in the early stage of language development. The language of

the adult establishes the foundation for the acquisition of sounds, words or style of language. Ferguson and Farwell (1975) caution that it should not be expected that the child's early attempts to match with great precision the adult's language behaviours. This study accepts this view as the available data contains utterances made by the main participant that do not sound precisely identical to that of the adult.

The acquisition of sounds and words is a process every normal child passes through when acquiring a language. McNeil (1967) and C. Chomsky (2008, 2009) regard the strategies employed by children in early language acquisition as "creativity" relating it largely to the child's innate ability. According to Chomsky (2008, 2009) "what the child needs from the environment is raw material on which to work…." Even though the child's innate ability plays a very important role in language development, the environment does not have to be relegated but should also be raised to equal status with the child's innate ability. Ferguson and Farwell (1965) argue that "a very high percentage of what a one year old says is imitated, so that there is very little purely spontaneous data. This observation iscompletely divergent from those of McNeil (1967) and Chomsky (2008, 2009). In the opinion of Ferguson and Farwell (1965) much prominence is given to the environment. They also posit that imitated words are more accurate when compared to the sounds produced by the children on their own, maintaining that phonological development in children takes place on several parameters or levels if they are to be measured.

It is very pertinent to also consider universal tendencies that result from the physiology of the human vocal tract and the brain or Central Nervous System (CNS). Olmsted (1966) is of the view that "the main cues for articulation are muscular, joint movements and auditory feedback". The quality of sounds a child is able to produce is vastly dependent on his ability to manipulate the muscular and joint movements in the mouth. The research of Ferguson and

Farwell (1965) for instance, shows that their participantsts' labials and alveolars are their first sounds to be acquired, with the nasals and glides occurring in later development and fricatives even later. Finally, velar consonants develop much later. This indicates that the different categories of sounds are acquired in a certain order- from the simple to the most complex. This, though in tune with Jakobson's (1939/1941) first principle of Language Theory of Phonological Acquisition which states that "The chronological sequence of phonological development follows the same principles in all children no matter what language they are learning," in Reich (1986:314) did not follow the exact order Jakobson presented that nasals should be acquired before orals, front consonants before back consonants and stops before fricatives.

In phonological theories of language acquisition, structuralists tend to look for phonemes and distinctive features in child phonology, while generativists look for unique lexical representations and phonological rules which operate them. This study applies the method of searching for lexical representations of sounds and phonological rules in the analysis of the available data to achieve its objectives.

The acquisition of language is not peculiar to children; adults are reputed to similarly and occasionally pass through this process. This process is then not restricted to a particular set of people or stage of development. But there is always an unreserved interest in the language of the child. To state that the study of the process of how children learn to speak a language is fascinating, interesting, "amusing to observe" and mysterious will be stating little of the emotions involved when experiencing, first hand, the language development of a child, particularly when the words are comprehensible. Parents, child-care-providers and other close family members watch and listen with absorbed attention, the language of the child. At other times, they prompt them to say more. This fascination and interest inspired scholars like

Piaget (1954,1957), Skinner (1957), Chomsky N.(1957), Lenneberg (1967), Sinclair (1975), Theovan (1984), among others to propound theories that expounds on how language is acquired by children.

CONCEPTUAL REVIEW

2.1 Theories of Language Acquisition

The theories of language acquisition were developed to explicate how children acquire language depending on the circumstance of language input. "These theories are based on nature versus nurture" Knudtzon and College (1998) i.e. the separate influences of heredity and/or environment may have on the language acquirer. These internal and external factors are crucial to the explanation and understanding of the acquisition process of language. Some of these theories to be discussed here include: Behaviourism, Innatism,Cognitivism and Motherese.

2.1.1 Behaviourism

This theory of language acquisition is also called environmentalism. Its proponents include: Watson (1930), Bloomfield (1935), Skinner (1957), among others. A major ground breaking research in this area remain that done by B. F. Skinner (1957), who carried out the "rat experiment" in a box later called the "Skinnerian box" (Surakat, 2001 and Ndahi, 1982).This school of thought encapsulates all aspects of the physical environment as responsible for language or language behaviour. The proponents of this theory regard the environment as the foremost catalyst responsible for all human behaviour, language inclusive. The mind or brain of the neonate is considered a blank slate or TABULAR RASA at the disposition of the environment to input language. The work of Pavlov (1927) contributed to the invention of the

formula STIMULUS=RESPONSE, where he developed the classical conditioning formula; a natural response attached to new stimulus.(Barber and Stainton, 2010:32).

Watson's (1924) research in psychology relating to behaviourism identifiedcertain areas as methods of psychological behaviourism. They include:**(a)** Rejection of introspection as an experimental method, **(b)** Shunning of internal events and, **(c)** emphasis on learning, cited in Brown, (2012:715) & Barber and Stainton, (2010:31-2). These areas to a great magnitude designed the philosophy of behaviourists regarding human behaviour, language inclusive. Skinner's work is the most prevalent where he devised the formula; INPUT=OUTPUT, that is, the environment, is responsible for language input and the child responds by regurgitating the substance inculcated in them. The child successfully achieves this by imitation, practice and reinforcement. To the environmentalists, language acquisition is a learning process.

In the case of Juju, the main Participant, the environment indeed caused her to be Bilingual, speaking English, Hausa and Pidgin but not with the same level of proficiency. The question of; if the environment is also responsible for the manner in which she articulates these words may arise and the answer is likely to be an affirmative NO. What then is responsible for her manner of articulation? This is a pointer to the weakness of Behaviourism. The weaknesses of the theory to account for some language behaviours exhibited by the child piloted the advancement of innatism as an alternative theory of language acquisition.

2.1.2 Innatism

This theory became prominent as an alternative theory of language acquisition due to the failure of Behaviourism to account for occurrences of the child's creative use of language in situations where they construct sentences or articulate words believed not to have by any means been spoken to them by the people around them. Several of these utterances may be

grammatically and/or phonologically incorrect and the methods of imitation practice and enforcement proves to be equally inadequate for corrections.

Innatism started as an alternative theory that looks beyond the environment to focus on the mind of the acquirer. Contrary to the theory of environmentalism, nativists argue that the child's brain has been programmed to facilitate language from birth via the Language Acquisition Device (LAD) as the mechanism for speech 'connected' in the brain. In their view, the child is born with the ability to speak language. As the child develops, language abilities also increase. This explicates why the child uses a finite set of rules to make infinite constructions, (Chomsky, 1957). Other scholars who share this philosophy include: Lenneberg (1967) and Theovan (1984).As we may point out in this study, though not very conspicuous, the main participant of this research- Juju `did not solely depend on the environment, but made efforts to input her understanding while pronouncing words. This is probably why her pronunciation did not match that of the adult with equal precision.

This theory is not without criticisms. One of its imperfections is the location of the LAD, since the argument is that the Language Acquisition Device is already programmed in the brain for internalization and expression at the appropriate times. Another criticism is the total exclusion of the environment from the language acquisition process of which arguably, language cannot be discussed independent of the environment.

2.1.3 Cognitivism

This theory is also called advanced innatism or interactionism begins with the formation of concepts. Scholars who prescribe to this school of thought are called "interactionist"(Knudtzon and College, 1998:7). The aim of cognitivists "is to address the nature and nurture aspects of language development to account for rapid acquisition of language" which begins with concept formation. Cognitivists study language acquisition

wholly by merging Behaviourism and Innatism to present language acquisition as an active process. Bloom and Lahey (1978) are of the opinion that "the child is an active seeker and processor of new information, selectively attending to the environment". Piaget (1954, 1957) and Sinclair (1975) are some of its proponents. Jean Piaget (1896-1980), a major proponent of cognitivism is a Swiss psychologist who considers language and the general development of the child in this manner: "birth stage to two years is a time when infants learn about sensory and motor activities. Activities are organised in relation to the environment coordinating the information they receive and progress from trial and error learning to using rudimentary insights in solving simple problems." (Papalia and Olds, 1994:130 and Field, 2005:214). He is also of the view that "before children can manipulate a symbolic system like Language, they must be able to manipulate the objects represented by the symbols" (Reich, 1986:322). This school of thought views the developmental process of the child as the interaction of behaviourism and innatism shaping his activities and his mental state.In the case of Juju, we see instances of "creative" articulation of words in an attempt to imitate the adult's pronunciation, showing off her cognitive ability.

Cognitivism as a theory of language acquisition therefore aims at merging internal and external factors responsible for the acquisition of language i.e. the Language Acquisition Device (LAD) and the Environment as a more appropriate theory to accounts for the rocess language is acquired rather than preferring one theory to another.

2.1.4 Motherese

A forth theory of Language Acquisition - Motherese also known as Baby-talk or Infant-Directed-Speech (IDS) is "... all about the effectiveness of maternal speech style on the child." (Gleitman, Newport and Gleitman, 1982). Care givers and mothers have a peculiarstyle of speaking to infants different from the manner they would usually address

anyone else, given to the fact that children and especially infants have little cognitive understanding and language performance is minimal. They resolve to simplified, short and straight forward language to engage such group in a form of communication. This is the model children adopts in their earliest stage of language use.Crystal (2008:316), regards Motherese as "the distinctive way in which mothers talk to their young children". Some of the features of motherese by Crystal (2008:316) include; simplified grammar- which consists of one or two word class (nouns and verbs), mainly content words.Exaggerated intonation patterns-raising tunes pitch higher than they normally would and falling tune are made to sound even lower. Frequent use of diminutive forms of words and a repetitive style with a tendency to expand the child's reduced utterances (emphasis added). More of these features are as presented by Saint-George et al (2013) focused on sound features of motherese, which is of great interest to this work for the obvious reason that sound features in a verbal communication are more noticeable; words are clearly enunciated, they contain a longer pause and slower tempo and exaggerated pitch as explained in 'exaggerated intonation'.

Mothers most often when teaching their children the different objects, use the target words more frequently than the non-target ones accompanied by touch and movements. And the feedback the mother receives further more helps to shape theirbehavior in language teaching. Saint-George et al (2013) arrived at the conclusion that mothers adjust their IDS to infants' language ability. Like other theories of Language Acquisition, the effectiveness of motherese depends on the child's intellectual speed, memory, motivation, personality.

2.2 Language and the Brain

The brain is the major organ that controls all the sensory and motor activities that take place in the human body, language use inclusive. Fromkin, Rodman and Hyams (2003:34),explained the functions of some parts of the brain thus; "the cortex is the decision-

making organ of the body, it receives message from all sensory organs and it initiates all voluntary activities". Also in the brain is the representation of our knowledge of language. The brain is anatomically divided into two halves: the left and the right hemispheres joined by a fibrous organ called CORPUS CALLOSUM.

The relationship between language and the brain is what pertains to neurolinguistics which (Yule, 2010:157) defines as "the study of the relationship between language and the brain". This relationship of language and the brain has been a piece for debate for years (Collinge, 2005:205). The discoveries of Paul Broca (1864) and Carl Wernike (1874) dispelled the speculations people had on the manner language relates to the brain. Their discoveries gave evidence of localization of language in the brain.(Steinberg, 1996, Fromkin et al, 2003, Saville-Troke, 2005; Trask and Stockwell, 2007 and Ahlse`n 2011).

The left hemisphere, which is the language hemisphere is larger; Papalia and Olds (1994:130) and is principally responsible for language and all activities that take place on the right side of the body.Fromkin et al (2003:41) state the other functions of the left hemisphere as follows; it is also responsible for rhythmic perceptions, temporal order judgments, mathematical thinking and more; while the right hemisphere takes responsibility for all the activities that happen on the left side of the body. The front part of the left hemisphere known as the Broca's area is responsible for language production, while the back area known as the Wernicke's area assumes responsibility of language comprehension. Their assertion that "… normal brain development depends on early and regular exposure to language", raised the question of critical period of language acquisition.

During the formative years of a child, and for all the parts of the brain to perform their designated functions especially linguistic or related to language, language input from birth is indispensable. Studies in the past have shown that FERAL CHILDREN; children who for

some reasons have been denied language from birth to early teenage age, have tampered with their ability to acquire language. When they eventually acquire one, they find it difficult to internalise especially the syntactic rules. This denotes that the neurological ability to use language is affected due to the absence of the stimulation of the left hemisphere. "…the normal process of brain specialization depends on early and systematic experience with language" Fromkin et al (2003:54). During this critical period, acquisition is not holistic, certain aspects of language remain undeveloped until the physical and mental features are more advanced.

2.3 Stages of Language Acquisition

These are distinct phases or periods in which the child acquires the rudiments of language and as development advances, these acquired skills improve. Yule (2010:172) refers to these stages as the "acquisition schedule". This process is dichotomised into two broad categories of pre-linguistic and linguistic stages. (Fromkin and Rodman, 1978; Lyons, 1983;Yule, 2010).

2.3.1 Pre-linguistic Stage

From birth, children begin to emit different sounds of cry (discomfort cries, hunger cries, fake cries, mad/rage cries, pain cries etc.) moan, spit and so on. These are not speech sounds; however, Steinberg (1996:4) observes that "their production gives the child exercise in articulation and control". These non-linguistic sounds are produced all through the duration of the prelinguistic stage, they include: Cooing, babbling and echolalia. **Cooing** in Crystal (2010:173), is the earliest use of speech-like sounds by an infant and these sounds are vowel-like. The infant develops "…the ability to bring the back of the tongue into regular contact with the palate…." **Babbling** involves mainly the production of single syllable of different

combination of consonant-vowel. In the later part of babbling, intonation sets in. **Echolalia** is when the child imitates the adult's intonation patterns with some level of accuracy.

2.3.2 Linguistic Stage

This stage of language development marks the emergence of true speech. The language acquirer at this stage speaks a language that is comprehensible to their care givers and people around them. The acquisition of true speech is also in stages, they are: One-Word Stage or Holophrase, Two-word Stage or Pivot Grammar and the Telegraphic Stage.

I One-Word Stage

This is the period when the child, after mastering the tonal patterns of his first language, begins to communicate in one-word utterances that function as sentences to express his thoughts. Realistically, this stage starts from 12-18 months (Fields 2005:145), for most children and in exceptional cases; it commences fromthe 9^{th} or 10^{th} month of age. During this period, the child's language is restricted to their ability to produce a single word that functions as a sentence. Holophrase as an alternative word for one-word-stage is a more appropriate term to describe this use of language when viewed from the angle of its functions; (meaning a single word functioning as a phrase or a sentence). It describes an utterance that could be analysed as a word, a phrase, or a sentence; this is a typicaltrait in the earliest stage of language acquisition of a child. This was evident in the main participant of this study.

Phonological acquisition of sounds, according to Fromkin et al (2003:356-357) comprises C-V form. Words such as "come", "see", "go", "daddy", "water" etc. ; are typical in one-word stage of language development. In some situations, the "V" part could be a diphthong exemplified thus; /gō/ instead of /gəʊ/, probably because it contains a simpler rule. It is

generally characterized by substitution of one phoneme for the other, reduction, devoicing and others.

Semantically, holophrastic utterances are highly dependent of extra linguistic contexts else, it is nearly impossible to interpret the intention of the child out of context. (Bavin, 2009:284). Scholars are of the opinion that the child's 'complex message' is for the simple reason that the child possesses a complex mental representation than their language at this point does not allows them to express. This stage is also characterised by over-extensionof meanings whereby a term is categorically used to describe a group of things or persons than it actually does; for instance, all objects with round shape (oranges, melons, balls, inflated balloons etc.) are called "ball" or all four legged animals are called "doggy". Another semantic characteristic is the under-extension of meaningwhereby the meaning of a word is restricted only to the things they possess or persons they know and not for the same thing or person elsewhere. For instance the word "dog" is strictly for the one in their home, or the word ball is only for his ball and not for other balls. The child's vocabulary at this stage is estimated to be about fifty words. (Crystal, 1994:428; Yule, 2010:174).

II Two Word Stage

This stage may begin before or after the child's second birthday. This means that the commencement varies from child to child as a result of differences in cognitive development. Akmajian et al (2008:484), assert that "one child might enter the two word stage at 20 months of age and another might enter the same stage at the 27th months." This summation is arguable and differs from those of Steinberg (1993) and Yule (2010), who posit that the two word stage starts at 18 months. The Main Participant of this study, in line with the opinions of Steinberg and Yule started producing words typical of two word stage weeks into the 18th month.

