DURATION AS A DETERMINING FACTOR IN EDUCATED EDO ENGLISH RHYTHM DESCRIPTION

BY

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ABSTRACT

Duration, the length of time used in speech production, is a significant phonetic stress-related criterion for determining rhythm, which is crucial for intelligibility in Standard British English (SBE). Some phonological studies on Yoruba, Hausa and Isoko Englishes claimed that these sub-varieties of Nigerian English (NE) tilt towards syllable-timing due to the absence of vowel reduction. Nevertheless, existing phonological studies on Educated Edo English (EEE) – a sub-variety of NE – has been on word and variable stress, while studies on its rhythm have been rare. This study, therefore, examined stressed and unstressed syllable alternation and duration of rhythm units in connected speech, to account for the description of EEE speakers as syllable-timed or stressed-timed, and the implication for NE rhythm description.

Prince and Liberman's metrical theory, which explains the alternation of strong and weak constituents in SBE rhythm units, served as the theoretical framework. Purposive sampling technique was used to select 150 (75 males and 75 females) EEE speakers undergraduates from University of Benin and Ambrose Ali University as key informants. Two SBE speakers served as Native Baselines (NB). Speech Filing System (SFS) version 1.41 was used to record and measure informants' production of 35 rhythm units with anacrusis, 40 rhythm units, and 10 English words with syllabic consonants. The recordings were transcribed, subjected to perceptual analysis (frequency and percentages) and complemented with Gibbon and Gut Rhythm Ratio (RR) acoustic measures of 0-100, T-test and Mann Whitney U test at 0.05 level of significance.

In rhythm units with anacrusis, perceptual analysis revealed that out of 5,250 overall expected occurrences, EEE speakers appropriately produced all the syllables with strong forms at 900 (17.1%) instances, bringing inappropriate use to 4,350 (82.9%). For rhythm units in connected speech, out of 6,000 expected occurrences, EEE speakers' appropriately produced 694 (11.6%), with inappropriate use at 5,306 (88.4%). Regarding the English syllabic consonants, out of 1,500 expected instances of occurrence, EEE speakers had 0.0%. From the perspective of Gibbon and Gut RR acoustic measures, out of 100RR expected absolute value, NB measured 162.97ms in rhythm units, with an overall mean of 81.5RR and a difference of 18.5RR, tilting towards stress-timing while EEE speakers' duration in rhythm units was 6166.25ms of 41.1RR, with a difference of 58.9RR tilting towards syllable-timing. T-test revealed that there was a significant difference between EEE speakers compared to NB duration (4.571) and RR (81.5), with P-value <0.05 (0.000). Duration of males was 3057.125ms (20.4RR) while the females measured 3110.125ms (20.7RR). Mann Whitney U test showed insignificant difference for gender with P-value > 0.05, (0.482) and RR (0.293) which is greater than 0.05. The metrical analysis of EEE speakers established proliferation of Strong/Strong (S/S) juxtaposition of stressed and unstressed syllable in rhythm units, compared to the NB alternation of Weak/Strong (W/S) or Strong/Weak (S/W).

Stressed and unstressed syllable alternation and duration of rhythm units in the connected speech of Educated Edo English speakers' do not conform to Standard British English pattern. This implies that Nigerian English rhythm tilts towards syllable-timing than stress-timing.

Keywords: Duration, Rhythm units, Stressed and unstressed syllable alternation, Standard British English, Educated Edo English

Word count: 498

DEDICATION

This work is, to the glory of God, dedicated to God the Father, the Son and the Holy Ghost.

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CERTIFICATION

I certify that this work was carried out by Mrs. Julianah Ajoke AKINDELE in the Department of English, University of Ibadan, under my supervision.

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LIST OF ABBREVIATIONS

EL2	-	English as a Second Language
SBE	-	Standard British English
L1	-	First Language
L2	-	Second Language
EL1	-	English as a Native Language
ELF	-	English as a Foreign language
MT	-	Mother tongue
NE	-	Nigerian English.
BBC	-	British Broadcasting Corporation
EEES	-	Educated Edo English Speakers
LCPR	-	Lexical Category Prominence Rule
NSR	-	Nuclear Stress Rule
DTE	-	Designated Terminal Element
GSR	-	Generative Stress Rule
R	-	Reduced Vowel Syllable
RR	-	Rhythm Ratio
F	-	Full Vowel Syllable
MT	-	Metrical Theory
ESR	-	English Stress Rule
RPR	-	Relative Prominence Rule
RP	-	Received Pronunciation
NB	-	Native Baseline
UN	-	Unstressed Syllables
SS	-	Stressed Syllables
My TV	-	My Network Television
Hi TV	-	High Television
DSTV	-	Digital Satellite Television

LIST OF SYMBOLS

1.	(C^{03}) v (C^{04})		three consonants in syllable initial and four consonants in syllable final, while the 'v' is, the compulsory element in a word or utterance
2.	C	-	consonant
3.	V	-	vowel
4.	[ ]	-	phonetic symbol
5.	/ /	-	phonemic symbol
6.	W	-	weak syllable
7.	S	-	strong syllable
8.	[+ stress]	-	stressed syllable
9.	[- stress]	-	unstressed syllable
10.	∪	-	primary stress
11.	∩	-	secondary stress
12.		-	< less than
13.		-	> greater than

CHAPTER ONE

GENERAL INTRODUCTION

1.0 Introduction

This chapter explores the background information of the study, statement of the problem, the history and status of English as a world language, new Englishes, the emergence of the English language in Nigeria, the geographical location of the Edos and the history of Edo people, the linguistic relation between Edo (Bini), and other Nigerian languages, aspects of the phonology of English and Edo. The aim and objectives of the study, scope of the study, the significance of the work, and the definition of terms as well as the limitations of the study are equally discussed.

1.1 Background to the study

Language, being considered as basically speech, stems from the fact that no child born into even the most literate societies of the world acquires or learns its mother tongue in no other forms than the aural. All other media of language such as the visual (written) and tactile (Braille) are constructed on the basis of the system of the aural medium (Atoye, 1994). Both past and existing remodelling of the orthographies of many languages is to ensure that they suitably represent their spoken forms. Abercrombie (1967:4) observes that, "the spoken form of language was the form available to mankind for a long time". Today, there are still innumerable human languages and dialects that have not yet been committed to writing, and are used by their speakers in the aural form only. The spoken form of language is the oldest, the most natural and the most widely and often used as rightly observed by Adetugbo (1984).

> The average human being, even when is literate, may not have cause to write in one week but can hardly do without speaking in one hour. The primacy of the aural medium of language is indeed beyond questioning (Atoye, 1994:1).

The era of colonial rule by the British enhanced the use of the English language in Nigeria. The colonial masters ensured the entrenchment of the language by making it the language of administration, education, politics and the language of official purposes. Nowadays, the English language is the language of every Nigerian. Both the literate and illiterate alike want their children or wards to be knowledgeable in the language. English

has become and will continue to be the mark of literacy in Nigeria for many years to come (Atoye, 1994). This means that we cannot claim ignorance of its enormous role in Nigeria. English plays a prominent role in the education sector in Nigeria (Adeyanju, 2004). The reason being that, it is studied in Nigeria in the second language context and the school provides the most viable formal setting in which it could be studied. Considering the status of English in the education sector, Afolayan (1977:14) remarks that:

> There cannot be any pretence at formal education wherever English cannot be used as the medium of instruction or at least taught as a subject. In certain places, primary education begins with English as the medium and remains English medium throughout. In some others, primary education, which begin in the first two or three years in a local language, is fully developed, completed and examined only in the English language. Secondary education is given and examined throughout in English……As would be expected, university education is given and examined in the English language alone.

The statement above underscores the importance of the English language in Nigerian schools today, and the fact that there exist varieties in the spoken English of Nigerians has been the concern of many linguists. This is because it has been observed that some Nigerians demonstrate a very high level of proficiency and intelligibility in their spoken English while majority of them fall short of the required standard. In other words, some Nigerians make meaningful and understandable statement in English while others make statements that are not meaningful and understandable, especially to native speakers. Succinctly, the latter lacks phonological intelligibility. This observation, as well as how to address the problem, has been made by scholars. Notable among them are Amayo (1981), Afolayan (1982), Adetugbo (1979, 1984, 1987), Akinjobi (2004), Atoye (2005), Ojareche (2009), Oladipupo (2008, 2014), Akindele (2011), Akinjobi and Akindele (2012), Ilolo (2011, 2013) and Osisanwo (2015).

Some of the above-mentioned scholars are specific in their findings and thus identify Nigerians errors of intelligibility at various levels of grammar - semantics, lexis, morphology and phonology. Some of them did error analyses of their corpus and justified the deviations on the grounds of mother tongue, or first language interference, confusion, under- differentiation, and inter lingua features (Adesanoye, 1974; Jowitt, 1991).

Some causes of the problems of spoken English mentioned above have been identified to include improper or inadequate teaching and learning of English. Moreover, it has also been observed that of all the levels of deficiency in the English language by Nigerians, it is most difficult to get over that of phonology.

It is in the light of this that Amayo (1981) remarks thus:

> …of all the various levels in which interference is manifested in Nigerian English; it is relatively easier to overcome it at the syntactic and semantic levels than at the phonological level.

Other factors responsible for the low level of competence in spoken English in Nigeria by these scholars according to (Egbokhare, 2003:77) and Akindele (2011 and 2012) include the acute shortage of well-trained personnel and material resources such as standard language laboratories which could enhance the teaching and the learning of the language, and the utter neglect of the teaching of the suprasegmentals in schools. In addition, Udofot (2003) notes that out of the suprasegmentals of stress, rhythm and intonation, rhythm is the most acute challenge for Nigerian English speakers. As a result of the facts stated above, this study threfore sets to find out whether EEES stressed and unstressed syllable alternation conform to SBE form and whether duration (a significant stress-related phonetic cue for determining Standard British English rhythm), can be used to account for the description of EEES as stressed-timed or syllable-timed, as well as identify the implication for Nigerian English rhythm description. Moreover, Edo English (also a sub- variety of NE), which has scarcely been classified in terms of its speech rhythm, is considered in this research from a geo-tribal approach, having no doubt that regional variations exist even within a language variety.

1.2 Statement of the problem

Duration has been described as the length of time used in speech production. It is a significant phonetic stress-related criterion for describing the rhythm of Standard British English which is crucial to intelligibility (Roach, 2000 & O'Connor, 2000). Eka (1993) describes Nigerian English rhythm as "in-elastic-timed rather than syllable-timed" because many prominent syllables are ascribed to an inability to 'squeeze in' or 'stretch out' the syllables in a given rhythm unit within the given time as against a native English speaker who uses elastic-timing. Udofot (1997) claims rhythm is the most acute problem

worthy of detailed study as a result of the tendency of Nigerian speakers of English to stress more syllables in Nigerian English than in Standard British English. Akinjobi (2004) and Ilolo (2013) also claimed that NE is syllable-timed as a result of the absence or minimal use of vowel reduction which occurs in unstressed position in SBE but is rarely used in Yoruba and Isoko English respectively. However, the rhythm of Educated Edo English Speakers - also a sub-variety of NE - has been rarely investigated. Apart, Lewis, Gary and Charles (2013) *Etnologue*, a database of language resources have attested to the fact that over 250 ethnic groups and 522 living languages are spoken in Nigeria. Therefore, findings from Yoruba, Hausa and Isoko Englishes alone cannot be used to generalise for Nigerian English rhythm. This study thus investigated Educated Edo English rhythm, which has scarcely been researched, using a 'geo-tribal perspective'; since there could be areas of convergence and divergence within a language variety.

1.3 The history and status of English as a world language

Scholars like Baugh (1978), Ogu (1992), Medubi (1999), Adeyanju (2004) and Bolton (2005) agree that English is a Germanic language of the Indo-European family. The English language has been traced to the arrival of three Germanic tribes to the British Isles during the 5th century A.D. The Angles, Saxons and Jutes crossed the North Sea from what is today known as Denmark and North Germany (Oyeniyi, 2006). The inhabitants of Britain formerly spoke a Celtic language which was quickly displaced after the conquest. Most of the Celtic speakers were pushed into Wales, Cornwall and Scotland. One group migrated to the Brittany coast of France whose descendants still speak the Celtic language of Briton today. The Angles were named from 'Engle,' their land of origin. Their language was called 'Englisc' from which the word 'English' was derived (Katsiavriades, 2002:3). After a few centuries**,** four dialects of English evolved:

i Northumbrian in North Umbria, North of Humber;

ii Mercian in the kingdom of Marcia;

iiii West Saxon in the kingdom of Wessex; and

iv Kentish in Kent

During the 7th and 8th centuries, Northumbrian's culture and language dominated Britain. The Viking invasion of the 9th century brought this domination to an end (along

with the destruction of Marcia). Only Wessex remained an independent kingdom. By the 10th century, the West Saxon dialect became the official language of Britain. 'Written old English' was mainly known from that period and it was written in an alphabet called 'Runic' derived from the Scandinavian languages. The Latin alphabet was brought over from Ireland by Christian Missionaries and has remained the writing system of English. At that time, the vocabulary of old English consisted of an Anglo-Saxon base with borrowed words from the Scandinavian languages (Danish and Norse) and Latin (Katsiavriades, 2002:4). In 1006, the Normans conquered Britain and French became the language of the Norman aristocracy, adding more vocabulary to English in the process. English became dominant in Britain in the 14th century and in 1399, King Henry 1V became the first king of England since the Norman Conquest whose mothertongue was English. By the end of the 14th century, the dialect of London had emerged as the standard dialect of what is now called Middle English (Katsiavriades, 2002:4; Oyeniyi, 2006:7).

Around the 16th century, Modern English started. Naturally, like all languages change as a result of the contact that the British has had with many people from around the globe and the Renaissance of classical learning, many words have found their way into the language either directly or indirectly. Languages that have contributed to English in this way are Latin, Greek, French, German, Arabic, Hindi (from India), Italian, Malay, Dutch, Farsi (from lran and Afghanistan), Nahuatl (the Aztec language), Sanskrit, Portuguese, Spanish, Tupi (from South America) and Ewe (from Africa) (Oyeniyi, 2006). Borrowed words in English include names of animals (giraffe, tiger, Zebra), clothing (pyjama, turban, Shawl) food (spinach, chocolate, orange), scientific and mathematical terms (algebra, geography, species), drinks (tea, coffee, cider), religious terms (Jesus, lslam, nirvana), sports (checkmate, golf, billiards), vehicles (chariot, car, coach), music and art (piano, theatre, easel), weapons (pistol, trigger, rifle), political and military terms (commando, admiral, parliament) and astronomical names (Saturn, Leo, Uranus) (Medubi, 1999; Katsiavriades, 2002; Adeyanju, 2004; Oyeniyi, 2006).

Lubega (1989) and Katsiavriades (2002:1) further note that the English language is used in all corners of the globe in linguistic and cultural communities where it serves a wide range of functions. It is estimated that there are over 300 million native speakers and 300 million who use English as a second language (L2) and about 100 million who use it as a foreign language. It is listed as the official and co-official language of

over forty-five countries and it is spoken in other countries where it has no official status (Katsiavriades, 2002).

Katzner (1995:1) remarks that:

> The spectacular advance of English across the face of the globe is a phenomenon without parallel in the history of language. Observe a German tourist talking to a Japanese shopkeeper In Tokyo or an African diplomat to his counterpart from Asia, and the medium of communication will almost, certainly be English.

Katzner (1995:1) also corroborates the world status of English by asserting that:

> The estimated number of persons whose mother tongue is English is 350 million and English in United States of America (260 million citizens),United Kingdom(58) million), Canada (17 million), Australia (18 million), Ireland(3.5 million), New Zealand (3 million), South Africa (2million). English is the official language of Nigeria (95 million), and the associated language of India (900 million). English is also spoken in Guyana, Jamaica, Belize Pakistan, Bangladesh, Ghana Kenya, Uganda, Kenya, Uganda, Tanzania and several other countries…

Furthermore, Burchfield (1985) claims that there is indeed during the twentieth century the adoption of English of varying degrees of adequacy as lingua franca in virtually every country of the world. As a result of the above submission on the global status of the English Language, research has revealed that half of all business deals in the world are conducted in English, two thirds of all scientific papers are written in English and over seventy percent of mails are written and addressed in English. Davidson (2007) remarks that 90% of the world's (6,000) languages are currently threatened by the domination of English. McArthur (2006) gives a brief analysis of the status of the English language in the world as illustrated below:

Table 1.1: The status of the English language in the world

	ENL	ESL	EFL	TOTAL
BC:E2000	350	350	100	800m
Crystal	320-380	150-300	100-1000	570-1680m
Graddol	375	375	750	1,500m

Source: McArthur (2006)

In addition, Crystal (1997), McArthur (1999) and Davidson (2007) further remark that there is a remarkable homogeneity in standard forms of English published worldwide which maps the development of languages, sometimes overlapping with regional varieties such as British English, Irish American, Canadian, Australian, Newzealand, African Caribbean, South Asian and East Asian.

On the contrary, Nierriere (2004), a French writer, points out the practical difficulties posed by the developing diversity of 'English as a global language' which according to him, is as a result of his experience in global corporations:

- Anglophones from different regions assuming that everybody understands them, while sometimes even misunderstanding each other.
- Anglophones making no concessions in their own richly allusive styles and humour to those missing the point.
- Anglophones dominating discourse, oblivious of diffidence and dismay among those for whom English is an auxiliary language, taking consequent silence as compliance.
- Anglophones themselves not really understanding vehicular forms of English readily used by speakers of other languages from disparate regions for their own inter-communication.

Source: Davidson (2007)

Nierriere (2004) therefore submits that a codified auxiliary language for international communication based on English and called 'Globbish,' which relates to the *putative Basic English* developed by Ogden in the early middle years of the twentieth century, should be used in international forum. However, it is apparent that different roles have been assigned to English in the different nations in which it is used. Some nations use the English language as their mpther-tongue, that is, their first language, while the non-native speakers use it either as a second language or as a foreign language. In Nigeria for instance, the English language is assigned the role of an official language (Crystal, 1997; McArthur, 1999; Katsiavriades, 2002; Oyeniyi, 2006; Davidson, 2007).

1.4 New Englishes

The spread of the English language across the globe has, no doubt, culminated in its various versions being used by its non-native speakers in their various domains. The term "new Englishes" is an offshoot of this phenomenon. It reflects the existence of observable variation in the use of the language by its non-native users as a result of its contact with various indigenous languages. Bolton (2005) remarks that over the last twenty five years, the term 'new Englishes' has been widely used to refer to the localized forms of English found throughout the world, especially with reference to the Caribbean, West and East Africa, and parts of Asia. Publications from numerous international academic journals (Asian English, English Today, English World-Wide, and World Englishes have been used to establish this fact. The origin of the term "new Englishes", can be traced to two conferences in Hawaiti, on English as a world language that took place in 1978, and the second which took place in June-July 1987 at the University of Illinois, Urbana Champaign; where Kachru and Larry played a major role. Also, other conferences such as IATEFL, TESOL which came about as a result of the Georgetown University Round Table and the East-West Centre meetings made 'new Englishes' gain popularity (see Smith 1 9 8 1 ; Bolton, 2004, 2005; Mestherie, 2008).

In the same vein, Kachru (1996) constructed a 'socially-linguistic' approach to 'new Englishes' through such models as 'three circles of English,' 'bilingual creativity', 'multi- cannons', and 'power and politics', which enabled what had been periphery of English users to 'write-back' and rewrite the discourses of their Englishes in the academy. This innovation brought about the description and analysis of one variety of 'new English'- Indian English. Furthermore, Kachru constructed an inclusive theory of 'new Englishes' involving a meta sociolinguistic conceptualization of the whole field of language study. The effect of this re-conceptualization was felt across a range of language studies which include applied linguistics and English language teaching. Kachru's work further related the spread of English to issues of multilingualism, language shift and language maintenance, language and nationalism, language and race, and this has inspired scholars to begin to research into the underpinnings of sociolinguistics. Thus, Kachruvian theory has influenced a cluster of studies of English as a 'lingual franca' within the European context (Jerkens, Modiano and Seidlhofer, 2001).

Kachru's (1997: 214) model of 'new Englishes' further summits that:

> The Inner Circle represents the traditional bases of English, dominated by the "mother tongue" varieties of the language. In the Outer Circle, English has been institutionalised as an additional language... and the Expanding Circle includes the rest of the world. In this [Expanding] Circle, English is used as the primary foreign language.

More so, it has been observed that the term 'new Englishes' or 'world Englishes' has given space to more than the politics of language. It has provided a vital forum for articles, research and discussions from a wide range of 'Outer-Circle' and 'Expanding-Circle' academics, with special issues on societies such as Nigeria (1991), Japan (1995), Europe (1997), Hong Kong (2000), South Africa (2002), China (2002), South Africa (2003), and the Philippines (20004) (Bolton, 2003).

As noted above, in these conferences, issues such as discourse analysis, contact linguistics, applied linguistics, bilingual creativity, linguistic creativity, etc have all received good coverage (Bolton, 2003). Therefore, the term 'new Englishes' is presently seen as a reality, as varieties of Englishes have been noticed in the various fields of language study. Thus, the said variation permeates all levels of the English language structure - grammar, morphology, lexis, semantics, discourse, syntax and phonology. Hence we talk of Nigerian English, Indian English, Spanish English, French English and lots of other non-native English (Kachru, 2008).

1.5 The emergence of the English language in Nigeria

The history of the English language in Nigeria dates back to the fifteenth century when the Portuguese set feet on the West Coast on a trade mission. They enjoyed a trade relationship with the West Africans (Awonusi, 2004). By the end of the fifteenth century, this trading activity between the Portuguese and the people of the West Coast led to the latter's speaking of a form of Portuguese-based Pidgin (Akinjobi, 2004). In fact, the West Africans had to learn Portuguese to boost their access to the new European market (Awonusi, 2004).

This, however, is the view shared by (Christopherson, 1953:57) who claims:

> During this period, many of the Negros learnt Portuguese, of a sort and it seems that they came to regard this as the language of the white man of whatever country. He adds further: When I talk of the Portuguese used in West Africa in former centuries, I mean the so-called Negro-Portuguese, a kind of pidgin Portuguese.

Nigeria started using English following the abolition of slave trade in nineteenth century. These freed slaves had acquired the language of their masters or some 'bastardized' or 'pidginized' form of it (Awonusi, 2004). Some of them who had Christian orientation, according to Akindele and Adegbite (2005) became useful as translators or interpreters in Christian evangelization during the early missionary period while some other indigenes learnt the language and became catechists and teachers in the mission schools. The entrenchment of British administration in Nigeria further enhanced the use of the language. The colonial masters ensured the deep rooted use of the language by making it the language of administration, education, politics and the language for official purposes. The learning and use of the language by few privileged and educated Nigerians served as models for ambitious indigenes who sought after formal education (Akindele and Adegbite, 2005). Other factors responsible for the implantation of English in Nigeria include 1882 educational ordinance declaring English as the language of instructions in schools, the certification system that specified 'a pass' in English for the award of certificates required for employment in government departments and commercial forms as well as the negative attitude of Nigerians towards their mother tongues in favour of English (Adeyanju, 2004).

1.5.1 The status of English in Nigeria today

In a linguistically heterogeneous nation such as Nigeria, the official number of languages spoken in Nigeria remains elusive. Various official linguistic figures have been posited by linguists. Bamgbose (1971) and Jibril (1982) estimated these languages at about 400 and 200 respectively. Crozier and Blench (1993:4) suggested about 436 languages; Adegbija (1998) proposed 400, while Lewis, Gary and Charles (2013) *Ethnologue* - a language data base- claims that the number of living languages listed for Nigeria is 522. Therefore, as a result of the multilingual setting in Nigeria, English functions side by side with the several indigenous languages. English remains the most widely acceptable and the most available language for easy

communication. The need for greater emphasis on the teaching of spoken English arises from certain fundamental changes that have gradually taken place in the interaction pattern amongst Nigerians over the years. The changes have led to the use of English in its spoken form by Nigerians, for both domestic and external purpose and in increasingly inter - personal discourse (Atoye, 1994; Bamgbose, 1995; Ikonta and Maduekwe, 2006).

Atoye (1994) comments that one consequence of the use of English a s the official language as well as the lingual franca in Nigeria is that it has gradually become a second language for majority of Nigerians**,** that is**,** an alternative code for expressing most of the spheres of life of a bilingual person's experience.

Afolayan (1987:1) identifies L2 as:

> A language in which a bi- lingual or multi- lingual person conducts his everyday activities but shares this role with another language in which the speaker has greater linguistic facility and intuitive knowledge. The target skills of its teaching within the formal educational system should include all four basic English skills of listening, speaking, reading and writing.

Thus the fact that English has become an alternative language for many Nigerians' is underscored by the fact that two Nigerians from the same language background (MT) nowadays use English in verbal communication. Regardless of the topic of discourse, many Nigerians can switch from their mothertongue to English and vise-versa in the course of a single discussion. Nigerian market women, shopkeepers, food vendors, and village farmers now find it necessary to learn how to speak English in one form or another in order to cope with their increasing cosmopolitan body of customers (see Atoye, 1994).

The merging of the diglossic borders between Nigerian MTs and English clearly indicates that English is no more only a written or a school language but has become, for a number of bilingual Nigerians, a language for informal and formal verbal communication as well. English is the language of instruction and evaluation in educational institutions from mid-primary school to tertiary level. It is considered the gateway to academic excellence. This is because proficiency in English is a sine qua non for success in all other subjects (Oladipupo, 2008). Apart, a credit pass in English is a compulsory requirement for admissions into any course(s) in Nigeria higher institutions.

The fact that Nigeria is a multilingual setting makes English to function side by side with several indigenous languages. English also functions as the language of government and administration in Nigeria. It is the language with which government businesses are conducted. In other words, it is the official language of the government. It is used for writing minutes of meetings, memoranda, official letters, publications, etc (Salami, 2001). Also, access to employment in the public service is only guaranteed by a credit pass in English.

In Nigeria, English plays a crucial role in commerce and industry. Business transactions and entrepreneurial activities, both in intra and international frontiers, are made possible through English. It is used for advertisements, negotiations, preparation of irrevocable letters of credit, writing business letters, and sending telex and e-mail messages (Awonusi, 2004).

1.6 Edo geographical location

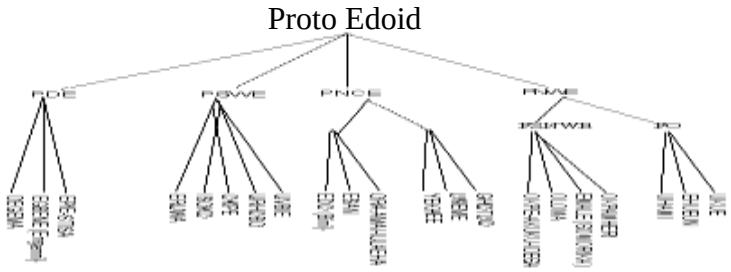
Edoid language group, according to modern linguistic analysis, received a substantial boost with a reconstruction of the sound structure of the protolanguage from which the extant daughter languages originated (Elugbe, 1973). He further states that a possible internal structure of this mother language, through the identification of daughter language subgroups, has a geographic character. Edo speaking people are found in the centre of a large language group in Edo state. To the North are the Igbirra, Esako and Igala people while to the edge of the coastal swamp forest in the south are their neighbours who speak Ijo and Itsekiri. Their other boundaries are with the Yorubas to the west and the Igbo to the East. Edo people are around Oredo, Aho, Usen, Igbueben, Iguobazuwa town, etc. Other neighbouring towns are Irua, Ekpoma, Auchi, Agbor, Uromi, Agenebode, etc. Neighbouring dialects spoken in Edo State include Ishan, Esako, Igara, Owan, Afenmai and several others (Agheyisi, 1986). Relatedly, Schaefer (2011) comments that there are two primary subgroups within Edo, which consists of 25 languages while Elugbe (1989), Schaefer, Egbokhare and Lewis (2011) are of the opinion that 20 or so Edoid languages characterize Bendel, an area roughly 120 miles wide and 180 miles long stretching from the Atlantic in the South to ‘Afemai Hills’ in the north. Overleaf is the map of Edo State, showing the major ethnic towns:

Fig. 1.1: Map of Edo State

1.6.1 The linguistic relationship between Edo language and other Nigerian languages

Investigations into the nature of the historical relationship between the various Nigerian languages have established the fact that Edo is a core member of a larger group of genetically related languages and dialect clusters, usually referred to as the Edoid Group of languages, which in turn belongs along with other Nigerian languages such as Yoruba, Nupe, Idoma, Igbo, and Izon, to the Kwa branch of the Niger-Congo family (Westermann, 1952; Greenberg, 1966).

Research into the structure of the relationship within the Edoid group has led to a more detailed sub-grouping of these languages:



PDE	=	PROTO DELTA EDO
PSWE	=	PROTO SOUTH – WESTERN EDO
PNCE	=	PROTO NORTH - CENTRAL EDO
PNWE	=	PROTO NORTH – WESTERN EDO

Fig. 1.2 Proto-Edoid Family Tree
Sources: (Elugbe, 1989; Egbokhare, 2011)

Similarly, Egbokare (2011) claims that on the basis of mutual intelligibility, many of the clustered dialects identified in Fig. 1.2 above have a high degree of mutual intelligibility, especially the groups in Owan. However, the target informants for this investigation are those who speak and acquire Edo (Bini) language as their mother tongue.

1.7 Edo historical background

The present speakers of Edo language hail from Benin Kingdom. Over 2.5 million Edo speakers have been estimated to live in Edo State of Southern Nigeria. Edo is an Edoid language that belongs to Eastern Kwa which is part of the putative Western Benue-Congo (NBC) group (Elugbe, 1989; Williamson and Blench, 2000; Yuka and Omoregbe, 2011). Igboanusi and Peter (2005) listed Edo among Nigeria's important minority languages while Pogoson (2011) remarked that the ancient Benin Kingdom has a centralized political system. However, historical accounts submit that the introduction of British rule into Benin City after the 1897 war brought about a huge sprawling modern city (Yuka and Omoregbe, 2011). According to historical account also, Benin-City is today administered by a monarch whose authority was derived from the 'Odionwere System', basically leadership by gerontocracy, of the Ogiso period of Benin history.

Benin City has been observed by scholars to be a centre of excellence in traditional court art and a huge cultural complex that has tremendous influences on kits immediate environment. Edo people are known for art works such as wood and metal staffs, and objects of great prestige (Pogoson, 2011).

1.8 Aspects of the phonology of English and Edo

In every human language, the segments of the language consist of consonants and vowels, and these constitute the phonematic aspect of the language as affirmed by Robins (1980). English and Edo vowels were looked at extensively as they constitute indispensable aspects of the subject matter.