During this period of two-word-stage, children begin to string two words together in one use. Braine (1963) referred to it as Pivot Grammar; in the combinatorial speech of two-word, one usually emerges from a small set of words termed pivot word (key/important). The other word in the sentence is from the remaining words in the vocabulary of the child, the non-pivot set is known as the Open Class set. Some features of Pivot grammar include the following

1. Pivot words are more frequent than open class words. The main participant, Juju, for Example made utterances like "daddy car", "daddy come", "daddy *wanka*", "mummy phone", my shoe", "and my mummy". The frequently occurring words-mummy, daddy and my, are the pivot words.
2. The pivot class has only a few members. From the examples above, "mummy", "daddy", "my", were in constantly in repetition when compared to the open class.
3. Pivot words always occur in the same position in the sentence - some only occur initially; others only occur finally. Referring to the example given in (1.), pivot words occupied the initial positions.
4. A two-word sentence never consists of two pivot words. The main participant used words like "my mummy" which seem to be a combination of two pivot words, but in this instance, "my" is the pivot. And it is also a rare occurrence that the two words will seem to look like pivot words.
5. Each pivot word can be combined with any open class word. The pivot word "mummy" for example can be combined with open class like "come", "food", "see".
6. Noun and verb tend to be (*more*) in the open class (*my emphasis*) as shown in (5.).

Reich (1986:78)

The listeners' perception of these words, to a great extent, depends on the context of use. Morphologically, the words lack inflection for number, case or tense.

III Telegraphic Stage

Fromkin and Rodman (1978) regard this stage as "telegraphic and infinity", while Yule (2010) ascribes the name "multiple words" to it. In the first two stages, emphasis is more on the number of words available. In the telegraphic stage, the salient feature is the change in word forms that begins to manifest.

At this stage, the child is able to make sentences using basically content words. The child also begins to have some ideas about word order and the use becomes more acceptable. Inflection and function words may appear and the utterance becomes sentence like, which can be properly analysed syntactically and semantically.

Yule (2010:175) asserts: "by two and a half, the child's vocabulary is expanding rapidly" i.e. the word inventory goes beyond two words, and by the age of three, there is a tremendous increase in the number of vocabulary and pronunciations begin to sound like those of the adult.

2.4 Longitudinal Versus Cross-Sectional Studies/Qualitative and Quantitative Researches

2.4.1 Longitudinal study: Longitudinal study is one method of sampling data in which the whole patterns of development of the participant(s) is of interest to the researcher and is usually concerned with a sample of "normal" individuals. It is any study in which information is repeatedly collected over time on the same sample of individuals. A number of studies concerned with physical growth, age related development and individual differences have involved small samples thereby permitting one to conclude that; the study of change

overtime in a single study is one objective of a longitudinal study. As a technique, the researcher observes their participant(s) over a period of time, sometimes lasting for many years. This is to enable the researchers to be able to detect development or changes in the characteristics of the target participant(s), consequently establishing a sequence of events. The expenses incurred while embarking on a longitudinal study, imposes a main challenge. Field (20:143) concludes that "much research on language acquisition is longitudinal …"he provides three approaches to longitudinal study in language study; they are 'theory-driven', 'observational' and 'experimental'.

A major weakness of longitudinal studies is that it focuses on a small sample, which renders it almost impossible to generalize findings. It is time consuming and slow in progress (Zhu, 2000:12).

2.4.2 Cross-Sectional Study: A cross sectional study compares different population groups at a single point in time. This allows the researcher to compare different variables. A cross-sectional study does not consider what happens before or after, since it only considers a single moment in a time. It also utilizes different groups mostly of people who vary in interest but share similar characteristics such as socio-economic status, educational background or ethnicity, among others. This study cannot be used to do research on change in the sample but can be used to make generalized conclusions.

2.4.3 Qualitative and Quantitative Researches

Qualitative Research is an inductive subjective process of inquiry done in a natural setting in order to build a holistic and complex picture, and are reported in personal language. It is exploratory and used to gain underline reasons, opinions and motivations. It is also used to uncover trends and opinions and drives deeper into the problems. Methods include Focus Group Discussions (FGD), Individual Interviews, Participation and Observations. The sample

size is usually small and not randomly selected; it studies the whole not variables. Results are less generalizable and the nature of observation is that it studies behaviours of participants in the natural environment.

Quantitative Research is a deductive and objective process of inquiry where variables are measured in number and analyzed using statistical procedures to describe or make generalization in order to report informal and impersonal language and makes use of a larger population sample. Methods include; surveys, face to face interviews, telephone interviews, longitudinal studies etc. It describes, explains and predicts the behaviour of the study under controlled circumstance.

2.5 Anatomy/Physiology of Organs of Speech ofInfants and Child Language

'Infant' is a Latin word which means "without word" (Papalia and Olds, 1994:131). The anatomy (structures) and the physiology (movement/function) of their speech organs at birth differ from the adults' or even the time they commence babbling. The vocal apparatus at this point has the following characteristics; **i.** The larynx is higher **ii.** They have smaller throat and a shorter vocal cord. **iii.** The shape of the tongue is different and big, it also fills the mouth. These features limit production of speech orally thereby allowing the child to mostly breathe and emit sounds via the nose. Significant change begins to emerge at 4 months where the larynx descends and the ribcage changes to enable infants to produce longer period of sound emission. From the above summation, we reach the conclusion that as development advances in infants; the speech organs also adjust to accommodate speech in proportion with the stage of development.

All infants undergo the same stages when acquiring a language. The language of a child especially in early developmental stage is characterised by "…early speech perception, lexical development and listening for meaning," (Traxler and Gernsbacher, 2006:1028). In

their opinion, as complex as language is, it does not require a conscious effort or formal instruction to begin but develops spontaneously. Fikkert (2005) emphasizes that the child should not be regarded as an adult, therefore should not be expected to speak as such. Instead, be aware that their language progression transits through a series of changes which are developmental and the processes of acquisition include: **a.** segmental inventory of language, **b.** phonological processes and **c.** restrictions on phonotatics, word prosodic structures and larger prosodic units. The immature speech organs and phonological systems is consequently responsible for the constraints on sound production as a result, they invent rules of reordering, simplification or loss of sounds among others.

2.6 Phonetics

Phonetics and Phonology are areas of sound that rely one no another to demonstrate a holistic structure of sound. Credit to phonetics and phonology, language to a great degree, can be said to be of much significance,resulting to the many studies that have thus far been accomplished in the area of language. Lyons (1983:66) appends further: "although language-systems are, to a very considerable extent, independent of the medium in which they are manifested, the natural or primary medium of human language is sound." For this reason, the study of sounds becomes of utmost importance in linguistics than is the study of writing, or gestures, or of any other language medium. In Phonetics, the interest is the sounds produced by human speech organs so long as these sounds have a role to play in language phonology.

McMahon (2002:1) provides the task of phonetics as "objective ways of describing and analysing the range of sounds humans use in their language". Another area Phonetics is chiefly concerned with is the physical properties of sounds and the listener's perception in communication, since there is a continuous interaction between the speaker's articulation and the listener's reception of sounds, (Trauth and Kazzazi, 2006:895). Subsequently, Phonetics

seeks to analyse the manner in which sounds are produced, what becomes of these sounds as they are transmitted to the hearer and how the hearer perceives these produced sounds, these processes aretechnically called; **Articulatory Phonetics, Acoustic Phonetics** and **Auditory Phonetics.** These are the broad areas considered when discussing phonetics, but for the purpose of this work, acoustic and auditory phonetics will be exactly discussed while the core of the discussion will centre on articulatory Phonetics.

AcousticPhonetics is useful in conveying military signals, telecoms, and it is called the "transmission phase"(Lyons, 1983:64). Acoustic Phonetics classifies sounds "… in terms of the physical properties of the sounds waves that are created by the activities of the speech organs that travel through from the speaker to hearer". The action that happens to the air as it flows through the vocal tract to generate sound waves is what pertains to acoustic phonetics. In the production of vowels, for instance, the vibration is provided by the vocal folds.

Auditory Phonetics is defined byGreenBaun (1996:480) as the area of sound that "deals with the perception of sound by the brain after they have been received by the ear." Auditory Phonetics is also called "listener's impression" or "listener's reception", it is most relevant in the teaching of hearing impaired.

Articulatory Phonetics in its own right studies how the vocal tract produces the sounds of language. These sounds are produced as a result of movements that involve the organs in the mouth, throat and thorax which bring about the miracle of speech. Catford and Elsing (2006) as cited in Brown (2012:427) explain it thus; "in the production of speech, organic postures and movements, initiates, controls and modulates the flow through the vocal tract in ways that generate sounds". Articulatory Phonetics is most relevant in language teaching; the particles being taught are the phonemes of the language in view. It considers sound segments usually referred to as phonemes. They are broadly grouped into segmental and supra-

segmental phonemes, “any segment must either be a vowel or a consonant.” (Collinge, 2005:6).

2.7 Consonants

Consonants are sounds that are “produced with some restrictions or closure in the vocal tract that impedes the movement of air from the lungs”. At least two articulators are involved(Fromkin et al, 2003:24; Collinge, 2005:6). These obstructions of the flow of air by the various organs of speech in the mouth result in the symbols discussed in section **2.7.1**.Consonant sounds are of two forms: the written alphabets and the spoken sounds. The written alphabets are regularly used in writing while the sounds are often used in the phonetic analysis of speech and are variously represented by symbols written in square brackets. Consonant sounds can be described primarily using the following criteria:place of articulation and manner of articulation and state of the glottis (phonation), the other criteria are secondary - pulmonic or non-pulmonic, aspirated or unaspirated, oral or nasal. (Brown, 2012; Yule, 2010; Ladefoged, 1996; Cruttenden, 1994; Crystal, 1994). The section below only presents a synopsis of place and manner of articulation.

2.7.1 Place and Manner of Articulation

Places of articulation are regions of the vocal tract particularly connected with a certain gesture of the tongue or lips. These activities occur in relation to different areas of the roof of the mouth. The place of articulation is the location in the mouth where constrictions take place, or the type of constriction made in a particular instance (Trask and Stockwel, 2007:162; Yule, 2010:27). Trask and Stockwell further grouped manner of articulation into; obstruents and sonorants. Some areas or place or articulation include:

a. Bilabial: using both lips, as in [p], [b], [m], and [w].

b. Labio-dental: using the lower lip and the upper teeth, as in [f], [v].

c. Dental: using the tongue tip and the upper teeth or close to the upper teeth. E.g. [θ], [ð].

d. Alveolar: using the blade of the tongue close to the alveolar ridge, as in [t], [d], [n], [s], [z], and [l]

e. Post Alveolar: using the tongue tip close to just behind the alveolar ridge, as in [r].

f. Retroflex: using the tip of the tongue curled back well behind the alveolar ridge, as in [ɹ] for some accents.

g. Palato Alveolar: using the blade (and sometimes tip of the tongue) close to the alveolar ridge, with a simultaneous rising of the front of the tongue towards the roof of the mouth, as in [ʃ], [ʒ].

h. Palatal: raising the front of the tongue against the hard palate, as in [j]

i. Velar: raising the back of the tongue against the soft palate, as in [k], [g], [ŋ].

j. Glottal: using the space between the vocal cords to make audible friction [h] or a closure as in the glottal stop in some accents. Crystal (1994:243)

The taxonomies of manner of articulation include:

a. **Plosive or stop**: A complete closure is made at some point in the vocal track with the soft palate raised; air pressure builds up behind the closure which is then released explosively, as in [t], [d], [p], [b], [k], [g] and the first elements of [tʃ] and [dʒ] and the glottal stop.

b. Affricates: A complete closure is made at some point in the mouth, with the soft palate raised; air pressure builds up behind the closure, which is then

released relatively slowly as in [tʃ] and [dʒ]. In other words, affricates are a combination of brief plosive and friction-like sounds pronounced at about the same time.

c. **Fricatives**: Consonants belonging to this group are produced with friction as air passes through a narrow space because there is almost a total blockage there. Such sounds include [f], [v], [θ], [ð], [s], [z], [ʃ], [ʒ]

d. **Nasals**: A complete closure is made at some point in the mouth with the soft palate lowered, so that air escapes through the nose, as in [m], [n] and [ŋ]. All nasals are voiced.

e. **Lateral**: Yule (2010) and Fromkin et al (2003) refer to this as liquids. Lateral sound is characterized by the escape of air through the sides of the tongue with the tongue touching the alveolar ridge. E.g. [l]

f. **Approximants**: This is also regarded as glide or semi-vowels. They are [j], [w]. These sounds are characterised by lack of obstruction of air flow in the mouth there by sounding like vowels and mostly followed by a vowel sound. A major difference in these sounds is in the lip rounding.

These consonants are available in the English Language, and the languages of the world.See IPA chat in Brown (2012:366)

The other group of sounds; Vowel, is phonetically defined by Crystal (2008:517) as "sounds articulated without a complete closure in the mouth or a degree of narrowing which will produce audible friction". Vowels and consonants are opposites in relation to the technique applied in their articulations and the flow of air. Vowels unlike consonants rely on the position of the tongue against the roof of the mouth and the shape of the lips to determine the

various vowelsand vowel qualities(Abercrombie, 1967; Crutteden, 1994; Ladefoged, 1996; McMahon, 2002; Danesi, 2004).

2.8 The Cardinal Vowels

First developed by Daniel Jones to give a practical and a realistic identification of the vowels present in language, the cardinal vowels in the shape of a trapezium (See page 78) was created in a model from which languages can plot their vowels. The various reference points on the trapezium are what are referred to as the cardinal vowels. The non-cardinal vowels (vowels that cannot be located on the trapezium of the cardinal vowels) are described with the aid of diacritics. (Brown, 2012).The quality of a cardinal vowel in the opinion of McMahon as cited in Collinge (2005:11) "cannot be learned from a verbal description", in this case, written description. Regardless, an attempt is made to describe the cardinal vowels using the vertical and the horizontal vowel areas in the mouth, lip roundedness, its lack or "neutrality" as in GreenBaun (1996) and Crystal (1996).

In the articulation of a vowel, a part on the surface of the tongue is raised to the roof of the mouth; the raised or "humped" part of the tongue and its closeness to either the hard or soft palates produces a vowel sound, this action is described vertically or horizontally simultaneously. The third attribute used when describing a vowel is the shape the lips assume during articulation. The shape of the lips at the time of articulation is the most obvious feature, where it controls the quality of the produced vowel. A full account of vowel is therefore contingent upon the different positions of the tongue in relation to the roof of the mouth and the shape of the lips.

Abercrombie (1967:56-7) terms the vertical areas thus; "close", "half close", "half open", "open" and the horizontal areas; "front", "central" and "back". The horizontals are the

areason the surface of the tongue that take the concave or hump shape when producing a vowel and the verticals are the different surfaces of the roof of the mouth.

2.8.1 Types of Vowels

a. Monophthong: These are also referred to as pure vowels. They are single sounds that can be pronounced or sung alone or can exist bythemselves; this is a feature the consonant lacks. Cruttenden (1994:33) defines the vowel as a "category of sounds… normally made with a voiced egressive airstream without any closure or narrowing such as would result in noise component…." The monothongs of language include the following;

Front vowels	**Central vowel**	**Back vowels**
[i], [i:], [ɛ], [æ]	[ə] [ʌ] [ɜ:]	[a:], [U:], [ʊ], [ɔ:], [ɒ]

Yule (2010:34)

In other literatures like Crystal (1994), Oxford, Longman, and BBC Dictionaries, the half close front vowel [ɛ] is written as [e], the long counterpart of [ə] is written as [ɜ:] with the two dots signifying "long" or length and the front open [a:] is included.

When describing the production of monophthongs in speech, the organs that are actively involved as shown in McMahom (2002:69-73) are; the raised or hump areas of the tongue, closeness of the raised part of the tongue to hard palate or soft palate, lip roundedness and length; either a long or a short vowel. Going by the criteria mentioned earlier on how vowels are identified and produced; front, central and back vowels are described below in detail as follows.

Front vowels: Front vowels are produced with the front tongue raised to the hard palate and the lips unrounded. This can be either long or short. Examples;

[I] as in k<u>i</u>t, <u>i</u>ntend

[I:] as in flee, greet

[ɛ] or [e] as in dress, get

[æ]as in dance, mandate

Central vowel: centralvowels are situated between the back and front areas of the tongue. The raised part of the tongue is the middle area which ascends towards the hard palate. They can be long or short (long when indicated by the "colon" sign "**:**") and the lips are also unrounded when producing central vowels, examples;

[ə]as in around, attention

[ʌ]as in blood, cut

[ɜ:] as in nurse, bird

Back vowels: In the pronunciation of back vowels, the back of the tongue is raised towards the soft palate with rounded lips. They can either be long or short, examples;

[a:]as in father, palm

[U:] as in boot, goose

[ʊ] as in put, foot

[ɒ] as in dog, respond

[ɔ:] as in four, thought

b. Diphthongs: These are also called gliding vowels. Abercrombie (1967:60) defines it as "… a vowel of continually changing quality". Phonologically, they occupy part of a syllable. In the articulation of a diphthong, the movable organ (the tongue) glides from one fixed point to another, for instance, the back open unrounded [a:] glides to back close rounded [ʊ] to

produce the diphthong [aʊ]. These groups of gliding sounds are available in most languages of the world. They are; [ɪə], [aɪ], [aʊ], [eɪ], [eə], [əʊ], [ɔɪ], and [ʊə]

2.9 Phonology

Phonology considers sounds of aspecific language; it deals with the knowledge of the sounds of one's native language. Abercrombie (1967:72) refers to it as "functional phonetics". In other words, phonology can be described as practical application of phonetics in the context of a language, thereby making it more realistic. (Yule, 2010:42). The concept of "phoneme" is consequential to the understanding and analysis of the sound system of any language. Phoneme "consists of a permitted sequence of basic sound units" (Trask and Stockwell, 2007:213-214).

Theory of phoneme which is basically used in the analysis of the sounds of language, is either segmental or supra segmental. The English segmental phonemes are the same mentioned in sections **2.7.1 and 2.8.1 pgs.,22-3, 25**. Suprasegmental as Meyer (2009:208) maintains, focuses on units larger than individual segments. He enumerates syllable, words, phrases and clauses, as the units of suprasegmental phonemes, and the features of sound that describe these units include stress and intonation in relation to syllable. (Kreidler 2004; Collinge, 2005; Grice, 2006; Trask and Stockwell, 2007; Crystal, 2010) also share the same views on suprasegmental phonemes.

These sounds (segmental and non-segmental) are further pronounced within the context of a word. The concept of word is relatively defined; its meaning therefore depends on the language skill in question. In speech for example, it is "…a separate, independent phonological unit...when we do pause during natural speech, that pause always occurs between words not in the middle of a phonological word" (Pavey, 2010:8-9). A word should consist of at least a syllable before it can be pronounced as a word.

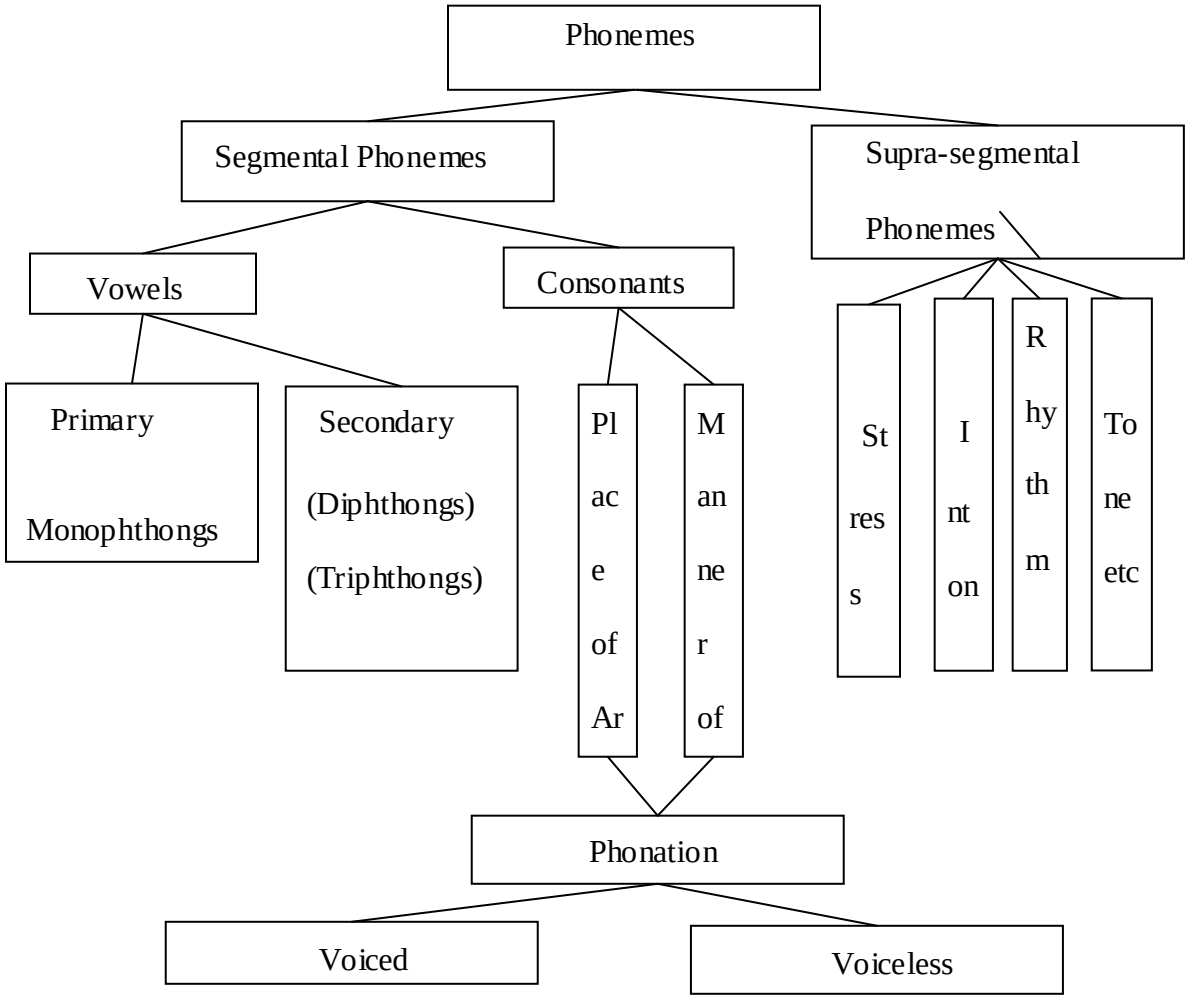


FIGURE 1- Phoneme Tree
Tree diagram by author-an adaptation ofTrask and Stockwell's, (2007:213-214) and Crystal's (2008:361-362) description of phoneme.

2.9.1 Connected Speech

Gas and Selinker (2008:8) are of the view that "phonological knowledge also involves the awareness that something happens to words in fast speech as against carefully articulated speech." "Fast" in this sense is relative in the manner that the native speaker's perception of fast may differ from the L2 speaker's interpretation or in this case, the Nigerian speakers that have NE as their first language. The processes of articulation in connected speech occur in ways that sound segments are affected thereby causing a change in the conventional way of pronouncing these sounds. Connected speech is also called reduced speech or Sandhi-

variation. Processes of connected speech include: Assimilation (a process by which a sound becomes similar to an adjacent sound), Elision (this is the omission of certain sounds), Blending (in blending, there is a blurred boundary between two contracted words) among others.

2.10English Language Use in Nigeria

From the time the English Language was formally introduced in the colonial era, it became the language of government, education, and trade among other activities, thereby resulting in its indispensability on the Nigerian soil. Banjo's (1976) classification of the types of English spoken by Nigerians especially the third group, demonstrates how near impossible it is to acquire the RP variety in Nigeria. Josiah, Bodunde and Roberts (2012) in their article conclude that "most Nigerians do not speak any variety similar to RP, even among the educated class, but a model that could be described as Educated Nigerian Spoken English (ENSE)…the teachers themselves…speak British oriented English with Nigerian accent". They propose the espousal of "Communication Adoption Theory (CAT). Jenkins (2000) as cited in Josiah et al (2012) concludes that the Nigerian variety of English stems from a 'brief' contact and to a considerable extent lack of contact with the RP speakers and a generational transmission of this variety. These summations thus explain why the Nigerian user of English in Nigeria does not sound like the speaker of English in the United Kingdom.

Adedimeji (2010) identifies the following as some of the features of Nigerian English.

a. Misplacement of stress in lexical, phrasal and clausal structures.
b. Tendency to match orthography with pronunciation.
c. Consonant elimination and inclusion.
d. Interference.
e. Syllable-timed rhythm rather than stressed-timed rhythm.

Even though the segments in the different structures may be rightly pronounced by a Nigerian user, the prosody is the other area that discloses the 'Nigerianess' in the use of the English language. Features of Nigerian English (NE) is brought to bare here because the subject of this research knows only the Nigerian variety of English language.

2.11 Bilingualism

Bilingualism in a strict sense is the term used to describe anyone who speaks two languages. But psycholinguistics incorporates a trilingual or a multilingual qualifying them to be bilinguals (Gas and Selinker, 2008:25). The question mostly raised in relation to bilingualism is the degree of acquisition that qualifies one to be considered bilingual. These varying degrees in the acquisition of an additional language and the different situations individuals use the different languages give rise to the types of bilingualism. They are:

2.11.1 Simultaneous versus Sequential or Successive Bilingual: Simultaneous bilingualism is the instance two or more languages are acquired at the same time which occurs with children. This can occur in two ways where either two persons speak one Language each to the child or when a bilingual speaks two languages to the same child. Sequential bilingualism occurs in children and adults alike, in a situation where a second language is introduced after the first has been learnt. In a child, it can occur when the parents speak one language and the community at large speaks another. For the adult, it can happen as a result of migration or interest in the language to be added.

2.11.2 Early versus Late Bilingualism: Early bilingualism means a child becoming bilingual in his formative years; it can be sequential or simultaneous. Late bilingualism or achieved bilingualism is when the person adds another language after childhood.

2.11.3 Additive versus Subtractive Bilingualism: In additive bilingualism, the two languages of the bilingual combine in a complementary and enriching manner. In subtractive bilingualism, the second language is acquired at the expense of the already-acquired-language. The subtractive bilingual gradually loses the first language.

2.11.4 Maximal versus Minimal Bilingualism: A maximal bilingual is someone with a near native control of two or more languages. A minimal bilingual is someone with only few words or phrases in the second language.

2.11.5 Natural/Productive versus Receptive Bilingualism: Productive bilingualism is when the bilingual not only understands but also speaks and possibly writes in the languages involved. In receptive bilingualism, the person understands the second language in either its spoken or written form or both but necessarily speak it.

2.11.6 Primary versus Secondary Bilingualism: primary or natural bilingual is someone who speaks more than one language and has not gone through any particular training and is often not in the position to translate or interpret with facility between two languages. A secondary bilingual is one who learns a second language in a formal institution via instruction.

2.11.7Vertical versus Horizontal Bilingualism: In vertical bilingualism the one who is bilingual speaks a standard language and a distinct but related language or dialect. In horizontal bilingualism, the person is bilingual in two distinct languages which have equal status.

2.11.8 Active versus Dormant Bilingualism: An active bilingual is the one who speaks two or more languages and is competent in both, not lacking in any. A dormant bilingual on the contrary is someone who for the reason of migration, to a foreign country and/or for a

considerable period of time has lost touch with the first language, therefore, has little opportunity to keep the first language active.

2.11.9 Balanced/Ambilingual versus Semi-bilingual: A balanced bilingual is one whose mastery of the languages involved is roughly the same or equal. Semi-bilingualism is the instance where the bilingual has insufficient knowledge in both languages.

2.11.10 Perfect/Incipient Bilingual: Perfect bilingual can be regarded as same with balanced bilingual. Incipient bilingual on the other hand is mainly an instance in child hood where at the early stages of bilingualism, one language is not fully developed. (Steinberg, 1993:250-254; Surakat ,2001;Fields, 2004:32-3, Gas and Selinker, 2008:27-8 and Bavin, 2009:380-383)

2.12 Empirical Review

The acquisition of phonology begins in the womb. It is not complete until teenage years and perception is said to precede production. Perception, therefore, facilitates production. This is true of every language acquirer, this trait was also evident in the main participant of this study. By 18-20 months, the language acquirer begins to mark newly learned words and identify wrongly pronounced words. At the age of two, they begin to show early signs of phonological awareness a term Schmitz (2011:5) defines as "the awareness that oral language is comprised of sound units of various lengths such as syllables, onsets and rhymes". Production is more consistent and systematic; the systematic transfers are technically called phonological processes. These phonological processes are useful descriptive tools in describing and classifying the error patterns in children's speech (Zhu, 2000). These phonological processes include; weak syllable deletion, final consonant deletion, consonant harmony, reduplication, fronting of velar and sibilants, stopping, among others. All these processes may not necessarily be present in the developing phonology of a single child

acquiring language as seen in the works of Amayreh & Dyson, (1998); So & Dodd (1995); Fox & Dodd (1999); Battacchi, Facchini Manfredi and Rubatta (1964); and Nettelbladt (1983) as cited in Zhu (2000) on phonological acquisition. These processes are referred to as developmental universal.

Developmental universals according to Slobin (1985) as cited in (Zhu 2000:12) are "the common and general patterns in child language development. Fox (2000) compares results of child language development of different languages belonging to different language families and concludes that developmental errors or phonological processes are to be considered universal. Jakobson's developmental theory predicts that nasals should be acquired before orals, front consonants before back consonants and stops before fricatives, (Fox, 2000:162). The theory of natural phonology aligns with developmental universals in the sense that their theory is hinged on the fact that "what is universal is the phonological process and not the sound of a language and system of position but that the processes are natural, universal and innately available to the child.

To categorically prove this concept of developmental universal, Zhu (2000) did a survey of some cross-linguistic studies of children acquiring a target language and compared their findings to those of English language acquirers of the same age groups. This work summarises a few of the survey of studies on phonological acquisition in specific languages.

Arabic

Amayreh & Dyson (1998), in their cross-sectional study on child language, sampled 180 normally developing children of 2; 0 - 6; 4 years. Their findings revealed that the medial consonants were suggestively more accurate than the initials and finals. The age of acquisition of most Arabic consonants was similar to that of English; the exceptions were /f/,

/t/ and /l/ which were acquired earlier in Arabic than English and /h, ʤ, ð, l/ were acquired earlier in English than Arabic.

Cantonese

So & Dodd (1995) sampled 268 children between the ages of 2;0 – 6;0 and found that Cantonese children acquire consonants more rapidly than English children though the acquisition order is similar. A phonological process of Cantonese identified was de-affrication e.g. /siw/ for /tsiw/. A more common developmental error for English children is stopping of affricates.

German

Fox & Dodd (1999) did a cross-sectional study of 177 German speaking children of 1;6 - 5;11, and found that at the age of 4, 75% of them produce all the phonemes while same age of English speaking children are lacking when producing / ʤ, θ, v, z/. In cluster reduction, German speaking children did not show any preference to either the first or second consonants in the cluster.

Italian

Battacchi, Facchini Manfredi and Rubatta (1964) studied the word- initial and medial consonant production of 20 Italian speaking children aged 3;2 -6;6 . They found out that plosives and nasals were acquired before fricatives, though liquids and affricates were not clearly patterned. Another work of Bortolini and Leonard (1991) identified the phonological process which occurred in the speech of nine normally developing children aged 2;2 – 2;11 and found out that weak syllable deletion occurred more in Italian speaking children.

Swedish

Magnusson (1983) as cited in Locke (1983) analysed the percentage of children with phonemically correct consonants from the age of 3;9 – 6;6. Nasals had the highest accuracy ratings while liquids were produced with the lowest accuracy. Stops, glides and fricatives with the exception of /h/ were in between. Nettelbladt (1983) noted that there is a patterned substitution of /ɹ/ for /h/ and /l/ for /j/ in their phonological acquisition in contrast to English speaking children who substitute /ɹ/ for /w/ and /l/ for /w/ or /j/.

Putonghua

Zhu (2000) did a longitudinal study and found out that /m, n, ŋ/ are stabilized early. /e, a: i, and u/ occurred earliest in the children's production of first words. Retroflex vowel /ə/ and the back vowel /o/ seemed to be the last simple vowels to emerge in their production. Weak stress emerged early in the children's speech but the acquisition was not completed at the age of 2:0. Children acquire the unmarked before the marked.

2.13 Theoretical Framework

"Linguistic competence cannot be reduced to knowledge of core grammar as Chomsky claims but rather draws on a wide range of cognitive and social capabilities and on knowledge from diverse domains." (Traxler and Gernsbacher, 2006:1031). This is the perspective of this study in relation to the theories of language acquisition. The theories of language reviewed in section **2.1**unfold the different positions the theories of language acquisition assert. This study, for its suitability, accepts the interplay between Behaviourism and Innatism; with behaviourism taking precedence over innatism. This work refers to the interplay as ASYMMETRICAL COGNITIVISM. This is in line with the arguments of Danesi (2004:8) who says "in early language, imitation is crucial". Innatists in their opinion

argue that the environment plays only a secondary role in triggering the LAD to function properly. Though this may be true, the contribution of the environment should not be relegated. Language of this preschool child basically exhibits more of the characteristics of behaviourism (hypothetically speaking) asTraxler and Gernsbacher, (2006:1032) assert "…children develop linguistic competence gradually, learning to produce new constructions items by items, rather than advancing by triggering innately specified grammatical rules that function in all-or-non fashion."