Vowels are those sound segments upon which speech melody rides. They can be viewed as the segments which in isolation and in speech can be manipulated musically, apart from humming song (Egbokhare, 2003). A vowel sound is produced with the air coming from the lungs unblocked by the mouth or throat. A vowel is a sound produced with an open vocal tract, so that there is no build-up of air pressure at any point above the glottis. Vowels can be employed to achieve the same ends while consonants are not open to such use. In the production of vowels, the tongue assumes a number of shapes in the mouth. In each of these shapes, it always forms a hump. Thus, in the description of vowels, the highest point of the hump determines the proximity of this point to the roof of the mouth. The first parameter involves a movement along scale from front (of tongue), centre (of tongue) to back (of tongue). The second parameter involves a movement along a scale from close half-close (close-mid), half open (open-mid) to open. In addition, whether the lips are spread or round and where necessary whether the vowel is oral or nasalized, long or short are all necessary parameters for describing vowel sounds. In some languages, it may be necessary to identify the phonation type involved in the production of the vowel (Egbokhare 2003; Roach 2010).

Similarly, scholars have observed that vowels are indispensable segments of any human language because of the features inherent there in:

- In the English language for instance, vowels feature much more than consonants do. There is no word in the English language which does not contain a single vowel. Hardly can one find a word in English entirely made of consonants. Rather, there would be at least one vowel either at the initial, medial or word final position, or at least one syllabic consonant.

- Vowels help to give meaning to words. For instance, until the vowels are pronounced along with the consonants /m/ and /t/, one cannot say whether the intention is 'meat', 'met', or even 'mat'. Thus, it is the vowels that give the meaning intended.
- Relatedly, vowels enable us to determine the grammatical features referred to by a writer, e.g. singular, plural, present tense, past tense, etc as illustrated in the examples below:

Singular	Plural	Present	Past
Man	men	come	came
Woman	women	see	saw

Source: (UBE, 2010: 51)

Roach (2000) and Jones (2006) recognise that British English (BBC accent) is generally described as having short vowels, long vowels, diphthongs and a few triphthongs. There are seven short vowels, five long vowels and eight diphthongs. Diphthongs are like monophthongs but for their inconsistent quality. They are single vowels, and both parts belong to the same unit of pronunciation (syllable). Diphthongs are also not differentiated from monophthongs by length (or duration). Two types of diphthongs occur in English. These are the closing diphthongs and the centring diphthongs. The distinction is based on the direction of the articulatory trajectory. If it moves upward in the vowel space, the resulting diphthong is said to be closing. Otherwise, it is called a centring diphthong if the trajectory moves towards the centre of the vowel area. Examples:

Closing diphthongs

/ ai ei au əu □i /

Centring diphthongs

/ iə eə uə/

Moreover, triphthongs consist of three phonetic symbols used to represent the starting, middle and end points of the transition. Examples of triphthongs as explicated by Egbokhare (2003) and Jones (2006) can be found in English words like 'flour' /flauə/ and

'fire' /faiə/ etc

The following are illustrations of English vowels as highlighted above:

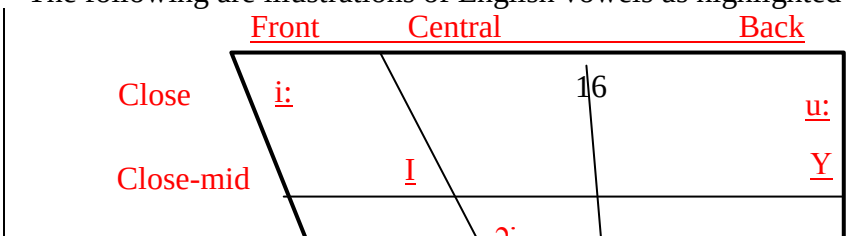


Fig. 1.3a English pure vowels

Source: Jones (2006)

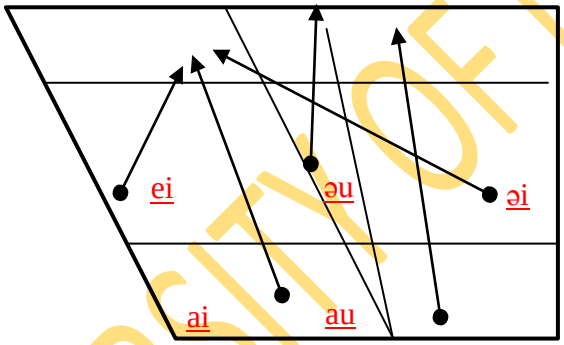


Fig. 1.3b English closing diphthongs

Source: Jones (2006)

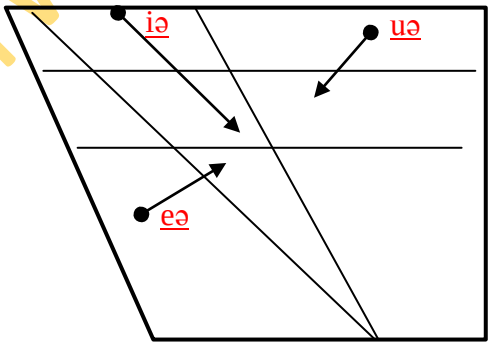


Fig. 1.3c English centring diphthongs

Source: Jones (2006)

Egbokhare (2003) argues that in some languages, it is necessary to draw a distinction between vowels on account of duration. According to him, some vowels are perceived to be significantly longer than others. For instance, in English both long and short vowels occur. The distinction between [i:] and [I], [u:] and [ʊ], etc, is of length as well as general quality. In many African languages however, long vowels are represented orthographically by double identical letters while in some languages; this practice may indicate only a sequence of identical vowels. Length is often a varied property which depends crucially on several phonetic factors. For instance, in stress-timed languages, the length of a sequence is known to depend on the number of segments within the timing unit (see Egbokhare, 2003; Roach, 2010). This phenomenon may however, be untrue for Edo English. Hence, there is the need for the current investigation.

1.8.1 The vowels of Edo

Amayo (1976), Elugbe (1989), Adeniyi (2006) and Yuka and Omoregbe recognise seven oral and five nasal vowels in Edo language.

1.8.1.1 Edo oral vowels:

/a/	as	in	/àdà/	'junction'
\e\	as	in	/ebé/	'book'
\E\	as	in	/Ekpò/	'bag'
\i\	as	in	/ízE∃/	'rice'
\o\	as	in	/óbobò/	'flower'
\□/	as	in	/□∃d□∃/	'husband'
\u\	as	in	/usí/	'starch'

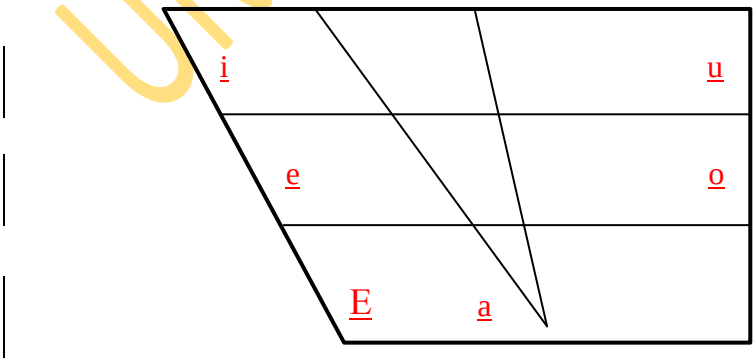


Fig. 1.4a: Edo oral vowels

Sources: Amayo (1986), Elugbe (1989), Adeniyi (2006) and Yuka and Omoregbe (2011)

1.8.1. 2 Edo nasal vowels:

\a)\	as	in	[erã]	'wood'
\e)\	as	in	[ódè]	'joke'
\i)\	as	in	[èni)]	'name'
\□)\	as	in	[`ukp□)]	'cloth'
\u)\	as	in	[unú)]	'mouth'

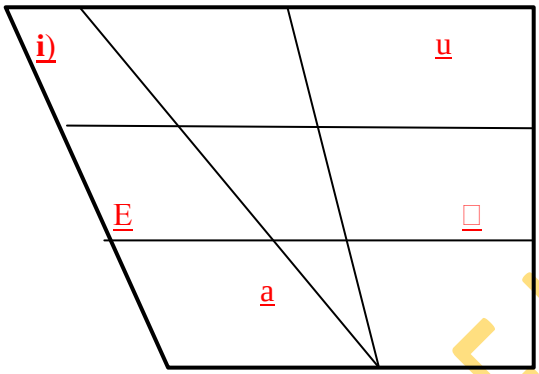


Fig 1.4b Edo nasal vowels

Sources: Amayo (1986), Elugbe (1989), Adeniyi (2006), Yuka and Omoregbe **(**2011**)**

1.9 Edo English

There is a dearth of literature on Edo English. Earlier works on Edo English include Agheyisi's (1986) *An Edo-English Dictionary* which comprises 4,000 lexical items entered both orthographically and phonetically with tones. The dictionary also makes provision for phonological and grammatical information for each of the entries in anticipation of the specialized needs of language researchers and linguists who are interested in linguistic information on Edo. Adeniyi (2003) asserts that there is an interface between tone and noun phrase in Edo. According to him, tonal behaviour in the Noun phrase is a function of construction types and not of any other independent consideration to lexical tone patterns or syntactic structures. Auto segmental phonology was used for exploring morpho-tonemic alternations and other tonal changes observed in Edo Language. The research accounts for the various tonal behaviours in the language (see also Adeniyi, 2006: 2-3). Yuka and Omoregbe (2011) in their paper "*Tense and Aspect in Edo: A Re-appraisal*" also attempted to isolate and distinguish the various tense and aspectual morpho-syntactic units, how these lexical units interact with tone, and the components of the INFL to derive appropriated tense and aspectual delineations.

Schaefer, Egbokhare and Lewis (2011) submit that speakers of Edoid vernaculars are in constant contact with Nigerian Pidgin English (NPE), Nigerian Standard English (NSE) or both. According to these researchers, 20% of the population speak (i.e 'the educated elite) NSE as the official and primary medium of education, government, mass media and the courts (Bamgbose, 1982; Jowitt, 1991, Igboanusi, 2000). Nigerian Pidgin English is permitted for the less educated in hospitals, post offices, police stations, market places and certainly at work. However, Edo English as reflected in this research is strictly concerned with the educated variety, which includes those who are assumed to have relative proficiency in written and spoken English as a result of their educational training (i.e. university undergraduates etc).

1.10 Mother tongue and second language

Akindele and Adegbite (2005) define mother tongue as "the first or native language of an individual". The native speaker of a language understands the rules of pronunciation, syntax and lexis of his or her language. Hausa, Igbo, Yoruba, Edo, Esan, Tiv, etc. are mother tongues (MT) to these groups in Nigeria. Second language (L2) is used in this research to mean the second language of a bilingual. Second language may or may not be the sequentially second language of a bilingual person; it may be the fourth language of such individual but functioning as second language in a bilingual society. According to Akindele and Adegbite (2005), a second language is "a variety in which a bilingual or multilingual person conducts his or her everyday activities" English Language for instance, has been considered as a second language in Nigeria. It is learnt through formal education and it is the language in which a Nigerian bilingual conducts his or her daily activities. However, L2 as used in this essay refers strictly to English Language while mother tongue (L1) refers to Edo or other Nigerian languages in general.

1.10.1 Interference

Sotiloye (1992:137) defines interference as "the improper use of linguistic elements of one language in another". That is the carry over of an (L1) pattern into L2. Edo English bilinguals may insert a vowel in between consonants because Edo does not allow consonant clusters. Bamgbose (1971) also defined interference as an instance of deviation from the norm of either languages occasioned by contact. That is the influence

of one on another resulting in systematic re-patterning of features from the languages Influenced. This implies that in the cause of learning a second language, features are transferred from the first language (L1) to the second language (L2) in the process of speaking it. Interference could be intraference or interference. It is intraference when the linguistic features being interfered are within the same language of either LI or L2, and interference when there is a transfer of L1 system into L2. Interference affects all levels of language: phonology, morphology, syntax, semantics, accent, etc. For instance, as observed by Akindele (2008, 2011), Edo, among other Nigerian languages, does not have the dental fricatives /θ/ and /ð/ of English. Thus, Edo English bilinguals who are not well educated may tend to substitute these consonants with the alveolar plosives / t / and / d

Examples:

Orthography	SBE	Edo (EL2)
Thank	/θænk /	/tænk/
Father	/fæðə/	/fada/
Mother	/mʌðə/	/mɔda/
Worthy	/ wɜ:ði/	/wɔdi/

Also, Edo English bilinguals who are not well educated may replace the English vowels /ʌ / and /↔ / which are not attested in Edo with /ɔ/ or /a/ as illustrated in the examples below:

Orthography	SBE	Edo L2
Church	/tʃəːtʃ/	/tʃɔ tʃ/
Chuck	/tʃʌk/	/ tʃɔk/
Charmer	/tʃa:m↔/	/tʃama/
Judge	/δZʌδZ/	/ δZɔδZ/
Jug	/δZʌg/	/δZɔg/
Jump	/δZʌmp/	/δZɔmp/

Dustan (1969:1) states:

> …there is a strong tendency on the part of any one learning a second language to use the sounds, syllable structure and rhythm of the mother tongue in place of the sound, syllable structure and rhythm of the language he is learning.

She further explains that the problems facing second language learners are as a result of differences in the vowel and consonant systems of English and some Nigerian languages. The vowel /ʌ/ for instance may be rare in many Nigerian languages, and may be substituted with neighbouring vowels /a/ or /ɔ/ as illustrated above.

1.11 Aim and objectives

The purpose of this study is to confirm whether or not Educated Edo English Speakers stressed and unstressed syllables alternation in rhythm units conforms to Standard British English form. The investigation further sets to affirm whether Educated Edo English Speakers duration of rhythm units in connected speech could be used to describe Edo English rhythm as stress-timed or syllable-timed; and the implication for Nigerian English rhythm description. The study intends to achieve the following objectives:

1. ascertain whether or not Educated Edo English Speakers produce anacrusis with the rhythm groups as observed in Standard British English form;
2. determine whether or not Educated Edo English Speakers appropriately alternate stressed and unstressed syllables in rhythm units of English connected speech;
3. examine Educated Edo English Speakers duration of rhythm units in English connected speech;
4. identify whether or not there is alternation of stressed and unstressed syllables in Educated Edo English Speakers English words with syllabic consonants;
5. ascertain whether there are any significant differences in the conformity of Edo males and females to SBE rhythm pattern;
6. find out whether Educated Edo English rhythm conforms to earlier description of other Nigerian English sub-varieties as syllable-timed or inelastic-timed;

Arising from the reaearsch aim and objectives, the following were formulated to guide the study:

1.12 Research questions

1. Do Educated Edo English Speakers produce anacrusis together with the rhythm groups as observed in Standard British English form?
2. Do Educated Edo English Speakers appropriately alternate stressed and unstressed syllables in rhythm units of English connected speech?

3. Does Educated Edo English Speakers duration of rhythm units in English connected speech vary from Standard British English form?
4. To what extent does the alternation of stressed and unstressed syllables of Educated Edo English Speakers words with syllabic consonants conform to Standard British English form?
5. Are there any significant differences in the conformity of Edo males and females to Standard British English rhythm pattern?
6. To what extent does Educated Edo English Speakers rhythm pattern conform to earlier description of other Nigerian English sub-varieties rhythm description as syllable or inelastic -timed?

1.13 Significance of the study

The research contributes to knowledge especially in the description of Nigerian English rhythm. The study also makes a humble contribution towards the codification of Nigerian spoken English, since the clamour of many Nigerian linguists presently is to get documented materials that can serve as reference point for Standard Nigerian English.

1.14 Limitations and constraints to the study

As a result of the nature of the research, one hundred and fifty Educated Edo English Speakers who are assumed to have relative proficiency in written and spoken English (i.e. university undergraduates) were purposively sampled, and considered to be a fair representation of Educated Edo English Speakers. Moreover, due to the nature of the work, it was not possible in all cases, to conduct the recordings for a large informants of 150 in a quiet venue as background noise was observed. However, a good number of clear recordings were sampled and used for the acoustic analyses.

1.15 Operational definition of terms

1.15.1 Duration

This refers to a linguistic term used in phonetics to refer to the length of time involved in the articulation of a sound or syllable. Distinctions between relatively ‘long’ and relatively ‘short durations are measured in units of time, such as the millisecond (msec). In speech, the absolute duration of sounds help to account for the study of rhythm of a language.

1.15.2 Rhythm

Rhythm is a characteristic suprasegmental feature. The rhythm of a language is the recurrence of prominent elements of speech perceived to be relatively regular intervals of time, depending on the particular language. The prominent elements are usually either stresses or syllables.

1.15.3 Edo English

Edo English as used in this research refers to the educated variety and also to Edo (Bini) people who are born and nurtured in Edo State, Benin-City, and who have relative proficiency in written and spoken English.

1.15.4 Native Baseline

This investigation is on Duration as a Determining Factor in Educated Edo English rhythm Description. Therefore, two educated native speakers of Standard British English were used as native baselines to serve as standard means of confirming and illustrating the linguistic phenomena intended.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.0 Introduction

This chapter reviews available works on the notion of a standard variety, Received Pronunciation (RP), suprasegmental features of English and Edo, the syllable, Nigerian English Phonology and relevant phonological theories.

2.1 The notion of a standard variety

In language teaching, linguists have observed that it is customary to use a model idealised as standard or standard variety. A standard variety is the form of a language that is generally associated with educated speakers. Although, it may have regional base, it is regarded as regionally neutral in that it can be found anywhere in a country. A standard is therefore referred to as a sociolet rather than a dialect. The standard variety of English in Great Britain is called Standard English, which is popularly referred to in non-linguistic terms as Kings English, Queens English, BBC English, Oxford English, British or Broadcasting English while the standard variety spoken in the United States is called General American English or Standard American English (Skandera & Burleigh, 2005).

2.1.1 Received Pronunciation (RP)

A standard variety has a fixed grammar and vocabulary but its pronunciation may vary according to the regional origin, social group or ethnicity of the speaker (Skandera & Burleigh, 2005). This means that a standard variety is spoken in different accents. One of these accents usually carries the most prestige and it is the accent which tends to be associated with the better educated parts of the society. Received Pronunciation therefore, is the British English accent which is customarily a prestige variety and a model of pronunciation most often cited as a norm for the description of Standard British English. This accent is also originally adopted by the BBC for its announcers because it is the form of pronunciation most likely to be nationally understood and attract least regional criticism. Though, RP has lost its grip of standard, it has remained the accent of British English which is usually chosen for descriptive and teaching purposes, especially in second language teaching. Received Pronunciation is also a model employed by eminent British Phonetician in books on the phonetics of British English (Christopherson, 1956;

Abercrombie, 1967; Gimson, 1989; Crystal, 1991; O'Connor, 2000; Jones, 2006; Roach, 2010).

2.2 Suprasegmental features of Standard English

Crystal (1991) describes suprasegmentals as a term used in phonetics and phonology to refer to a vocal effect which extends over more than one sound segment in an utterance. Suprasegmental features collectively refer to variation in pitch, loudness, tempo and rhythm (Skandera & Burleigh, 2005). Sometimes, it is used loosely as a synonym for 'prosody'. Hyman (1975) defines suprasegmental features as prosodic features extending over units which encompass more than one segment. The term "suprasegmental" is often used to refer to both phonological and grammatical units larger than the segment (Robins, 1980). The subject matter of phonological analyses of any stretch of utterance in human language is the totality of the material of which that stretch of utterance is composed. The entire make-up of the utterance is analyzed based on (a) what is uttered and (b) how it is uttered. The speech material is referred to as the phonic material. The phonic material comprises the phonematic and prosodic aspects (stress, rhythm, tone, intonation). The phonematic unit accounts for segmental phonemes (consonants and vowels) while suprasegmentals on the other hand form an integral part of the utterance and no utterance is ever made without them (Robins, 1980).

Meanwhile, an important notion of the suprasegmentals of stress, rhythm, and tone is the syllable which is the domain of these linguistic structures. For instance, in tone languages like Yoruba, Edo, or Isoko, the pitch of the voice with which a syllable is said, whether high, mid or low will help in distinguishing the meaning of two or more words with same spelling as highlighted below:

Yoruba: /k□/ - mid tone ' write'
/k`□/ - low tone ' reject/refuse'
/k□□/ - high tone ' build/teach'

Source: Atoye (2004)

Edo: /ábà/ " an old fashioned address term for "father"
/ábà/ "anklet worn by an omada".
/asé/ "authority"
/ásé/ "environ"

/ówé/ 'broom'

/òwe`/ ' leg'

/ówá/ ' market'

/òwá/ 'house'

Sources: Adeniyi (2006) & Yuka and Omoregbe (2011)

Isoko:	ẹkpẹ	/èkpè/	*leopard*	low – low
	ẹkpẹ	/èkpé/	*peeling*	low – high
	ẹkpẹ	/ékpė/	*sand*	low – mid - high

Sources: Mafeni (1972) and Ilolo (2013)

2.2.1 The syllable as a suprasegmental domain

The syllable has been described as a very important unit, such that many people seem to believe that although they may not be able to define a syllable but they can easily count the number of syllables when asked to do so in a given word or sentence by tapping their fingers as they count (Hyman, 1975). Linguists like Allen (1973) and Hyman (1975) view the study of the syllable as the one that has an uninterrupted history.

Also, phonologist such as Abercrombie (1967), Ladefoged (1982), Lass (1984) and Egbokhare (2003) note that words and larger utterances can be syllabified on the basis of the phonotactic constraints of a given language, subject to certain universal tendencies. (Skandera & Burleigh (2005) and Roach (2010) corroborate this claim by asserting that a syllable can be described from a phonetic basis in relation to the way it is produced and how it sounds while the phonological description of the syllable is concerned with the possible combination of phonemes of a language which is referred to as phonotatics.

Similarly, Hyman (1975) and Roach (2010) further claim that the syllable consists of three phonetic parts: the onset, peak and coda. The onset and coda segment of the syllable are occupied by consonants, while the vowel is usually the nucleus (core) of the syllable; which is the most important part of the syllable. The onset and coda are optional parts of the syllable.

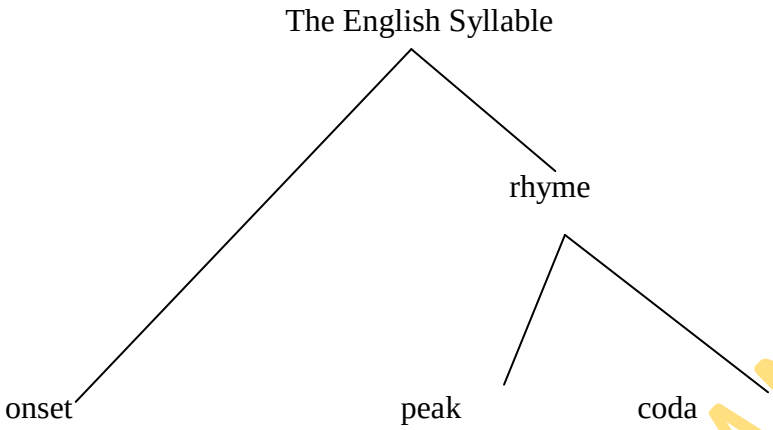


Fig. 2.1: The English syllable

Source: Roach (2010)

2.2.2 The English syllable structure

The syllable is generally described as a suprasegmental phonological unit. That is, it is a unit of pronunciation typically larger than a single sound (Crystal, 1991). Linguists such as Abercrombie (1967), Robins (1980), Ladefoged (2003), who believe in the chest pulse theory, claim it is the amount of utterance that you can produce with a single breath force or chest pulse. In phonological analysis, a word or a piece of utterance is analyzed as it is said and not as it is written. A one syllable word "day" is analyzed as two minimal segments; a consonant /d/ and 'a' diphthongal vowel /ei/ make up the word "day". Therefore, the structure of the word is CV and not CVC.

In English, syllables of any of the structures V, CV, VC, CVC, VCC, CCVCC, CCCVCCCC, etc. are permissible. The syllable structure in English reveals that each syllable contains only one V element in its structure. There may or may not be a C element before the V and there may or may not be a C element after it. The C element(s) before the V element form(s) the Onset while the C element(s) constitute (s) the Coda (see Kahn, 1980).

Egbokhare (2003) proposes that words differ with regard to the number of syllables contained in them. For example, some words are monosyllabic, disyllabic and polysyllabic. A syllable that has a coda is called a closed syllable, whereas one that lacks it is called an open syllable. The onset and coda of a syllable may contain more than one segment. For instance, in English, we can have up to three consonants in the onset

position and four in the coda position. When a sequence of consonants occurs in the onset or coda of a syllable, we say that we have *consonant clusters*. It should be noted that two vowels cannot co-occur in a syllable but any kind of vowel - whether monothong or diphthong, long or short, can occur as the nucleus of a syllable. Ladefoged (1982:10), Lass (1984: 10), Hogg and McCully (1987: 2), Gimson (1989:5) and Roach (2010) give the permissible structure of English in terms of the permissible sequence of sounds in the formula (C^{o-3}) V (C^{o-4}). That is, it is possible to have maximum sequence of three consonants in a syllable at the word initial position and four consonants in syllable final position.

Examples:

Street	/stri:t/	CCCVC
Strive	/straIv/	CCCVC
Stream	/stri:m/	CCCVC
Screen	/skri: n/	CCCVC
Scream	/skri:m/	CCCVC
Scramble	/skræmbl/	CCCVCCC
Bond	/bɔnd/	CVCC
Prompt	/pr∧mpt/	CCVCCC
Students	/stjudnts/	CCCVCCCC
Stuffed	/st∧ft/	CCVCC
Texts	/teksts/	CVCCCC

Source: Jones (2006)

2.2.3 Perspective of the syllable from phonetic realisation

In literature, the syllable is defined from two perspectives (phonetics and phonology). A phonetic definition of the syllable is given by Abercrombie's "chest pulse" description, where he views the syllable in terms of the pulmonic air-stream mechanism. In other words, the chest pulse theory discusses the syllable in the context of muscular activities and lung movement of the speech organs (Abercrombie, 1967). Jones (2006) also proposes the "prominence theory", based on the auditive principle to explain the phonetic nature of the syllable as the sequence of sounds with one peak of prominence; where prominence of the sound is given its inherent sonority, length, stress, intonation or

combination of these units. Another approach that alludes to the phonetic nature of the syllable is inherent in Giergerich's (1992:132) "sonority theory" in which the pulses of pulmonic air stream in speech 'corresponds to peak in sonority'. According to this theory, the sonority of a speech sound is its relative loudness compared to other sounds, and each syllable corresponds to a peak in the flow rate of lung air.

However, the syllabification of words to syllables in English based on intuition can be sometimes controversial. For instance, the difficulty of determining the exact boundaries between consecutive syllables can be further exemplified by words like 'master' and 'extra' which can be syllabified as /ma: st↔r/ (with two evenly balanced open syllables in rhotic accents), or /ma:st-↔(r) (because the word /mast/ consists of one syllable when it occurs alone) while the word extra is also believed to have two syllables which can be divided as /ek-str↔/, /eks-tr↔/, /ekst-r↔/. Meanwhile, /ek-str↔/ and /eks-tr↔/ are observed to be the most correct form in English. Therefore, the solution to problems of syllabification is influenced by factors which include accent, rapidity of speech, level of formality, and communicative situation. Thus, these examples suggest that a description of the syllable mainly from the phonetic perspective (i.e. in terms of how its segments are produced or perceived is not sufficient enough to give a satisfactory description of the syllable which also should be looked at from the phonological perspective (Skandera & Burleigh, 2005; Roach, 2010).

2.2.4 Perspective of the syllable from phonological realisation

Laver (1994:114) approaches the syllable from phonological perspective by defining it as 'a complex unit made up of nuclear and marginal elements'. He explains that nuclear elements are the vowels or syllabic segment while marginal elements are the consonants or non-syllabic segments. That is, in the word '*paint'* /peɪnt/, the diphthong /eɪ/ is the nuclear element, while the initial consonant /p/ and the final cluster /nt/ are marginal elements. These marginal elements have been tagged onset and coda/margin/tail respectively in the literature (Roach, 2010; Utulu, 2014). In English, any consonant can appear in initial position except for /N/. Permissible sequence of the following is allowed in English: / pl, pr, pj, bl, br, bj, tr, tj, tw, dr, dw, kl, kr, kj, kw, gl, gr, mj, nj, fl, fr, fj, vj, Tr, Tw, sp, st, sk, sm, sn, sf, sw, Σr, hj, lj, / with a few unusual clusters in some proper names like /vr/ 'Vroom' and some archaic or rare words like /sr/ 'syringe' / srindZ/

instead of /strindZ/. Also, with the exception of clusters beginning with /s/, the second or last element of a word-initial two consonant cluster is always one of the four frictionless continuants, / ⟩, r, j, w/. Other possible sequences are /str, stj, skl, skr, skj, skw/. In these clusters, the first element is always /s/, the second element is always one of the three fortis plosives /p,t,k/ while the third element is again one of the four frictionless continuants /l,r, j, w/. Hence, it is necessary to note that no English word or syllable begins with more than three consonants, and consonant combination such as /tl/, fs/, and /Ng/ are not permissible in word-initial position in English while the coda of the English consonant can be formed by one or maximum of four sequence consonants except /h/ (Skandera & Burleigh, 2005; Roach, 2010).

2.3 Stress as a suprasegmental feature

Stress is said to have received the most developed treatment of the suprasegmentals of prominence (Hyman, 1975). This is due to the fact that most European languages are stress languages. The term stress has been looked at in literature in terms of its phonetic properties and in terms of its linguistic function.

Abercrombie (1967: 35) describes stress as:

> A chest pulse produced by exceptionally greater muscular action. It is then a reinforced chest pulse and it gives extra powerful push to the lung walls. As a result a stronger puff of air is expelled from the lungs, and this… causes a louder noise.

Ohala (1970) assumes stress to involve greater articulatory, especially expiratory force, and thus greater intensity in the production of certain syllables. Hyman (1975:204) explains that in a stress language, prominence is cumulative, and that stress languages, like English, differ from tone languages. Ladefoged (1980) says stress is signalled by pitch as well as by supporting factors, notably loudness and duration.

Robins (1980:102) also observes that:

> Stress is an articulatory term and it should be distinguished from prominence which he terms a more subjective term relating to the more noticeable acoustic impression conveyed by certain parts of a stretch of speech as against the rest.

Clark and Yallop (1995:349) define stress as "the degree of breath force used in the articulation of syllables in a word or in an utterance." Ekundare (1993:26) goes on to explain that:

> This force is obtained mainly as pressure from the chest muscles affecting the air stream involved in speech production. The degree of force is perceived by hearers as degree of loudness which varies from syllable to syllable. Hence, stress is usually defined as relative loudness of volume from the listener's point of view and relative energy from the speaker's.