Linguistic theory is also part of the tools used to describe the language of the subject. Aspects of Phonetics and Phonology such as articulatory, experimental and auditory phonetics are used in the data analysis. Areas of articulatory phonetics entail place and manner in which these sounds are produced, i.e. the articulatory movements. Aspects of experimental phonetics also guides the analysis of data. Experimental phonetics is an area that deals with speech recognition, speech perception, forensic phonetics, language teaching, speech technology etc. (Morton, 1984). Auditory phonetics, which deals with the perception of sounds and their interpretation by the listener, is the researcher's main tool for the transcription of data i.e. the transcription of data is mainly impressionistic and much emphasis is laid on the Participant's performance. The codification of data is represented using phonemic transcription. The mother of the Participant and "z" randomly confirmed words and some pronunciations to validate the transcription.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Preamble

This chapter presents an overview of the procedure followed in this research.It delineates the design of the work by accounting for methods/procedures used in the collection of the data and the analysis. The tools that are found most expedient indata collection process, to suit the necessities that occurred in the course of the collection process are also accounted for. The period of time used to observe the main participantand the timings of recordings, and lastly, the tools used in the analysis of the available data are all contained in this chapter.

3.1 Methodology

The study involves the description of the phonology of a child of 18-22 months (1; 6 -1; 10 years), and32-34 months (2; 8 -2; 10 years). The major focus of the research is the observation and recording of the English utterances of theParticipant, "Juju", whose language is investigated, to study the available speech-sounds of that stage.

The observation started when one word utterances emerged and ended short of her second birthday. Aspects of two word utterances in English were the units the investigations were based. However, because she is a bilingual, acquiring English and Hausa simultaneously and some elements of pidgin, the other languages (Hausa and Pidgin) are not completely disregarded in the analysis.

3.2.1 Recording Procedure

The researcher is the major observer and recorder of the participant's utterances. The parents, particularly the mother, assisted in audio recording at periods when the researcher was

absent. The data contained in the researcher's diary and the video sessions were solely recorded by the researcher. Data in the diary were two-word English utterances, written when audio recording was not in session at the time of utterance. The contents of the diary did not include non-verbal activities and communication settings. What is contains are descriptions of the shape of the lips and sounds as perceived by the researcher. The data in the diary were spontaneous utterances.Only in few instances were elicitationsprompted.

3.2.2 Duration and Timing of Recording

The audio data were collected within four months, when the subject was 1year 8months and the average length of the recording was 12 minutes. The calendar of the audio and diary records were flexible in the sense that they did not follow any specified pattern of timing; nevertheless, the dates of audio recording were taken.Video recording was done within three months(August 28th and October 15th). The video recording had two sessions of twenty minutes each or a little less and fifteen more sessions ranging from 14 minutes to 5seconds. In all, the audio recording had 21 sessions of flexible timing and video of 17 sessions.

3.3 Data Collection Tools and Techniques

This section elaborates on how the data for this research was derived. The source(s) of data and the method(s) applied in the collection, presentation and analysis are explained below.

3.3.1 Source(s) of Data: Owing to the fact that this study is longitudinaland of a single Participant, the utterances of the Participant of the research, Juju, served as the primary source of the data presented and analysed in chapter four. The recordingsdone by the researcher took place in the child's home, the father's car and the grandparents' home in Zaria, in the presence of the mother or both parents. Though Juju started uttering single word utterances when she was 1year 3months, pivot grammar emerged relatively early when she

was 1year 8month. By 24months, telegraphic speech began to appear, accompanied by paralinguistic features.

3.3.2 Method(s) of Data Collection: The three media technique of Ochs and Schieffelin (ed) (1979), as cited in Surakat (2001:116), was adopted in the documentation of the utterances of the child. They are the diary, the audio and video recording methods. This is to authenticate the originality of the data and each method compliments the other in the sense that one method records the aspects other methods may neglect. The video data is of immense necessity/importance to capture visual paralinguistic movementand validate the audio and diary recordings.

(a.) Audio recording was done using a mobile phone in the child's natural environment. The subject was therefore not aware that the recording of her speech was going on. The recordings were then copied to a computer, to make repeated listening more simplified. The data were then transferred to an audio Compact Disc (CD) plate for proper documentation. This method was most expedient in order to reduce wastes. Furthermore, the Mobile Phone is a common gadget that can spur a child to speak without prompting;due to it suitability, the mobile phone was used for audio recording.

(b.) The diary was also used to complement sessions and situations the audio missed (e.g. spontaneous speech when recording is not in session and to describe the use of tone and stress in language use).

(c.) Similarly, the video recording was done using a mobile phone the recording was also copied to a computer and transferred/burnt to a Digital Video/Versatile Disc (DVD).

Replication of Morton and Tatham 1997b with a slight modification

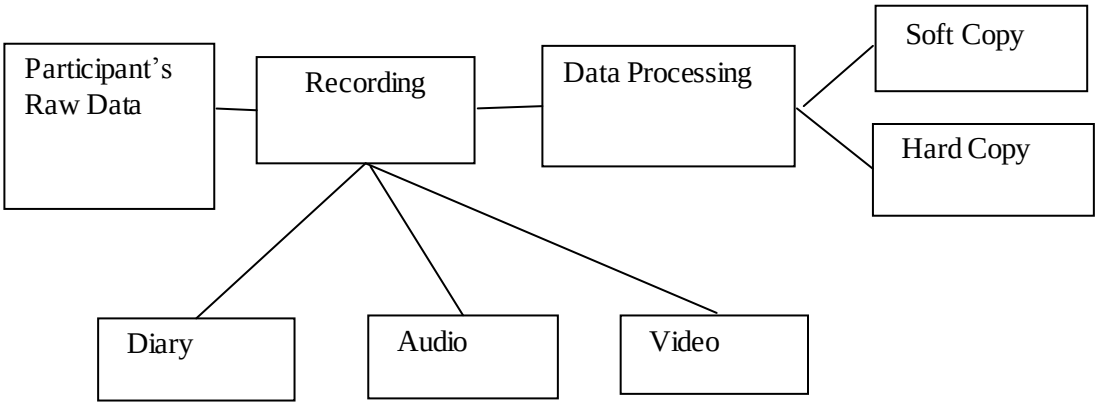


FIGURE 2
Data Collection Process: Adaptation of "Morton and Tatham"(1997b)

3.4Transcription of Data

The method of transcription of the data collected via the different techniques are based on the conventional writing method and phonemic transcription i.e., orthographical representation of the recorded words and the phonological transcription of the orthography.

The orthographic transcription is the conventional alphabetical spelling of these words. The phonological transcription has two phases: **(a.)** as articulated by the child and **(b.)** as specified by the "target" RP (Received Pronunciation) OR BBC English. Though the transcription is impressionistic, data samples were validated by the mother and "Zee", both are speakers of Standard Nigerian English, Pidgin and Hausa, before transcribing, in order to ensure an objective transcription.

3.5Method(s) of Data Analysis: The analysis follows the linear phonology theory to represent sound structure. Linear phonology, "refers to a representation of structure as a series of segmentals is a strict horizontal sequence, each segment being analysed

vertically…." Crystal (2008:330). The analysis of the available data followed questions raised in section **1.3**. In the analysis, all the phonemes are analysed individually within the context of the words they occur. Because the data is derived from three sources; diary, audio and video, if the analysis, for instance, is considering the articulation of /m/, the analysis selects data from audio, video, and diary that comprise of such a sound. It then presents the child's articulation in the context of a word then compares it with the actual or RP pronunciation of that sound in the same group of words.

Sample of analysis

Bilabial Nasal /m/

This universal sound is articulated without difficulty and other problematic sounds are substituted for it. E.g.;

AR; 136 My eye /maɪ aɪ/ [a: aɪ]

DR; 14 My leg / maı leg/ [ʌ lek]

3.6 About the Participant

The Participant of this research, Joan variously called Nma, Hanne, and Juju by family members, friends of the family and neighbours, was born on the 25th of January 2012 at the Aviation Staff Quarters, Airport Road, Kano. Juju, as she would be referred to, all through the study, is the first born child of her family and a niece to the researcher. The parents are educated - the mother holds a Higher National Diploma (HND) in Agricultural Extension. The father is a Medical Laboratory Scientist and a staff of the Federal Airport Authority of Nigeria (FAAN), Kano. The parents speak English to the child most of the time and Hausa onvery few occasions.

The architectural design of the house in which they reside is planned and built in a way that the houses are knitted together into a bloc of four flats, of two bedrooms each and a small court-yard. This setting allows the child to playindoors alone or with a parent most of the time except when visited by the neighbour's child "R", or when taken over to the neighbour's house to spend some time. On certain occasions, the house is visited by relations and friends of the family (aunty S and aunty B). A cousin of the Participant 'E' also lives with the family.

Language input is not controlled by any means; this is to say that Juju is exposed to all the languages spoken in her environment. Everyone she communicates with speaks to her in English and on rare occasions; they speak Hausa or Pidgin i.e. she is exposed to all the languages spoken in her immediate environment. It is for this reason that she learnt the Arabic sentence, *salamu alaikum* (peace be upon you) pronouncing it as /la:la:'le'ku/ but maintaining the tone (as pronounced in the part of the country where her parents are resident) and using it in the right context. Juju's exposure to these languages allows her access to them therefore rendering her bilingual. Though bilingual,English is her preferred language. Juju was cared for by her mother who, at the time the recording of the data for this researchwas done, was not working. Although she was always with the mother, Juju was very fond of her father.

During the phase of data collection, the Participant travelled out of Kano three times with parents to visit grandparents in Zaria and other relations in Kaduna for a period of three days for each of the visits. These visits and the language of communication of the parents afforded her the ability to acquire words of Hausa, evident in her occasional code-mixing of English and Hausa words.

Juju had not started school at the time the data was collected. She however, attended the Sunday school (the children section of the Church) which enabled her to speak more words in

songs than in “normal” speech. Holophrase emerged when she was fifteen months and five months later, pivot grammar emerged i.e. the age of1:8. Juju is a healthy child who can be referred to as an extrovert. She is full of activities most of the hours of the day.

CHAPTER FOUR

ANALYSIS AND DISCUSSION OF DATA

This chapter covers the crux of this study; it contains the brief analysis of linguistic overviewof data butthe main work is done on segmental phonemes, suprasegmental phonemes and connected speech. As earlier discussed in chapter two, (section**2.7**), sound constituents of any language are broadly described under segmental and non-segmental phonemes so also are the utterances of the subject.

4.1. Linguistic Overview

This section contains analysis of the utterances of the main participant using the different levels of language analysis, Morphology, Semantics and Pragmatic. Phonology was deliberately not discussed here because it is what this research is all about.

4.1.1 Word Classes in the Data

The grammatical categories available in the language of the subject basically contain content words: noun, verb, and qualifiers. Function words such as pronouns, determiners and prepositions are scantily available in the utterances. The dominant content words are nouns and verbs and the function words are pronouns.

4.1.2 Morphology

In the morphology, there is no conscious effort to inflect or derive a word. Utterances that approximate to that are the imitation of inflected or derived words of the adult's speech as in AR;41, 87, 142, 143, 146

AR; 41 "Mummy Pampers".

Video Recording which was done when language development was more advanced,contains inflection of tense (present and present continuous), and number. E.g.VR; 2 “am writing”, other example are found in VR; 4, 6, 22, &23

Number inflection VR; 10 “two years”. Others are VR; 21-3, 28. Inflection of past tense is yet to occur as seen in VR; 28 “I cry” instead of “I cried”; VR; 37 “I run” for “I ran”.

4.1.3 Semantics and Pragmatics

As in themorphology of the participant, there was no conscious use of language to portray semantic meanings. Meanings are contingent on what the listener is able to deduce from the available utterances. Practically, all the words have direct meanings to the utterances. There is also the creative use of the word “own” to mean “my” or “someone’s”. AR-25 “*Bobo* own” to mean “my *Bobo*”. (Bobo is a milk drink for children)See also AR-100, DR-24. The meanings in the English utterances and the code-mixed utterances in some of the data in the audio and diary are ambiguous. Examples; AR-5 “Mummy hot”. This may be interpreted as - “Mummy this thing is hot.” Or “A caution that something is hot, therefore should not be touched”. And other interpretations of utterances are subject to listenersknowledge of the separate and collective meanings of the words.

AR-75 “Daddy *wanka*”.(‘*Wanka*” literarily means bath in Hausa) may also be interpreted as; “Daddy is having his bath”, “Daddy, I want to bath”, “Daddy bath me” and so on.

Others expressions that can termed ambiguous can be found in the Audio and Diary Recordings as follows: AR; 23, 36, 39, 48, 50, 59, 62, 63, 69, 70, 72, 77, 81, 92, 103, 106, 109-111, 118, 129, 135, 144; DR-8, 10, 13, 17, 21-3, 30, 32, 34, 36, 38.

Pragmatic meanings are explicated under stress and intonationin sections **4.4.1** and **4.4.2**

4.1.4Extralinguistic Features

These features accompany utterances to emphasize Juju's intention. Examples are as follows:

AR-88 "*mmhmm* chewing gum" (gesturing take).

DR-24 "Mummy *mmhmm*" (gesturing take).

DR-28 "Fall*o*" (cautioning that one would fall).

DR-29 "Dance" (while dancing).

4.2Analysis of Segmental Phonemes

"The acquisition class of sounds goes by the manner and the place of articulation." (Fromkin et al, 2010:356). These criteria are used to describe the segmental phonemes.

4.2.1Bilabial-Plosives /p/ and /b/

These sounds occur in the utterances of the main participant and their articulation is rationally easy. There is a more frequent occurrence of /b/ than /p/ examples;

AR: 144 Beat you /bi:t ju:/ [bitju:]

DR: 34 Baby sweet /beɪbi swɪ:t/ [bebi fwit]

More of these occurrences are found in AR; 15, 17, 23, 26, 36, 48, 67, 68, 81, 106,111, 118,140, 144 and 148. DR 6, 24, 34 and 38.Yet, /b/issubstituted for other sounds than /p/ is.In the Hausa words "*bani* (give me)and *Bamaiyi (*name)", /b/ is substituted for /m/ AR; 35, 44, &57.AR: 57 "*Bani*" food /[bɑ̱nĩ] fu:d/ [[mɑ̱ nĩ]fu:t].

In AR: 30, /b/ is substituted for /d/ while pronouncing the letter "b" and in VR; 11 /b/ is substituted with/p/.Example; VR: 11 Baby (baby's) bib /beɪbi bɪb/ [bebi bip]

The voiceless counterpart /p/ is articulated without constraints,that is, it is not substituted with other sounds as in the case of /b/. Alternatively, other sounds are substituted for it. See labio-dental fricatives**4.2.4**for such occurrences**.** An exclusive replacement is in AR; 28 where /p/ is substituted for the bilabial nasal /m/.

AR: 28 Stand up /stændʌp / [da:nda:m]

4.2.2 Alveolar Plosives /t/ and /d/

Where the voiced alveolar stop /d/ occurs in a consonant cluster, in the final position of the first word of the compound in connected speech, the nasal consonant is deleted thereby losing the cluster in such a word. E.g. AR; 8, 47, 65, 74.

AR: 74 Stand up /stændʌp / /da:dɒp /.Or the sound elided as in AR; 134.

AR: 134 Good afternoon /gʊd a:ftənu:n/ [gʊaftenu:]

In another instance where /d/ occurs in a cluster of the coda of the second word in a compound, the voiced alveolar plosive is dropped or deleted.

AR: 33 My hand / maɪ hænd/ [ʌ a:n]

Other instances ofdeletion of the coda of the second word in a compound can be found in AR: 48, 63 and DR; 26.

In another instance, the alveolar plosive /d/ is substituted with its voiceless counterpart.E.g.

AR: 50, 57, 88, 100-03, 118 VR; 9.

VR: 9Two hundred /tu: hʌndred/ [tuɒndret]

In a later development, the cluster /nd/ at the final position is more appropriately articulated as voiced. VR: 35 Stand up /stændʌp/ [sta:ndɒp]. The voiceless

alveolar plosive /t/ is relatively more effortlesslyarticulated in every position it occurs.Instances of occurrence on audio recordings include. AR: 1, 5, 12, 14, 21, 26, 30, 36, 55, 56, 61, 71-3, 78, 89, 91, 106, 120, 121, 125, 134, 144, 150.

AR: 120 Open it my mummy / əʊpənɪt̲ maɪ mʌmi/ [a:pʊjit̲ ʌ mɒmi]

Instances of occurrence on diary recordings. DR: 11, 12, 18, 20, 31, 32, 34.

DR: 21 Aunty Maimuna *"wanka"* /a:nt̲ɪ: [mēmụna wank**ɑ̲**]/ [a:t̲ɪ: [munā wank**ɑ̲**]]

Instances of occurrence in video recordings. VR: 1-3, 12, 18, 20, 31, 32,

VR: 32 Am right /əm raɪt̲/ [a:m raɪt̲]

Where /t/ appears in a cluster, the sound is either deleted or the cluster is substituted with a single sound. Instances of deletion in AR: 27 and 131

AR: 131 My stomach /maɪ st̲ʌmək/ [a:sōmak]

Some instances of substitution of /t/ with its voiced counterpart /d/ include: AR: 8, 28, 47, 65, and 74.