Crystal (1997) claims that the prominence associated to a stressed syllable is due to an increase in loudness of the syllable, increase in length and often pitch. In addition, Ekundare (1993:26) and Daniel (2005:42) claim that stress is the degree of force used in the articulation of syllables. Also, O'Connor (2000) asserts that the auditory correlate of stress is loudness and that stressed syllables tend to sound louder than the unstressed. On the contrary, the assertion of stress being determined from the perspective of loudness seems contestable, as this has been observed by recent linguists to lack some phonetic evidence. Often times, the loudest syllable in an utterance as perceived by the listener may not be the syllable that receives stress. Recent linguists have claimed that stressed syllables are determined by some phonetic cues such as pitch modulation, duration, segmental quality and loudness which tend to be the least cue for determining a stressed syllable (Cruttenden, 1986; Roach, 2010; Akindele, 2011).

Furthermore, Fry (1955) and Bolinger (1958) who have also worked on cues to stress have shown that loudness is the least significant cue to stress while 'pitch prominence' has been found to be the most significant. Cruttenden (1986:16), on his own account views stress in relation to prominence in a general rather than specific way, irrespective of how such prominence is achieved. To him, in the past, the word 'stress' has been used in diverse ways. Sometimes, it had been used to refer to syllables made prominent for linguistic function either in words or sentences, or breathe force or loudness, despite the fact that loudness plays a little role in realizing prominence. Roach (2000) argues that though there are controversies on the nature of stress in some languages, some syllables are in some sense stronger than other syllables; these syllables can be potentially described as stressed. He is of the opinion that the difference between strong and weak syllables are of some linguistic importance in English language because strong and weak syllables do not occur randomly.

Egbokhare (2003:76) also upholds Roach's view by asserting that results of techniques such as synthetic speech have shown that in English language, there is a hierarchy of cues which listeners employ to identify stress on a syllable. These are pitch

modulation, duration, intensity, segmental quality, (including especially vowel quality and degree of aspiration). However, according to him, increased pitch does not necessarily serve most effectively to signal stressed syllables but pitch modulation.

Similarly, Clark, Yallop and Fletcher (2008:349) define stress as:

> A conventional label for the overall prominence of certain syllables relative to others within a prosodic structure in a linguistic system. In this sense, stress does not correlate simply but usually represents the effect of factors such as pitch, loudness and duration often in differing combinations depending on whether it is word or phrasal stress. A more restrictive definition of stress in languages like English suggests that duration and vowel quality largely contribute to syllables overall prominence at the word level.

Meanwhile, this may be untrue for Educated Edo speakers of English when considering their rhythm pattern. This is because Edo has been classified as a register tone language. Hence, there is the need for this research.

2.3.1 The general properties of stress

Stress patterns present one of the most difficult problems for English as Second Language users. This is because many polysyllabic words have more than one possible stress pattern, and the context (Gimson, 1989). As a result of the nature of English stress, linguists have identified some important properties that can serve as guide in determing stress:

(i) Stress is culminative in nature. This is because in stress languages (with few exceptions) every content word has at least one stressed syllable. This is true of English lexical words: verbs, nouns, adjectives and adverbs. The grammatical words, like prepositions, articles, and conjunctions can only be stressed when they are in isolation or when they are emphasized in utterances.

(ii) Stress is hierarchical. Among multiples of stresses, some are more prominent than others. That is why we have primary, secondary and tertiary stresses.

(iii) Stress avoids clashes. It does not assimilate to adjacent syllables that can produce clashes. That is why there is a shift of stress from one syllable to another to resolve a clash. (Kager, 1995: 386).

(iv) Stress contrasts are enhanced segmentally. Stressed syllables may be strengthened by vowel lengthening or by gemmination while unstressed vowels may be weakened by vowel reduction.

2.3.2 Free versus fixed stress

(Hyman, 1975:204-205) observes that the major distinction between free and fixed stress languages is that in free stress languages, prominence can occur on different syllables, depending on the word. Stress in English is said to be cumulative. There can be no English word where all syllables are marked by equal prominence, nor is there a word where no syllable is marked for prominence. Stress is said to be phonemic in English. Languages such as French, Turkish, Hungarian and Polish are said to have fixed or non-phonemic stress pattern because such languages have a relatively predictable stress system. In Turkish and French for instance, the last syllable of a word is stressed. In Hungarian, there is a stress rule of [V [+ stress] / # # ____]. That is, stress the first vowel after the initial word boundary of a Hungarian word (Hyman, 1975:204). In Polish, the penultimate syllable receives the primary stress. In these languages, stress is observed to play a demarcative function. In Hungarian for instance, the presence of stress indicates the beginning of a new word (Hyman, 1975:204; Akinjobi, 2004:15).

Czech and Finnish have the stress assigned to the first syllable. Spanish and Welsh to the penultimate syllable, while French and Turkish have the primary stress assigned to the final syllable. In the languages below, word stress is fairly predictable because stress takes on a strong "delimitative function" (Hyman, 1975).

Examples:

Spanish –	basta'nte	'enough'
	Mari'ana	'tomorrow'
French –	Compan'ie	'company'
	Mala'de	'Ill '
Finnish	ty 'tar	'daughter'
	Li'kainen	'dirty'

(Source: Cruttenden, 1986:17-18)

On the other hand, languages with free stress are believed to have prominence associated with stress on different syllables of different words. English Language is a

language with free stress pattern. Roach (2010) lists some English words where English stress could be predictable:

Nouns/Adjectives	Verbs
EXport	exPORT
CONduct	conDUCT
PERfect	perFECT
REcord	reCORD
FREquent	freQUENT
CONcert	conCERT
PROject	proJECT
REbel	reBEL
CONvert	conVERT

In these examples, English stress becomes predictable but this does not signify that English has a predictable stress system as these do not make any significant generalization. In English, there are only very few words which are differentiated solely by stress Roach (2010: 100).

2.3.3 Standard English word stress

Kager (1995: 367) argues that the main concern of the study of word stress is the location of prominent syllables within words: "prominent syllables are capable of bearing pitch movements with a strong perceptual load''. It also includes the identification of the positional, quantitative and morphological factors that govern patterns of syllable prominence. Roach (2010:88) provides some valuable information on English word stress placement:

(i) Whether the word is morphologically simple, or whether it is complex as a result either of containing one or more affixes (that is, prefixes or suffixes) or of being a compound word.

(ii) The grammatical category to which the word belongs (noun, verb, adjective, etc).

(iii) The number of syllables in the word.

(iv) The phonological structure of those syllables.

However, he notes that it is sometimes difficult to make the decision referred to in (i) as rules for complex words are different from those for simple words.

One-syllable words:

The monosyllabic English grammatical words are usually unstressed when they occur in word groups but when they occur in isolation or there is /are particular meaning (s) intended on them by the user, they get stressed. There is no strict rule about where the stress should be placed in such words due to the presence of a single syllable (i.e vowel nucleus). Also, one syllable words which are content words like *man, go, come, sit, tree, boy, girl, house, dog, tree*, etc are stressed always because they carry bulk of meaning in an English utterance while grammatical words such as *is, was, are, were*, etc, are also stressed in isolation when bearing additional meaning (i.e emphasis) but unstressed in word group.

Two-syllable words:

Stress on 1st syllable:

Actor	DOCtor
VENdor	CAREless
LIKEness	LANguage
COLLege	MAnage
STRUCture	FRACture

Stress on 2nd syllable:

subdue	subTRACT
adMIRE	apPEAR
aWAY	aBOUT
beFORE	beHIND
comPARE	conCEIVE

Three-syllable words:

1. Stress on 1st syllable

DEmonstrate	REgulate
CONfiscate	IRritate
CIvilise	REcognise
Emphasise	SUpervise

2. Stress on 2nd syllable:

imPOrtant apPArent

inHERit enCOUrage

esTABlish amBItion

emBARrass eDItion

3. Stress on 3rd syllable:

underSTAND enterTAIN

afterNOON disoBEY

refeREE incomPLETE

introDUCE interRUPT

Four-syllable words:

1. Stress on 1st syllable

POsitively RElatively

MIlitary TEMperature

Agriculture Educated

COMplicated SOcialism

2. Stress on 2nd syllable

traDItional maJOrity

comMODITY acTIVity

exPErience irRAtional

eCOnomy cerTIficate

3. Stress on 3rd syllable

demoCRAtic anaLYtic

scienTIfic superFIcial

insufFIcient indePENdent

poliTIcian matheMAtics

4. Stress on 4th syllable

misunderSTAND reintroDUCE

underemPLOYED

Five-syllable words:

1. Stress on 1st syllable

   CApitalism, NAtionalising

2. Stress on 2nd syllable

   adMInistrative, comPEtitiveness, parTIcularly, imMEdiately

3. Stress on 3rd syllable

   satisFACtory, opporTUnity, interNAtional, fundaMENtally, inconSIStency, inefFECtiveness, undeNlable.

4. Stress on 4th syllable

   PronunciAtion, manifesTAtion, characteRIStic, underdeVEIoped superinTENdent.

Six-syllable words:

1. Stress on 3rd syllable

   uncoOperative, indisTINguishable, simuITAneously

2. Stress on 4th syllable

   responsiBIIity, underdeVElopment, autobiOgraphy

3. Stress on 5th syllable

   nationaliZAtion, uncharacteRIstic

Sources: (Jowitt, 2006: 17-21; Clark, Yallop and Fletcher, 2008:355)

Jowitt (2006:21) further gives some rules on stress, especially as regards the root of a word. According to him, the ROOT of a word is stressed, not any PREFIX or SUFFIX. Crystal (1991:303) describes 'root" as a term often used in historical linguistics as part of a classification of the kinds of 'element' that operates within the structure of a word. That is, the base forms of a word which can not be further analysed without total loss of identity. For example, in the word meaningfulness, removing -ing, -ful, and -ness leaves the root 'mean'. Roots sometimes may be 'free' morphemes, such as 'mean' which can stand on its own to make meaning. Roots may also be 'bound' morphemes, such as: -ing, -ful, -ness, -ceive etc. which do not make meaning on their own.

(a) Prefixes include the following: in-, im-, iI-, ir-, ig- con-, com-,col-, cog-,cor-, de-, dis-, mis-, mal-, un-, on-,op-, a-, ad-, (also ar-, ap-, af-, al-, an-,); e-, ex-, ef-, per-, pre-, pro-, re-, over-, under-, out-, super-, inter-, sub-, a-, sup-, trans-, .

(b) Suffixes include: -er, -or, -or, -our, -ous, -en, -an, -ed, -ing, -ly, -ful, -y, -ity, -ful, -less, -ant, -ent, -ance, -ence, -al, -ible, -able, -ice, -ate, -ise, -ino, -ment, -ure, -ege, --ow, -ism, -ery.

(c) In words where one cannot quickly spot any prefix or suffix, or where there seems to be more than one root, it becomes harder to assign stress: for example, words such as 'platform', 'telephone' etc.

(d) Also, in spite of rules a and b, there are a number of two-syllable words which can have the stress on either the first or the second syllable, depending on whether the word is a noun or a verb. These are highlighted below:

Nouns/Adjectives	Verbs
CONduct	conDUCT
CONtract	conTRACT
CONtact	conTACT
CONtrast	conTRAST
CONvict	conVICT
DISpute	disPUTE

In Standard English, it should be noted that not every two-syllable word of this type behaves like the contrastive English words listed above. For example 'comment' 'challenge' can be either a noun or a verb but the stress is always on the 1st syllable (Jowitt, 2006:22).

Cruttenden (1986:19) also proposes a set of rules of the English words based on the class (Nouns, Adjectives, Verbs and Adverbs).

1. Verbs and Adjectives

- Stress the penultimate syllable when the final syllable has a short vowel in an open syllable or is followed by not more than one consonant e.g. sur 'render, 'polish, as 'tonish, 'rigid, exp'licit.
- Otherwise, stress is on the final syllable (subject to rule iii below), e.g. re'late, main 'tain, se 'vere, re'ject, se'vere, de'fend, ab'rupt.

II. Nouns:

- If the final syllable has a short vowel, disregard it and apply rules under (i) above e.g. 'elephant, 'moment, com'plexion. But, if the final syllable has a long vowel it

is stressed (subject to (iii) below), e.g. ma 'chine, e 'state, po'lice, dis'pute, cam'paign, cat'arrh.

III. Words that have more than two syllables with long final vowel are to be stressed on the antepenultimate syllable e.g. 'pedigree, 'paradise, 'comedy, 'anecdote etc.

Crutenden (1986:19-20) however, gives some exceptions to these basic rules for stems. These include words like po'sition, 'window, kanga'roo etc.

He also highlights the influence of suffixes on the assignment of stress in English. According to him, the backward counting of syllables in assigning stress is responsible for this. These types of suffixes are identified:

- Suffixes that place the stress on the stem (e.g. 'fulfil / 'fulfilment, 'usual / 'usually, re 'tire /re 'tirement).
- Suffixes that take the stress themselves e.g. ('limit / limi'tation, 'China / Chi 'nese).
- Suffixes that shift the stress on the stem (e.g. e 'conomy / eco 'nomic, 'educate / edu 'cation, a'pply / appli 'cation).

Moreover, Roach (2000) attempts the establishment of some English word stress rules. He remarks that English words with two syllables only have one syllable stressed. If the word is a verb, the following should be noted:

- If the second syllable of the verb contains a long vowel or diphthong, or if it ends with more than one consonant, that second syllable will receive the primary stress e.g. com 'ply, a 'pply, re 'ply, en 'joy, a 'rrive, de 'tain, de 'tect.
- If the final syllable contains a short vowel, and one or no final consonant, the first syllable is then stressed: e.g. 'enter, 'envy, 'open, 'equal.

Roach (2000) asserts that the rules above, also apply to adjectives e.g. 'lovely, di 'vine, 'even, cor 'rect, cor 'rupt. However, these are not without exceptions. Examples are: 'honest' and 'perfect'. They both end with two consonants, and yet they have the stress on the first syllable. For nouns, he states that the first syllable is assigned stress if the second syllable contains a short vowel and if otherwise, the second syllable is assigned the stress. Examples include 'money, e 'state, ba 'lloon de 'sign, 'product" etc. The same goes for two syllable adjectives.

Stress assignment to 3 - syllable words is more complicated. In the case of a verb, if the syllable contains a short vowel, and ends with not more than one consonant, that syllable is left unstressed. The stress goes to the penultimate syllable (e.g. en 'counter, de

'termine, ex'hibit, e'xamine. If, however, the final syllable contains a long vowel or diphthong, or ends with more than one consonant, that final syllable will receive stress e.g. enter 'tain, resu 'rrect.

For three-syllable noun, if the final syllable contains a short vowel, / ɪ/ or / ə /, it is unstressed. If the preceding syllable ends with more than one consonant, the middle syllable is stressed e.g. po 'tato, di 'saster, cre 'scendo. In the case of the final syllable of three-syllable word containing a short vowel and the middle also containing a short vowel, and ending with not more than one consonant both the final and middle syllables are left unstressed and the first syllable is given the primary stress e.g. 'quality, 'cinema, 'policy etc.

A general appraisal of English word stress reveals that stress is difficult to predict. This is because stress is ruled governed to a very limited extent. Whereas, in many other stress langugages (French, Portugese) stress is fairly predictable, as it is governed by rules that apply to almost the entire vocabulary or lexicon. English has a free stress pattern (i.e stress can be on any syllable of the English word.) Though, some linguists propose numerous rules which English word stress supposedly follows but these rules seem to have numerous exceptions and thus give the impression that they do not do justice to the complexity of the phenomenon. Therefore, some tendencies such as relating to word class, word origin and the presence of suffix have been suggested by linguists to assist English as Second language learners (Skandera & Burleigh, 2005; Roach, 2010).

2.3.4 Compound and complex English word stress

For English compounds, primary stress can be placed on any of either the first or second constitutent of the compound as both patterns are found in English. Although, a few rules have been suggested for the stressing of English compounds but these rules are not completely reliable. English compounds are made up of two or more independent words. They are of three types:

(a) True compounds. The two words are combined, without any space separating them. For example: sunshine, bookcase, chairman, and handshake.

(b) Hyphenated compounds. Here the two words are separated by a hyphen: drawing-pin, tape-recorder, good-looking, well-behaved, etc.

(c) Phrasal compounds. The two words are separated by a space, and they are compounds only in a loose sense. For example: motor cycle, gas cooker, free enterprise, etc.

In assigning primary stress to a compound in English, the main rules are as follows:

i. In most compounds, whatever the type, the primary stress comes on the syllable of the FIRST of the two components. Examples: SUNshine, BOOKcase, HEADache, CHAIRman, HANDshake, BREAKdown, DRAWing-pin, SITting-room, TAPE-recorder, MOtor cycle, GAS cooker.

ii Some compounds have the primary stress on the syllable of the SECOND word. They include:

- Adjectival compounds: self-emPLOYED, good-LOOKing, farFETCHED, well-beHAVED, full GROWN and first-CLASS.
- Numbers: twenty-ONE, forty-FIVE, etc.
- Food/menu items: roast CHICKen, baked BEANS etc.
- Points of the compass: north-WEST, south-EAST, etc.

Complex words are of two major types. English prefixes which come before the stem (‘un’- + ‘stem’ pleasant = unpleasant) and suffixes/ which come after the stem (e.g. stem great + suffix –ness = greatness Affixes are likely to have three possible effects on word stress:

- The affix itself receives the primary stress (e.g. semi- + circle = 'semicircle, -ality + person= person'ality)
- The stressed is retained on the root (e.g. 'pleasant = un'pleasant, 'market= 'marketing)
- The stress remains on the stem, not on the affix, but it is shifted to a different syllable (e.g. 'magnet + -ic = mag'netic)

Sources: Cruttenden (1986), Gimson (1989), Jowitt (2006) Skandera & Burleigh (2005), Roach (2010).

2.3.5 Standard English sentence stress

Standard English sentence stress can be understood by looking at words that primarily fulfil a grammatical function but have little or no lexical function. Not all words in an English sentence have equal degree of importance. Some of them seem to be relatively more important than the others. The content or lexical words, which are usually stressed in English sentences, include nouns, main verbs, adjectives, demonstrative pronouns and adverbs while the grammatical or form words, usually unstressed, comprise pronouns, auxiliary verbs, conjunctions, prepositions and articles (Gimson, 1989; Atoye, 1997; Akinjobi, 2000; Ogoanah, 2000; Olajuyigbe, 2001; Ilolo, 2011).

It is the content words in an English sentence that provide the information that the speakers want to give hence they are made prominent than other words in the sentence. For example, the sentence:

a TRAFfic poLICE SHOWED me the WAY to the MOtor-park

In the above sentence, one will notice that 'content' words whose syllables are written in capital letters are given prominence while the syllables of the grammatical words such as 'a, me, the, and to' are weakened because these words are not stressed in connected speech. Therefore, the last stressed syllable of the primary stresses bears the NUCLEAR stress while other stressed syllables get less prominence. The nuclear stress is shown below by a combination of underlining and capital letters:

a TRAFfic policeman SHOWED me the WAY to the MOtor-park

Therefore, it is the syllable 'mo' of the word 'motor-park' that bears the nuclear stress (Jowitt, 2006:23; Oyeniyi, 2006:47-48). Besides, the strong vowels of English grammatical words have been observed to have a tendency to get reduced to /ə/ when they occur in sentences and thereby contribute immensely to the typical rhythm of Standard English where there is alternation between stressed and unstressed syllables (Gimson, 1975; Jowitt, 1991; Roca and Johnson, 1999; Hayes, 1995; Akinjobi, 2005).

2.3.6 Emphatic stress

Elugbe (2002) is of the opinion that emphatic stress may be seen as the fourth kind of stress in English in which a particular syllable of an English word is made more prominent and usually extra strong in order to emphasise certain aspects of a sentence. An English sentence is characterized by content words and grammatical words. In English,

content words are normally stressed while grammatical words are either not stressed or weakly stressed. However, depending on the context and the meaning intended, any word in a sentence can be stressed as the focus of the information. Grammatical words which are not normally stressed in a sentence can be the centre of information and in such a context become stressed and emphasized. When primary stress occurs on a word in an English utterance to show contrast or for emphasis, stress on other words is usually reduced.

The examples below illustrate emphatic stress in the English language:

SHE built a house (not he)

She BUILT a house (not bought)

she built A house (not two)

she built a HOUSE (not a shop)

Source: Akindele (2011)

2.4 Standard English rhythm

Wales (1989) describes the word 'rhythm as derived from the Greek word 'rhythmus' which means 'flow'. Rhythm is generally described as the pattern of accented and unaccented stressed and unstressed syllables in a language. Rhythm implies the recurrence of an event at regular intervals in time. It is a suprasegmental feature that constitutes an integral component of spoken English. The term 'rhythm' is viewed in phonetics as the perceived regularity of prominent units in speech, it reflects in the pattern formed by 'stressed and unstressed syllables', 'syllable length' (long/short) or pitch (high/low), or a combinations of some of these variables (Crystal, Quirk and Greenbaum, 1987; Wales, 1989; Crystal, 1991; Roach, 2010).

Akinjobi (2012: 13) states that:

> When a language is syllable-timed, the syllables tend to recur at isochronous intervals. For stress-timed languages, the intervals between stressed syllables tend to be isochronous.

Abercrombie (1967:36) claims that the manner in which stressed and unstressed syllables succeed one another is what produces the rhythm of a language while Geigerich (1992:258) observes that all speech sounds if fluently delivered without interruption are said to have rhythm. Rhythm can be of three types; one having the syllables as its basis so that a number of syllables produce the rhythm group, as in Nigerian languages. This is

known as (syllable Timing). The second rhythm type is the one which has stress as its basis; so that an equal amount of time is used in the realization of one stressed syllable to another irrespective of the unstressed syllables between. That is, English rhythm that has an isochrony based on stress (stress Timing). The third rhythm type is (Full Vowel-Timing), where the rhythm group or unit is a full-vowel syllable together with any reduced vowel syllable that follows it (see Akinjobi, 2004:25-26).

2.4.1 Stress-timing

According to Jowitt (2005: 96-97), stress-timing is another area to which much attention needs to be given. English in its standard form is stress-timed. In SE, syllables regularly contrast with one another in stress (intensity) and quantity as well as in quality and (pitch), and a passage of connected speech can be divided into rhythmic groups. That is, at word level, "unstressed" syllables in connected speech undergo vowel reduction, and this leads to a contrast between the "strong" forms of word used in isolation (| bʌt | fɔː | ðiː | ðəm |) and their weak forms used in connected speech when no emphasis is intended (/bʌt/ /fə/ / ðə/ etc). The complexity of this rhythmic structure makes it problematic for learners of English as L2, which result in the obscuration of so many syllables and hence a major hurdle to the comprehensibility of native speakers to non-native users (Akinjobi, 2004). In addition, Abercrombie (1967) and Cruttenden (1986:24) describe the principle of isochrony in stress-timed languages as the tendency of rhythm groups to be of appropriate equal duration. He illustrates with the example below:

What's the	difference between a	sick	elephant and a	dead	bee
2	5	1	5	1	1

Using bars to demarcate rhythm groups (a stretch of utterance from one stressed syllable to the next including the unstressed syllables that follow) and figures to indicate the number of syllables in each group, Cruttenden (1986) claims that isochrony implies that the five syllables of the second and fourth rhythm groups above take the same amount of time as the single syllables of the third and fifth.

2.4.2 Syllable-timing

The syllable has been described as the core in syllable timing description (i.e all the syllables are made prominent in syllable timing.) The idea of weakening does not apply to syllable timing. Edo English speakers, like any other variety of Nigerian English are likely to be syllable-timed, as linguists have observed that people who speak tone languages as their LI tend to apply syllable time to a stress-timed language such as English.

Examples:

> 'The baby has been crying for milk' / ðə beɪbi həz biːn kraɪɪŋ fə mɪlk /
> 'The lady must have baked the bread' /ðə leɪdi məst həv beɪkt ðə bred/
> 'Mary must have gone to school.' /meəri məst həv gɒn tu skuːl /
> (Akinjobi, 2004)

From the examples above, it is observed that grammatical words are weakened because without such reduction forms, the speech will lack variation which is a feature of the English rhythm. Meanwhile, this may not be true for Edo English, and especially Nigerian English speakers. Several researchers who have worked on Nigerian English rhythm, have claimed that most Nigerian English speakers make every English syllable prominent (Ladefoged, 1982; Udofot, 1997, 2003; Akinjobi, 2004; Ilolo, 2013), thereby distorting the rhythm of SBE. Equally, words like 'the', 'must', have,' and 'been have their vowels reduced to the schwa / ↔/ in SBE so that equal time is spent from one stressed syllable to another.

2.4.3 Full vowel-timing

Crystal (1969), Cruttenden (1986), Roach (2000) remark that the syllable-timed and stress-timed dichotomy, particularly the theory of isochrony lacks experimental evidence despite the fact that it has long been upheld by phoneticians. Cruttenden (1986) argues that no clear difference has been found between the so called syllable-timed and stress-timed languages, as available facts revealed that, in all languages, rhythm tends to be influenced by both stresses and the number of syllables; the only difference being in the importance each language attaches to the stress factor. He also claims that it is not yet proved how a rhythm group with many syllables can be compressed into exactly the same duration with a single syllable rhythm group. Roach (2000) is also of the opinion that the

existence of truly stress-timed rhythm has not been proved and that it has not been possible to show a difference between stress-timed and syllable-timed languages.

In view of this, a new approach to the description of English rhythm called, Full Vowel Timing was suggested by Bolinger (1981). This theory proposes that English rhythm is determined by the relationship between full vowels and reduced vowels, and not the number of stresses or syllables in a sentence. This follows that each rhythm unit must contain one full-vowel syllable. In this regard, English rhythm is no longer determined by the number of syllables or the number of stresses but the pattern made in speech by the mixture of syllables containing full vowels with those containing reduced vowels (Cruttenden, 1986).

He thus postulates a rule of full vowel-timing as follows:

> A reduced-vowelled syllable following a full-vowelled syllable 'borrows time' from it, so that together they are roughly equal to a full-vowelled syllable forming a rhythm unit on its own; however, any succeeding reduced-vowelled syllables do not 'borrow time' and hence add to the length of a rhythm unit.

He further illustrates with the following examples:

Those Porcupines aren't dangerous

F F F F F F R R

The wallabies are dangerous

R F R R R F R R

where F = Full vowelled Syllable; and

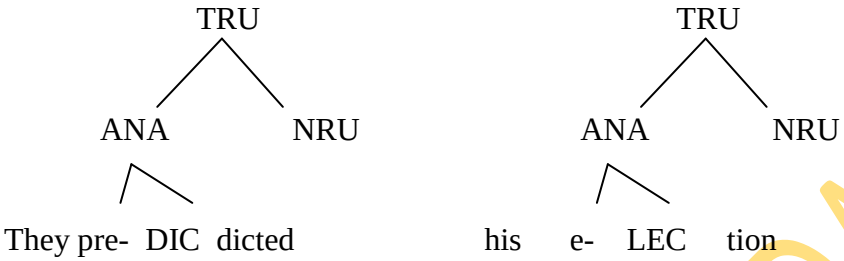
R = Reduced-vowelled Syllable

As observed above, whereas stress-timed isochrony claims both sentences as containing the same number of rhythm units, each divided into an anacrusis and two rhythm groups, full-vowel timing considers the two sentences as containing six and two rhythm units respectively.

2.4.4 Rhythmic structure

Jassem (1952) is one of the early linguists who proposed a more sophisticated model of rhythmic structure where he attempted to organise English speech into two kinds of unit: 'the Narrow Rhythm Unit' (compares to Abercrombian foot) consisting of a stressed syllable followed by a sequence of unstressed syllables, and 'the Anacrusis' comprising a sequence of proclitic unstressed syllables. These two combine to form the

'Total Rhythm Unit'. He asserts that, there is a tendency to pronounce the unstressed syllables in anacrusis 'extremely rapidly', whereas the duration of each syllable in a narrow rhythm unit tends to be inversely proportional to the number of syllables in that unit, giving rise to the notion of isochrony. The model is represented overleaf:



TRU = Total Rhythm Unit
NRU = Narrow Rhythm Unit
ANA = Anacrusis

Fig 2.2: Jassem's Model of rhythmic structure

Sources: (Hirst, 1998; Oladipupo, 2008)

As a result, of Jassem's model, Cruttenden (1986:24) also developed a rhythmic structure which he splits into Rhythm-Group (equivalent to foot and Narrow Rhythm Unit) and Anacrusis. Rhythm-Group is described as a stretch of utterance from one stressed syllable to the next, including the unstressed syllables that follow. Cruttenden (1986) is, however, of the opinion that full vowel timing seems to account for the instrumentality measured facts of English syllable duration more successfully than stress-timed isochrony, though he acknowledges some tendency towards stress-timed isochrony since without it there will be no reason for the reduction of some syllables and vowels (Cruttenden, 1986; Akinjobi, 2004: 71; Oladipupo, 2008). This notion, however, may be untrue for Edo English speakers whose mother tongue is a tone language, where the notion of appropriate alternation of stressed and unstressed syllables in rhythm units may be hardly used. Hence, the need for the current study.

2.4.5 Phonetic-acoustic approach to English rhythm

Languages of the world are broadly classified into syllable-timed and stress-timed rhythm (Abercrombie, 1967; Roach, 2000; Gut, 2001; Gut and Milde, 2002). For syllable-timed languages, the rhythm unit is the syllable; that is; equal time is spent from one stressed syllable to another stressed syllable (O'Connor, 2004). In stress-timed

rhythm, stress beats form the rhythm unit. This presupposes the occurrence of stressed syllables at relatively regular intervals, the number of the unstressed syllables in between them notwithstanding (Cruttenden, 1986; Roach, 2000). In this respect, English is generally regarded as a stress–timed language having an isochronous rhythm based on stresses while Nigerian languages are syllable-timed. The concept of speech rhythm has been extensively discussed in phonetics and phonology. Impressionistic accounts claim that the languages of the world differ in their rhythm, in terms of syllable-timing and stress-timing (Pike 1945; Abercrombie 1967). Related to the traditional view of rhythmic classes is the idea of isochrony in which the different rhythms are respectively based on the isochrony of syllables and inter stress. In the opinion of Caudwell (2002), the stress-timing and syllable-timing hypothesis of Abercrombie is a collection of hypothesis which includes the following:

a. All languages fall into one or two mutually exclusive categories: stress-timed or syllable-timed.
b. In stress-timed languages, stresses occur at equal time-intervals (stress isochrony).
c. In syllable-timed languages, syllables occur at equal-time intervals (syllable isochrony).
d. Syllable-length varies in stress-timed languages but not in syllable-timed languages.
e. Inter-stress-intervals vary in length in syllable-timed languages, but not in stress-timed languages.

Cauldwell (2002) asserts that these hypotheses are interdependent: (b) and (c) contain the defining characteristics (stress–isochrony, and syllable–isochrony) of the two categories that make up the binary distinction in (a). According to him, if research claims show that either one of stress – isochrony (b) or syllable – isochrony (c) does not exist, then, hypothesis (a) is refuted and that hypothesis (a) would also be refuted if it were found that no language is characterized entirely by stress-timing or if it were found that no language is entirely syllable-timed. He argues that these hypotheses seem at first sight to be eminently testable. Meanwhile, Roach (1982:74-76) observes that the methodological problems of testing the hypothesis are difficult to surmount and these problems include:

i. Consistent identification of stresses across languages by researchers and informants.

ii. Deciding where the start and end points should be for measuring inter-stress intervals.

iii. How to allow for variation in tempo.

iv. How to deal with pre-head and post-tonic syllables.