AR: 28 Stand up /st̲ændʌp / [d̲a:nda:m]

On a general note, the discriminatory deletion of the voiced alveolar stop /d/, as shown in AR: 134, 74 and 33 is contextual. When it occurs in the initial or medial position of a word, it produced but when it occurs at the final position, it is deleted or substituted as in VR: 9. In situations where a word constitutes a cluster, and Juju is unable to produce the cluster, as in AR: 74 and 28, she attempts to reduce the cluster /st/ at the initial position to a single sound /d/. This reduction is also influenced by the cluster at the final position /nd/, this is the participant's approachto resolving her "confusion".

4.2.3 Velar Plosives/ɡ/ /k/

The voiced velar plosive /ɡ/ in the initial position of a word is rightly articulated. AR: 19, 37, 45, 49, 83, 86, 90, 129, 134, 146

AR: 129"Guy-guy" / ɡaɪgaɪ gəgaɪ/ [ɡəgaɪ]

Where it occurs in the medial, it is substituted with the voiced alveolar plosive /d/, utilizing place feature assimilation.See AR: 9, 67, 78, and 80

AR: 80 Dirty girl /dɜ:ti ɡɜ:l/ [deti de]

/ɡ/ is completely absent in the final position in the utterances of the subject, it is often substituted with its voiceless counterpart /k/

AR: 6 my leg /maɪ leg/ [ʌ lek]

VR: 18 My leg /maɪ leg/ [ma: lek]

Otherinstances of substitutions of the voiced velar plosive / ɡ/ for its voiceless counterpart /k/ are found in AR: 132 and DR: 14 VR: 7, 8, and 18.

The voiceless velar plosive /k/ is appropriately articulated and in the right environment. A reason for this ease in articulation of this sound is that voicelesssounds are more easily articulated than some of their voiced counterpart going by the performance of Juju. Another probable reason is that /k/ is a sound which production is supposedly practiced during cooing and at this stage, the child is believed to have mastered the art of producing it. AR: 13 Carry you / kæri ju: / [ka:ji ju:]

Others instances of appropriate pronunciations of the voiceless velar plosive /f/ are found in AR: 27, 31, 44, 46, 48, 58-60, 68, 82, 102, 108, 131 VR: 15, 20, 28, 33, 40, 43 DR: 1, 2, 9,

17, 36. An exception is in the combination “thank you” where the cluster /ŋk / is substituted with /t/.

AR; 10 Thank you /θæŋk̲ ju: / [tetʊ]

More of the deletion/substitutions are found inAR: 52, 123 and DR: 37

4.2.4 Labio-dental Fricatives /f/ /v/

The voiceless labio-dental fricative /f/ is another relatively easy sound to articulate AR: 50, 62, 86, 107, 134 VR; 5, 14, 29, 30 DR: 17, 28,

AR: 86 Mummy phone (Mummy’s phone) /mʌmi f̲əʊn/ [mɒmi f̲ōɳ]

But when it appears in an environment the participant finds it difficult to produce, she invents the corresponding voiced counterpart /v/ probably because the preceding consonant is voiced or produce an entirely different sound such as the voiced bilabial plosive /b/ See AR:17,130,

AR: 17 Beautiful baby /bju:tif̲ʊl beɪbi/ [bu:v̲i bebi]

Multi-syllabic words are reduced due to memory span limitation and level of maturity of Juju. The example in AR: 17 is not just a random invention but a possible pronunciation by an L2 speaker of the English language.

The voiced counterpart /v/ is one of the sounds she find difficult to produce except for the invention in AR: 17.

AR: 17 Beautiful baby /bju:tifʊl beɪbi/ [bu:v̲i bebi]

In environments the sound occurs, it is substituted, elided or “inventive duplication” (my opinion) takes place. See AR: 83&84

E.g.AR: 84 Move mummy /mu:v̲ mʌmi/ [mu:f̲ mɒmi]. Here, there is a substitution of the voiced for the voiceless. Instances of "inventive duplication" include; AR: 34 DR: 5, 11, 12.

DR: 12 Leave it / lɪ:v̲ ɪt / [v̲ɪ:v̲ɪt]

In AR: 150, the sound is elided alongside an entire syllable.

Vitamin C /v̲itəmɪn si:/[̲ta:mɪn si:]

4.2.5 Dental Fricative /θ/ /ð/

The dental fricatives (/θ/ & /ð/)are the sounds that are not present in the sound component of Juju's utterances, those that approximate to them are the alveolar plosives /t/ & /d/ respectively. In the available data, what is obtainable is the substitution of /θ/ for /t/ (AR: 10, 52, and 123, VR: 13, 34 DR: 25 37) or its deletion (AR: 138)

VR: 34 You bathe (you've bathe) /Ju: ba:θ/ [jʊ ba:t]

Instance of deletion Washing cloth /wɒʃiŋ klɒθ̲/ [ɒtin klō]

In the articulation of the voiced dental fricative, the main participant applies the same technique as the voiceless dental, substituting/ð/with /d/ e.g. AR: 15 VR: 31, 41

VR: 41 This one /ð̲ɪs wʌn/ [d̲is wa:n]

It is worthy of note that these substitutions of dental fricatives for alveolar plosives are typical of many educated Nigerian speakers of English and adult L2 learners of Nigerian English. Many speakers who use itappropriately learn the difference by tutoring.

4.2.6Alveolar Fricatives /s/ and /z/

The voiceless alveolar fricative /s/ is produced without restraint or difficulty but when it coexists with another sound in a cluster, (on the account of the problematic attribute of the sound), the main participant deletes other consonants that constitutes the cluster but retains the voiceless alveolar fricative /s/. AR: 27, 54, 131, DR; 30 and 38

DR: 30 Mummy dance / mʌmi dæns/ [mɔ:mi da:s]

Another attribute in the articulation of this sound is that the cluster is utterly modified to a different sound. AR: 8, 15, 36, 47, 65, 74, 103, 105 DR: 34,

AR: 74 Stand up /stændʌp / [da:dɒp]

The data in the video which was collected in later development has a more accurate production of consonant clusters that constitutes the voiceless alveolar fricative /s/. VR: 4, 6, 22, 24, 35 and 43

VR: 24 Snap baby /snæp beɪbi / [sna:p bebi]

The voiced alveolar fricative /z/ is not present in the participant's sound constituents and where a neighbouring sound is supposed to affect the voiceless counterpart to become voiced by assimilation, as in connected speech, the sound did not still occur. E.g.: 3, 10, 12, 33, and 42.

VR: 12 Two years /tu: jɜz/ [tu: jes]

In the other language Juju speaks; Hausa, the sound /z/ is either substituted with its voiceless counterpart /s/ AR: 14, 16 VR: 3

AR: 16 Baby "zauna" / beɪbi [zaun$\underline{ɑ}$]/ [bebi [saun$\underline{ɑ}$]]

Or with the voiced alveolar plosive when producing another tribal name “zichat”

AR: 61 Hello Zichat (name) /he-, hələʊ [z̲iːʧaːt]/ [elō [d̲iːtaːt]]

As earlier mentioned under velar plosives **(4.2.3)**, voiceless sounds are articulated easily than some of their voice counterpart. As for the substitution of /z/ for /d/, this may have occurred as result of a switch in the places of articulation owing to the fact that the two areas (alveolar and post alveolar) are only inches apart.

4.2.7 Post Alveolar Fricatives /ʃ/ /ʒ/

The voiceless post alveolar fricative /ʃ/ is present in the Participant’s utterances and is articulated without difficulty where ever it occurs in a word AR: 39 110 115, 117 VR: 14, 45, except for one instance where it is substituted with the voiceless alveolar plosive /t/.

AR: 138 Washing cloth /wɒʃiŋ klɒθ/ [ɒt̲in klō]

In another situation, other sounds are substituted with it because of its ease of articulation.

DR: 1 let’s go /let̲sgəʊ/ [ʃeʃ̲gō]

The voiced counterpart is not available in her English utterances or in the other languages Juju speaks. This is also the case of some adult speakers of Nigerian English resulting from the influence of their L1

4.2.8 Glottal Fricative /h/

This sound is as elementary as exhaling AR: 22 VR: 6, 22, but as easy as this lung exercise may seem, when it pertains to speech, it can be problematic, this is the case with Juju’s speech. In many instances, this sound is substituted with many other sounds;

/h/ substituted with /w/AR: 5 Mummy hot / mʌmi h̲ɒt/ [mɒmi w̲ɒt]

Or elided AR: 2, 46, and 53. Coincidentally, the elision here is appropriate in connected speech

AR: 53 Come here /kʌm hɪə, kʌmɪə/ [kɔ:mie]

4.2.9 Palatal Affricates /ʧ/ /ʤ/

The voiceless palatal affricate /ʧ/ in the initial data (audio) is substituted with the first element of the sound; /t/, AR: 61, 85, 97, 146, DR: 19, 22

AR: 97 Don't touch / dəʊn tʌʧ / [tɒn tɔ:t]

A possible reason for the substitution is that the voiceless palatal affricate constitutes two sounds that are produced almost simultaneously, a task the speech organs are not yet prepared for. VR: 3 contains a more satisfactory articulation of the sound because the data contained in the video comprises of a moredeveloped spoken language skill. Juju's production in AR: 97 also reflects her "inventive reduplication" ability.

VR: 3Is Zichat (Name) /əz [zi:ʧa:t]/ [isi:ʧa:t]

The voiced /ʤ/ is available in two instances where the subject is enunciating her own name AR: 126, 151

AR: 126 *Sannu* Joan (Greeting in Hausa) /[sannụ] ʤəʊn / /[sanu] ʤuan]

But in other situations, she substitutes with the first element /d/see AR: 18, 40

AR: 40 Mummy Joan / mʌmi ʤəʊn / [mɒmi dʊa:n]

Or with the voiceless palatal affricate /ʧ/ DR: 21

DR: 21 Daddy jump / dædi ʤʌmp/ [da:di ʧʌm]

/ʤ/constituting two consonant sounds that are produced simultaneously is somewhat problematic for Juju, she therefore, reduces it to/d/. And the phenomenon of voiceless sounds are more easily articulated than some of their voiced counterpart played a role in DR: 21

4.2.10 Bilabial Nasal /m/

This universal nasal sound is articulated without difficulty and other problematic sounds are substituted for it. See bilabial plosive in **4.2.1.** In some instance, however, where the plosives/m/ is following the diphthong /aɪ/, bilabialnasal is simplified to a single unrelated sound AR: 6, 33, 136, DR: 4, 14, 26,

AR: 136 My eye /maɪ aɪ/ [a: aɪ]

DR: 14 My leg / maı leg/ [Λ lek]

The data in the video contains a more acceptable enunciation of the bilabial nasal VR: 13, 18, 26, 36, 38, 40, and 45.

VR: 38 My mummy /maɪ mʌmi/ [maɪ mɔ:mi]

However, there is an instance of /m/substituted with the alveolar nasal /n/.

VR: 4 Am snapping / əm snæpiŋ/ [en sna:piŋ]

4.2.11 Alveolar Nasal /n/

Articulation of this sound is easy except for where it occurs before another consonant mostly in a cluster, it is elided AR: 1, 8, 18, 47, 65, 150 DR: 7, 18, 29, 30

AR: 47 Stand up /stændʌp / [da:dɒp]

DR: 18 Don't want / dəʊn wɒnt / [ŋ wa:t]

Or the followingconsonant to /n/ in a cluster is deleted AR: 33, 63 DR: 26,

AR: 63 Your hand / jɔ: hæn̲d/ [ʌ a:n̲]

The video data contains a better mastery and production of the sound especially where it occurs in a cluster.

VR: 4 Am snapping / əm sn̲æpiŋ/ [en sn̲a:pin]

VR: 5 Am fine / əm faɪn̲/ [a:m faɪn̲]

Others examples are VR: 7, 9, 17, 19, 24, 30, 31, 35, 37, 39, and 41

4.2.12 Velar Nasal /ŋ/

This sound is either deleted or invented as a substitute for another sound. Instances of elision occur mostly in clusters AR: 10, 44, 48, And 52, And 75, DR: 37

AR: 48 Uncle bread /ʌŋ̲kəl bred/ [a:ku: bie]

DR: 37 Thank you /θæŋ̲k ju: / [tetju:]

The alveolar nasal /n/, is often the substitute for the velar nasal AR: 19, 87, 138 DR: 8 VR: 2, 4, 6, and 23.Some adult speakers of Nigerian English make the same substitution.

AR: 138 Washing cloth /wɒʃiŋ̲ klɒθ/ [ɒtin̲ klō]

VR: 23 Am eating /əm i:tiŋ̲/ [aŋ i:tin̲]

The velar nasal /ŋ /, was howeverinventedas a substitute for a group of sounds or another sound VR: 2, 23 DR: 18 AR: 106.

DR: 18 Don’t want /dəʊn̲ wɒnt / [ŋ̲ wa:t]

VR: 2 Am writing /əm̲ raɪtiŋ/ [a:ŋ̲ raɪtin]

4.2.13 Alveolar Lateral /l/

The articulation of this sound proves difficult especially in words' final position, where it constitutes a cluster or before a vowel in the medial position. Where it occurs in the final position, it is deleted AR: 9, 17, 18, 44, 48, 67, 80, and 103. E.g.

AR: 103 Mahmoud (name) school /[mɑ̱ mụd] skuːl̲/ [[mɑ̱ mụt] ʃkuː]

In a cluster it is elided AR: 23, 49, 54, 81, 138 DR: 35, 38. E.g.

DR: 38 Baby sleep / beɪbi sl̲iːp/ [bebi sɪp]

Or substituted for /j/ as in;

AR: 91 Water melon /wɔːtə meɻən/ [waːtaː mejɒn]

Instances of accurate pronunciation include AR: 6, 59, 61, and 132. Another feature that is apparent in the articulation of /l/ is the invention of a simplified word or an "invented duplication" AR: 29, 34, 51, 66 DR: 5

AR: 51 Leave me /l̲ɪːv mɪː, liːmiː / [m̲ɪː mɪː]

4.2.14 Post-Alveolar Lateral /r/

This sound is one of the most elided and/or substituted sounds as a result establishing it as almost nonexistent in the child's pronunciation of sounds but for the video data where recording took place when Juju's speech was more improved. Instances of elision are found in AR: 32 and DR: 25.

DR; 25 Throw away /θr̲əʊ əweɪ/ [tōtō we]

In the substitution, many sounds are substituted for the post-alveolar lateral sound /l/

/r/ substituted for /d/ AR: 22, DR: 17

AR: 22 Hurry up /hʌr̲ijʌp/ [ɔ:d̲idɒp]

/r/ substituted for /j/ AR: 4, 13 DR: 2, 31

DR; 2 Carry me /kær̲ɪ mɪ: / [ka:jɪ mɪ:]

/r/ substituted for /i/ AR: 48, 118

AR: 48 Uncle bread /ʌŋkəl br̲ed/ [a:ku: bi̲e]

/r/ substituted for /w/ DR: 8

DR: 8 Daddy drink /dædi dr̲ɪŋk/ [da:di dw̲ɪn]

/r/ substituted for /m/ DR: 3

DR: 3 Carry me / kær̲ɪ mɪ: / [ka:m̲ɪ mɪ:]

The data contained in the video contains a more distinct pronunciation without substitution or elision VR: 14, 17, and 43.

4.2.15Bilabial Approximant /w/

The main participant in this study encountered almost no constraint while producing the bilabial approximant /w/ to the degree that other sounds are substituted for it; see **glottal fricative 4.2.8** and **post-alveolar lateral 4.2.14.** A clear instance of inappropriate articulation is the elision of the sound.

AR: 138 Washing cloth /w̲ɒʃiŋ klɒθ/ [ɒtin klō]

AR: 146 Chewing gum /ʧu:w̲iŋgʌm/ [tingʌm]

4.2.16 Palatal Approximant /j/

Some obvious features in the articulation of the approximant /j/ are sound substitution and elision.

Substitution /j/ for /d/ AR: 2, 22, 72 DR: 20

AR 22 Hurry up /hʌrijʌp/ [ɔ:di̪ɒp]

Substitution /j/ for /l/ AR: 23, 81

AR: 81 Blow you /bləʊju: / [bō i̪u: , mō i̪u:]

Substitution /j/ for /n/ AR: 44

AR: 44 Uncle “Bamaiyi” /ʌŋkəl [b͡ɑmaiji̪l]/ [ɒku: [mamani̪l]

Few instances of acceptable pronunciation included: 37 AR; 13, 26, 52, 114, and 144

AR: 114 Mummy your shoe your phone /mʌmi jɒ fəʊn jɒ ʃu:/ [mɒmi ja: fōn ja: ʃu:]

4.3 Vowels

Typically, vowels are considered the opposites of consonants by the virtue of their means of articulation, as they are produced without the obstruction of the flow of air in the oral cavity. The discussion here is segmented into monophthongs and diphthongs

4.3.1 Monophthongs

The available monophthongs in the Participant’s utterances include the front vowels /ɪ/ /i: /, /e/, and back vowels /a: /, “between half-close and half-open” /o/, back close /ʊ / & /u: /, and back open /ɒ / /ɔ: /. And the unavailable monophthongs are; front half-open/ ɜ /, front open /æ /, and central half-close /ə /. The unavailable monophthongs are often substituted with the

available ones. Wherever /ɜ/ occurs in a word, it is often substituted with the front half-open /e/ AR: 9, 67, and 80

AR: 80 Dirty girl /dɜ:ti gɜ:l/ [deti de]

/æ /is often substituted with /a:/ DR; 2, 3, 8, 9, 13, 17, 26, 29 AR; 8, 12, 13, 28, 33, 41, 47, 52, 56, 63, 65, 74 VR: 4, 24, 36

DR: 9 Daddy shoe / dædi ʃu: / [da:di ʃu:]

AR: 33 My hand / maı hænd/ [ʌ a:n]

VR: 35 Stand up /stændʌp/ [sta:ndɒp]

Or substituted with /e /

DR: 37 Thank you /θæŋk ju: / [tetju:]

The substitution of / æ/ for /a: /or /e/ is very typical of Nigerian English. This is a likely model spoken to and around Juju.

/ə / Substituted for /a: / AR: 12, 27, 41, 55, 89, 125, 131, 134

AR 125: Mummy water /mʌmi wɔ:tə/ [mɒmi wa:ta:]

/ə / substituted for /u: / AR: 73, 111, 121 VR: 39 DR: 20, 35

VR: 39 Open it /əʊpən ɪt/ [ōpʊnit]

DR: 35 Bible /baıbəl/ [ba:bu:]

When the unstressed vowel /ə/ is stressed, it results to a change of sound, which explains the substitutions in Juju's utterances – substitutions of /ə/ for /a: / as shown inAR: 25, /ə / for /ʊ/ as shown inVR: 39 and /ə/ for /u: / as shown in DR: 35.

/ʌ / Substituted for /ɒ / AR: 2-5, 22, 31, 38-41, 46, 50, 53-55, 62, 65, 78, 86, 108-111, 115, 117-8, 125, 151 VR: 9, 16, 21, 35, 38 DR: 19, 22, 23, 30, 32-3

DR: 23 Mummy money / mʌ̲mi mʌni/ [mɒ̲mi mɔ:ni]

AR: 62 Mummy phone /mʌ̲mi fəʊn/ [mɒ̲mi fõn]

VR: 35 Stand up /stændʌ̲p/ [sta:ndɒ̲p]

/ ʌ/ Substituted with /õ/ AR; 27, 131

AR; 131 My stomach /maɪ stʌ̲mək/ [a:sõ̲mak]

The central vowel /ʌ / in a typical Nigerian use is often substituted with the back vowel /ʌ / or /o/ so also in Juju's utterances. Being that the model she comprehended was the same she produced

4.3.2Diphthongs

/ɪə/, /eɪ /, /eə /, /əʊ /, /ʊə / /aɪ /, /aʊ/, /ɔɪ/, are the English diphthongs. In Juju's utterances, /ɪə/, /eɪ /, /eə /, /əʊ, /aɪ , /aʊ/ appeared in her utterances but the articulation of these diphthongs is characterised by lack of glide from the first sound to the next and the conversion/simplification of the two sounds to a single vowel sound.

Instances of the absence of glide from the first element to the next; /aɪ/ AR: 29, 30, 33, 66, 113, 131, 133, 136, 145 DR: 35

AR: 66 Lie down /la̲ɪ daʊn/ [da̲:da:] (With pidgin notation)

DR: 35 Bible /ba̲ɪbəl/ [ba̲:bu:]

A more appropriate articulation of the diphthong /aɪ/ includes AR: 24, 129, 135-6, 140, 149 VR: 5, 10, 15, and 17

AR: 135 Pepper eye /pepəaɪ/ [pepe aɪ]

VR: 17 you cry? /Ju: kraɪ/ [Ju: kraɪ]

Diphthong/aʊ/ AR 29, 66.

AR: 29 Lie down /laɪ daʊn/ [da:da:] with pidgin tonation

Correct usage in VR: 10

VR: 10 It's outside / ɪz aʊsaɪd/ [is aʊsaɪt]

Since both are back vowels, the quality of the vowels is determined by the lip roundedness or its lack. Juju was able to produce this sound because she was able to spread, then round her lips in that sequence, to be able to produce /aʊ/ as shown in VR: 10.

Diphthong/eɪ / is characterised by lack of glide from the first sound to the next E.g. DR: 25, 34, 38, AR: 15, 18, 30, 36, 45, 60 VR: 8, 11 19, 20, 24, 36

DR: 38 Baby sleep / beɪbi sli:p/ [bebi sɪp]

AR: 45 Go away /gəʊ əweɪ/ [gō wa:we]

VR:24 snap baby /snæp beɪbi/ [sna:p bebi]

Diphthong/eə / is also characterised by lack of glide e.g. VR: 14

VR: 14 Fresh air /freʃ eə/ [freʃ ek]

In the production of /eɪ/ and /eə/ the lips are spread, the main task is in the oral cavity where a part of the surface of the tongue raises to towards an area in the roof of the mouth then glides to another position. The main participant is unable to glide from one position to another, she therefore retains the tongue in the first position as shown in DR: 38, AR: 45 and VR: 14.

Diphthong /əʊ/

In the articulation of /əʊ/, the sound is modified to a different single vowel or monophthong located between "back half-open and half-close" and very rounded lips that facilitate the production of /o/ or /ō/(Crystal, 2010:34). /ɒ /& /ō/ are consistently substitutes for the diphthong /əʊ/ in the utterances of Juju. See examples in AR: 20, 23, 25, 45, 49, 49, 61, 62, 81, 86, 100, 107 DR: 1, 7, 24, 25, VR: 1, 7, 16, and 30.

AR: 86 Mummy phone /mʌmi fəʊn/ [mɒmi fō̲n]

DR: 1 let's go /letsgəʊ/ [ʃeʃ gō̲]

VR: 1Cold water /kəʊld wɔ:tə/ [kō̲l wɔ:ta:]

Other substitute for /əʊ / are

/ɒ / AR: 70, 85, 97 DR: 18

AR:97 Don't touch / dəʊn tʌʧ / [tɒ̲n tɔ:t]

/ŋ/ DR: 18 Don't want / dəʊn wɒnt / [ŋ̲ wa:t]

And /a: / AR: 73, 121 DR: 20

AR: 121 Open it /əʊpən ɪt / [a:̲pʊjit]

These substitutions are influenced by the most obvious sound in the constituents of the diphthong which is /ʊ/. Therefore, in an attempt to produce this diphthong, Juju ends up producing / ō / as in AR: 86, DR: 1, or /ɒ / as in AR: 97 or even a simplification of a whole syllable to a consonant /ŋ/

4.4Analysis of Suprasegmental Phonemes

4.4.1 Stress

The stressing of a word in the set of any compound word is determined by the word class it constituents and the connotative/intended meaningof the Participant. In the data, virtually all the primary stressed words are verbs and adjectives regardless of their position (first or second word of a compound composition) and the secondary stress is on the other word class that constitutes the group of words.

Verbs as the first element carrying the primary stress AR: 2, 8, 10, 13, 17, 22, 23, 26, 28, 30, 31, 34, 45-7, 49-53, 65, 73-4, 81, 83-5, 88, 90, 97, 121, 138, 144, 146 DR: 2, 3, 5, 6, 11, 12, 18-20, 25, 37 VR:19, 24, 35, 39

AR: 146 Open it /əʊpən ɪt / [ˈaːpʊjit]

DR: Thank you /θæŋk juː / [ˈtetjuː]

VR: 19 Pain me (hurting) /peɪn miː / [ˈpen miː]

Verb as the second element carrying the primary stress AR:11, 24, 68, 70, 82, 98, 102, VR:4, 6, 15, 22, 23, 28, 32, 37 DR: 8, 17, 21, 30, 38

AR: 102 Mahmoud come / [mɑ̱ mụd] kʌm/ [[mɑ̱ mụt] ˈkʌm]

VR: 4 Am snapping / əm snæpiŋ/ [en ˈsnaːpiŋ]

DR: 17Ephy (name) carry /ɪfɪːkærɪ / [ɪfɪːˈkaːdi]

Adjective as the first element carrying the primary stress AR: 9, 17, 80, 134, and 137 VR: 1, 9, 14, And 20

AR: 134 Good afternoon /gʊd a:ftənu:n/ [ˈgʊaftenu:]

VR: 20 One cake /wʌn keɪk/ [ˈwa: kek]

Adjective as the second element carrying the primary stress DR: 34 VR: 5, 32 AR: 5, 36

DR: 34 Baby sweet /beɪbi swɪ:t/ [bebi ˈfwit]

AR: 36 Baby sweet /beɪbi swi:t/ [ˈbebi ˈfwit]

VR: 32 Am right /əm raɪt/ [a:m ˈraɪt]

Where the compounds constitute an auxiliary verb, adverb, article or a pronoun, the primary stress is on the pivot word which frequently constitutes the second word DR: 4, 14, 26 VR: 1-6, 9, 10, 13, 15, 18, 21-3, 26-8, 32-4, 36-8, 40-2, 44 AR: 27, 33, 63, 121, 131-2, 136

DR: 14 My leg / maɪ leg/ [ˈʌ lek]

VR: 44 My shoe / maɪ ʃu:/ [ˈma:ʃu:]

AR: 136 My eye /maɪ aɪ/ [ˈa: aɪ]

Where a noun constitutes the two words, the primary stress is on the second word AR: 12, 18, 39, 41, 48, 50, 55-6, 69, 78, 89, 103-4, 107, 109, 110, 118, 125, 135 149, 150-1 DR: 13, 22, 32, 36 VR:43 except where the tone indicates possession see 4.4.2

AR: 89 Mummy water /mʌmi wɔ:tə/ [mɒmi ˈwa:ta:]

DR: 13 Daddy sugar /dædi ʃu:gə/ [da:di ˈtu:ka:]

VR: 43 Choir mistress /kwaɪəmɪstrɪs/ [kwa:ja:ˈmɪstres]

4.4.2 Intonation

This is more prominent in contextual use where the Participant intends to connote possession AR: 115, 117, 142, VR: 29, 30 DR: 9, 10, 24

AR: 142 Daddy's name /dædis neɪm/[da:di nem](Imitating)

VR: 30 Aunty (aunty's) phone /a:nti: fəʊn/ [an'ti: fōn]

DR:24 Own *Bobo* (drink) /əʊn bōbō/ [ōn bōbō]

This group of words are articulated with pidgin tonation AR: 29, 37, 43, 66

AR: 43 Go know (*You go know*; Pidgin)

AR: 66 Lie down /laɪ daʊn/ [da:da:] with pidgin tonation

4.5 Analysis of Connected Speech

Selected features of the processes of connected speech are present in Juju's utterances. Nonetheless, these utterances in many instances are not ideal for the reason that the usage is neither obtainable nor acceptable in the English language.

4.5.1 Elision

Pseudo elision; DR: 14, 20, 26, 30, 35 AR: 6, 10, 27, 33, 61, 63, 73, 121, 131-3

These elisions occur in consonant cluster area of a word or where the word constitutes the dental fricatives. This occurrence is so because as previously shown, consonant clusters and the dental fricatives are problematic.

DR: 30 Mummy dance / mʌmi dæns/ [mɒmi da:s]

AR: 33 My hand / maɪ hænd/ [ʌ a:n]

The pseudo elision in the video sounds include; VR: 13, 18, 26-8, 36, and 45

VR: 13 My teeth /maɪ tiːθ/ [maː tiːt]

More appropriate in AR: 31, 34, 51, 53, 83, 85, 90, 97 DR: 5, 19

AR: 83 Give me /gɪv miː/ [gi:miː, ggi:fmiː]

DR: 19 Don't touch / dəʊn tʌʧ / [tɒn tɒt]

4.5.2 Blending

DR: 11, 12, 20, 37 VR:9, 21, 22, 35, 39, 42 AR: 8, 10, 13, 22-4, 26, 28, 47, 52, 65, 121, 129, 140, 144.

The blending in Juju's speech though pseudo, appears not to have boundary between one word and the next.

DR: 20 Open it/ /əʊpən ɪt / [aː pʊjit]

VR: 35; Stand up /stændʌp/ [staːndɒp]

AR:140 Bye-bye / bəbaɪ/ [bəbaɪ]

4.6 Summary and Discussions of Findings

The findings of this research work are mainly on the phonological strategies employed by Juju to articulate sounds within the context of a word. The strategies include:

4.6.1 Substitution:one of the strategies Juju used to pronounce words is the substitution of one sound or one class of sound for the other. One of such is thesubstitution of voiced consonant for their voiceless counterpart. She substituted the voiced alveolar plosive /d/ for the voiceless counterpart /t/. Examples of this in the data can be found in AR: 50, 57, 58, 100, and 118. VR 9 and 10. Also in velar plosives, the voiced /ɡ / is substituted with its voiceless

counterpart /k/. Such instances can be found in AR: 6, 132, and 145. VR: 7, 8, 18. DR: 14. Bilabial plosives are no exceptions in this substitution of voiced for their voiceless counterpart, /b/ for /p/, this can be found in AR: 11. Lastly labio-dental fricatives were no exception to this substitution voiced for their voiceless consonants. The substitution of /v/ for /f/ are available AR: 83, 84, 97 and 99. Thus far, from these substitutions of voiced for voiceless consonants reveals that Juju prefers voiceless to voiced consonants.

Another category of substitution that occurred in Juju's articulation as this stage of two-word is the substitution of one class of sound for another. The voiced dental fricative /ð/ is substituted for the voiced alveolar plosive /d/ such examples are available in AR: 15, VR: 17, 31, and 41. In the same vein, the voiceless dental fricative /θ/, is substituted with the voiceless alveolar plosive /t/. Instances of such occurrences are found in AR: 10, 52, 104, and 123. VR: 13, 34. DR: 25, 37. Finally in this category of substitution, the voiced palatal affricate /ʤ/ is substituted with the voiced alveolar plosive /d/-AR: 40 and the voiceless palatal affricate /ʧ/ substituted with the voiceless alveolar plosive /t/. These occurrences are available in AR: 85, 97, and 46.

Other substitutions of one consonant for the other that are not categorized seemed random but looking at the pattern more closely revealed that class of the substitute consonants in Juju' utterances is alveolar. AR: 19, 22, 30, 72, 138. VR: 1, 4, 6, 22, 23. DR: 17.

These substitutions of sounds by Juju were not peculiar to consonants only, there was a consistent substitution of central vowels since they were completely absent in her utterance. Central vowels were substituted for front vowels, instances of this are evident in AR: 10, 52, 67, and 80. The substitution of central vowels for back vowels appears to be more in comparison to central-front substitution as these examples show-AR: 19, 41, 55, 56, 68, 89, 91, 123, 125, and 150. VR: 1 and 41.

4.6.2 Reduction

a. Cluster Reduction: The reduction of consonants cluster issimilar to the previously discussed substitutions of consonants; they are also patterned based on voiced and voiceless status of the consonant clusters. When the consonants cluster constitutes two voiced sounds, Juju always preferred the first sound, therefore reducing the consonants cluster to a single sound. This occurrence is evident in AR: 6, 23, 33, 48, 63 and 81. In another instance where the consonants cluster constitutes two voiceless sounds; Juju did not show preference of either the first or second sound, her choice in reduction was rather random. See AR: 8, 28, 47, 65 and 74 for instances of such occurrence. Lastly, when the cluster is comprised of a voiced and a voiceless sounds, her referred sound is still the voiceless. Such instances occurred in DR: 18, 29, 30, & 38 and AR: 54.

b. Diphthong Reduction: The articulation of diphthongsin Juju's utterances is characterised by lack of glide from the first sound to the next AR: 15, 18, 29, 30, 36, 45, 60, and 66. DR: 25, 34, 38. VR: 8, 11, 14, 19, 20, 24, 36. This lack of glide reduced the diphthong to monophthong, in another instance, the articulation is not as a result of lack of glide but a diphthong being substituted with a different vowel sound.Such occurrences are found in AR: 20, 23, 25, 45, 49, 49, 61, 62, 70, 81, 85, 86, 97, 100, 107 DR: 1, 7, 18, 24, 25, VR: 1, 7, 16, and 30.