In the light of this, Gut et al. (2001) remark that the lack of objective acoustic evidence for distinct isochronous units in speech led to the current phonetic-acoustic measures approach of speech rhythm.

2.4.6 Phonological approach to English rhythm

In the phonological approach to rhythm, the rhythm distinction among languages is seen as the result of the presence /absence of specific phonological and phonetic properties of a particular linguistic system. These linguistic properties have been observed to include syllable structure variety and complexity, vowel reduction and the correlates of stress (Dasher and Bolinger, 1982; Dauer, 1983, 1897; Nespor, 1990). For syllable structure, the stress-timed/syllable-timed dichotomy is correlated with greater variety of syllable types of different complexity in the former group against a limited number of syllable types together with phonological processes that simplify syllable structure (cluster simplification, epenthesis) in the later group. While, vowel reduction in stress-timed languages, unstressed vowels tend to have a reduced system and phonetically shorter or even absent; where as, in syllable-timed languages, unstressed vowels are usually not consistently shorter (Nespor, 1990).

In the same vein, the correlates of stress, stress-timed languages discrimination have shown that rhythmic distinctions play important role in the perception of speech (Mehler et al. 1988; Den Os, 1988; Nazzi et al.1988). Significantly, these linguists strongly suggest that the properties behind the rhythmic distinctions are somehow encoded in speech signal. Noticeably, it has been proposed that speech signal offers a cue to the kind of phonological processes that characterizes each language and influences the phonetic string as depicted by Fronta and Vigario (2001) below:

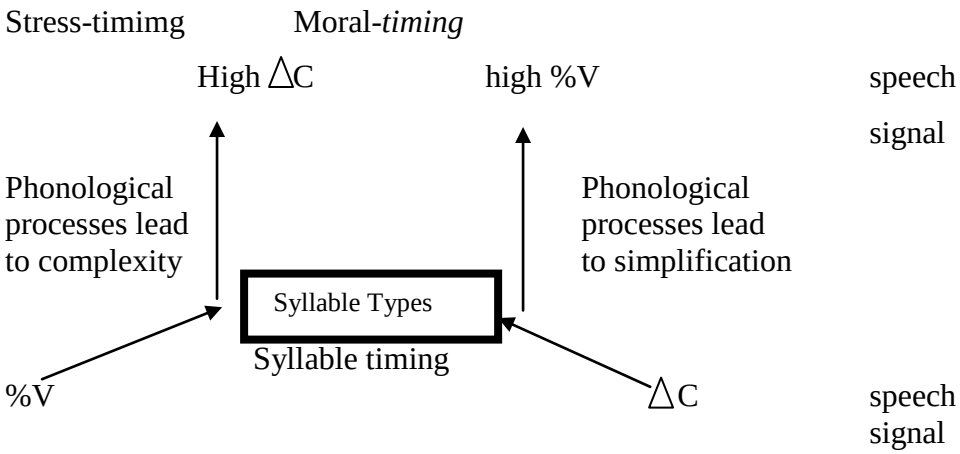


Fig 2.3: Phonological syllable types of EP amd BP

Source: Fronta and Vigario (2001)

Fronta and Vigario summarise that the schema above provides a cue to the phonological syllable types of European Portuguese (EP) and British Portuguese (BP). They observed that both cues are available in the speech signal and that they may in principle be used in the acquisition process. Also, linguists have observed that complex syllable structure in stress-based phonologies may be secondarily associated with the occurrence of two other syllable-related properties. For instance, the availability of several syllable templates, syllable divisions across consonant clusters may vary. A close look at the words *pastry* and *extra* in English can be syllabified as either /'peɪst/rɪ/ or /'peɪs/trɪ/, /e.kstrə/, /ek.strə/, /eks.trə/, /ekst.rə/, /ekstr.ə / which renders the syllable division within the words ambiguous. Second, the complex consonant clusters which emerge through vowel deletion or in morphological processes provide a rich basis for rules of consonant assimilations.

Equally, mora-based and syllable-based languages have been claimed to have simple syllable structure and lack consonant clusters, therefore, ambiguous syllable divisions and assimilations across consonants are less likely to appear in these languages. Meanwhile, their strong tendency towards simple syllable structure necessitates morphological rules which resolve simple consonant clusters that emerge in the concatenation of morphemes. Such rules which are less likely to occur in stress-based languages include rules of cluster simplification, in which one of the adjacent consonants is deleted, and rules of vowel epenthesis, where a vowel is inserted to break up the sequence of two consonants. Accordingly, tone and vowel harmony should only be

possible in syllable-based and mora-based rhythm but not in stress-based rhythm (see Auer, 1993; Roach, 2010; Ilolo, 2013). Schiering (2007) gives some phonological parameters and predictions for a typological study of linguistic rhythm, with respect to their values in languages of different rhythmic types below:

Table 2.1: Phonological parameters for a typological study of linguistic rhythm

Parameters	Mora-based	Syllable-based	Stress-based
Stress correlate	pitch	pitch	Pitch, duration, intensity
Stress effect	none	none	Vowel reduction, vowel lengthening, consonant changes.
Stress placement	Predictable, fixed		unpredictable, free
Length	Yes	Possible in all syllables	not in unstressed syllables
Tone	Possible		no
Syllable structure	simple	simple	Complex
Syllable division	Unambiguous		Ambiguous
Assimilations	few		frequent
Cluster resolution	Yes		No
Vowel harmony	Possible		No

Source: Schiering (2007:5)

He, however, notes that most of the proposed parameters for the typological study of linguistic rhythm are made in the context of European languages. This means that, it is far from clear, which of the proposed phonological parameters of linguistic rhythm will prove reliable in the typology of languages (out of Europe) when a more diverse language is studied. This further justifies the reason for this study.

2.5 Rhythm measures

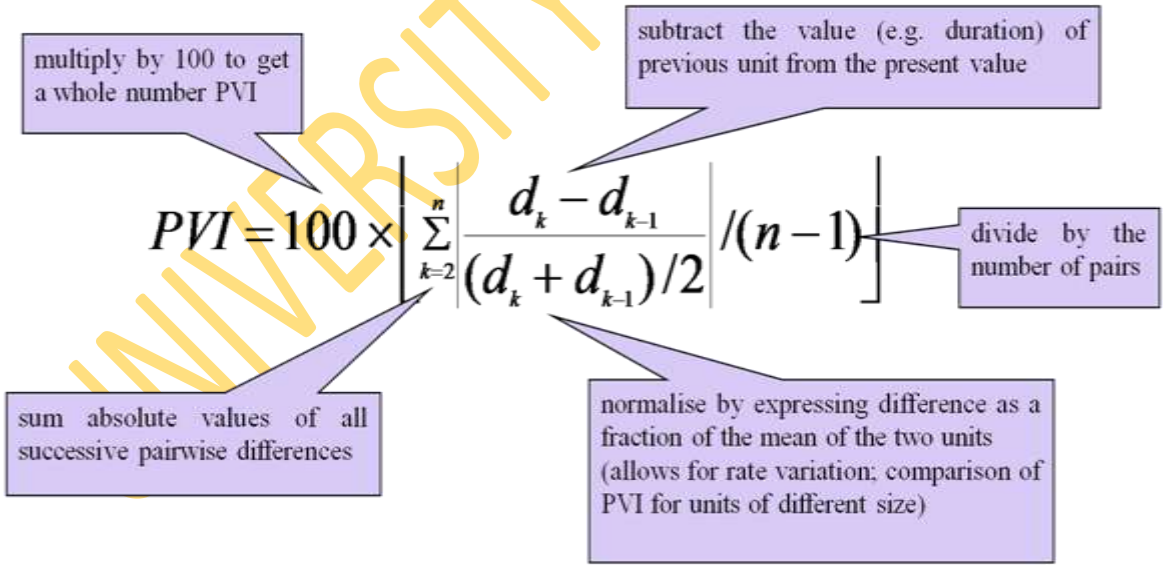
Stressed-timed languages such as English, in contrast, are supposed to have regular recurring stress beats with the same time interval separating two beats with the same time of equal length. Gibbon and Gut (2001) note that since the number of syllables between two stress beats varies, their length is adjusted to fit into the stress interval-syllable length, hence, stress is variable in stressed languages. These linguists, however, argue that many researchers (Classe 1939; O' Connor 1965; Uldall 1971; Roach, 1982; Dauer, 1983) have tried and failed to find objective acoustic basis for these claims. First, the inter stress

interval of English is not of equal length but varies from 488 to 566ms. Roach (1982) investigated the duration of three stress-timed (English, Russian, Arabic) and three syllable-timed languages (French, Telugu, Yoruba) by the number of feet, which gives a hypothetical ideal duration for a foot with complete isochrony assumed. Actual measurements of feet durations taken from speech in these languages were then compared with the predicted value and the percentage deviation was calculated. Roach discovered that the variance of percentage deviation in English is higher in French, Telugu, and Yoruba, which is contradictory to expectations. Second, using standard deviation calculation method for syllable length in stress-timed languages and syllable-timed languages, he discovered that no significant difference was found. English 86ms, Russian 77ms, Arabic 76ms; French 75.5ms, Telugu 66ms and Yoruba 81ms. However, this claim seems contestable, as a result of the fact that two speakers of NE used in Roach study may not be representative enough to make empirical statements on the duration of a language group. Also, findings from two speakers of these languages cannot be claimed to be representative enough to make claim for the rhythm of these language groups based on the restricted sample and data. Dauer (1983:55) further asserts that rhythmic differences […] between languages […] are more of a result of phonological , phonetic, lexical and syntactic facts about a language than any attempt on the part of the speaker to equalize inter stress or inter syllable intervals.

Several researchers, Ramus, Nespor and Mehler (1999), Grabe, Post & Watson (1999), Low, Grabe and Nolan (2000) have proposed related but somewhat different metrics for determining the rhythm of languages from acoustic-phonetic measurements. Ramus (1999) based his findings that infants are able to discriminate between languages of different rhythmic types through a simple segmentation of speech into consonants and vowels (see Mehler, Dupoux, Nazzi & Dehaene-Lamertz, 1996) so rhythmic properties must be rather directly available in the acoustic signal. The Ramus metric (RM) has been observed to be a simple segmentation of speech into consonants and vowels. Specifically, RM metrics comprises the proportion of vocalic intervals and the variability (standard deviation) of consonantal and vocalic intervals within sentences. He argues that the dimensions represented by consonants duration variability and proportion of vocalic interval are directly related to syllable structure, in that higher consonant duration variability is a direct consequence of the number of different syllable types a language instantiates. Ramus third dimension involves vowel reduction, contrastive vowel length,

and vowel length in specific contexts. When plotted in a graph, using the three dimensions, Ramus discovered that eight languages formed three clusters: English, Dutch, and Polish; Spanish, Italian, French and Catalan; and Japanese (Schiering, 2007).

In the same vein, Grabe metrics is based on the notion that stressed and unstressed vowels in languages employing stress rhythm vary widely in duration whereas the duration of vowels in syllable rhythm languages vary less. Grabe proposed a Pairwise Variability Index (PVI) which is calculated from the absolute value of differences in vowel duration between successive syllables, divided by the average duration of the pair. For languages employing stress, rhythm would be expected to have relatively large PVI values because the durations of vowels in successive syllables vary while languages employing syllable-timing would be expected to have relatively low PVI values. Low, Grabe & Nolan (2000) applied the PVI to British and Singapore English and discovered that the varieties differed significantly as predicted. Also, Grabe and Low (2002) added a second dimension to their PVI metric based on the variability of consonantal intervals. The vocalic dimension is now known as Nornalised Pairwise Vriability Index (nPVI) and the consonantal dimension as Raw Pairwise Variabililty Index (rPVI). This dimension was applied to eighteen languages as illustrated below by Ilolo (2013):



Where *n* is the number of vocalic intervals and *d* is duration of the kth interval.

Fig. 2.4: The Normalized Pairwise Variability Index

Sources: Grabe and Low (2002) and Ilolo (2013)

Then PVI is achieved by first calculating the duration difference between each pair of successive intervals, then dividing it by the mean duration for the pair, and taking the absolute value. The results for each pair are then summed and divided by the number of differences. The final output is multiplied by 100 to avoid fractional values.

Table 2.2: Normalized vocalic nPVI and intervocalic rPVI values for syllable-timed and stressed-timed languages.

Languages	Normalised Vocalic Npvi	N	Raw Intervocalic rPVI	N
Thai	65.8	161	56.5	164
Dutch	65.5	132	57.4	136
German	59.7	155	55.3	153
British English	57.2	124	64.1	124
Tamil	55.8	149	70.2	150
Malay	53.6	205	63.3	204
Singapore English	52.3	118	68.2	118
Greek	48.7	177	59.6	179
Welsh	48.2	152	54.7	150
Rumanian	46.9	183	47.6	182
Polish	46.6	124	79.1	128
Estonian	45.4	162	40.0	158
Catalan	44.6	144	67.8	139
French	43.5	146	50.4	142
Japanese	40.9	176	62.5	177
Luxembourg	37.7	131	55.4	139
Spanish	29.7	173	57.7	156
Mandarin	27.0	141	52.0	135

Sources: Grabe and Low (2002) and Ilolo (2013)

From the table above, Ilolo (2013) notes that nPVI values as indicated by Grabe and Low's (2002) predictions for the intervocalic *rPVI* are supported by the contrast between French (syllable-timed), and British English, Dutch and German (stress-timed). French, which has a relatively simple syllable structure, appears to have a lower intervocalic *rPVI* than English, Dutch and German, which have more complex syllable-structures. Spanish, however, exhibits a lower intervocalic *rPVI* than English but does not

seem to be very different from Dutch or German, contrary to their predictions. Grabe and Low (2002) measure succeeded in classifying languages that show mixed phonological properties as suggested by Dauer (1983), e.g. vowel reduction but small variation in syllable structure. As a result, recommendations for future research have been made using more speakers in order to validate the role of the *rPVI* in capturing rhythmic patterning of different languages. Ilolo (2013) therefore, applied Grabe and Low Pair wise Variability Index (PVI) to confirm the rhythm of Educated Isoko English (a sub-variety of NE), as earlier predicted, and discovered that the PVI results for vowel reduction in Educated Isoko English (EIE) supported the predictions made earlier. The mean nPVI (vocalic intervals) values were subjected to a One-Way Analysis of Variance (ANOVA) with the dependent variable "mean nPVI values" and the independent variable "EIE (Set A and B)" and "SBE (Set A and B)". Planned comparison showed that as predicted within EIE, between Full and Reduced Vowel Sets (Sets A and B), there was no absence of reduction but with SBE, the difference was significant ($p<0.05$).

2.6 Strong and weak forms in Standard British English connected speech

Connected speech in this context refers to any utterance which could be a phrase, a clause or a sentence. In English, variation of stress prominence also occurs in connected speech just as it does in single polysyllabic words. Some parts of the connected utterance will be made to stand out from their environment, in the same way that certain syllables of a polysyllabic word are made more prominent than their 'neighbours'. It therefore means that English connected speech displays an alternation of stressed and unstressed or weakly stressed syllables. The pattern produced by the systematic relationship of the stronger and the weaker parts of the syllable, as they succeed each other in speech, results in what is referred to as 'rhythm' (Christopherson, 1956:153). Also, vowel quality is determined by the weakness or strength of a particular syllable. It can therefore be said that a stressed syllable contains a strong vowel while its unstressed or weakly stressed counterpart has a weak vowel which, most of the time, is reduced to a schwa /ə/. Corroborating this, Gimson (1989:261) affirms that:

> As compared with the accented realizations of these words, the 'strong forms', the unaccented 'weak forms' varieties of these words show reductions of the length of sounds, obscuration of vowels towards / ə, I, u/ and the elision of vowels and consonants.

Gimson (1989:26–262) further exemplifies the presence of the strong and weak grammatical forms in English as illustrated below:

Word	Strong Form	Weak Form
a	/eɪ/	[ə]
am	/ æm/	[əm, m]
an	/ æn/	[ən, n]
at	/ æt/	[ət]
can (aux.)	/ kæn/	[kən, kn]
must	/mʌst/	[məst, məs]
of	/ɔv/	[əv, v, ə]
them	/ðəm/	[ðəm, ðm, m]
we	/wi:/	[wI, wə] + cons.
the	/ði:/	[ðI] + vowel [ðə] + consonant

Furthermore, Roach (2010:89) explains that function words such as auxiliary verbs, prepositions, conjunctions, etc., all of which are pronounced in weak forms, could also be used in certain contexts where only the strong form is acceptable, and others where only the weak form is the normal pronunciation. Some fairly simple rules where the strong form is used is given below:

(i) For many weak-form words, when they occur at the end of a sentence; for example, the word 'of ' has the weak form /əv/ in the following sentence:

'I m fond of chips' / aɪm ˈfɒnd əv ˈʧɪps /

However, when it comes at the end of the sentence, as in the following example, it has the strong form /□v/:

'Chips are what I'm fond of '/ˈʧɪps ə ˈwɒt aɪm ˈfɒnd ɒv/

Therefore, many of the words given below never occur at the end of a sentence (e.g. 'the,' 'your'), some words (particularly the pronouns do occur in their weak forms in final position.

(i) When a weak-form word is being contrasted with another word ; for example:

'The letters' from him, not to him' / ðə ∪letəz frɒm ɪm nɒt ∪tu: ɪm/

A similar case is a co-ordinated use of prepositions:

'I travel to and from London a lot' / aɪ ˈtrævl̩ ˈtuː ən frəm ˈlʌndən ə ˈlɒ

'A work of and about literature' / ə ˈwɜːk ɒv ən əˈbaʊt ˈlɪtrətʃə /

(a) When a weak-form word is given stress for the purpose of emphasis; for example: 'you must give me more money' |ju ˈmʌst ˈgɪv mi ˈmɔː ˈmʌni |

(b) When a weak-form word is being "cited" or "quoted"; for example:

'you shouldn't put "and" at the end of a sentence' | ju ˈʃʊdnt pʊt ˈænd ət ði ˈend əv ə ˈsentəns |

Also, when weak-form words whose spelling begins with 'h' (e.g. 'her', have') occur at the beginning of a sentence, the pronunciation is with initial '*h'*, even though this is usually omitted in other contexts.

Other weak forms highlighted are given below:

1. 'and'

Weak form: /ən/ (sometimes n after (t,d,s, z, ʃ)

'Come and see' | ˈkʌm ən ˈsiː |

'Fish and chips' | ∪fɪʃ n ∪ tʃɪps |

2. 'but'

Weak form: /bət/

'It's good but expensive' / its ∪gʊd bət ik ∪spensiv/

3. 'that'

This word only has a weak form when used in a relative clause; when used with a demonstrative sense it is always pronounced in its strong form.

Weak form: /Δət/

'The price is the thing that annoys me' | ðə ˈpraɪs ɪz ðə ˈθɪŋ ðət əˈnɔɪz mi |

4. 'than'

Weak form: /Δən/

'Better than ever' / ∪betə Δən ∪evə /

5. 'his '(when it occurs before a noun)

Weak form: /Iz/ (hiz at the beginning of a sentence)

'Take his name' | ˈteɪk ɪz ˈneɪm |

(Another sense of 'his, as in 'it was his', or 'his was late', always has the strong

form)

6. ‘her’

When used with a possessive sense, preceding a noun; as an object pronoun, this can also occur at the end of a sentences.

Weak forms: /ə/ (before consonants)

‘Take her home’ | teɪk ə həʊm |

ər (before vowels)

‘Take her out’ | ∪teɪk ər ∪aʊt |

7. ‘your’

Weak forms: /jə/ (before consonants)

‘Take your time’ / ∪teIk jə ∪taIm/

Jər (before vowels)

‘On your own’ / ∪Dn jər ∪əʊn /

8. ‘she’, ‘he’, ‘we’, ‘you’

This group of pronouns has weak forms pronounced with weaker vowels than the i:, u: of their strong forms. There is little difference in the pronunciation in different places in the sentence, except in the case of ‘he’.

Weak forms:

a. ‘she’ / Σi:/

‘Why did she read it?’ | waɪ dɪd ʃi ri:d ɪt |

‘who is she?’ | hu: ɪz ʃi |

‘he’

/ i/ (the weak form is usually pronounced without h except at the beginning of a sentence)

‘Which did he choose?’ | wɪtʃ dɪd i ˈtʃu:z|

‘He was late, wasn’t he?’ |hi wəz ˈleɪt ˈwɒznt i |

‘we’ /wi/

‘How can we get there?’ /∪haʊ kən wi ∪get Δeə/

‘We need that, don’t we?’ / wi ∪ni:d Δət ∪dəʊnt wi/

b. ‘you’ /ju/

‘What do you think? | ˈwɒt də ju ˈθɪŋk |

‘You like it, do you?’ | ju ˈlaɪk ɪt ˈduː ju |

9. ‘him’

Weak form: / Iμ /

‘Leave him alone’ | ˈliːv ɪm əˈləʊn |

‘l’ve seen him’ | aɪvi ˈsiːn ɪm |

10. ‘her’

Weak form: /ə/ (/ hə / when sentence-initial)

‘Ask her to come’ | ˈɑːsk ə tə ˈkʌm |

‘I’ve met her’ | aɪv ˈmet ə |

11. ‘them’

Weak form: /Δəm/

‘Leave them here’ /∪liːv Δəm ∪hiə/

‘Eat them’ / ∪iːt Δəm/

12. ‘us’ /əs/

Weak form:

‘Write us a letter’ | ˈraɪt əz ə ˈletə |

‘They invited all of us’ | ðeɪ ˈɪnvaɪtɪd ˈɔːl əv əs |

More so, some prepositions and other function words occur in their strong forms when they are in final position in a sentence; examples of this are given below, ‘to’, is a partial exception.

13. ‘at’

Weak form: /ət/

‘I’ll see you at lunch’ | aɪl ˈsiː ju ət ˈlʌntʃ |

In final position: /æt/

‘what’s he shooting at?’ | ˈwɒts i ˈʃuːtɪŋ æt |

14. ‘for’

Weak form: /fə/ (before consonants)

‘Tea for two’ / ∪tiːfə ∪tuː/

fər (before vowels)

‘Thanks for asking’ | ˈθæŋks fər ˈɑːskɪŋ |

In final position: /f □:/

‘What’s that for?’ |ˈwɒts ðət ˈfɔ:|

15. ‘from’

Weak form: /frəm/

‘I’m home from work’ | aɪm ˈhəʊm frəm ˈwɜ:k |

In final position: /fr□m/

‘Here’s where it came from’| ∪hɪəz weər ɪt ˈkeɪm frɒm |

16. ‘of’

Weak form: /əv/

‘Most of all’ |ˈməʊst əv ˈɔ:l |

In final position: /ɒv/

‘Someone I’ve heard of’` | ˈsʌmwʌn aɪv ˈhɜ:d ɒv |

17. ‘to’

Weak forms: /tə/ (before consonants)

‘Try to stop’ ˈtraɪ tə ˈstɒp | ˈ

/tu/ (before vowels)

‘Time to eat’ | ˈtaɪm tu ˈi:t |

In final position: /tu/ (it is not usual to use the strong form /tu:/ the pre-consonantal weak form /tə/ is never used)

‘I don’t want to ‘ ˈ | aɪ ˈdəʊnt ˈwɒnt tu |

18. ‘as’

Weak form: /əz/

‘as much as possible’ | əs ˈmʌtʃ əz ˈpɒsəbəl |

In final position: /æz/

‘That’s what it was sold as’ | ðæts ˈwɒt ɪt wəz ˈsəʊld æz |

19. ‘some’

‘Some’ is used in different senses. When it occurs before a singular countable noun (meaning “an unknown individual”), it has the strong form: ‘I think some animal broke it’ | aɪ ˈθɪŋk sʌm ˈænɪməl ˈbrəʊk it |. It is also used before uncountable nouns (meaning “an unspecified amount of) and before other nouns in the plural (meaning “an unspecified number of”); in such uses it has the weak form /səm/ ‘Have some more tea’ | ˈhəv səm ˈmɔ: ˈti: |

In final position: /sʌm/

‘I’ve got some’ |aɪv ˈgɒt sʌm |

20. ‘there’

When this word has a demonstrative function, it always occurs in its strong form /ðeə/ (/ ðeər/ before vowels); Examples:

‘There it is’ | ˈðeər ɪt iz |

‘Put it there’ |ˈpʊt ɪt ˈðeə |

Weak forms: /ðə/ (before consonants)

‘There should be a rule’ | ðə ˈʃʊd bi ə ˈruːl /

/ðər/ (before vowels) ‘There is’ / ðər ˈiz /

In final position: the pronunciation may be /ðə/ or/ ðeə/

‘There isn’t any, is there? | ðər ˈɪznt eni ɪz ðeə |

(Roach, 2010)

2.6.1 Vowel quality and duration

Speech sounds can be generally classified into vowels and consonants. Vowels can be defined in phonetic and phonological terms. Phonetically, vowels are sounds articulated without a complete closure in the oral cavity or a degree of narrowing which can produce audible friction; in such a way that the air escapes through the centre of the tongue. If some air escapes through the nose, nasal vowels are produced. Vowels can be described using four phonetic parameters: the degree of lip rounding, i.e. whether the lips are rounded, spread, or neutral; the part of the tongue raised, the height of the body of the tongue and the front/back position of the tongue. A slight movement of the tongue can produce a distinct auditory difference in vowel quality. It may be difficult to feel or see these movements; therefore, classification of vowels is carried out through acoustic or auditory criteria (Robins, 1980 and Ladefoged, 2003).

On the other hand, duration is the length of time used in speech, a significant phonetic stress related necessity for determining the rhythm of a language as either syllable-timed or stressed-timed. Duration is also an important criterion for determining the vowel system of every human language (whether relatively ‘long’ or ‘short’ vowels are used). That is, whether there is any detectable change in quality during articulation (Roach, 1982; Crystal, 1991). For instance, if the quality of a vowel remains unchanged, the term ‘pure vowel’ is used. In Standard British English pronunciation, ‘red’ /red /, ‘bag’ /bæg /, ‘man / mæn /’, ‘sit' / sɪt/ , ‘seat’ / siːt / etc maintain pure vowels. On the contrary, if there is a change in quality of the vowels, that is, there is a vowel glide which

involves the two auditory elements; the vowel glide is referred to as ‘diphthong’ (light /ˈlaɪt /, way /ˈweɪ /, say /ˈseɪ /); if three elements are involved, it is a ‘triphthong’ (‘fire’ / ˈfaɪə /, ‘wire’ / ˈwaɪə / etc).

The weak vowel of English is the one most commonly heard when a stressed vowel become unstressed, e.g. ‘telegraph becoming telegraphy’ /ˈteləgra:f /v./ təˈlegrəfi/ adj., while the strong form is that which is the result of a word being stressed. For instance, the pronunciation of the weak grammatical word /əv/ becomes /ɔv/ when stressed (Crystal, 1991). Gimson (1989) also notes that certain form words, which do not possess an alternative weak form for unaccented occurrences, may show such reductions in connected speech, e.g. I (/ə/) don’t know; what’s your (/jə/) name?; two or (/ə/) three etc. Furthermore, the amount of muscular tension required to produce a particular vowel is also very significant in defining the vowel system of a language. This is because vowels articulated in extreme positions are more ‘tense’ than those articulated nearer the centre of the mouth, which are ‘lax’: seat v. sit, flute, v. foot (Crystal, 1991:377).

2.7 Schwa /ə/

Crystal (1991) describes the term ‘schwa’ from the German name of a vowel of central quality found in Hebrew. Schwa is often depict as a mid-central vowel with neutral lip position, having a non-final positions a tongue-raising between half-open and half-close, e,g in ‘alone’, /əˈləʊn/, fatigue /fəˈti:g/, ‘decorative’ /ˈdekərətɪv/, ‘afterwards’ /ˈɑ:ftəwədz/, etc. (Gimson, 1989). In the opinion of Flemming (2007), schwa / ə / is a mid-central vowel in accordance with the denotation in the International Phonetic Alphabet (IPA). He further observes that schwa is often characterized as weak or reduced vowel. This notion is often based on a number of generalizations about the cross-linguistic behaviour of schwa. According to him, schwa is the outcome of neutralization of vowel quality contrasts in a number of languages including English, Dutch and Southern Italian dialects. Often times, schwa is restricted to unstressed syllables due to reduction in vowels (Chomsky and Halle, 1968; Booij, 1995; Maiden, 1995). Schwa can as well be singled out by deletion processes as confirmed in French, Dutch, English and Hindi (Hooper, 1978; Ohala, 1983; Cohn, 1989; Booij, 1995).

Schwa is described as the vowel that is commonly heard when a stressed vowel in English becomes unstressed in words such as ‘telegraph /ˈtelɪgrɑ:f/, becoming ‘telegraphy’/təˈlegrəfi/. It is also the sound found in unaccented (weak) forms such as *is,*

as, the, an, and, etc. (Gimson, 1989). Meanwhile, it has been observed that the quality of schwa in languages like English and Dutch varies substantially across contexts. For instance, the assumption that schwa is a mid-central vowel has led to the notion that vowel reduction involves approximation to the centre of the vowel space. The observation that schwa is contextually variable is more consistent with an alternative characterization of vowel reduction, as assimilation of a vowel to its segmental context (e.g. Lindblom, 1963). This line of analysis, argues that schwa is a vowel that lacks a well-defined target, and so assimilates strongly to surrounding segments, resulting in substantial variation in vowel quality of schwa (Flemming, 2007).

Likewise, Flemming and Johnson (2007) remark by drawing evidence from other languages where schwa vowel is available, that both kinds of schwa vowels exist.They assert further that true mid-central vowels and contextually variable schwa vowels are found in English. According to them, the two kinds of schwa appear to differ in their phonological patterning. Mid-central schwa usually minimally contrasts with higher vowels qualities (e.g. [i, u]), whereas variable schwa occurs primarily in contexts where all vowel quality contrast can be neutralized. Although, both mid central and variable schwa can arise via vowel reduction in unstressed syllables, both result from assimilation to context, so there is no support for the notion of vowel reduction as approximation to a mid-central quality. The different outcomes represent different degrees of assimilation to context. Moderate reduction results in raising of low vowels towards mid-central schwa as a result of assimilation to the narrow constrictions of adjacent consonants, while more extreme reduction results in a vowel quality that is strongly assimilated to its context, and is therefore contextually variable.

The variability in schwa as exemplified from the following words show that there are significant phonetic differences between schwa vowels in word-final position, as in 'China' or 'comma' and schwa vowels in other positions, as in 'suppose' or 'probable'. Word-final schwa vowels are relatively high and vary contextually in backness and lip position (Flemming & Johnson, 2007). The phonetic assumption here regarding the English schwa /ə/ might be untrue for Edo English where /ə/ vowel is not a part of the vowel system of the native language (Adeniyi, 2006; Akindele, 2011, Yuka & Omoregbe, 2011). This becomes highly significant for the current research.

2.8 Suprasegmental features of Edo Language

Egbokhare (1994) maintains that any language that uses pitch to derive the meaning of words is tagged a tone language. Yip (2002: 4) also buttress this fact by asserting that a tone language is one in which an indication of pitch enters into the lexical realisation of at least some morphemes. Egbokhare (2003: 69) also claims that most Nigerian languages are tonal except Fulfulde (language of the Fulani). According to him:

> In most African languages, speech melody is best described as a property of the word. Thus, a change in speech melody may result in a change in the meaning of the word. Speech melody when it behaves in this way is called tone.

Tone is a feature of the lexicon, described in terms of prescribed pitches for syllable or sequence of pitches for morphemes or words (Cruttenden, 1986). Pike (1948:3) describes a tone language as "a language having lexically significant, contrastive, but relative pitch on each syllable". This signifies that for a language to be considered a tone language, it must employ pitch as part of lexical structure, and the different pitch level must contrast. The important feature is the relative height of a syllable in relation to preceding and following syllables. In the same vein, Clark and Yallop (1995) observe that many of the world languages are traditionally recognised as tone languages', based on the notion that it is a feature of the lexicon, being described in terms of prescribed pitches for syllables or sequence of pitches for morphemes or words. This signifies that pitch distinguishes the meaning of words (Pike, 1948). Pike gave a distinction between 'register' (level-pitch) tone systems and contour'' (gliding-pitch) systems. Register pitch systems have distinctive pitch levels (i.e often one, two, three and rarely more than four) while contour tones frequently involve near-level tones. However, the crucial difference between register system languages and contour tone systems is that in the formal, tone isa property of syllables and in register system, tone is a property of larger units such as words (Clark and Yallop, 1995).

2.8.1 Edo tone system

Edo language employs tone as part of the lexical structure and exhibits contrast among the different pitch levels. In Edo language, tone marking has been confined exclusively to those forms which might remain ambiguous without the indication of tone. The tone marks on such forms are expected therefore, to be regarded as part of their

regular spelling. In this regard, five tones are marked in Edo Language. These are high tone; ̀ low tone; ̂ high to low tone; ̌ low to high tone and mid-tone which is unmarked. Linguists like Melzian (1937, 1942), Dunn (1968), Elugbe (1973, 1989), Agheyesi (1976), Amayo (1976), Adeniyi (2003, 2006) and Yuka and Omoregbe (2011) who have worked on Edo tone system, have discussed the issue of tone extensively. These scholars recognize the presence of terracing in the tonal system of Edo language. However, they all differ in the number of the phonetic variants of these tones. Four of the writers enlisted above gave insights into the tone system of Edo language. Elugbe (1973, 1989)) give expansive analyses of Edo tone as 'two tones plus a down step'; Amayo (1976) reveals that 'down step' applies not only to high tones but also to low tones.

However, Yuka and Omoregbe (2011) give a list of words for which tone is indicated as part of their regular spelling in Edo language.

Ówé ' broom'	òwe` ' leg'
Ówá ' market	o`wá ' house'
u`kpó 'year'	úkpo` 'road'
ódó 'mortar '	ódo` ' a kind of potash used to thicken native soup'
a`gó ' village'	a`go` ' crookedness'

2.8.1.1 The high tone

The high tone is realized phonetically as a high tone in word initial positions or after another high tone in a tone sequence as shown in the examples below:

i. /ádá / 'sceptre'
ii. /[áwó/ ' a large bird' {**HH**}
iii. [ítán/ 'proverb'
iv. /ágá/ 'chair'
v. /ágádá ' broom'

Source: (Adeniyi, 2006)

Without a preceding low tone, the high tone maintains its level in a high tone sequence:

2.8.1.2 The low tone

The low tone is realized phonetically as a low tone in a word initial position, medial or final position. Examples:

i	/àdà/	'Junction'	
ii.	/ùxù/	'inheritance'	
iii.	/ètè/	'sore'	
iv.	/àrò/	'eye'	{**LL**}
v.	/òwè/	' leg'	

(Adeniyi, 2006)

2.8.1.3 Downstep

Aside the two level tones attested in Edo, there is also down step. Down step is often used to refer to both the automatic down step (down drift) and the non-automatic down step. While down drift occurs when a low tone lowers the pitch of succeeding high and low tones, down step refers to the lowering of high or low where no low tone is seen at the surface level (Amayo, 1976:23). Down step tone was first recognized over four decades ago by Winston (1960) when he said that down step is not just a third (mid) tone in a three-tone system. He defines it as inter syllabic feature which occur arbitrarily and normally distinguishes or help to distinguish some particular meanings or syntactic relationship or both (Elugbe, 1989; Adeniyi, 2006).

2.8.2 Edo syllable structure

Edo, like most Nigerian languages, exhibits the V, CV - syllable structure and operates an open syllable system. All words in Edo end with vowels. Loan words with consonant initials and final positions are made to conform to the phonotactic or syllable structure of Edo language. Consonant clustering, which is a major feature of the English syllable structure is rare in Edo if not impossible.

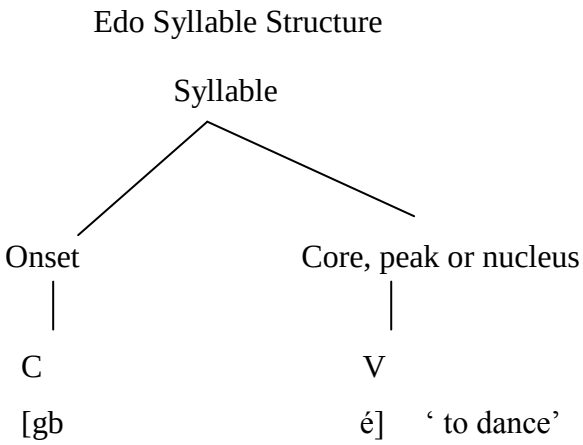


Fig. 2.5: Edo Syllable Structure

Sources: (Amayo, 1976; Adeniyi, 2006; Akindele, 2011; Yuka and Omoregbe, 2011)

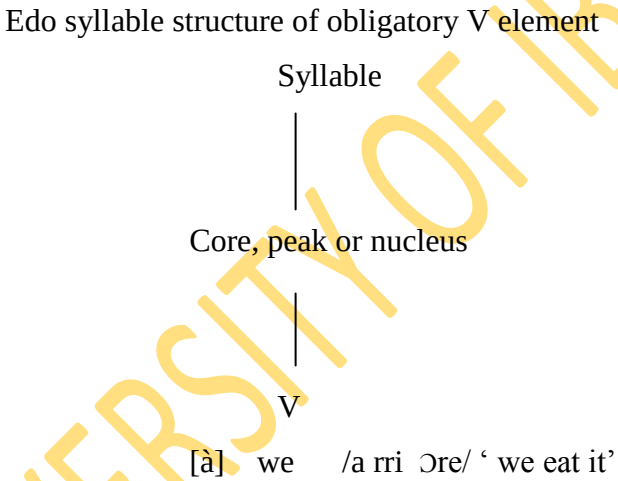


Fig. 2.6: Edo syllable structure of obligatory ‘V’ element

Sources: (Amayo, 1976; Adeniyi, 2006; Akindele, 2011; Yuka and Omoregbe, 2011)

` This indicates that Edo Language has no ‘arresting’ consonant; hence the absence of an arresting coda in most Edo words. With this open syllable structure, the V- element is obligatory, while the onset and coda elements are optional. Some words from Edo are listed below to serve as illustration:

ada	[àdà]	‘Junction’
ako	[ákò]	‘pepper fruit’
aro	[àrò]	‘eye’
eni	[enÍ]	‘elephant’
ete	[ètè]	‘sore’

ehun	[éh˜ù]	‘dart’
ibie	[íbyé]	‘intestine’
ize	[ízè]	‘rice’
oko	[ókò]	‘percel’
Owa	[owà]	‘house’
Oga	[ɔgá]	‘boss’ `
Oka	[ò̀ká]	‘maize’
Okpa	[ɔ́kpá]	‘one’
Oten	[ɔt˜é]	‘relative’
Ude	[údè]	‘advice’
Ukhu	[ùxù]	‘inheritance’
Ukhuerhe	[ùxúèrè]	‘sugar-cane
Uwu	[uwú]	‘death’

It should be noted that majority of the verbs in Edo which are monosyllabic begin with consonants and end with vowels.

Examples:

(i)	gbe	[gbé]	‘to dance’
(ii)	ré	[ŕé]	‘to eat’
(iii)	kó	[kɔ]	‘ to plant ‘
(iv)	ró	[rɔ]	‘to harvest/ reap’
(v)	tón	[tə˜]	‘to roast’

Sometimes some verbs in Edo exhibit the CVV syllable structure (de`é ‘tie’ ; kpa`á, ‘leave; kpe`é ‘beat’ etc).

Sources: (Agheyesis, 1986; Adeniyi, 2006; Yuka and Omoregbe, 2011.

2.9 Nigerian English

Nigerian English, one of the Non- Native Institutionalized Varieties of the English language (NNIVE), is no longer a subject of controversy (Banjo, 1995; Oladipupo, 2014**).** However, the fact that the concept of Nigerian English is still characterised by theoretical issues of identification, standardization, classification, codifiication and intelligibility is still a major conecern to linguists.

The implantation of English in Nigeria dates back to the 19th Century when the English people invaded Nigeria. On their departure in 1960, English was left as a legacy for Nigerians and it has ever since grown and expanded among the Nigerian languages and cultures. English used in conjunction with Nigerian languages and cultures has earned it a new flavour, which Adegbija (2004:20) describes as 'Nigerianism'. Hence, English has been nativized, acculturated, and indigenized.

Alo (2005:16) claims Nigerian English "…manifests the linguistic (phonological, syntactic, semantic, pragmatic and socio-cultural) characteristics of the Nigerian environment (social and physical)". Linguists such as, Adeniran (1979), Bamgbose (1982), Adetugbo (1987), Adegbija (1989), Jowit (1991), and Igboanusi (2000a) who conducted research into the characteristic features of Nigerian English have revealed that the local influences have subjected English in Nigeria to systematic and marked variation from Standard British English at lexico-semantic, syntactic, phonological, pragmatic or discourse and idiomatic levels.

The position of English as a second language in Nigeria makes its subjection to Nigerian influence inevitable. English is used in education, administration, courtroom, and in formal interaction, yet it co-exists with the various indigenous languages. The term Nigerian English is that variety of English that is developed in the Nigerian non-native English situation, that is, it is a blend of two situations (Akindele and Adegbite, 2005). Scholars such as Banjo (1979), Afolayan (1982), Jibril (1982), Bamgbose (1982), Bokambia (1983), Adegbija (2004), Akindele and Adegbite (2005), who have researched into the varieties of Nigerian English have identified sub-varieties of Nigerian English. These have been divided according to different criteria. Some have differentiated these sub-varieties according to the educational level attained by users, along regional boundaries of speakers (Hausa, Yoruba, Igbo, Edo, Ishan, etc), and social criteria Salami (2001).

Brosnahan (1958) was the first to attempt a classification of NE variety and this was confirmed by Jowitt (1991). He based his classification on educational parameter thus positing four varieties namely: Variety 1 (Pidgin), no formal education; Variety 2, with primary education completed; Variety 3, with only secondary education completed and Variety 4, with university education. Banjo (1971, 1996), however, proposed a typology of NE based on four varieties. The four varieties are based on the extent of mother-tongue interference, grammatical features, as well as on the approximation to a world standard.

According to him, Variety 1 has the greatest density of mother-tongue interference; Variety 2 also has a great density of mother-tongue interference, but not as heavy as Variety 1; Variety 3 has much less mother-tongue interference and Variety 4 has the least of the density of interference. This classification is represented below by Ilolo (2013):

Variety 1	Used by the semi-literate and those with elementary school education.
Variety 2	Characterized by fewer negative transfers from the mother tongue; this variety is accepted locally but it lacks international intelligibility.
Variety 3	The variety of educated Nigerian users which makes vital phonetic distinctions and internationally intelligible.
Variety 4	The variety that is close to the Standard British accent; it carries higher international acceptance but is locally disdained.

However, it was observed that Banjo's Variety 4 could not have reflected a typical Nigerian performance since it was based on the index of mainly Nigerian Anglo-Saxon speeches. Also, it was noted that the parameters for all the other varieties were arbitrary. Bamgbose (1982), therefore, fuses Brosnahan's levels 2-4 with Banjo's varieties 1-3, and the new set of varieties correlates with both educational levels and linguistic features. In addition, Adesanoye (1973) bases his classification on the proximity to or distance from the British English. In his estimation, there is a close relationship between performance and educational attainment. Based purely on indexical markers, distinct from specific common core characteristics, he identifies three varieties – 2, 3 and 4. Nevertheless, Ogbulogo (2005:12) observes that Adesanoye's variety 3 is similar in many respects to the Standard Nigerian English in the written form. The question which continues to border one's mind is "does Nigerian English have a standard form?"

In addition, several linguists such as Ubahakwe (1974), Adetugbo (1984), Adeniran (1979), Akere (1982), Jibril, (1982), Odumuh (1984) and Kujore (1985), Bamgbose (2004) Akinjobi (2002, 2004, 2014), Banjo (2012) and Osisanwo (2015), to mention just a few have all pointed to the direction of research in the characterization of NE. They all agree that NE occurs in gradation with all the varieties striving towards a standard. This trend is represented, according to Ogbulogo (2005:14) on a pyramid with a heavy base as illustrated by Ilolo (2013):

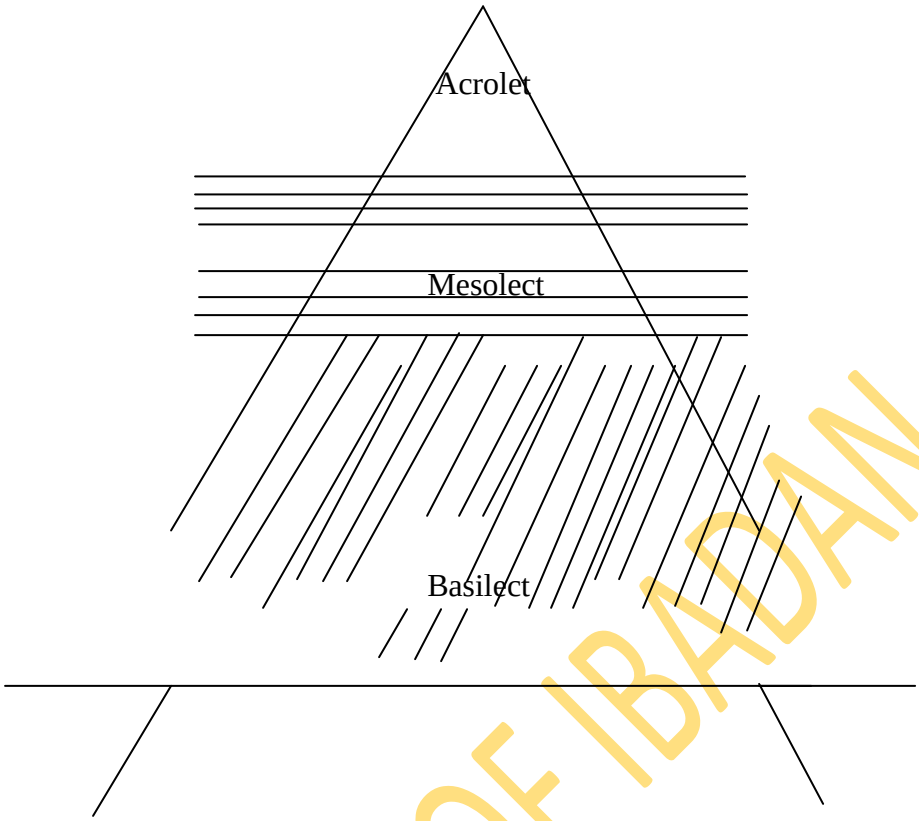


Fig. 2.7: A Representation of the use of English by Nigerians

Sources: (Ogbulogo, 2005:14; Ilolo, 2013)

Ogbulogo (2005) remarks that majority of Nigerian speakers of English fall within the dialect of the basilect and that a few are within the middle band of the pyramid, while very few Nigerians who have attained a very high degree of education occupy the top. He further notes that it has been argued that many people, just with the primary or junior secondary level of education, dominate the basilect. The middle band is for many people who have completed secondary school or have had some education at the tertiary level. The top level is occupied by many sophisticated users of the language including well-trained university lecturers, High Court/Supreme Court judges, very well exposed preachers, top rate journalists and other professionals. The elusive point located outside the pyramid is the prestige variety, Standard British English. He, however, points out that just like other descriptions, this model is still inconclusive.

2.9.1 Phonology of Nigerian English

The phonology of Nigerian English derived its base from the Standard British English (SBE) but there are some notable variations that differentiate it from SBE and which makes it Nigerian (Odumuh, 1987; Akindele and Adegbite, 2005; Akinjobi, 2004).

Scholars who have researched into Nigerian English (NE) summits that this variety of English differs systematically from the Standard British English especially in the area of phonology (Akere, 1980; Jibril, 1982; Eka, 1996; Udofot, 2003; Akinjobi, 2004, 2014; Ilolo, 2006, 2013; Sunday, 2008; Akindele, 2008, 2011, 2014; Akinjobi & Akindele, 2012; Oladipupo, 2014). In the opinion of Dunstan (1969), the influence of twelve Nigerian languages on English language production in Nigeria could be based on three broad Nigerian accents: the Yoruba accent in the Southwest, the Igbo accent in the East and the Hausa accent in the North. This is basically due to geographical and historical factors among others. The geographical factor is probably the most important according to Simo-Bobda (1995). The vast surface area of Nigeria (923,768 km^2) and its large population gives it an unquestionable propensity for diversity (Ilolo, 2013).

Amayo (1981), using speakers of Edo, Hausa and Yoruba origin, describes Nigerian English as tonal due to his observation that most Nigerian speakers of English perceive and produce stress in English as tone. He observes that "Nigerian speakers of English convert English stress patterns into tone patterns, and derives the allotones of the basic tones by applying the tone rules of his mother tongue". Likewise, he notes that Nigerian speakers of English give equal prominence to every syllable; a feature which, according to him, renders Nigerian English a tone language and a complete distortion of the native-speaker English rhythm. Similarly, Simo-Bobda (1995) notes that in Yoruba English, the RP /ɜ/ is systematically replaced by /a/ when represented by orthographic *er* (e), *ear* and sometimes *ir*, thus pronouncing *service, were, early, learn, thirty,* as [savis], [wa], [ali], [lɛn], [tɛti] respectively.

Awonusi (1986:558) notes that the Igbo pronounce these words as [sɛvis, we, ɛli, lɛn, tɛti]. On the contrary, according to Simo-Bobda (1995), the Igbo characteristically pronounce 'your' as /jua/ or /ja/ as opposed to the Yoruba who have /jɔ/. He also notes that for the typical Yoruba and Igbo /ɔ/ as the vowel of *cut, dug,* the Hausa has a vowel very close to RP. In the same vein, Jibril (1982:76) further notes that there is the occurrence of /a/ for RP /ɜ:/ across the board in Hausa accent e.g. in *birth* /ba:z/ and *fur* /fa/; where the Yoruba and Igbo would have /ɛ/ and /ɔ/, /bɛt/ and /fɔ/. Also, the

replacement of the final syllable schwa by /a/ across the board e.g. in *versus* /va:sas/ and *administrator* /administreta/; where the Yoruba and the Igbo would have /versɔs/ and /administretɔ/. Three accents of NE: Yoruba English, Hausa English and Igbo English as exemplified above have given an insight into the nature of the diversity of pronunciations across the country. There is evidence that a vast majority of features heard in NE cut across ethnic lines and can be considered typical of the Nigerian speaker as markedly different from SBE (see also Akindele, 2011; Ilolo 2013).

Relatedly, the findings of several scholars who have researched into the suprasegmental features of Nigerian English in the areas of stress, rhythm, and intonation have asserted this claim (Bamgbose, 1971, 1982; Eka, 1985; Jibril, 1986; Ufomata, 1996; Udofot, 1997; Jowitt, 2000; Akinjobi, 2004; Atoye, 2005; Akindele, 2008). Akindele (2011), and Akinjobi and Akindele (2012) further note that many Educated Edo English Speakers, a sub-variety of NE could not re-assign stress appropriately as observed in SBE form where stress re-assignment is significant for meaning in SBE usage. Scholars have also confirmed that sentence stress is rarely used for emphasis or contrast, and the act of passing information is not usually deaccented in Nigerian English. Rather, there is a preference for the placement of the nucleus on the last word in an intonation unit (Jibril, 1986; Ufomata, 1996; Jowitt, 2000; Akindele, 2008, Ilolo, 2011).

2.9.2 Placement of stress in Nigerian English

Existing phonological investigations have shown that English, as used in Nigeria, has been subjected to some local influences. That is, the English language has been localized by Nigerians such that the version spoken is tagged Nigerian English. Conformity with the accepted norm of English usage has therefore been the concern of linguists and language teachers since the commencement of English language teaching in Nigeria. Non-conformity of the spoken Nigerian English version with the Standard British English, which is supposed to be our reference point, has resulted in, and will, for a long time to come, result in Nigerian English spoken form being unintelligible to the international world, especially to the native speakers.

Kujore (1985) noted that the most striking characteristic of Nigerian pronunciation is the delayed primary stress, a feature which seems to betray the influence of indigenous languages with a rising rhythm as opposed to the falling rhythm of Standard English.

Some cited examples include principal stress falling on the last syllable of verbs ending with –ate, - bit, -ize, such as:

NE	SE
concenTRATE	CONcentrate
abdiCATE	ABdicate
copuATE	COPulate
prohiBIT	proHIBit
exhiBIT	exHIBit
moderNIZE	MODernize
moraLIZE	MORalize
plagiaRIZE	PLAgiarize

The trend has been attributed to, probably, the utter neglect suffered by the prosodies as an aspect of spoken English in schools. Atoye (1991) explains that the obvious difference between Nigerian Standard English (NSE) and British Standard English (BSE) is the peculiar stress pattern of the former, which causes many Nigerian English speakers of English to avoid the assignment of primary stress to the initial syllable in a large number of poly-syllabic words. According to him, as a result of that peculiar stress pattern, many words that are stressed on the initial syllable in SBE are stressed on the final syllable in SNE irrespective of the speakers' level of education.
a shift of the main stress from the first syllable of a disyllabic word (in British Standard English) to the second syllable (in Nigerian Standard English as exemplified below:

BSE	NSE
URban	urBAN
TRANSfer	transFER
PERfume	perFUME
CHAos	chaOS
PROtein	proTEIN
BROADcast	broadCAST
PEtrol	peTROL
PURchase	purCHASE

a shift of the main stress from the first syllable of a trisyllabic word in BSE to the media syllable in NSE as illustrated below:

BSE	NSE
CHAracter	chaRACter
HOSpital	hosPItal
INteresting	inteRESting

3. a shift of the main stress from the first syllable of a trisyllabic word in BSE to the final syllable in NSE. Thus:

BSE	NSE
TELephone	telePHONE
CONtrovert	controVERT
EDucate	eduCATE
URinate	uriNATE
INterview	interview

4. a shift of stress from the second syllable of a trisyllabic word in BSE to the final syllable in NSE as shown below :

BSE	NSE
emBArrass	embaRRASS
conTRibute	contriBUTE
atTRIBUte	attribute

5. Words with special endings in BSE, which are stressed on the initial syllables, are usually stressed on late or final syllables in NSE as illustrated below:

a. '-ize' and '–ate' words:

BSE	NSE
REcognise	recogNIZE
ADvertise	adverTISE
AGitate	agiTATE
DOminate	domiNATE
CONtemplate	contemPLATE

b. '- fy' and '–ry' words:

BSE	NSE
MAgnify	magniFY
JUStify	justiFY
DIgnify	digniFY
obLIgatory	obliGAtory
deFAmatory	defaMAtory

c. '-ism' and '– in' words

BSE	NSE
COMmunism	comMUnism
CRIticism	criTIcism
NIvaquine	nivaQUINE

As reported in that study, the regressive stress - shift has very limited applications in NSE. However, it is very significant. It features a shift of the main stress of words from the second syllable in BSE to the first syllable in NSE. Thus:

BSE	NSE
eSTATE	Estate
aDJAcent	Adjacent
eNORmous	Enormous
sucCESS	SUccess
ramPAGE	RAMpage

The examples above display a clear evidence of the distinction between NE and SBE as far as stress placement on words is concerned. Similarly, Akindele (2008, 2011) discovered that majority of Educated Edo English speakers were unable to place stress appropriately on the English variable words, thereby confirming non conformity to SBE form.

2.9.3 Rhythm in Nigerian English

Linguists have attempted to reformulate language typology (i.e. the rhythm class hypothesis) in the light of the untenable isochrony condition. Several of these scholars have based the rhythm class of languages on syllable complexity and vowel reduction (Dasher, & Bolinger, 1982; Dauer, 1983; Alexender & Yanhong, 2010). According to these scholars, stress-timed languages are those that allow vowel reduction and syllable

complexity, while syllable-timed languages permit neither. Also, across languages, vowel reduction and deletion in unstressed syllables is a well-known phenomenon. It involves the substitution of a schwa for a vowel or a total deletion of a vowel in unstressed syllables. Roach (2000) observes that the most frequently occurring vowel in Standard English is the /ə/, and this vowel has been claimed to be the rarest in Nigerian usage (Udofot, 1997, 2003; Ufomata 2000; Akinjobi, 2006; Ilolo, 2013). Several linguists (Roca, 1999; Ravid & Schlesinger, 2001) have also observed that the condition for actual implementation of vowel reduction varies across languages and it is related to language typology (stress-timed, syllable-timed), and to language specific constraints in which syllable-timed languages permit neither.

Adetugbo (1977:12-15) describes Nigerian English rhythm as syllable-timing. This description is upheld by Bamgbose (1982:42). Several linguists (Jibril, 1982; Jowitt, 1991) who have also studied NE rhythm have observed that a sound similar to Standard English /ə/ is present in Hausa. Jibril (1982), states that Hausa English /ə/ lives up to the reputation of Received Pronunciation (RP) /ə/ as a 'convenient resting-ground for off-duty vowels' since the RP /ə/ tested in his study surfaced as the Hausa /ə/ (53.6%) of the time in Hausa English, regardless of what its orthographic representation might be. He, however, claims that its distribution does not correspond to that of RP. In the same vein, Jowitt (1991:75) claims that this kind of vowel reduction does not occur in Nigerian Mother Tongues (MTs). As such, he explains that RP /ə/ occurs in unstressed syllables, while Hausa English [ə] may feature even in stressed syllable positions.

In the opinion of Eka (1993), spoken variety of the rhythm of NE can be described as "inelastic-timed" because of the tendency to have more prominent syllables as a native speaker. He commented further that many syllables are ascribed to NE rhythm as a result of the inability to "squeeze-in" or "stretch-out" the syllables in a given rhythm unit within the given time as a native speaker who uses elastic-timed rhythm would. Simo-Bobda (1997) claims that in Nigerian English, vowels [ə] or [ɪ] in Standard British English which are either deleted or get weakened can be realized as either [a, ɛ, ɪ, ɔ or u] usually depending on the orthographic spelling of the English words(i.e *pastor, status, statement, tribal* are produced as *past[ɔ]r, stat[u]s, statem[ɛ]nt and trib[a]l* respectively (Ilolo, 2013). In a similar investigation, Udofot (20003) compares the rhythm of Educated Nigerian English users to the "pulsation of an African drum" that hardly varies in tempo (O' Connor, 2000). She proposed Full Vowel Timing for NE instead of Syllable Timing.

Akinjobi (2004) investigates vowel weakening and unstressed syllable obscuration in Educated Yoruba English (EYE). She discovered that in polysyllabic and disyllabic items used, the weak /ə/ vowel of SBE was rendered as strong vowels in 97.1% and 82.2% instances while 86% and 82.2% rendered the weak /ɪ/ sound as strong vowels. For the content words, 83% of the EYE, appropriately uttered strong vowels in the stressed syllables while 72.8% inappropriately used strong vowels in the syllables that should have /ə/ as their peaks. She therefore asserts that a major deviation from Standard English usage for Yoruba speakers of English is in the realization of vowels and syllables which occur in unstressed positions in the use of the strong forms rather than the weak forms of the tested grammatical items. She concluded that, Udofot's (1997) full vowel timing description would cyclically result to the earlier popular syllable-timing description proposed for Nigerian English.

Ilolo (2011, 2013) used Grabe and Low Pair wise Variability Index (2000) statistical model to investigate vowel reduction in the rhythm of Isoko English. She finds out that vowel reduction was observed in 12% instances of reduction bringing inappropriate use at 88%, and that Isoko English is not stress-timed but syllable-timed because successive vowel lengths are more equal as a result of minimal use of vowel reduction. This re-confirms Akinjobi's (2004) claims for Educated Yoruba English.

Consequently, using a speaker each from Ibibio, Efik, Igbo and Ega ethnic groups in Nigeria, Gibbon and Gut (2001) represent the rhythm of different speech styles of varieties of one language using the formula below:

$$RR = 100 \sum_{k=1}^{m-1} \frac{d_i}{d_j} / (m-1)$$

Fig. 2.8 Gibbon and Gut Rhythm Ratio

Source: Gibbon and Gut (2001)

That is, di=dk and dj=dk+1 if di is smaller than dj and dj=dk and di=dk+1 if di is not smaller than dj. *M* stands for maximal number of units, *d* stands for duration (sequence of units of either syllables or vowels) of length *d*. The absolute differences between adjacent units are calculated.

Gibbon and Gut (2001) further explains that for each pair of adjacent syllables;

- The average of all these ratios is calculated and multiplied by 100.
- If the RR equals 100, subsequent syllables have exactly the same duration,

The lower the degree of similarity, the lower the RR value.

This formula was applied to the speech of each speaker of Ibibio, Anyi and Ega of Nigerian English, using a British English speaker as the control. The findings from Gibbon and Gut (2001), using 10 sentences read by each subject shows that the speech rhythm of Anyi and Ibibio, measured by the method proposed by Ramus, Nespor and Mehler (1999) and compared to the other languages investigated by them, Anyi and Ibibio group is closer to syllable-timed languages while Ega is below Japanese with very high vocalic proportion. This is explicated with the table below:

Table 2.3: Speech rhythm of different varieties of one language: British English and Nigerian English

	RR vowels read speech	RR syll/phrase read speech
BrEng 1	60.7	7.7
BrEng2	54	13.3
BrEng3	67.3	8.3
NigEng1	59.8	7.1
NigEng2	49.2	7
NigEng3	54.2	7.2
NigEng4	63.2	6.5
German	56.6	10.93

Source: (Gibbon and Gut, 2001)

The findings from Gibbon and Gut (2001) demonstrate that the speech rhythm of Nigerian English speakers for vowels, measured in RR was rated from 49.2 – 63.2 ratio while that of the German English speaker rated 56.6 ratio, whereas that of the control was rated as 54 -67.3 ratio bringing Nigerian English group closer to syllable-timed than stress-timed. For syllable/phrase in read speech the RR values differ, with the ratio of NE

ranging from 6.5 - 7.2 while the German speaker's ratio was calculated as 10.93. The native English speakers ratio for syllable duration was rated from 7.1-13.