4.6.3 Simplification

The words Juju found difficult to articulate, especially compound words were simplified based on her ability to manipulate her organs of speech.

AR: 9, 10, 17, 18, 23, 27, 33, 44, 52, 63, 67, 73, 80, 121, 132, 136, 147 DR: 4, 14, 20, 37, VR: 13, 18, 26, and 44.

4.6.4Inventive Reduplication

The duplication of a set of sounds is typical of the features of the language of children, especially in the early stage. But in the case of this subject, she invented those duplications in her articulation to sound like the target words by maintaining the number of syllables as contained in the target word.

AR: 34, 51, 66, 83, and 90, DR: 5, 11, and 12

4.6.5 Deletion and Elision

a. Deletion: Sounds at different positions of a word were deleted in the utterances of the main participant of this study, as a strategy to accommodate some constraints she encountered in articulation. The deletion is mostly in the final position of the word. See AR: 33, 44, 48, 63, 67, 80, 103, 134, and 138 VR: 1, 17 for instances of such occurrences.

b. Elision: The elision of glottal fricative /h/ and the palatal approximant /j/ occurred in Juju' utterances as a result of the influence the vowels succeeding these sounds had on them. Articulation of words that begin with /h/ and /j/ therefore begins with the succeeding vowel or another that sounds like the succeeding vowel. AR: 61, 78, 147.

Generally speaking, these strategies are regarded asthe phonological processes of the main participant Juju's. As earlier mentioned on page10, the language of children at the developmental level is characterised by "preference to certain sound classes or sounds, excessive substitution (my emphasis), extensive use of duplication and special markers of certain classes of words" have been brought to bare in this analysis.

4.7 Summary of the Participant's Available Sounds

CHART 4.7.1: THE CONSONANTS CHART BASED ON JUJU

	Bilabial	Labio – dental	Dental	Alveolar	Post Alveolar	Retroflex	Palatal	Velar	Glottal
Plosives	p b			t d				k g	
Fricatives		f v		s	ʃ				
Affricates							ʧ		
Nasal	m			n				ŋ	
Lateral				l				r	
Approximant/ Semi-vowels	w						j		

FIGURE 3

An adaptation of the International Phonetic Alphabet(Cruttenden 1994:31)

CHART 4.7.2: VOWEL CHART BASED ON JUJU

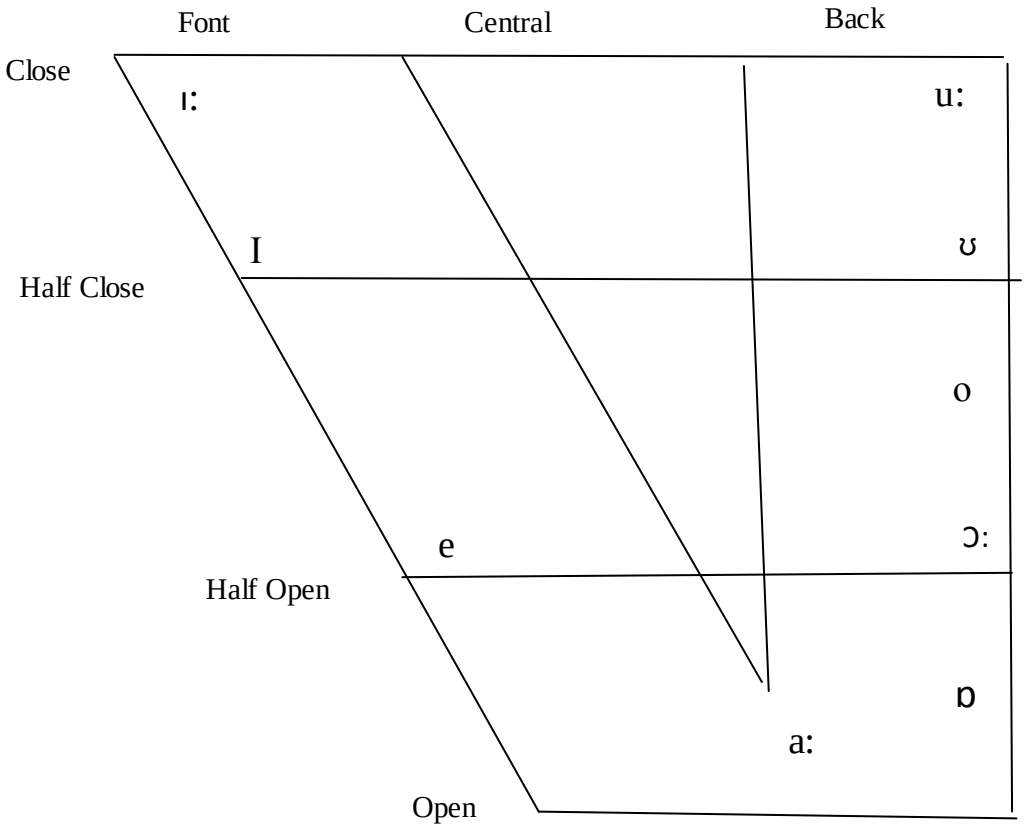


FIGURE 4

An adaptation of the International Phonetic Alphabet (Cruttenden 1994:36)

CHAPTER FIVE

SUMMARY AND CONCLUSION

5.1 Summary of the Research

This study is based on a single Participant "Juju" and is aimed at documenting and analysing her utterances.Chapter one gives the background to the study-how language commences with the production of sounds and the indispensable status of sounds in the discussions of language. The statement of problem, research questions, aim/objectives and justification are all contained in this chapter. The scope of the study is based on the analysis of two-word English utterances and a few code-mixed utterances using articulatory phonology; segmental and suprasegmental, acoustic and impressionistic phonology as the major approaches.

Chapter two mainly constitutes conceptual and empirical reviews. Some of the topics discussed in conceptual review include the theories of language acquisition as propounded by many scholars to explicate how language is acquired. Matters concerning language and the brain,approximating the areas of the brain responsible for language production and comprehension and the critical period of language acquisition are included in this section. Differences between cross-sectional and longitudinal researches, anatomy and physiology of the speech organs, phonetics and phonology, the use of English language in Nigeria, are among the other concepts that made-up the literature review. The empirical review is mainly on previous studies on the acquisition of Phonology by children. This was achieved by presenting figures and percentages about the participants in these previous works and their findings. Lastly, the theoretical framework adopted in the analysis was described.

Chapter three, the chapter on methodology, described in months the age of the participant, and periods of data collection.The utterances of the participant served as the primary source

of data used for the analysis. The tools used to collect data are three media techniques of diary, audio and video as proposed byOchs and Schieffelin (1979) as cited in Surakat (2001:116) was adopted. The data were transcribed using the conventional alphabetical system and phonemic transcription. A description of duration and timing of recording was given. Finally detailed information about the main participant of this research wassubmitted.

Chapter four is the main thrust of the research where the analysis of the available data was accomplished.A general but brief linguistic overview of the data was done; they include analysis of word class, morphology, semantics, and pragmatics and also of extra linguistic features. The main analysis was a phonological analysis of segmental and suprasegmental phonemes. The segmental analysis was done using place and manner of articulation. The analysis on suprasegmental phonemes focused on stress and intonation and finally an analysis of connected speech as contained in the data was alsoaccomplished, after which the strategies and phonological processes espoused by the subject is drawn.

The last chapter i.e. chapter five summarized the work from chapter one to the last after which a conclusion was drawn. This chapter also discussed the findings then proceeded to elaborate on the hitches encountered while embarking on this research then gave suggestions for other studies.

5.2Conclusion

This research, which was aimed at documenting and analysing the utterances of Juju at two word level reveals that language development of Juju followed the sequential stages of One-Word or Holophrase and Two-Word or Pivot Grammar. In communication, her language is mainly characterised by imitation and creative use at different degrees. The level of development of the organs of speech performed a vital role in the manner some sounds were articulated, evident in the phonological processes she adopted during articulation which

include; substitutions, reduction of consonants cluster, modifications and lack of glides in the case of diphthongs, simplification, inventive reduplication, deletion and elision. The study concludes that phonological processes are universal irrespective of the target language as same phonological processes in this study were also existent in other studies of phonological acquisition. Though the study did not pay particular attention to the order of acquisition of phonemes, the analysis revealed that nasals, front vowels, back vowels and consonant stops were articulated unimpeded when compared with her articulation of affricates, fricatives and central vowels.

5.3Contribution to Knowledge

This study has further supplemented to the collection of data already in existence on child language research in the field of Psycholinguistics, thereby providing available resources for anyone intending to do a cross-sectional study in Developmental Psycholinguistics. The data and the research are also relevant to the fields of Phonology and Sociolinguistics. A major discovery in this research is the proof that developmental errors are universal. Another is that the main theory that suits the language acquisition process as shown by her use of language and articulation of sounds is imitation, but the child creatively applies her own methods in the articulation of the imitated words also bringing to bear, the argument of Chomsky's Innatism. Therefore, for Language to develop successfully, the influence of both Behavourism and Innatism cannot be ignored. But the degree of the influence of either of these theories largely depends the traits the participant of research exhibits.

5.4 Limitations of Study

This study was not conducted without hitches as some challenges encountered impeded the research at certain point. Following a strict timing procedure in the audio recording did not accrue much data because the Participant at the time was either observing her siesta

ordecided not to speak during a session. The researcher then resorted to flexible timing in recording the speech, that is, whenever the participant was speaking and was convenient for recording.

Another limitation was the loss of some of the data from the phone in the course of transferring to the computer and the phone did not have a recycle-bin for retrieval. The video data therefore supplemented it because the audio and video recording was not done within the same period. The transcription of all recordings solely relied on the researcher's impressionistic hearing. A computer specially programmed for this purpose would have given a more accurate result.

5.5Suggestions for Further Studies

This study basically focused on describing the Phonology of the English Languageof a preschool child at two-word stage. One or two aspects ofPhonology can be chosen to describe in detail the acquisition of language in children, especially children in Nigeria.On a general note, more studies on the Phonology of African children from the psycholinguistic perspective especially a cross-sectional one should be encouraged in order to be able to make a more generalised conclusion.

The use of computer for transcription and analysis of phonological data in researches as this will be more adequate in obtaining a more reliable result. Computer programmers should be given specifications by language specialists to programme and code applications that facilitate researches as these and these applications should be made available in schools for easy accessibility.

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APPENDIX

TRANSCRIBED DIARY RECORDED DATA (DR)

SUBJECT'S UTTERANCE	RP PRONUNCIATION	SUBJECT'S PRONUNCIATION
1. Let's go	/letsgəʊ/	/ʃeʃ gō/
2. Carry me	/kærɪ mɪ: /	/ka:jɪ mɪ:/
3. Carry me	/kærɪ mɪ: /	/ka:mɪ mɪ: /
4. My shoe	/maɪʃu: /	/ʌʃu: /
5. Leave me	/lɪ:v mɪ: /	/mɪ:mɪ:/
6. Bless you	/blesju: /	/besu: /
7. *Indomie* (noodles) own (My indomie)	/ɪndɒmɪ əʊn/	/ u:dōmɪ ōn/
8. Daddy drink	/dædi drɪŋk/	/da:di dwɪn/
9. Daddy car (Daddy's car)	/dædi ka: /	/da:di ka: /
10. Daddy shoe	/dædi ʃu: /	/da:di ʃu: /
11. Keep it	/kɪ:pɪt /	/pɪ:pɪt /
12. Leave it	/lɪ:v ɪt /	/vɪ:vɪt /
13. Daddy sugar	/dædi ʃu:gə/	/da:di tu:ka: /
14. My leg	/ maɪ leg/	/ʌ lek/
15. NEPA		/a:pa:/
16. Maimuna N.E.P.A. (Acronym)	/a:ntɪ: [mēmụna] a:pa:/	/a:tɪ: [munā]a:pa: /
17. Ephy (name) carry	/ɪfɪ:kærɪ /	/ɪfɪ:ka:di/
18. Don't want	/dəʊn wɒnt /	/ŋ wa:t/

SUBJECT'S UTTERANCE	RP PRONUNCIATION	SUBJECT'S PRONUNCIATION
19. Don't touch	/dəʊntʌʧ /	/tɒn tɒt/
20. Open it/	/əʊpən ɪt /	/ a: pʊjit/
11 December 2013		
21. Daddy jump	/ dædi ʤʌmp/	/da:di ʧʌm/
22. Mummy charger	/mʌmiʧa:ʤə/	/mɒmi ta:da:/
13 December 2013		
23. Mummy money	/mʌmi mʌni/	/mɒmimɔ:ni/
24. Own *Bobo* (drink)	/əʊn bōbō/	/ōn bōbō/
25. Throw away	/θrəʊ əwei/	/tōtō we/
Date not recorded		
26. My hand	/maı hænd/	/ʌ a:n/
27. Mummy mmm	/mʌmi mmm/	/mɒmi mmm/
28. Fall o	/fɔ:l /	/fɔ:l O/
29. Dance (while dancing)	/dæns/	/da:s/
30. Mummy dance	/mʌmi dæns/	/mɒmi da:s/
31. Aunty Maimuna write	/a:ntı: [mēmụna] raıt/	/a:tı: [munā] ja:t /
32. Mummy water	/mʌmi wɔ:tə/	/mɒmi wa:ta:/
33. See mummy	/sı: mʌmi/	/sı: mɒmi/
34. Baby sweet	/beɪbi swı:t/	/bebi fwit/
35. Bible	/baıbəl/	/ba:bu:/
36. Daddy key	/dædi ki: /	/da:di ki:/

37. Thank you /θæŋk ju: / /tetju: /

38. Baby sleep /beɪbi sli:p/ /bebi sɪp/

TRANSCRIBED AUDIO RECORDED DATA (AR)

SUBJECT'S UTTERANCE	RP PRONUNCIATION	SUBJECT'S PRONUNCIATION
25th October 2013		
1. Aunty Maimuna	/ a:ntɪ: [mēmụna]/	/ a:tɪ: [munā] /
2. Hurry up	/hʌrijʌp/	/ɒ:didɒp/
3. Mummy knock knock	/mʌmi nɒk nɒk/	/mɒmi kɔ:kɔ:/
4. Mummy carry you (me)	/mʌmi kæri ju:/	/mɒmi ka:ji ju:/
5. Mummy hot	/mʌmi hɒt/	/mɒmi wɒt/
6. My leg	/maɪ leg/	/ʌ lek/
7. Mummy "bani" ("Give me" in Hausa)	/mʌmi [bą̄nī] /	/mɒmi [mą̄nī] /
8. Stand up	/stændʌp /	/da:dʌp/ /da:dɒp /
26th October 2013		
9. Dirty girl	/dɜ:tigɜ:l /	/deyi: de /
28th October 2013		
10. Thank you	/θæŋk ju: /	/tetʊ /
11. Mummy see	/mʌmi si: /	/mɒmi si: /
12. Daddy-water	/dædi wɔ:tə /	/da:di wa:ta:/
13. Carry you (Carry me)	/ kæri ju: /	/ka:ji ju:/

SUBJECT'S UTTERANCE	RP PRONUNCIATION	SUBJECT'S PRONUNCIATION
14. Aunty maimuna "zauna"	/a:ntɪ: [mēmụna zaun̲ɑ̲] /	/a:tɪ: [munā zaun̲ɑ̲] /
("Sit" in Hausa)		
15. This baby	/ðis beɪbi/	/diʃ bebi/
16. Baby "zauna" /	beɪbi [zaun̲ɑ̲]/	/bebi [saun̲ɑ̲] /
17. Beautiful baby	/bju:tifʊl beɪbi/	/bu:vi bebi/
18. NAFOWA angel	/ [na:fōwa:] eɪŋgel/	/[a:fōwa:] ede/
(Acronym)		
19. Am going	/əm gəʊiŋ/	/a:ŋgōjin,gōnin /
20. Oh no	/əʊ nəʊ/	/ōnō/
21. Aunty Maimuna "wanka"	/a:ntɪ: [mēmụna wank̲ɑ̲]/	/a:tɪ: [munā wank̲ɑ̲]/
22. Hurry up	/hʌrijʌp/	/ɒdidɒp/
23. Blow you	/bləʊ ju: /	/bō lu:/
24. "To" bye-bye	/[tō] bəbaɪ/	/[tō] bəbaɪ/
("Ok" in Hausa)		