Meanwhile, a speaker or two speakers of the Nigerian languages highlighted above is not representative enough to make justification for NE rhythm, out of the heterogeneous living languages attested at 522 for Nigeria by Lewis, Gary and Charles (2013) *Ethonlogue* language database. However, the formula above appears significant and relevant in capturing the duration and rhythm of a language based on its acoustic values but a larger proportion of subjects from NE sub-varieties need to be sampled in order to confirm or refute this claim. Therefore, this research, also a sub-variety of NE becomes relevant. One hundred and fifty Edo speakers of English, who are university undergraduates and believed to have proficiency in written and spoken English, were sampled to confirm or refute the claims of Gibon and Gut (2001), and recent scholars who have worked on acoustic measures of NE rhythm. Besides, the permissible nature of the English language recognises contact linguistics, and at the moment, Nigerians are clamouring for the codification of Nigerian English. That is, a documented material that can be used as reference point for Nigerian English. Therefore, this research is considered from a 'geo-tribal' approach. Findings from Hausa, Igbo, Yoruba and Isoko Englishes alone may not be representative enough to generalise for Nigerian English rhythm, as there could be areas of convergence and divergence within a language variety.

2.10 Phonological theories

Geigerich (1992) explains theory as a set of devices employed to explain given range of phenomena. Adegbite (2009) summarizes that theories allow us to understand and organize the data of experience, transform our thinking about a phenomenon and enable researchers to use empirical data to draw conclusions that are not evident from the data taken in isolation. According to him, theories also guide and stimulate research. Phonological theories therefore, account for the phonetic regularities that occur in the speech events of a language. In consequence, a theoretical construct needs to be employed if a valid discussion of language phenomena in the analysis of the linguistic facts is to be made (Clark and Yallop, 1995:4).

2.10.1 Generative Phonology

Generative Phonology (GP) is a phonological description of segmentation and classification based on the formulation of a set of rules which constitute the phonological component of a grammar (Chomsky, 1964; Clark and Yallop, 1995). Generative Phonology proposes that underlying forms of the language must be converted into surface representation by the application of a set of phonological rules (Clark, Yallop and Fletcher, 2008). The import of the theory considers a grammar as systems of rules that relate sound and meaning, and comprising several components including a semantic component and a phonological component by which grammatical structures are converted to their phonetic representations by the application of rules.

Below is Chomsky and Halle (1968) generative model of grammar:

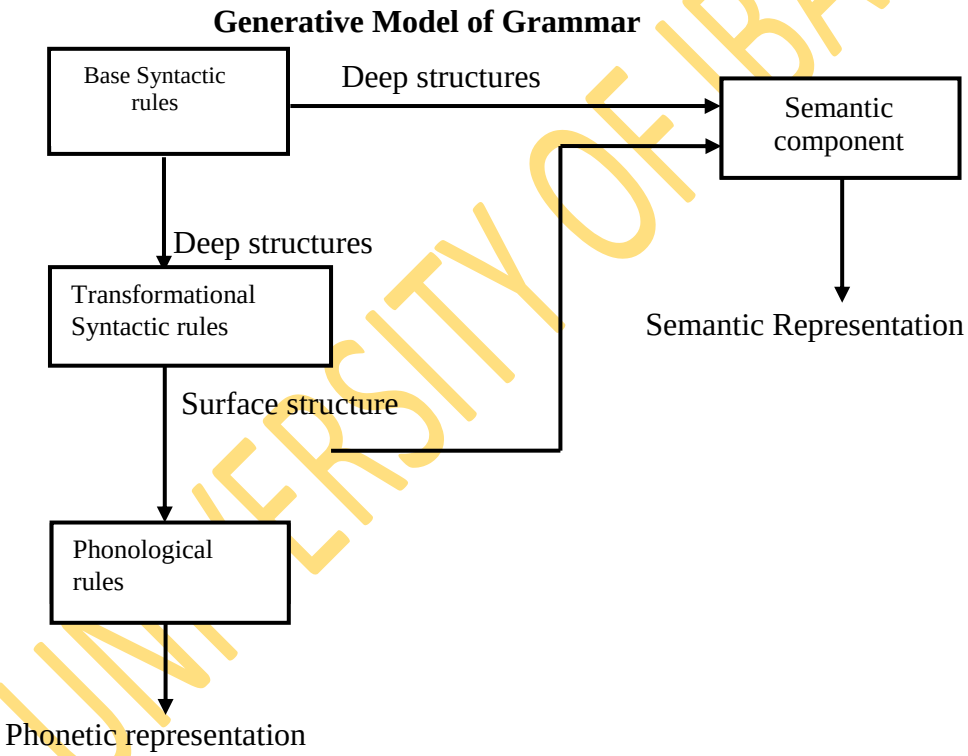


Fig. 2.9: generative model of grammar

(Source: Clark, Yallop and Fletcher, 2008:409)

2.10.2 Generative Stress Rule (GSR)

Generative Stress Rule (GSR) is found within the framework of generative phonology propounded by Chomsky and Halle in *Sound Pattern of English* (1968). According to Clark and Yallop (1995: 139):

> The very term 'generative' draws on a mathematical concept of definition by the application of rules or operations. Thus, in generative linguistics, a set of rule may be said to 'define' a language by generating all and only the correct possibilities.

Clark and Yallop (1995: 401) explain that orthodox generative phonology is part of a model of language (i.e. model of 'linguistic competence') which proposes that underlying representations are converted into surface representations by the application of rules. The model shows phonology as a component "fed" by a syntactic component that generates grammatical sequences of the language. In this connection, the relatedness of Transformational Grammar and its consequence has remarkable impact on what is now known as Generative Phonology (Chomsky and Halle, 1968; Kenstowicz, 1994).

The basic assumption of SPE is that stress, in the majority of cases, does not need to be marked in the lexicon but can be predicted by rule; and that though there are many exceptions, these do not invalidate the general rule (Cruttenden, 1986:27). The procedure for stress assignment in SPE is that all segments (vowels and consonants) are marked initially as [- Stress]. The rule thus, has two conventions: Weaken any previous stress assignment by one level each time [1 stress] is assigned. Weaken one level more on all non-main stresses within a word (i.e. so that secondary stresses will appear only as reductions of primary stresses in constituents above the word (see Cruttenden, 1986: 27).

For instance, in the verb 'regulation', the final vowel of the stem receives [1 stress]. The stress on "reg"– is downgraded to [2 stress] and then to [3 stress]. For compound words, primary stress is reassigned to the left of the two primary stresses previously assigned; whereas, in higher constituents, primary stress is reassigned to the right element (the nuclear stress rule). That is:

[[black] [board]] (a chalk board on which we write)

NA	AN	NN	
	1	1	Main stress Rule (for words)
	1	2	Compound Rule

Whereas the phrase *black board* is assigned stresses as follows:

[[black] [board]] (a board that is black in colour)

NPA AN N NP

1 1 Main Stress Rule (for words)

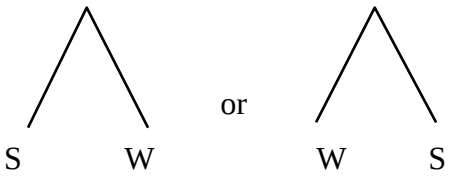
2 1 Nuclear Stress Rule

The Nuclear Stress Rule not only assigns stress to the right element in phrases but cyclically to all higher constituents. So in the sentence *Old Tom grows roses*, each word will first get a primary stress as marked; then the noun phrase subject and the verb phrase (predicate) will each be reassigned a primary stress on their right element (with consequential downgrading to stress level 2 of each left element) to give *Old*^{2} *Tom*^{1} *and grow*^{2} *roses*^{1}. Finally, the noun phrase and the verb phrase are put together to make up the sentence and stress is once more reassigned to the primary stress in the right element to give *Old*^{3} *Tom*^{2} *grows*^{3} *roses*^{1} (Cruttenden, 1986: 28).

The rules prescribed by (GSR) have their own inherent problems. Apart from the fact that Chomskyan generative rules describe native speakers stress pattern, applying these rules in L2 context may be a difficult task. The indefinite lowering or downgrading of [1 stress] to [3 stress] may be problematic to non-native speakers in an L2 context like Nigeria. Generative phonologists represented prosodic prominence as feature that applies to individual segments or syllables. Stress is assigned using the cyclic reapplication of rules to words and phrases. The theory equally fails to consistently predict the placement of secondary accent, hence the need for metrical theory.

2.10.3 Metrical theory

Considering the limitations of (GSR), metrical theory was propounded by Prince and Liberman (1977) as an alternative approach to understanding stress placement on English words. Metrical theory is a theory of stress or linguistic prominence. The innovative feature of this theory is that the prominence of a unit is defined relative to other units in the same phrase (Cruttenden, 1986). The starting point of metrical theory is an assumption about the nature of stress and its representation, namely that stress patterns reflect an underlying structure in which stronger and weaker constituents are juxtaposed. To say that a certain syllable is stressed is to make a judgment about its strength relative to adjacent syllables. That is (overleaf):



Where S and W simply indicate stronger and weaker constituents.
Fig. 2.10 Metrical Tree Structure of Strong and Weak constituents.
Clark and Yallop (1995: 410)

Metrical theory holds that stress is separate from pitch accent and has a phonetic effect on the realization of syllables beyond intonation, including effects on their duration and amplitude. The prominence of a syllable results from its position in the metrical tree and metrical grid for the phrase. Hayes (1995) claims that stress is not a segmental feature but rather the hierarchical rhythmic organization of utterances. In this approach, Sunday (2005:25-26) upholds Napoli's (1996) claims that the numbering of stress levels and the indefinite lowering of syllable found in (SPE) are discarded. Metrical phonologists, Giegerich (1992) and Napoli (1996) believe that phonological representations are not strictly layered and that they do not consist of segments arranged in sequential order. To them, segments are made up of a hierarchy of phonological units. Napoli (1996:101) highlights the prosodic hierarchy as:

PW - Prosodic word
F - Foot
σ - Syllable
μ - Mora

Napoli (1996:81, 101) describes the levels of prosodic hierarchy as the domains that are relevant to stress. According to him, a mora is the element on the rhyme of a syllable. If the peak has one element, it has only a mora but if the peak has two or more elements, then it has two moras. A syllable is the smallest pronounceable unit of the word while a foot is the next larger rhythmic unit after the syllable which contains two syllables [S] and [W]. The prosodic word is the largest of prosodic hierarchy at the rhythmic level.

2.10.3.1 Metrical stress rules

Liberman and Prince (1977), interpret the basic descriptive data contained in SPE by eliminating the numbering of stress levels with its problem of indefinite lowering as in SPE, and replacing it by a system in which stress is defined on a tree structure in which nodes divide, binarily into S (Strong) and W (Weak) branches. Metrical stress rule also

applies at both word and sentence levels. An English stress rule (ESR) assigns [±Stress] to all vowels in words by repeated application, beginning from the end of a word (Cruttenden, 1986:30).The English Stress rule only involves giving plus or minus values to the binary feature [±Stress]. It does not involve metrical values. All [-stress] vowels are associated with W syllables; [+ stress] vowels are most commonly associated with S syllables but may be associated with W syllables in certain position.

2.10.3.2 Metrical tree

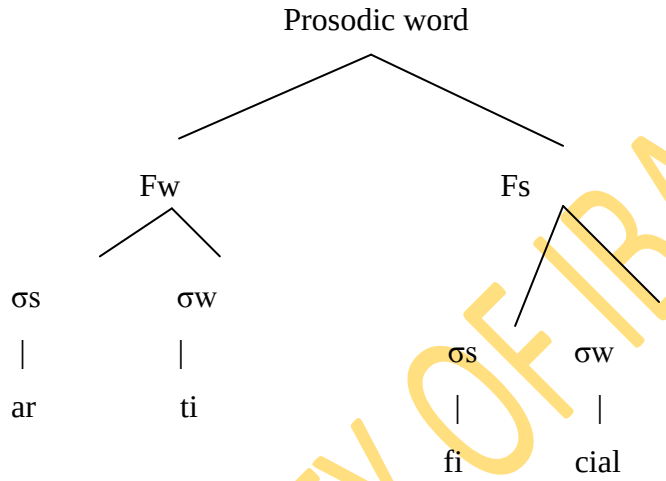


Fig. 2.11: Metrical tree structure of "artificial"

Sources: Napoli (1996: 101) Sunday (2008:44)

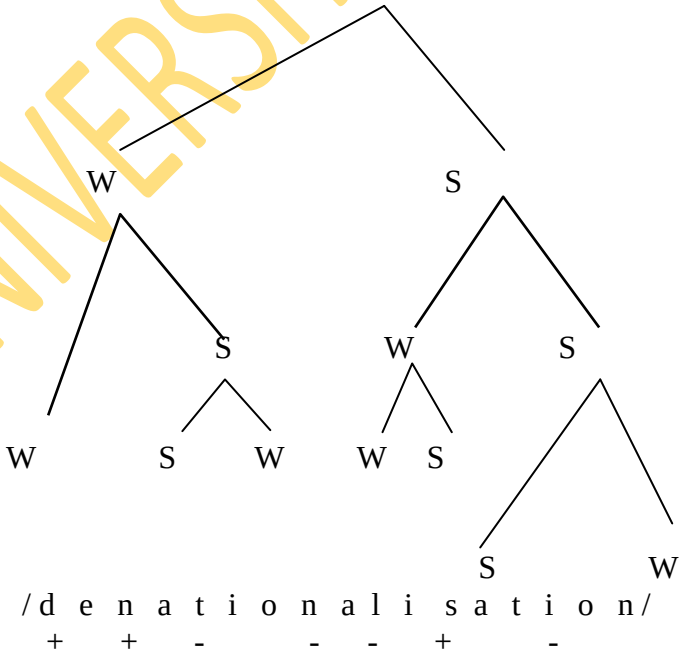


Fig. 2.12: Metrical tree structure of Strong and Weak syllables of "denationalization"

Source: Cruttenden (1986:31)

The assignment of strong and weak nodes is governed by two rules; a Lexical Category Prominence Rule (LCPR) which covers words and compounds; and a Nuclear Stress Rule (NSR). These rules are: in a configuration (X Y):

LCPR: Y is strong if it branches

NSR: Y is strong

The operation of the LCPR and the NSR is shown in the following example

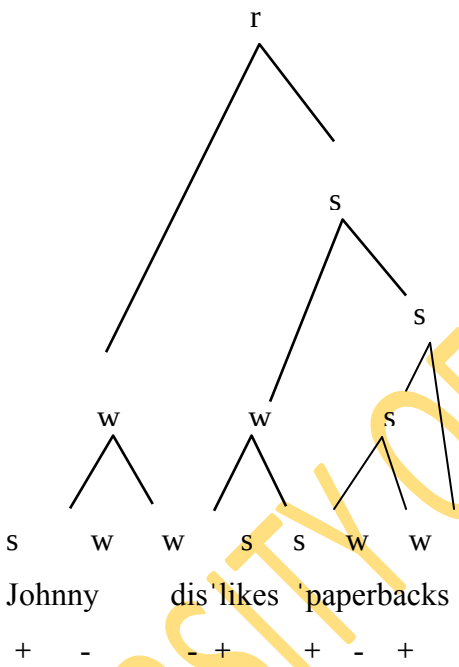


Fig. 2.13: Metrical tree structure of the phrase "'Johnny dis'likes 'paperbacks"

Source: Cruttenden (1986:31)

"S" occurs on the left branch in the compound *paperbacks* because the right branch does not itself branch (LCPR); whereas at the predicate and sentence level, "S" occur on the right branches (NSR).

2.10.3.3 Metrical Grid

The structure of the metrical grid represents the rhythm of utterances. A metrical grid can apply to the rightmost element in the highest row in the grid. In metrical grid, the 'X' symbol is used for each syllable. The initial level represents all prominent syllables. The non-local application of the phrasal stress rule is reinterpreted as the local application of the rule to the highest row of the metrical grid. Metrical grids were originally developed to handle a phenomenon that appears in some languages like English, German,

and Masoretic Hebrew, in which stress shifts to avoid a 'stress clash'. A stress clash can occur when two stressed syllables are too close to each other. As an illustration, the word 'thirteen,' spoken in isolation has the primary stress on the second syllable, but when it is placed before 'naira' as part of a compound word, the stress on thirteen shifts to the first syllable (Cruttenden, 1986; Akindele, 2011; Ilolo, 2013).

Two syllables manifest stress clash if there are two successive rows in the grid in which their columns are adjacent (i.e there is no X between them). In the grid below the grid for 'teen' and 'naira' are adjacent in both the first and the second rows, indicating a stress clash:

```
          X
      X   X
  X   X   X
thir teen naira
```

Fig. 2.14: Pre-stress shift metrical grid of "thirteen naira"

Stress clashes can be resolved by the Rhythm Rule, which reverses the S-W relation for some pair of sister nodes, as long as such a reversal does not put a Designated Terminal Element of an Intonational Phrase under any W node, or put a [-stress] syllable directly under an S node's. 'Thirteen naira' can be reversed, leading to the non-clashing grid below:

```
        X
  X     X
  X  X  X
thir teen naira
```

Fig. 2.15: Post-stress shift metrical grid of "thirteen naira"

The rule for the construction of grids from trees is termed Relative Prominence Projection Rule (RPPR). In the metrical grid for 'Johnny dislikes paperbacks' below, for the root node (R) at the top of the tree, the Designated Terminal Element of the W branch leads to 'John' and that of the S branch leads to pap - that is, pap- is metrically stronger than John (Cruttenden, 1986:32). ' In a metrical grid, all the words in the phrase are arranged along the bottom of the grid indicating different levels of prominence as explicated below: To show the "temporal reality" of metrical trees, they have to be

transmuted into 'metrical grids'. A metrical grid represents stress as hierarchical rather than a relational property (Kager, 1995: 328). The height of grid marks represent levels of prominence while distance between grids stand for rhythmic structure. For instance, the metrical grid for this phrase would look like this:

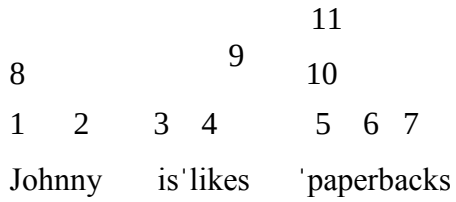


Fig. 2.16: Metrical grid of the phrase "'Johnny dis'likes 'paperbacks"
Source: Cruttenden (1986:33)

The illustration in Fig. 3.7 indicates that there are seven syllables assigned to the numbers 1-7, the stressed syllables are reassigned 8, 9, 10 and the Nuclear Stress Rule (NSR) is applied to the first syllable of *paperback*. Thus, metrical grid helps in the easy identification of prominent syllables in a word or word group. Udofot (2003) and Sunday (2005) further supports Cruttenden's (1986) assertion through the illustration below:

Fig. 2.17: Metrical grid for *Agnes adores emeralds*
Source: Ilolo (2013)

The grid indicates that at the second level, the prominent syllables of each word in the utterance are given a number (Udofot, 2003) or marked *x* (Sunday, 2005) and finally, the tonic syllable is given a number.

In GSR, the feature stress differs from other phonological features in several ways. For example, the feature stress has an arbitrary number of values or levels, rather than two or some justified number more than two. The non-primary stress values in constituents are only defined relative to the primary stress value. Metrical theory avoids the inexplicable differences between the stress feature and other phonological features. Moreover, Metrical Theory is consistent with patterns of deaccenting in which accents can shift both left and right, since swapping S and W nodes will cause stress to move left if the S node was

originally on the right, and move right if it was originally on the left. This kind of bi-directional movement is more difficult to predict under a GSR, which would specify the direction of movement in a cyclical manner.

Metrical Theory (MT) has a number of advantages over Generative Stress Rule, for instance, Metrical Theory accounts for secondary accent by showing stress clash (a situation where adjacent syllables are stressed). It also helps in the easy identification of prominent syllables in a word group, and as well account for rhythmic alternation between strong and weak syllables. In metrical theory, stress is marked as a relational property. For instance, the English utterance '*since then geography department has been treated with respect'*. the metrical grid of the native baseline as explicated by Ilolo (2013) shows that the content word *department* comes next in hierarchy to *respect* She reported that the height of the native baseline grid used in that research - *Sentence Stressing in Educated Isoko English*, at the last level of the tested untternce shows that the most prominent syllable *spec*t of the content word *respect* takes the nuclear stress. As a native English speaker, the LCRP and NSR were appropriately applied. This is because in SBE, stress assignment in sentences is applied to the rightmost element. This is illustrated in the grid below:

X
X X
X X X X
X X X X X X X X X X X X X X X
/sɪns ðen dʒɪ.ˈɒ.grə.fi dɪ.ˈpɑ:t.mənt həz bi:n ˈtri:.tɪd wɪð rɪ.ˈspekt/
Since then geography department has been treated with respect.

Fig. 2.18: Metrical grid of since then geography department has been treated with respect.
Source: Ilolo (2011).

Therefore, metrical grid - a branch of MT is adopted as the theoretical framework in the analysis of the data in this research. Metrical grid is able to take care of the features intended to be tested. Also, a theoretical construct like metrical grid needs to be employed if a valid discussion of linguistic analysis is to be made in the present study. For instance, MT allows one to see in clear terms, using graphic representation, the disparity in the alternation of stressed and unstressed syllables of EEES and SBE. This further helps to confirm the syllable-timing description of NE, compared to the stress-timing description of SBE rhythm.

CHAPTER THREE
RESEARCH METHODOLOGY

3.0 Introduction

This chapter discusses the research methodologies relevant to this study. This includes methodology, population and sample, instrument for data collection, validity and reliability of research instrument, method of data analysis and rhythm measures.

3.1 Methodology

This investigation is both quantitative and qualitative. The research consists of a sample representation of 150 (75 males and 75 females) Educated Edo English Speakers undergraduates from University of Benin and Ambrose Ali University. The informants are assumed to have relative proficiency in Standard British spoken and written English. Each of the informants was made to produce some English expressions into a Speech Filing System (SFS/WASP) – version 1.41, developed at the University of London for speech analysis. The English expressions consist of six English utterances with anacrusis expected to be rendered as rhythm groups, a short English passage (Quality University Education in Nigeria) of four sentences, segmented into forty rhythm units of one hundred and fifty stressed and unstressed syllable alternation inbuilt, and ten English items made up of words with syllabic consonants which are either deleted or weakened in Standard British English. The production of each of the 150 informants was played back and transcribed. Frequency count of the appropriate alternation of stressed and unstressed syllable of each rhythm group was carried out with each allotted 1 mark and converted to simple percentages. Twenty-five informants' duration (i.e. milliseconds) of the English rhythm groups in the English passage was sampled and entered on a table, and the overall duration derived. This was complemented with Gibbon and Gut (2001) Rhythm Ratio acoustic measures of 0-100, t-test and Mann Whitney U test at 0.05 level of significance, with the highest duration adopted as the norm for Educated Edo English rhythm. In addition, durational measures of two educated native English speakers (Britons) was sampled and used as native baselines to confirm the phenomenon intended.

3.2 Population and sample

One hundred and fifty Educated Edo English Speakers (seventy-five males and seventy-five females) who were assumed to have attained relative proficiency in spoken and written English, and are University of Benin and Ambrose Ali University undergraduates were used in this investigation. They comprised informants who had Edo as their Mother Tongue (MT) and use English as a second language (L2). This category of informants was preferred because education has been considered a significant criterion for describing Nigerian English (Brosnahan, 1958; Ogbulogo, 2005). Besides, the informants also fits into Banjo's (1996, 2012) classification of users of variety III of Nigerian English, which meets the criteria of social acceptability and international intelligibility.

3.3 Instrument for data collection

The research instrument used for this investigation is in three sets. Set A comprised six English expressions with anacrusis expected to be rendered as rhythm groups. Set B was made up of a short English passage on "Quality University Education in Nigeria", while Set C consists of English words with syllabic consonants which are either deleted or weakened in Standard British English.

3.4 Validity and reliability of research instrument

The instrument for this investigation was shown to established scholars and authorities in the field of English phonology, who examined it and confirmed that it was appropriate for the research, after necessary corrections were made. The supervisor's view was also sought on the choice of research instrument for confirmation and validation. Finally, a pilot study was conducted before the final administration in order to determine the suitability of the instrument vis-a-vis the objectives earlier stated.

3.5 Method of data collection

One hundred and fifty informants (seventy-five males and seventy-females), who are native speakers of Edo and who use English as a second (L2) as confirmed through oral interview were purposively sampled. Each of them was made to produce some English expressions into a Speech Filing System (SFS), version 1.41 installed on 'Hp 60'

computer laptop. This was played back and transcribed with the milliseconds of each of the informants adequately tracked and cropped for analysis.

3.5 Method of data analysis

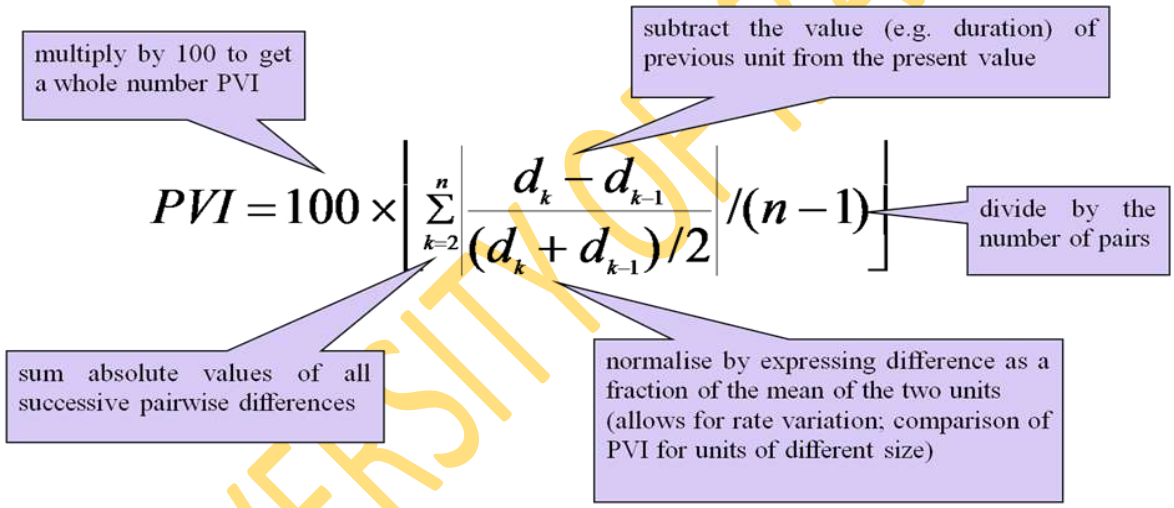
The data analysis for this investigation was done statistically, metrically and acoustically, using Speech Filling System (SFS), version 1.41. The data comprised six English expressions with anacrusis, expected to be rendered as rhythm groups. A short English passage segmented into four sentences and forty rhythm units of 150 stressed and unstressed syllables alternation as typically used in SBE, ten English words with syllabic consonants, whose syllabic consonants are either deleted or weakened in Standard British English. Each English rhythm groups as produced by each of the 150 informants into a computerized speech laboratory (SFS), version 1.41 was played back and transcribed. Frequency count of the informants appropriate alternation of stressed and unstressed syllables of each rhythm groups was carried out, with each rhythm group allotted 1 mark and converted to simple percentages. To determine the extent to which Educated Edo English Speakers alternation of stressed and unstressed syllables of English rhythm groups conform to Standard British English form, the number of correctly alternated stressed and unstressed syllables of the rhythm units was reckoned as a percentage of the total frequency of the occurrence of correctly alternated forms. This is statistically represented thus:

$$\frac{\text{No of appropriately alternated stressed and unstressed syllables in English rhythm units}}{\text{Total No of Test Items}} \times \frac{100}{1}$$

Furthermore, durational measures of the rhythm units of each of the sampled EEES in the passage were entered on a table and the overall duration derived. The results difference was corroborated with Gibbon and Gut (2001) Rhythm Ratio acoustic measures of 0-100, and the highest durational difference adopted as the norm for Educated Edo English rhythm. This was further complemented with t-test and Mann Whitney U test at 0.05 level of significance.

3.6 Rhythm measures

Ramus, Nespor and Mehler (1999) and Low, Grabe and Nolan (2000) attempt to provide support for the classification of rhythm types by comparing the level of variability in successive syllable measurements of English utterances. For instance, Low, Grabe and Nolan (2000) formula has two parts, the 'raw PVI' and the 'normalized PVI'. The former, according to them, is used for the calculation of consonant intervals while the latter, is for vowel intervals. Ilolo (2013) applied the PVI in her research - *Vowel Reduction in Educated Isoko English (EIE)* to account for Isoko English rhythm as syllable-timed. She was able to use the normalized PVI successfully for her study because her analysis was on the use of full and reduced vowels by EIE participants. Below is the formula for the normalized PVI:



Where *n* is the number of vocalic intervals and *d* is duration of the kth interval.

Fig. 3.1: The Normalized Pairwise Variability Index

Sources: Low, Grabe & Nolan (2000) and Ilolo (2013)

The Pairwise Variability Index (PVI) discriminates between stress-timed and syllable-timed languages. It relies on the idea that stress-timed languages allow vowel reduction, in contrast with syllable-timed languages.

Conversely, Gibbon and Gut (2001) proposed Rhythm Ratio (RR) as an improvement on Pairwise Variability Index (PVI). The Rhythm Ratio (RR) is an acoustic measurement proposed to support the classification of rhythm classes. This is represented overleaf:

$$RR = 100 \sum_{k=1}^{m-1} \frac{di}{dj} / (\mathrm{m} - \mathrm{I})$$

Fig. 3.2: Gibbon and Gut (2001) Rhythm Ratio (RR**)**
Source: Gibbon and Gut (2001)

Key:

RR = Rhythm Ratio

100 = Factor

£ - Greek letter = Summation

di = Duration of a pattern of speech with stressed syllables

dj = Duration of a pattern of speech with unstressed syllables

m = Maximum number of items on the instrument

The algorithm above means $d_i = d_k$ and $d_j = d_{k+1}$ if d_i is smaller than d_j and $d_j = d_K$ and $d_i = d_{k+1}$ if d_j is not smaller than d_j. If the RR = 100, there is perfect equivalence of adjacent units. This means that the lower the degree of equivalence of stressed and unstressed syllable alternation of Educated Edo English Speakers, the lower the RR value. That is, for each pair of adjacent syllables:

- The average of all these ratios is calculated and multiplied by 100.If the RR equals 100, subsequent syllables have exactly the same duration.
- The lower the degree of similarity of Educated English durational measures of stressed and unstressed syllables in English rhythm units, the lower the RR value.
- Unlike the Low and Grabe PVI, the RR does not calculate absolute differences in length between adjacent units but computes their ratio.
- Also, unlike the PVI, the RR measurement does not normalize for duration.