30th October 2013

25. Own bobo	/əʊn bōbō/	/ōn bōbō/
(My bobo)		
26. Beat you	/bi:t ju:/	/bitju:/

SUBJECT'S UTTERANCE	RP PRONUNCIATION	SUBJECT'S PRONUNCIATION
31st October 2013		
27. My stomach	/maɪ stʌmək/	/a:sōmak/
28. Stand up	/stændʌp /	/da:nda:m /
29. Lie down	/laɪ daʊn/	/da:da:/ with pidgin tonation
30. Write abcd	/raɪt eɪ bi: si: di:/	/lat e di si di/
31. Come here	/kʌm hɪə, kʌmɪə/	/kɒmie/
32. Move from here	/mu:v frɒm, frəm hiə/	/wu:fɔ:ie/
33. My hand	/maɪ hænd/	/ʌ a:n/
34. Leave me	/lɪ:v mɪ: /	/mɪ:mɪ:/
35. "Ba ni"	[ba̱nĩ]	[ma̱nĩ]
("Give me")		
36. Baby sweet	/beɪbi swi:t/	/bebi fwit/
1st November 2013		
37. Go know		
(*You go know*; Pidgin)		
38. Mummy "ido"	/mʌmi [ido̱]/	/mɒmi [ido̱]/
("Eye" in Hausa)		
39. Mummy shoe	/mʌmi ʃu: /	/mɒmi ʃu: /
40. Mummy Joan	/mʌmi ʤəʊn /	/mɒmi dʊa:n/
41. Mummy pampers	/mʌmi pæmpəs/	/mɒmi pa:pa:s/

SUBJECT'S UTTERANCE	RP PRONUNCIATION	SUBJECT'S PRONUNCIATION
2nd November 2013		
Voice 002		
42. Salamu laikum (Greeting in Arabic)		
43. Go know (As item 37)		
44. Uncle "Bamaiyi" (Hausa name)	/ʌŋkəl [b͡ɑmaiyl̩]/	/ɒku: [mamanl̩]/
4th November 2013		
45. Go away	/gəʊ əweɪ/	/gō wa:we/
46. Come here	/kʌm hɪə, kʌmɪə/	/kɒmie/
47. Stand up	/stændʌp /	/da:dɒp /
48. Uncle bread	/ʌŋkəl bred/	/a:ku: bie/
49. Let's go /lets	/gəʊ/	/etʃgō/
50. Mummy food	/mʌmi fu:d/	/mɒmi fu:t/
5th November 2013		
51. Leave me	/lɪ:v mɪ:, li:mi: /	/mɪ:mɪ:/
52. Thank you	/θæŋk ju: /	/tetjʊ /
53. Come here	kʌm hɪə, kʌmɪə/	/kɒmie/
54. Mummy sleep	/mʌmi sli:p/	/mɒmi si:p/

SUBJECT'S UTTERANCE	RP PRONUNCIATION	SUBJECT'S PRONUNCIATION
55. Mummy water	/mʌmi wɔ:tə/	/mɒmi ba:ta:/
56. Daddy water	/dædi wɔ:tə/	/da:di wa:ta:/
57. "Bani" food	/[b$\underline{\underline{a}}$nī] fu:d/	/[m$\underline{\underline{a}}$nī]fu:t/
58. Aunty Maimuna food	/a:ntı: [mēmụna] fu:d//a:tı: [munā] fu:t/	

6th November 2013

59. Pablo neck (Pablo's neck)	/pa:bləʊ nek/	/pablō nek/
60. Aunty Maimuna take	/ a:ntı: [mēmụna] teɪk/	/ a:tı: [munā] tek /
61. Hello Zichat (name)	/he-, hələʊ [zi:ʧa:t]/	/elō [di:ta:t]/
62. Mummy phone (Mummy's phone)	/mʌmi fəʊn/	/mɒmi fōn/
63. Your hand	/jɔ: hænd/	/ʌ a:n/
64. Daddy knock-knock	/dædinɒk nɒk/	/da:di kɔ:kɔ:/
65. Stand up	/stændʌp /	/da:dɒp /
66. Lie down	/laɪ daʊn/	/da:da:/ with pidgin tonation
67. Baby girl	/beɪbi gɜ:l/	/bebi de/
68. Mummy come	/mʌmi kʌm/	/mɒmi kɔm/
69. Daddy bobo	/dædi / bōbō	/da:di /bōbō
70. Bobo open	/ bōbōəʊpən/	/bōbō ɒpʊn/
71. "bani" yoghurt	/[b$\underline{\underline{a}}$nī] jɒgət/	/[b$\underline{\underline{a}}$nī] ɔ:dɒt/

SUBJECT'S UTTERANCE	RP PRONUNCIATION	SUBJECT'S PRONUNCIATION
72. Daddy yoghurt	/dædi jɒgət//da:di ɔ:dɒt/	
73. Open it	/əʊpən ɪt /	/ a: pʊjit/
74. Stand up	/stændʌp /	/da:dɒp /
75. Daddy "wanka"	/dædi [wank͡ɑ]/	/da:di [wak͡ɑ]/
("Bath" in Hausa)		
76. Daddy "mu je"	/dædi [mūjē]/	/da:di [wūdē]/
("Let's go")		
77. Daddy "mu je wanka"	/dædi [mūjē wank͡ɑ]/da:di [wūdē wak͡ɑ]/	
("Let's go bath")		
78. Mummy yoghurt	/mʌmi jɒgət/	/mɒmi ɔ:dɒt/
79. Mummy "gashi"	/mʌmi [gāshɪ]/	/mɒmi [gashi]/
("Take")		
80. Dirty girl	/dɜ:ti gɜ:l/	/deti de/
81. Blow you	/bləʊ ju: /	/bō lu: mōlu:/

8th November 2013

82. Destiny (name) come	/destini kʌm/	/detini kʌm/

12th November 2013

83. Give me	/gɪv mi: /	/gi: mi: gi:f mi: /
84. Move mummy	/mu:v mʌmi/	/mu:f mɒmi
85. Don't touch	/dəʊntʌʧ /	/tɒ tɔ:t/

SUBJECT'S UTTERANCE RP PRONUNCIATION SUBJECT'S PRONUNCIATION

86. Mummy phone (Mummy's phone)	/mʌmi fəʊn/	/mɒmi fōn/
87. Chewing gum	/ʧu:wiŋgʌm/	/igɔ:/ / ʊwi gɔ:/
88. Mmm chewing gum (Gesturing giving)		

13th November 2013

89. Mummy water	/mʌmi wɔ:tə/	/mɒmi wa:ta:/
90. Give me	/gɪv mi:/	/gi:mi
91. Water melon	/wɔ:tə melən/	/wa:ta: mejɒn/

14th November 2013

92. Mummy hot	/mʌmi hɒt/	/mɒmi ɒt/
93. Aunty Maimuna "ba ni" ("Give me")	/a:ntɪ: [mēmụna bą̲nī]/	/ a:tɪ: [munā mą̲nī] /
94. Aunty Maimuna more	/a:ntɪ: [mēmụna] mɔ:/	/ a:tɪ: [munā mɔ:]/
95. Aunty Maimuna phone	/a:ntɪ: [mēmụna] fəʊn/	/ a:tɪ: [munā] fōn/
96. Aunty Maimuna "ba ni" ("Give me)	/a:ntɪ: [mēmụna bą̲nī]/	/ a:tɪ: [munā mą̲nī] /
97. Don't touch	/dəʊntʌʧ /	/tɒn tɔ:t/
98. Mummy move	/mʌmi mu:v/	/mɒmi mu:f
99. Aunty Maimuna move	/a:ntɪ: [mēmụna] mu:v/	/ a:tɪ: [munā] mu:f /
100. Mahmoud own	/[mą̲mụd] əʊn/	/[mą̲mụt] ōn/

SUBJECT'S UTTERANCE RP PRONUNCIATION SUBJECT'S PRONUNCIATION

101. Mahmoud "gashi" [m̪ɑ̪mụdgāshɭ] [m̪ɑ̪mụtgashi]

("Take")

102. Mahmoud come /[m̪ɑ̪mụd] kʌm/ /[m̪ɑ̪mụt] kʌm/

103. Mahmoud school /[m̪ɑ̪mụd] skuːl/ /[m̪ɑ̪mụt] ʃkuː/

104. Mummy teeth /mʌmi tiːθ/ /mɒmi tiːt/

105. "ba ni" ("give me") [b̪ɑ̪nī] [m̪ɑ̪nī]

16th November 2013

106. One two /wʌn tuː/ /ŋwaːn tuː/

107. Mummy phone /mʌmi fəʊn/ /mɒmi fōn/

108. Daddy come /dædi kʌɔm /daːdi kɒm/

109. Mummy money /mʌmi mʌni /mɒmi mɔːni

9th December 2013

110. Mummy shoe /mʌmi ʃuː/ /mɒmi ʃuː

111. Mummy beautiful /mʌmi bjuːtifʊl /mɒmi bʊtfuːl/

Voice032/data

112. Aunty Maimuna wear- /aːntɪː [mēmụna] weə jɔː ʃuː/ / aːtɪː [munā] we jaː ʃuː/

Your shoe

113. See my mummy /siː maɪ mʌmi/ /siː maː mɒmi/

114. Mummy your shoe your phone /mʌmi jɒ fəʊn jɒ ʃuː/ /mɒmi jaː fōn jaː ʃuː/

SUBJECT'S UTTERANCE RP PRONUNCIATION SUBJECT'S PRONUNCIATION

Voice 033/data

115.	Mummy shoe (Mummy's shoe)	/mʌmi ʃu:/	/mɒmi ʃu:/
116.	"ɗaga kan ki" ("Raise your head")		
117.	Mummy shoe (Mummy's shoe)	/mʌmi ʃu: /	/mɒmi ʃu: /

Voice 035/data

118.	Mummy bread	/mʌmi bred/	/mɒmi biet/
119.	Aunty Maimuna bread	/a:ntɪ: [mēmụna] bred/	/ a:tɪ: [munā] biet /
120.	Open it my mummy	/ əʊpənɪt maɪ mʌmi/	/ a:pʊjit ʌ mɒmi /
121.	Open it	/əʊpən ɪt /	/ a:pʊjit/
122.	Mummy open it bread	/mʌmi əʊpənɪt bred/	/mɒmi a:pʊjit biet /
123.	Thank you my mummy	/θæŋk ju: maɪ mʌmi/	/tetjʊ mʌ mɒmi/

Voice 036/data

124.	"Sannu mama" (Greeting)	[sannụ māmạ]	[sanu mama]
125.	Mummy water	/mʌmi wɔ:tə/	/mɒmi wa:ta:/
126.	Sannu Joan (Greeting)	/[sannụ] ʤəʊn /	/[sanu] ʤuan/
127.	"row your boat" (Song)		

SUBJECT'S UTTERANCE RP PRONUNCIATION SUBJECT'S PRONUNCIATION

128.	"Gashi mama"	[gāshl̩māmạ̊]	[gashi mama]
	(Mummy take)		
129.	"Guy-guy"	/ gaɪgaɪ gəgaɪ/	/ gəgaɪ/

(Anything that makes someone look good; Nigerian slag)

130.	Mummy giraffe	/mʌmi ʤira:f/	/mɒmi ʤijɒp/
131.	My stomach	/maɪ stʌmək/	/a:sōmak/
132.	My leg	/maɪ leg/	/ʌ lek/
133.	I beat you	/aɪ bi:t ju:/	/a: bitju:/
	(I'll beat you)		
134.	Good afternoon	/gʊd a:ftənu:n/	/gʊaftenu:/

12th December 2013

Voice 037/data

135.	Pepper eye	/pepə aɪ/	/ pepe aɪ/
136.	My eye	/maɪ aɪ/	/a: aɪ/
137.	"Happy birthday to you"		
	(Song)		
138.	Washing cloth	/wɒʃiŋ klɒθ/	/ɒtin klō/

139.	"Shafa mai"	[shāf$\underline{\alpha}$māi]	[shafa mai]
	("Gentle rubbing of oil")		
140.	Bye-bye	/ bəbaɪ/	/ bəbaɪ/
141.	Joan Koyan		
142.	Daddy's name	/dædi neɪm/	/da:di nem/
	(Imitating)		
143.	Marching my baby	/ma:ʧiŋ maɪ beɪbi/	/ma:ʧin ma: bebi/
144.	Beat you	/bi:t ju:/	/bitju:/
145.	Mummy my leg	/mʌmi maɪ leg/	//mɒmi ʌ lek/
	Voice 001/data		
146.	Chewing gum	/ʧu:wiŋgʌm/	/tin gʌm/
147.	How are you	/haʊ a: ju:/ / haʊə ju:/	/a:wa:ju:/
148.	Mahmoud bye-bye	/[m$\underline{\alpha}$mụd] bəbaɪ/	/[m$\underline{\alpha}$mụd] bəbaɪ/
	Voice 011		
149.	Pepper eye	/pepə aɪ/	/pepe aɪ/
	Voice 013/data		
150.	Vitamin c	/vitəmɪn si:/	/ta:mɪn si:/
Voice 014/data			
151.	Mummy Joan	/mʌmi ʤəʊn /	/mɒmiʤuan/

SUBJECT'S UTTERANCE	RP PRONUNCIATION	SUBJECT'S PRONUNCIATION
28TH August 2014 8:55 am		
1. Cold water	/kəʊld wɔ:tə/	/kōl wɔ:ta:/
2. Am writing	/əm raɪtiŋ/	/a:ŋ raɪtin/
3. Is Zichat (Name)	/əz [zi:ʧa:t]/	/isi:ʧa:t/
4. Am snapping	/ əm snæpiŋ/	/en sna:pin/
5. Am fine	/ əm faɪn/	/a:m faɪn/
1st September 2014 1:30 pm		
6. He's sleeping	/hisli:piŋ/	/hisli:pin/
7. No (not) pig	/nəʊ pɪg/	/nō pɪk/
8. A pig	/eɪ- ə pɪg/	/a: pɪk/
9. Two hundred	/tu: hʌndred/	/tuɒndret/
10. It's outside	/ ɪz aʊsaɪd/	/is aʊsaɪt/
3rd September 2014 9:54am		
11. Baby (baby's)bib	/beɪbi bɪb/	/bebi bip/
12. Two years	/tu: jɜz/	/tu: jes/
13. My teeth	/maɪ ti:θ/	/ma: ti:t/
12th October 2014 5:45 pm		
14. Fresh air	/freʃ eə/	/freʃ ek/
15. You cry?	/Ju: kraɪ/	/Ju: kraɪ/
16. No (not) mummy	/nəʊ /mʌmi/	/ nō mɒmi/

SUBJECT'S UTTERANCE RP PRONUNCIATION SUBJECT'S PRONUNCIATION

17. No (not) like this	/nəʊ laɪk ðɪs/	/nō laɪ dɪs/

13th October 2014 8:45 am

18. My leg	/maɪ leg/	/ma: lek/
19. Pain me (hurting)	/peɪn mi: /	/pen mi: /
20. One cake	/wʌn keɪk/	/ wa: kek/
21. Is (it's) somebody	/isʌmbədi/	/ isɒmbɔ:di/
22. He's sleeping	/hisli:piŋ/	/hisli:pin/
23. Am eating	/əm i:tiŋ/	/aŋ i:tin/

14th October 2014 1:30 pm

24. `snap baby	/snæp beɪbi/	/sna:p bebi/
25. Mummy oyoyo (welcome)	/mʌmi /	/ mɒmi/
(Nigerian vocabulary)		
26. My mummy	/ maɪ mʌmi/	/ma: mɒmi/
27. My indomie (noodles)	/ maɪ ɪndɒmɪ/	/ma:iidōmi/
28. I cry (cried)	/aɪ kraɪ/	/a: kraɪ/
29. Mummy (mummy's) phone	/mʌmi fəʊn/	/ mɒmifōn /
30. Aunty (aunty's) phone	/a:nti: fəʊn/	/an'ti: fōn/
31. This one	/ðɪs wʌn/	/dis wa:n/
32. Am right	/əm raɪt/	/a:m raɪt/
33. Is block (its iceblock)	/iz blɒk/	/is blɒk/
34. You bath (you've bathe)	/Ju: ba:θ/	/jʊ ba:t/

SUBJECT'S UTTERANCE RP PRONUNCIATION SUBJECT'S PRONUNCIATION

35. Stand up	/stændʌp/	/sta:ndɒp/
36. My baby	/maɪ beɪbi/	/ma: bebi/

15th October 2014 2:13 pm

37. I run (ran)	/aɪ rʌn/	/aɪ rɔ:n/
38. My mummy	/maɪ mʌmi/	/maɪ mɒmi/
39. Open it	/əʊpən ɪt/	/ōpʊnit/
40. My biscuit	/maɪ ‘biskit/	/maɪ bis’kit/
41. This one	/ðɪs wʌn/	/dis wa:n/
42. Is (it’s) me	/izmi:/	/ismi:/
43. Choir mistress	/kwaɪəmɪstrɪs/	/kwa:ja:mɪstres/
44. My shoe	/ maɪ ʃu:/	/ ma:ʃu:/