This model was therefore adopted for this study because it is able to handle rhythm groups in whole utterances. The model as well seems to help give a detailed, tenable statistical and acoustic result in confirming whether or not there is any significant difference in the durational measures of Educated Edo English Speakers (EEES) stressed and unstressed syllables alternation in English rhythm units, and the implication for Nigerian English rhythm description.

CHAPTER FOUR
PILOT STUDY

4.0 Introduction

This chapter reports the findings of a pilot study conducted to investigate whether or not Educated Edo English Speakers (EEES) alternate stressed and unstressed syllables in rhythm units, and whether EEES duration in rhythm units conform to Standard British form or not. Edo ethinic group is one of the Nigerian minor ethnic tribes found in the Mid-Western part of the country. The research consists of a sample representation of fifty university undergraduates who speak Edo as their native language but learnt English in L2 context, while two native speakers of English served as the Native Baselines. The informants were made to produce one English sentence segmented into nine rhythm units containing features of stressed and unstressed syllables, as typically used in Standard British English. The production of each of the informants was recorded into a computerized speech laboratory (SFS), version 1.41, developed at the University of London, and was later played back and transcribed. Frequency count of the appropriate alternation of stressed and unstressed syllables of each English rhythm units as produced by each of the informants was carried out, with each allotted 1 mark and converted to simple percentages. Rhythm Ratio durational measure proposed by Gibbon and Gut (2001), and Prince and Liberman's (1977) Metrical Theory were used to complement the difference in the durational measures of EEES stressed and unstressed syllables alternation, and the Native Baselines (NB). The overall mean duration of EEES and the NB rhythm ratio was taken as the norm for each.

The following served as guide for the pilot study:

4.1 Research questions

1. Do Educated Edo English Speakers alternate stressed and unstressed syllables in rhythm units or not?
2. Is there any variabilty in the durational measures of Educated Edo English Speakers rhythm units in connected speech and the Native Baslines?
3. To what extent does Educated Edo English Speakers English rhythm conform to Standard British English form?

4.2 Statistical analysis

Table 4.1: Perceptual production of Educated Edo English Speakers stressed and unstressed syllables alternation in rhythm units.

S/N	English Rhythm units	Subjects	Appropriate Alternation	% of Appropriate Alternation	Inappropriate Alternation	% of Inappropriate Alternation
1	//ˈpreznt//	50	50	100%	0	0%
2	//ˈdeɪnaɪ//	50	0		50	100%
3	//ˈdʒɪərɪə//	50	0	0%	50	100%
4	//ˈmɔː//	50	50	100%	0	0%
5	//ˌjuːnɪˈvɜːsɪtɪz//	50	16	32%	34	68%
6	//ˈtendtəbikri//	50	0	0%	50	100%
7	//ˈeɪtɪd//	50	0	0%	50	100%
8	//ˈɔːlməʊst//	50	30	60%	20	40%
9	//ˈænjuəli//	50	19	38%	31	62%
Total		450	165	36.7%	285	63.3%

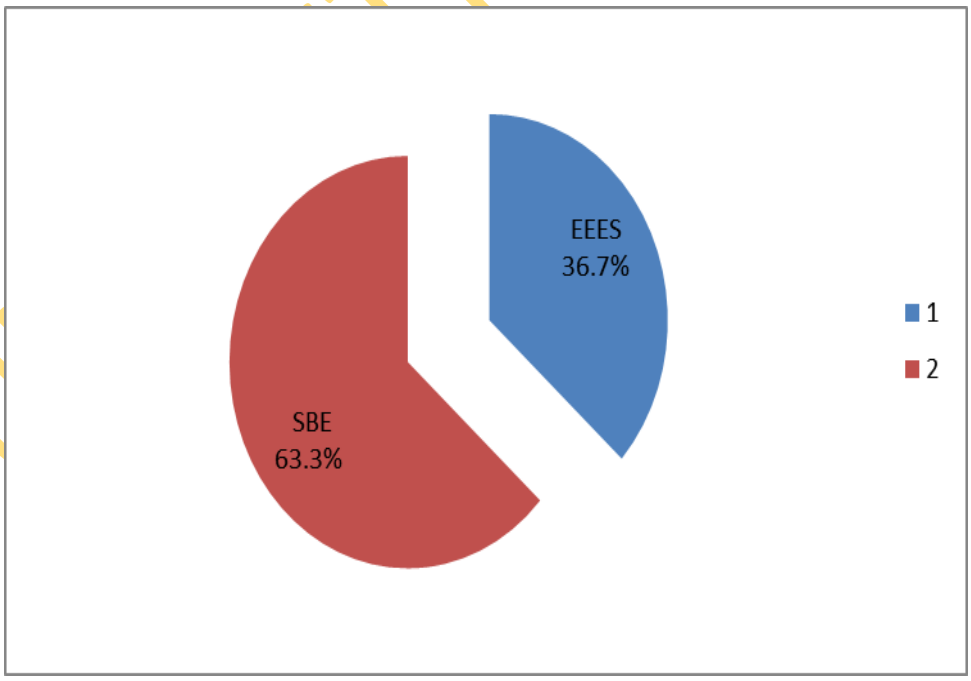


Fig. 4.1: Perceptual production of Educated Edo English Speakers stressed and unstressed syllables alternation in rhythm units

Table 4.1 and Fig 4.1 show that Educated Edo English Speakers appropriately alternated stressed and unstressed syllables in rhythm units in 36.7% with inappropriate use higher at 63.7%.

Table 4.2: Overall mean durational measures of Educated Edo English Speakers rhythm ratio and Native Baselines

Native Baselines	Educated Edo English Speakers
73.2	30.3

Educated Edo English overall durational measures calculated in RR amounted to 30.3 while the Native Baseline overall mean measured 73.2. The overall mean duration of EEES ratio across informants confirmed the predictions made by Gibbon and Gut (2001) for Nigerian English. There was absence of durational distinction between stressed and unstressed syllables in English rhythm units of EEES compared to that of the Native Baselines. This is further represented graphically below:

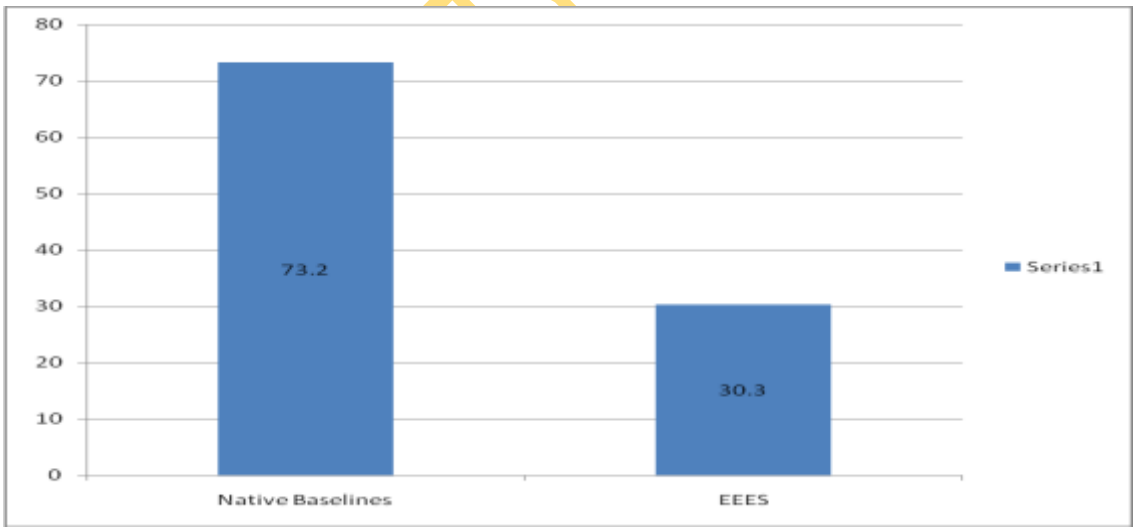


Fig. 4.2: Overall mean durational measures of EEES rhythm ratio and the Native Baselines

From Fig. 4.2 above, one would observe that the durational measures of EEES rhythm ratio amounted to 30.2 while that of the NB measured 73.2. This clearly demonstrates the distinction in the durational measures of EEES in English rhythm units and the Native Baselines.

Table 4.3: Educated Edo English Speakers rhythm units calculated in Rhythm Ratio(RR)

S/N	//ˈprezent //	//ˈdeɪnaɪ//	//ˈdʒɪərɪə//	//ˈmɔ://	//ˌju:nɪˈvɜ:sɪtɪz //	//ˈtendtəbikri //	//ˈeɪtɪd//	//ˈɔ:lməʊst //	//ˈænjuəli//	Total Mean RR
	RR	RR	RR	RR	RR	RR	RR	RR	RR	
NB 1	65.68	67.47	67.04	76.16	84.46	76.28	72.30	74.46	78.08	73.54
NB 2	65.67	67.17	65.58	76.12	84.62	77.63	73.19	74.33	72.65	72.85
EEES 1	26.47	22.48	25.90	24.81	49.49	32.43	34.64	21.87	29.57	29.74
EEES 2	26.41	20.19	22.54	28.57	46.49	40.47	47.72	23.07	28.57	31.55
EEES 3	17.35	20.88	23.66	33.77	44.93	41.65	44.07	30.60	30.84	31.97
EEES 4	18.69	20.44	21.87	32.88	47.17	38.91	39.20	23.60	37.30	31.11
EEES 5	25.76	24.01	21.25	39.39	34.55	33.77	41.86	24.81	29.47	30.54
EEES 6	30.55	22.05	23.07	32.38	32.01	48.71	31.64	22.60	30.93	30.43
EEES 7	16.66	21.56	24.01	34.64	36.70	37.50	27.53	23.07	41.17	29.20
EEES 8	20.63	22.83	25.09	37.10	32.56	43.82	23.07	20.63	38.65	29.37
EEES 9	25.87	25.81	23.83	35.48	34.21	39.68	26.47	22.48	38.76	30. 28
EEES 10	25.48	28.29	23.54	36.30	42.85	31.97	31.27	25.37	37.10	31.35
EEES 11	26.95	21.01	20.63	33.33	48.18	37.50	22.36	33.90	36.82	31.19
EEES 12	28.67	18.69	23.00	28.05	47.08	32.43	32.88	31.83	26.47	29.90
EEES 13	21.38	18.56	23.00	33.77	40.22	46.80	24.52	29.07	32.88	30.02
EEES 14	24.81	19.28	22.20	35.44	41.17	44.13	23.60	26.47	37.10	30.46
EEES 15	25.48	20.00	24.01	36.34	43..18	48.45	24.18	30.55	41.58	32.64
EEES 16	24.81	23.83	25.92	35.77	46.80	46.52	21.07	32.88	35.52	32.56
EEES 17	22.00	21.44	24.81	30.89	40..47	47.64	20.63	21.25	25.31	28.27
EEES 18	17.35	22.54	22.97	33.86	45..65	30.55	21.93	25.92	22.17	26.99
EEES 19	21.87	22.30	28.67	33.15	36.74	25.65	25.70	30.06	33.06	28.57
EEES 20	22.60	20.31	30.26	33.81	41..48	28.46	28.10	31.69	30.31	29.66

Table 4.3 represents the summary of the rhythm units of EEES calculated in rhythm ratio. Educated Edo English Speakers RR ranged from 16.66 – 49.49 while that of the Native Baselines was 65.58-84.62, showing distinction in duration of the English rhythm units.

*Where m is the sum of all of stressed and unstressed syllables in rhythm units. di = is the given stressed syllable which = dk while our dj is unknown but it is given as dj = dk+1

Example: control 1 di= 1.914; since our dj = dk+1, ie. 1.914 +1=2.914.

$$RR = 100 \sum_{K=1}^{M-1} \frac{di}{dj} (m-1)$$

$$RR = 100 \sum_{1}^{23} \frac{1.914}{2.914} / 23$$

Therefore,

$100 \sum(24-1)\ 0.6568291/23$;$100 \sum(23)\ 0.0285578$;$100 \sum 0.6568294$; = 100x0.6568294 = 65.68

4.4 Metrical Analysis

Rhythm Units

NB

X
X X
//ˈprezent//

EEES I *x *x
X X
//ˈprezent//

EEES 2 *x *x
X X
//ˈprezent//

EEES 3 *x *x
X X
//ˈprezent//

NB

X
X X X X
//ˈtendtəbikri://

EEES 1

*x *x *x *x

X X X X

//ˈtendtəbikri://

EEES 2

* x *x *x *x

X X X X

//ˈtendtəbikri://

EEES 3

x* *x *x *x

X X X X

//ˈtendtəbikri://

The pattern of stressed and unstressed syllables alternation in each rhythm units as represented by the EEES grids above differ from that of the Native Baselines. There were proliferation of strong syllables as revealed by the *x, showing unresolved clashes for both the supposedly stressed and unstressed syllables in the rhythm units of EEES as opposed to the Native Baselines metrical grids, where alternation of stressed and unstressed syllables were observed. This clearly shows that EEES did not alternate stressed and unstressed syllables in the English rhythm units, thereby resulting in "inelasticity" in timing as captured by Eka (1993).

4.4 Findings

Educated Edo English Speakers did not alternate stressed and unstressed syllables in rhythm unit as revealed through perceptual analysis. Out of a total of four hundred and fifty expected instances of occurrences of stressed and unstressed syllables alternation in English rhythm units, Educated Edo English Speakers alternated appropriately stressed and unstressed syllables in one hundred and sixty five instances (36.7%), bringing inappropriate use to two hundred and eighty five instances (63.3%).

The durational measures of Educated Edo English Speakers rhythm units was between 16.66 RR - 49.49RR while that of the Native Baselines ranged between 65.58 - 84.62. This reveals that EEES duration varies from the Native Baselines.

Complementing the findings with Gibbon and Gut (2001) rhythm ratio statistical acoustic measures and metrical grid (a tenet of metrical theory), it was discovered that there was a difference in the durational measures of Educated Edo English Speakers English rhythm units and the Native Baselines. The overall mean duration of the Native Baselines was 73.2, tilting towards stress-timing while the overall mean of the informants measured 30.3, tilting towards syllable-timing. Educated Edo English Speakers grid also revealed inability of the informants to alternate stressed and unstressed syllables in rhythm units, with their grids manifesting *X which indicates non-conformity to Standard British English rhythm compared to the Native Baselines grids, where appropriate alternations were observed, indicating conformity to Standard British English rhythm pattern.

4.5 Conclusion

The mean duration of EEES rhythm ratio across informants confirmed the findings of Gibbon and Gut (2001). There was absence of durational distinction between stressed and unstressed syllables in the rhythm units of EEES. The results obtained in this pilot study points to the fact that Educated Edo English, a sub- variety of NE tends towards syllable-timing than stress-timing compared to the NB which tends towards stress-timin. The findings further confirm the in-elastic timed/syllable-timed rhythm of Nigerian English compared to Standard British English which is elastic-timed/stressed-timed. In view of these discoveries, the investigation will further sample more Educated Eduated Edo English Speakers duration and use of stressed and unstressed syllabes alternation in rhythm groups with anacrusis, English words with syllabic consonants and more sentences in connected speech will be examined, in order to ascertain the claims made.

CHAPTER F IVE

DATA ANALYSIS AND DISCUSSION OF FINDINGS

5.0 Introduction

This chapter discusses the analysis of the data gathered on the alternation of stressed and unstressed syllable, and the durational measures of Educated Edo English rhythm units. The analysis is both quantitative and qualitative. The research consists of a sample representation of 150 Educated Edo English Speakers (75 males and 75 females) purposively sampled undergraduates from University of Benin and Ambrose Ali University, who are assumed to have relative proficiency in Standard British spoken and written English. Each of the informants was made to produce some English expressions of 3 sets. Set A consisted of six English utterances with anacrusis expected to be produced as rhythm groups. Set B comprised four sentences of 40 rhythm groups with stressed and unstressed syllable alternation built into a short English passage, while Set C composed of 10 English words syllabic consonants, whose syllabic consonants are either deleted or weakened in Standard British English.

Furthermore, each of the 150 informants were made to produce these items produced into a Speech Filing System (SFS/WASP) – version 1.41 developed at the University of London for speech analysis. For the descriptive statistical analysis, frequency counts of the appropriate alternation of stressed and unstressed syllables of each rhythm group, produced by each of the informants, was carried out with each allotted 1 mark and converted to simple percentages. In addition, the durational measures of the informants production of forty thythm units of the passage was taken, entered on a table, and the overall duration was derived. The statistical result was complemented with Gibbon and Gut (2001) Rhythm Ratio acoustic measures of 0-100, t-test, and Mann Whitney U test at 0.05 level of significance. The highest duration and RR was adopted as the norm for Educated Edo English rhythm. Moreover, the durational measures of two sampled educated native English speakers (Britons) served as baseline for confirming the phenomenon being tested.

5.1 Descriptive statistical analysis

To find out whether or not Edo English rhythm is stressed-timed or syllable-timed, the number of appropriately alternated stressed and unstressed syllables in the rhythm groups is recorded for each category. This is expressed as simple percentages of the total frequency of appropriately alternated forms for each category: This is highlighted below:

$$\frac{\text{No of appropriately alternated stressed and unstressed syllables in rhythm groups}}{\text{No of Test Items}} \times \frac{100}{1}$$

Table 5.1: Frequency and percentage scores of Educated Edo English Speakers production of anacrusis with rhythm groups

Items	Frequency	Percentage
Appropriate alternation of anacrusis with the first rhythm groups	900	17.1%
Inappropriate alternation of anacrusis with the first rhythm groups	4350	82.9%

Table 5.1 reveals the frequency and percentage scores of Educated Edo English Speakers in the production of anacrusis with rhythm groups. Only nine hundred informants alternated stress appropriately on the strong forms (17.1%). Majority of the informants could not produce the anacrusis with the rhythm groups appropriately, bringing inappropriate use higher at 82.9%. This is further represented graphically below:

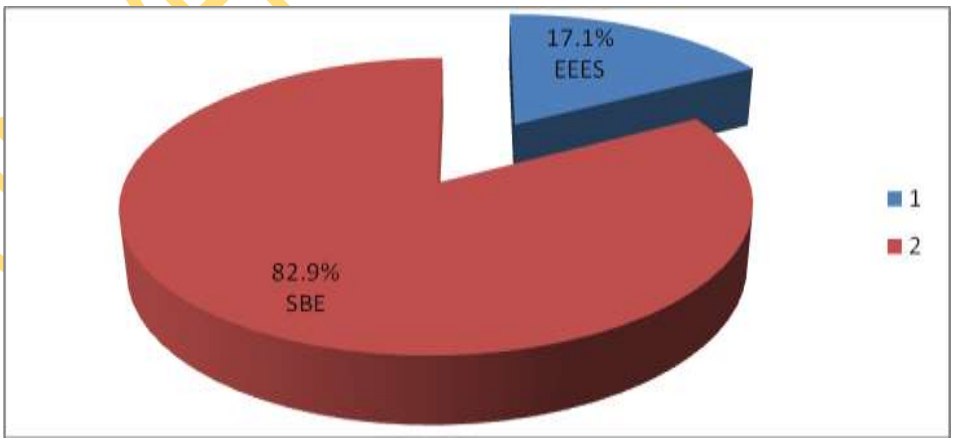


Fig. 5.1: Frequency and percentage scores of Educated Edo English Speakers production of anacrusis with rhythm groups

Table 5.2: Educated Edo English Speakers frequency of alternation of stressed and unstressed syllables of anacrusis with rhytm groups

Informants		Frequency of occurrence of stressed syllables	Frequency of occurrence of unstressed Syllables	Total no of occurrence of stressed & unstressed syllables	Informants alternation of stressed & unstressed Syllables	% of informants alternation of stressed & unstressed syllables
	Items	10	25	35		
Native baseline 1		10	25	35	100	100%
Native baseline 2		10	25	35	100	100%
150 EEES	I am going home |ˈaɪ[əm]ˈgəʊ[ɪŋ] ∪həʊm|	150	0	150	0	0
150 EEES	It was an accident /[ɪt][wəz][ən]ˈæk[sɪ][dən t]	150	0	150	0	0
150 EEES	I was in London /ˈaɪ[wəz] [ɪn] ˈlʌn.[dən]	150	0	150	0	0
150 EEES	He could have avoided it /hi[kəd][hə][və]ˈvɔɪ.[dɪ[d ɪt] /	150	0	150	0	0
150 EEES	She expected it /[ʃi][ɪk].ˈspek[tɪ][dɪt]/	150	0	150	0	0
150 EEES	But there were plenty of them /[bə]]tðə][wə]ˈplenti[əv] [ðəm]|	150	0	150	0	0
Total 5250		**900**	**0**	**900**	**0**	**17.1%**

Table 5.2 explains the details of Educated Edo English Speakers alternation of anacrusis with rhythm groups. The anacrusis consist of a frequency of 25 instances of occurrence while the stressed syllables expected to be alternated as rhythm groups by the informants comprised 10 instances of occurrence. Out of 5,250 overall expected instances of occurrence of stressed and unstressed syllables, only 900 (17.1%) instances of appropriate alternation were observed by the informants in the rhythm groups. This brings inappropriate use to 4,350 (82.9%).

Table 5.3: Educated Edo English Speakers alternation of stressed and unstressed syllables in English rhythm units of English connected speech

S/N	English Rhythm units	Informants	Appropriate Alternation	% of Appropriate Alternation	Inappropriate Alternation	% of Inappropriate Alternation
1.	it has been said that several // it həs biːn sedΔətᴗsevrəl//	150	0	0%	150	100%
2.	educated //ˈedʒʊkeɪtɪd//	150	79	52.7%	71	47.3%
3.	as well as parents and em //əsweləsˈpeərəntsəndɪm//	150	0	0%	150	100%
4.	ployers of //ˈplɔɪəzəv//	150	0	100%	0	0%
5.	labour are be //ˈleɪbərəbɪ//	150	0	0%	150	100%
6.	ginning to //ˈgɪnɪŋtə//	150	0	0%	150	100%
7.	get //ˈget//	150	150	100%	0	0%
8.	worried a //ˈwʌrɪdə//	150	0	0%	150	100%
9.	bout the//ˈbaʊtðə//	150	0	0%	150	100%
10.	quality of //ˈkwɒlɪtiəv//	150	0	0%	150	150%
11.	graduates from these //ˈgrædʒʊeɪtsfrəmðiːz//	150	0	0%	150	100%
12.	universities. the //ˌjuːnɪˈvɜːsɪtɪzðə//	150	0	0%	150	100%
13.	fact re//ˈfæktrɪ//	150	150	100%	0	0%
14.	mains that the //ˈmeɪnzðətði//	150	0	0%	150	100%
15.	issue of //ˈɪʃuːəv//	150	0	0%	150	100%
16.	quality//ˈkwɒlɪti//	150	150	100%	0	0%
17.	cannot be de//ˈkænətbidɪ//	150	0	0%	150	100%
18.	termined by the //ˈtɜːmɪndbaɪðə//	150	0	0%	150	62%
19.	universities a // ˌjuːnɪˈvɜːsɪtiə//	150	0	0%	150	100%
20.	lone. it //ˈləʊnɪt	150	0	0%	150	100%
21.	also de //ˈɔːlsəʊdɪ//	150	0	0%	150	100%
22.	pends on a //ˈpendzɒnə//	150	0	0%	150	100%
23.	/number of /ˈnʌmbərəv//	150	0	0%	150	100%
24.	factors which in	150	0	0%	150	100%
25.	include the a //ˈkluːdðiə//	150	0	0%	150	100%
26.	bility of the //ˈbɪlətiəvðə//	150	0	0%	150	100%
27.	student, the //ˈstjuːdntðə//	150	0	0%	150	100%
28.	level of //ˈlevl̩əvkə//	150	0	0%	150	100%
29.	mmitment to//ˈmɪtmənttə//	150	0	0%	150	100%
30.	reading, as well as the //ˈriːdɪŋəzweləzðə//	150	0	0%	150	100%
31.	physical, //ˈfɪzɪkl//	150	15	10%	135	90%
32.	psychological and e // ˌsaɪkəˈlɒdʒɪkləndɪ //	150	0	0%	150	100%
33.	motional//ˈməʊʃn̩əl//	150	0	0%	150	100%
34.	factors. //ˈfæktəz//	150	0	0%	150	100%
35	all these help to de //ˈɔːlðiːzhelptədɪ//	150	0	0%	150	100%
36.	termine, fa //tɜː mɪn fə//	150	0	0%	150	100%
37.	silitatate and en //ˈsɪlɪteɪtəndɪn//	150	0	0%	150	100%
38.	hance the/ˈhɑːnsðə//	150	0	0%	150	100%
39.	quality of a //ˈkwɒlɪtiəvə//	150	0	0%	150	100%
40.	graduate. //ˈgrædʒʊeɪt//	150	150	100%	0	0%
Total		**6000**	**694**	**11.6%**	**5306**	**88.4%**

Table 5.3 represents the performance of EEES in the appropriate alternation of stressed and unstressed syllables in English connected speech. The informants could only alternate stressed and unstressed syllables of the English rhythm units appropriately in 694 (11.6%), while inappropriate use was higher, with 5,306 (88.4). Educated Edo English Speakers alternation of stressed and unstressed syllables in rhythm groups of English connected speech is further illustrated graphically below:

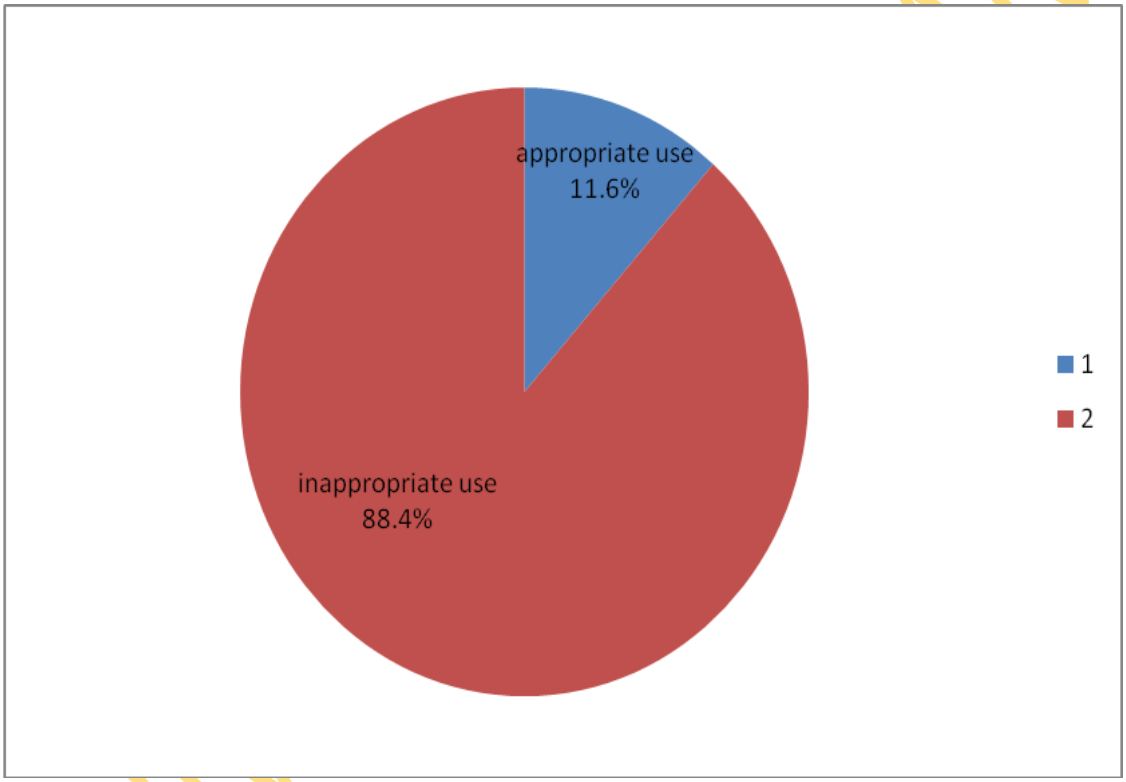


Figure 5.2: Alternation of Educated English Speakers stressed and unstressed syllables in rhythm units of English connected speech

Table 5:4: Educated Edo English Speakers and Native Baselines alternation of stressed and unstressed syllables in English words with syllabic consonants.

S/N	English Syllabic Consonants	Informants	Instances of appropriate use of syllabic consonants	% of the instances of appropriate use of syllabic consonants	Syllables/vowels /substituted
Native baseline 1			100	100%	-
Native baseline 2			100	100%	-
1.	/ˈkʌmf[tə[bl̩]/	150	0	0%	/bu/
2.	/ˌɪmˈpiːtʃə[bəl]/	150	0	0%	/bu/
3.	/ɪnˈdjuːrə[bl̩]/	150	0	0%	/bu/
4.	/əˈprəʊtʃə[bl̩]/	150	0	0%	/bu/
5.	/kənˈtrəʊl[əbl̩]/	150	0	0%	/bu/
6.	/rɪˈfɜːrə[bl̩]/	150	0	0%	/bu/
7.	/rɪˈspɒnsə[bl̩]/	150	0	0%	/bu/
8.	/ˈprɒfɪt[ə[bl̩]/	150	0	0%	/bu/
9.	/əˈvɔɪ[də[bl̩]/	150	0	0%	/bu/
10.	//prɪˈdɪktə[bl̩//	150	0	0%	/bu/
Total (150x 10)		**1500**	**0**	**0.0%**	

Table 5. 4 illustrates the performance of Educated Edo English Speakers and native baselines in the alternation of stressed and unstressed syllable in English words with syllabic consonants. Out of one thousand, five hundred expected instances of occurrence of alternation of stressed and unstressed syllables in English words with syllabic consonants, EEES performance revealed 0.0% alternation while the native baselines alternated stressed and unstressed syllables in 100% instances.

The performances of EEES and the native baselines are further represented graphically overleaf:

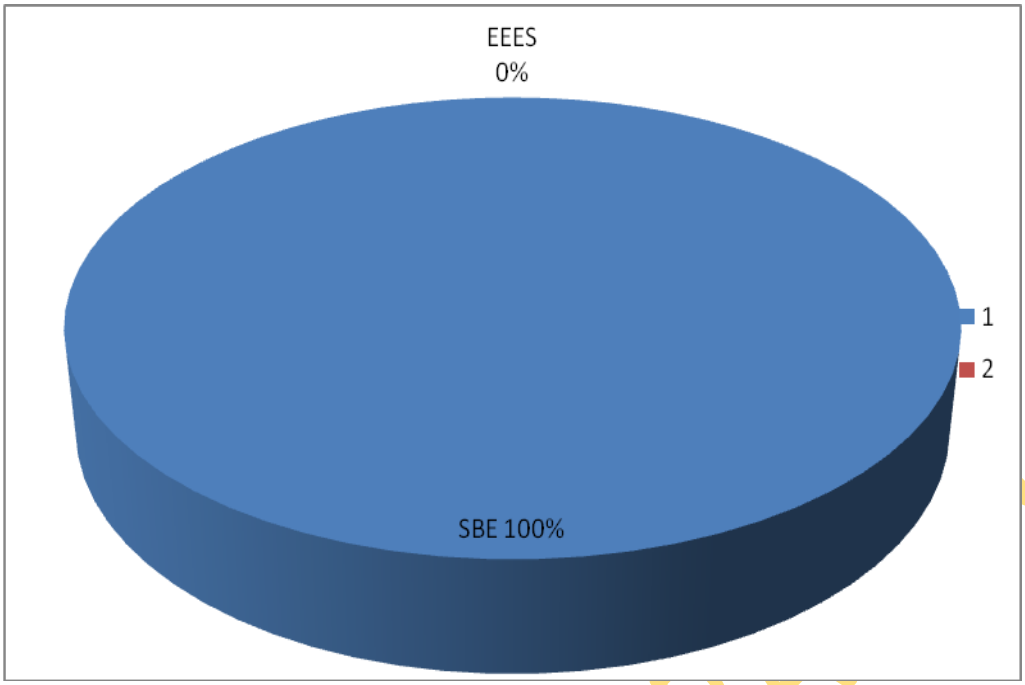


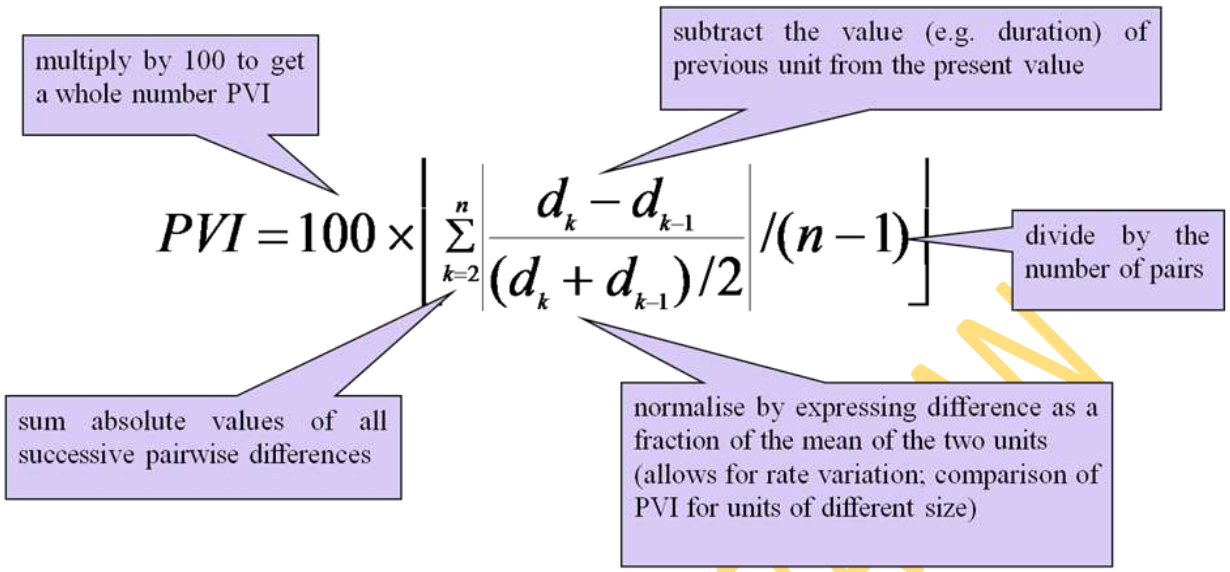
Fig. 5.3: Educated Edo English Speakers and Native Baselines alternation of stressed and unstressed syllables in English words with syllabic consonants

The graphic above shows that the native baselines were able to alternate stressed and unstressed syllable appropriately in all the instances of occurrence (1500) of the English syllabic consonants, bringing their performance to 100%. For the EEES however, none of them could alternate stress appropriately on the English syllabic consonants, bringing their performance to 0.0%.

5.2 Rhythm measures

Ramus, Nespor and Mehler (1999), Low, Grabe and Nolan (2000), attempt to provide support for the classification of rhythm types based on the notion that objective isochrony does not exist in speech. For instance, Low, Grabe and Nolan (2000) applied the nPVI to vowel duration and their studies revealed that stress-timed and syllable-timed languages differ in the durational variability encountered in vowels. According to them, languages employing stress-timing would be expected to have relatively large Pairwise Variability Index (PVI) values because the duration of vowels in successive syllables varies while languages employing syllable-timed would be expected to have relatively low PVI values. This is represented overleaf:

5.2.1 The Normalized Pairwise Variability Index



Where *n* is the number of vocalic intervals and *d* is duration of the kth interval.

Fig. 5.3: The Normalized Pairwise Variability Index

Sources: Low, Grabe & Nolan (2000) and Ilolo (2013)

The Pairwise Variability Index (PVI) discriminates between stress-timed and syllable-timed languages. It relies on the idea that stress-timed languages allow vowel reduction, in contrast with syllable-timed languages (Ilolo, 2013).

Conversely, Gibbon and Gut (2001) propose Rhythm Ratio (RR) as an improvement on Pairwise Variability Index (PVI) measures. The Rhythm Ratio (RR) is also an acoustic measurement proposed to support the traditional classification of rhythm classes (stress-timed and syllable-timed). Gibbon and Gut (2001) Rhythm Ratio does not calculate absolute differences in length between adjacent units like the PVI but computes their ratio. More so, unlike the PVI, the RR measurement does not normalise for duration. This model was adopted for this study because is able to handle English rhythm groups in whole utterances better than PVI. The model as well helps to give more detailed, tenable and acoustic confirmation as whether or not there is any significant variation in durational measures of Educated Edo English Speakers stressed and unstressed syllables alternation in rhythm groups as affirmed in Standard British English.

5.2.2 Gibbon and Gut (2001) Rhythm Ratio (RR)

$$RR = 100 \sum_{k=1}^{m-1} \frac{di}{dj} / (\mathrm{m} - \mathrm{I})$$

Fig. 5.4: Gibbon and Gut (2001) Rhythm Ratio (RR**)**

Source: Gibbon and Gut (2001**)**

Key:

RR = Rhythm Ratio

100 = Factor

£ = Summation

di = Duration of a pattern of speech with stressed syllables

dj = Duration of a pattern of speech with unstressed syllables

m = M a x i m u m number of syllables in instrument

In the equation above, di=dk and dj=dk+1 if di is smaller than dj, while dj=dk and di=dk+1 if di is not smaller than dj. *M* stands for the number syllables in instrument while *d* stands for duration (sequence of units of syllables) of length and the average difference between adjacent syllables is calculated. That is, for each pair of adjacent syllables:

- The average of all these ratios is calculated and multiplied by 100
- If the RR equals 100, subsequent syllables have exactly the same duration.
- The lower the degree of similarity of Educated Edo English durational measures of stressed and unstressed syllables alternation in English rhythm units, the lower the RR value.

Source: Gibbon and Gut (2001)

Table 5.5: Educated Edo English Speakers and Standard British English Speakers' Mean durational measures calculated in Rhythm Ratio

	Total addition of rhythm ratio	**Mean**
Native baselines	162.97	81.5
Educated Edo English Speakers	6166.25	41.1

Table 5.5 shows the mean duration and RR values of 2 native baselines, and 150 Educated Edo English Speakers' alternation of stressed and unstressed syllable in the English passage. The total duration of the native baselines was 162.97 with a mean of 81.5RR, with inappropriate use at 18.5RR, which according to the RR statistical measure is closer to stressed-timed. For EEES, the duration was 6166.25, with a mean of 41.1RR, inappropriate use (58.9RR). The disparity in the durational measures and RR values between the native baselines and Educated Edo English Speakers clearly explains the variation in the rhythm of SBE and EEES who are second language users of English. The graphic below further explicates this distinction.

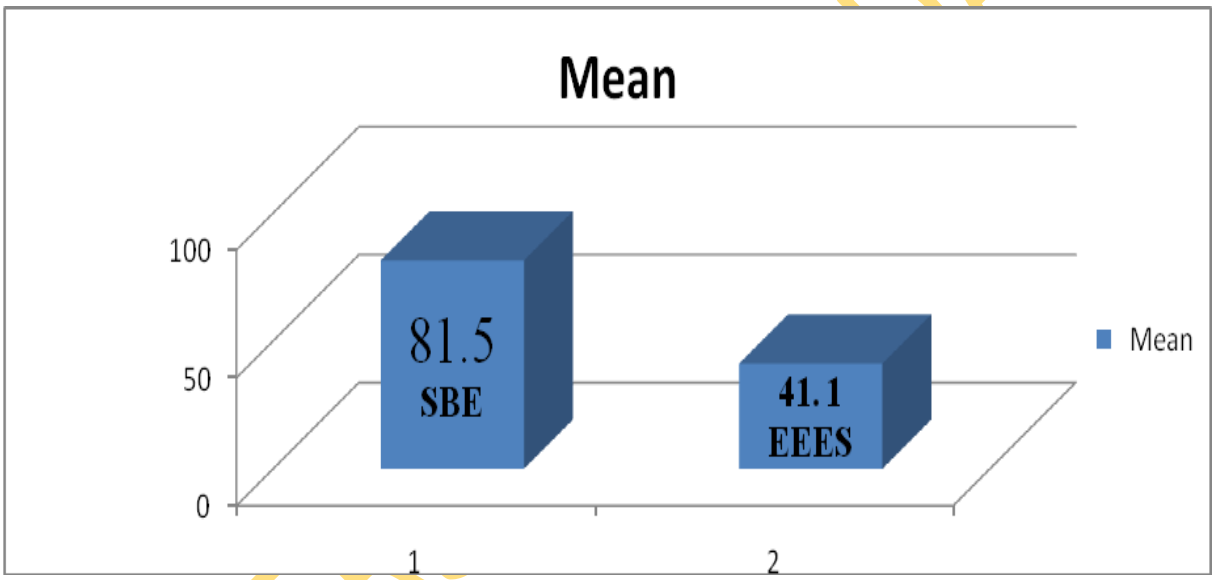


Figure 5.5: EEES and SBE mean durational measures calculated in Rhythm Ratio

Fig 5.5 symbolises the graphic form of the mean duration of two native baselines and one hundred and fifty Educated Edo English Speakers. The total duration of the Native Baselines in the alternation of 150 stressed and unstressed syllable in English passage showed a mean of 81.5 which according to the RR statistical measure tilts towards stress-timing, while the mean of the 150 EEES amounts to 41.1, tilting towards syllable-timing.

Table 5.6: T-test value for mean of NB 1 Rhythm Ratio (RR)

NB 1	**Test Value = 81.5RR**					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
	-44.546	148	.000	-40.12195	-41.9018	-38.3421
NB2	**Test Value = 81.47RR**					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
	-44.513	148	.000	-40.09195	-41.8718	-38.3121

Table 5.6 represents the t-test values of NB 1 and 2, with a significant difference at P-value <0.05 (0.000) compared to EEES rhythm ratio. Thereby, bringing NB 1 and 2 at 81.5RR respectively.

Table 5.7: T-test value for duration of NB 1 and 2

	Test Value = 4.563					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Dur NB 1	-143.061	148	.000	-3.78531	-3.8376	-3.7330
	Test Value = 4.571					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
DurNB 2	-143.364	148	.000	-3.79331	-3.8456	-3.7410

The mean of o NB 1 & 2 revealed significant difference in duration (4.563/4.571) compared to EEES with p-value < 0.05 (0.000) for NB1 and 2 respectively.

Table 5.8: Mean duration of EEES Males and Females calculated in Rhythm Ratio

Educated Edo English Speakers	**Males**	**Females**
	3057.125	3110.125
Mean	20.4	20.7

Table 5.8 stands for the mean duration of Educated Edo English Speakers males and females alternation of 150 stressed and unstressed syllable in English passage calculated in Rhythm Ratio. The duration of the male informants ranged 3057.125, with 20.4 RR while the female informants measured 3110.125, bringing the RR values at 20.7. The graphic below further reveals the RR values for EEES males and females.

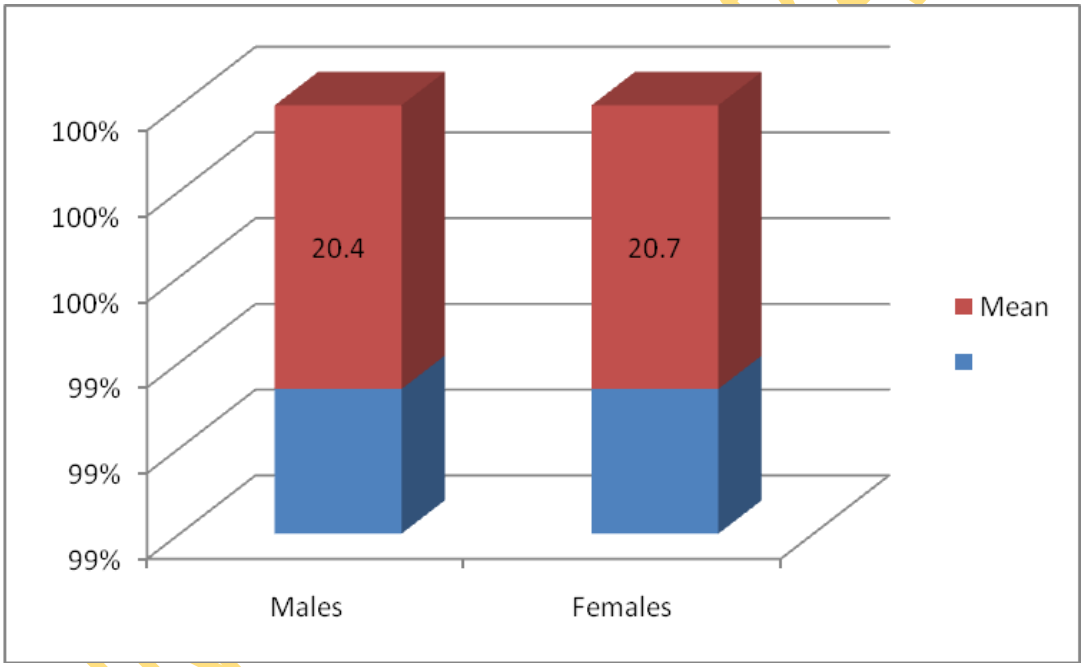


Fig. 5.6: Mean duration of EEES males and females calculated in Rhythm Ratio

Fig. 5.6 further shows in graphic form the mean duration of Educated Edo English Speakers' males and females in the alternation of 150 stressed and unstressed syllables in English passage, calculated in Rhythm Ratio. The duration (3057.125) of the male informants was 20.4 RR while that of the female informants measured (3110.125) 20.7 RR. The durational difference of EEES males and females RR values were further subjected to Mann Whitney U test at 0.05 level of significance.

Table 5.9: Mann-Whitney U Test for EEES males and females duration and RR

	Duration_1	RR_1
Mann-Whitney U	2625.500	2533.000
Wilcoxon W	5475.500	5383.000
Z	-.703	-1.051
Asymp. Sig. (2-tailed)	.482	.293

The mean of males is not different from that of females in the group. Mann Whitney U test showed that there was no significant difference for gender with P-value > 0.05 in terms of duration (0.482) and RR (0.293), which is greater than 0.05 (see appendix 1 for details).

5.3 Metrical analysis

Metrical Stress approach was introduced by Prince and Liberman (1977) to interpret the basic descriptive data contained in Chomsky's and Halle's *Sound patterns of English.* The approach eliminates the numbering of stress levels with its problem of indefinite lowering, and replaces it by a system where stress is defined on a tree structure, in which nodes divide binarily into S (Strong) and W (Weak) branches. As an innovative feature, prominence of a unit is defined relative to other units in the same phrase (Cruttenden, 1986). In Metrical analysis, two rules govern the assignment of strong and weak nodes; a Lexical Category Prominence Rule (LCPR) which covers words and compounds, and a Nuclear Stress Rule (NSR) which covers word groups, phrases and sentences (Cruttenden, 1986). Metrical grid analysis, an aspect of metrical analysis is however adopted for the analysis of this data because of its inherent values and significance to the phenomena under investigation.

5.3.1 Metrical grid analysis of the dominant patterns of Educated Edo English Speakers alternation of stressed and unstressed syllables

Metrical grid is one of the tenets of metrical phonology. It is employed in this study to show the heights of the sampled Educated Edo English Speakers prominence of stressed and unstressed syllables alternation of English rhythm groups because of its advantages over metrical tree. For instance, Metrical tree shows the relative prominence of nodes only but fails to account for rhythmic alternation between strong and weak

syllables. Also, it fails to account for stress clash; i.e. a situation where adjacent syllables are stressed (Kager, 1995:369; Sunday, 2005). Metrical grid however shows prominence in a hierarchical order rather than in relational property, and it as well accounts for rhythmic alternation between strong and weak syllables. The following examples below demonstrate the grids of EEES and the native baselines used in confirming the phenomena under investigation.

NB I

X
X X X
X X X X X
|ˈaɪ[əm]ˈgəʊ[ɪŋ]
∪həʊm|/

NB II

X
X X X
X X X X X
|ˈaɪ[əm]ˈgəʊ[ɪŋ]
∪həʊm|/

The grids for the native baselines show that the last syllable of the English rhythm group /∪**həʊm**|/ is more prominent than other syllables. The grid enables one to know at a glance that the first and third syllables are given equal prominence as the height of the metrical grid columns correspond to the degree of prominence. However, the highest grid is on the syllable of /∪**həʊm**|/ 'home' since this is the focus of the rhythm group as affirmed in SBE rhythm where the nuclear stress is assigned to the rightmost element.

EEES I

x* x* x* x* x*
X x* x* x* x*
X X X X X
|ˈaɪ[↔m]ˈg↔Y[ɪn]
∪h↔Ym/

EEES II

x* x* x* x* x*
X x* x* x* x*
X X X X X
|ˈaɪ[↔m]ˈg↔Y[ɪn]
∪h↔Ym/

EEES III

x* x* x* x* x
X x* x* x* x*
X X X X x*
|ˈaɪ[↔m]ˈg↔Y[ɪn]
∪h↔Ym/

EEES IV

x* x* x* x* x*
X x* x* x* x*
X X X X X
|ˈaɪ[↔m]ˈg↔Y[ɪn]
∪h↔Ym/

EEES V

x* x* x* x* x*
X x* x* x* x*
X X X X X
|ˈaɪ[↔m]ˈg↔Y[ɪn]
∪h↔Ym/

The pattern of stressed and unstressed syllables alternation in each rhythm units represented by the EEES grid /ˈ**aɪ[↔m]**ˈ**g↔Y[ɪn] ∪h↔Ym/** above differs from that of the Native Baselines. There seems to be proliferation of strong syllables as revealed by the x*, showing unresolved clashes for both the supposedly stressed and unstressed syllables in the rhythm units of EEES as opposed to the Native Baselines' metrical grid where

alternation of stressed and unstressed syllables was observed. This clearly shows that EEES could not appropriately alternate stressed and unstressed syllables in the English rhythm units, thereby resulting into two strong syllables occurring simultaneously, which eventually distorts SBE rhythm.

NB I

X
X X X X X X
/[ɪt][wəz][ən]ˈæk[sɪ][dənt]/
'It was an accident'

NB II

X
X X X X X X
/[ɪt][wəz][ən]ˈæk[sɪ][dənt]
'It was an accident'

The grids of the native baselines confirm that the fourth syllable /ˈ**æk**[sɪ][dənt**]/** of the content word receives the highest prominence as a result of the anacrues preceeding it. In SBE, anacruses are supposed to be rushed over with the rhythm groups The girds above indicates that the native baselines were able to observe the Nuclear Stress Rule (NSR) and Lexical Category Prominence Rule (LCPR) which maintains that at the predicate and sentence the nuclear stress is assigned to the right element.

EEES I

x* x* x* x* x* x*
X X X X X X
/[it][w□z][æn]ˈæk[si][dɛnt]
'It was an accident'

EEES II

x* x* x* x* x* x*

X X X X X X

/[it][w□z][æn]ˈæk[si][dɛnt]

'It was an accident'

EEES III

x* x* x* x* x* x*

X X X X X X

/[it][w□z][æn]ˈæk[si][dɛnt]

'It was an accident'

EEES IV

x* x* x* x* x* x*

X X X X X X

[it][w□z][æn]ˈæk[si][dɛnt]

'It was an accident'

EEES V

x* x* x* x* x* x*

X X X X X X

/[it][w□z][æn]ˈæk[si][dɛnt]

'It was an accident'

The pattern of stressed and unstressed syllables alternation in each rhythm units as represented by the EEES grids **/[it][w□z][æn]ˈæk[si][dƐnt]** differs from that of the Native Baselines. The grids of the participants revealed a proliferation of strong syllables (x*), indicating unresolved clashes for both the supposedly stressed and unstressed syllables in the rhythm units as opposed to the native baselines' metrical grids where alternation of stressed and unstressed syllables was eminent, with strict adherence to NSR and LCPR rules of SBE rhythm.

NB 1

X

X X

X X X X

//ˈe dʒʊ keɪ tɪd//

'Educated'

NB II

X

X X

X X X X

//ˈe dʒʊ keɪ tɪd//

'Educated'

From the native baselines' grids above, the first syllable of the English rhythm group //ˈ**e** dʒʊ keɪ tɪd// is more prominent than other syllables. This is because in SBE, a polysyllabic English word such as the one above is expected to have one of the syllables carrying the primary stress.

EEES I

x* x* x* x*

X X X X

//ˈ Ɛ du keɪ ted//

' Educated'

EEES II

x* x* x* x*

X X X X

//ˈ Ɛ du keɪ ted//

' Educated'

EEES III

x* x* x* x*
X X X X
//' Ɛ du keɪ ted//
' Educated'

EEES IV

x* x* x* x*
X X X X
//' Ɛ du keɪ ted//
' Educated'

EEES V

x* x* x* x*
X X X X
//' Ɛ du keɪ ted//
' Educated'

The grids of Educated Edo English Speakers differ completely from that of the Native Baselines. All the syllables of the English rhythm group **//Ɛ du keɪ ted//** were made prominent with indication of x* clashes. This could account for why earlier scholars (Eka, 1993; Akinjobi, 2004; Ilolo, 2013) claim NE rhythm should be best described as syllable-timed.

NB I

X
X X X X
//'peə rənts ənd ɪm//
'Parents and em'

NB II

X
X X X X
//'peə rənts ənd ɪm//
'Parents and em'

The Native Baselines' grids //ˈ**peə rənts ənd ɪm**// recognise the Lexical Category Prominence Rule (LCRP), where prominent nodes are allowed to swap in a bi-direction manner, once the branching does not lead to a strong node. Only the first syllable /ˈ**peə/** of the rhythm group receives more prominence as shown through the height in the grid above, which is in accordance with Standard British English rhythm.

EEES I

x* x* x* x*
X X X X
//pei rɛnts ænd ɛm//
'Parents and em'

EEES II

x* x* x* x*
X X X X
//pei rɛnts ænd ɛm//
'Parents and em'

EEES III

x* x* x* x*
X X X X
//pei rɛnts ænd ɛm//
'Parents and em'

EEES IV

x* x* x* x*
X X X X
//pei rɛnts ænd ɛm//
'Parents and em'

EEES V

x* x* x* x*
X X X X
//pei rɛnts ænd ɛm//
'Parents and em'

EEES grids **//pei rɛnts ænd ɛm//** differ from those of the native baselines. There is a proliferation of strong syllables as shown by the x* in the syllables of the rhythm group with unresolved clashes for stressed and unstressed syllable alternation in the rhythm units as compared to the native baselines' metrical grids, where alternation of stressed and unstressed syllable was observed.

NB I

X
X X X
/ˈkʌmf [tə [bl]
'Comfortable'

NB II

X
X X X
/ˈkʌmf [tə [bl̩]
'Comfortable'

In Standard British English, syllabic consonants of English words are either weakened or get deleted in speech. The metrical grids of the native baselines confirm that they were able to weaken the syllabic consonants **/bl̩/** of the English words above as expected in SBE form.

EEES I

x* x* x* x*
X X X X
/k□m f□ [tei [bu]/
'Comfortable'

EEES II

x* x* x* x*
X X X X
/k□m f□ [tei [bu]/
'Comfortable'

EEES III

x* x* x* x*

X X X X

/k□m f□ [tei [bu]/

‘Comfortable’

EEES IV

x* x* x* x*

X X X X

/k□m f□ [tei [bu]/

‘Comfortable’

EEES V

x* x* x* x*

X X X X

/k□m f□ [tei [bu]/

‘Comfortable’

Educated Edo English Speakers grids revealed that that all the syllables of the English words with syllabic consonant **/k□m f□ [tei [bu]/** were given equal prominence. That is, syllables of English words with syllabic consonants that were supposed to be weakened or get deleted were all replaced with strong syllables /**f□/** and /**bu**/.

NB1

X

X X X X

/ɪmˈpiːtʃə[bəl]/

‘Impeachable’

NBII

X

X X X X

/ɪmˈpiːtʃə[bəl]/

‘Impeachable’

The native baselines grid for **/ɪmˈpiːtʃə [bəl]/** show that the second syllable of the English syllabic consonant is more prominent than other syllables. As native speakers with natural intuition, they were able to appropriately alternate stressed and unstressed syllable of the English words with syllabic consonants, and this marks the SBE rhythm.

EEES I

x* x* x* x*

X X X X

//pr□fi tei**[bu]**//

'Profitable'

EEES II

x* x* x* x*

X X X X

//pr□ fit ei**[bu]**//

'Profitable'

EEES III

x* x* x* x*

X X X X

//pr□ fit ei**[bu]**//

'Profitable'

EEES IV

x* x* x* x*

X X X X

//pr□ fit **ei[bu]**//

'Profitable'

EEES V

x* x* x* x*

X X X X

//pr□ fit **ei[bu]**//

'Profitable'

For (//**pr□ fit ei[bu]//),** EEES grids differ from those of the native baselines. The grids of the EEES revealed proliferation of strong syllables as demonstrated by the x*, showing unresolved clashes for stressed and unstressed syllable in the English words with syllabic consonants. This indicates that EEES could not alternate stressed and unstressed syllable appropriately in the English words with syllabic consonants, thereby resulting in the substitution of strong syllables /**ei**/ and /**bu**/ for the syllabic consonants that were supposed to be weakened or get deleted as distinguished by the native baselines.

5.4 Findings

This research was conducted to find out whether or not stressed and unstressed syllable alternation and duration (a significant phonetic criterion for determining the rhythm of a language) could be used to describe the timing rhythm for Edo English as syllable-timed or stressed-imed. The following research questions earlier formulated, and validated by experts in English phonology, were used to guide the study:

1. Do Educated Edo English Speakers produce anacrusis together with the rhythm groups as observed in Standard British English form?
2. Do Educated Edo English Speakers appropriately alternate stressed and unstressed syllable in rhythm units of English connected speech?
3. Does Educated Edo English Speakers duration of rhythm units in English connected speech vary from Standard British English form?
4. To what extent does the alternation of stressed and unstressed syllable of Educated Edo English Speakers words with syllabic consonants conform to Standard British English form?
5. Are there any significant differences in the conformity of Edo males and females to Standard British English rhythm pattern?
6. To what extent does Educated Edo English Speakers rhythm pattern conform to earlier description of other Nigerian English sub-varieties rhythm description as syllable or inelastic -timed?

The statistical analysis revealed that Educated Edo English Speakers did not produce anacrusis together with rhythm groups. From the statistical analysis, it was deduced that all the informants (150) produced the syllables with strong forms which occurred in ten instances in the utterance at 900 instances of appropriate use (17.1%), bringing inappropriate use to 4,350 (82.9%). The informants' high inappropriate use of

anacrusis with rhythm groups could be as a result of their inability to weaken anacrusis before the first rhythm group, which ultimately has a strong intelligibility implication for SBE rhythm.

For English rhythm units in connected speech, the statistical analysis of Educated English Speakers revealed that the informants could only alternate stressed and unstressed syllable appropriately in six hundred and ninety four instances (11.6%), bringing inappropriate use to 5,306 (88.4%). This finding confirms earlier scholars' (Eka, 1993; Udofot, 2003; Akinjobi, 2004; Ilolo, 2013) claim that Nigerian English is syllable-timed and not stress-timed. The informants' inability to appropriately alternate stressed and unstressed syllables in the rhythm groups tested could also be as a result of their tone language bacground. It could further be as a result of their inability to apply Standard British English rhythm, which requires making unstressed syllables at the beginning of a stress group go together with the group. However, the native baselines alternation revealed 100% performance, because this was a natural phenomenon for them. It should be noted however, that this phenomenon in SBE is only peculiar with anacrusis. In other instances, stressed syllables start the rhythm group.

Educated Edo English Speakers durational measures in rhythm units of English connected speech do not conform to the Standard British form (Eka, 1993; Gibbon and Gut, 2001; Udofot, 2003; Akinjobi, 2004; Ilolo, 2013). Gibbon and Gut (2001) Rhythm Ratio (RR) measures of 0-100 employed for the acoustic findings clearly demonstrates variation in durational measures of EEES and SBE of rhythm units in connected speech . The mean of the informants calculated in Rhythm Ratio showed 41.1, with inappropriate use at 58.9, tilting towards syllable-timing while that of the Native Baselines revealed 81.5, with inappropriate use of 18.5 which is neglible, tilting towards stress-timing rhythm as earlier affirmed (Gibbon and Gut, 2001). T-test complemented this findings with $P< 0.05$ (0.000) level of signifcance, showing significant difference for NB duration (4.571) and RR (81.5) compared to EEES.

Educated Edo English Speakers could not produce the unstressed syllables of the English words with syllabic consonants appropriately as revealed through the statistical analysis. Instead, all stressed and unstressed syllables of the English words with syllabic consonants were produced with same prominence. The statistical analysis of the informants was 0.0% in the alternation of stressed and unstressed syllables of the English words with syllabic consonants, which is not in conformity with the Standard British

English form. This further confirms Akinjobi's (2009) claim that Nigerian English speakers do not weaken vowels in syllabic consonants as affirmed in Standard British English form. However, the native baselines alternation established 100% performance as a result of their native intuition.

The durational measures of males and females Educated Edo English Speakers revealed that there was no significant difference in stressed and unstressed syllables alternation and duration of the rhythm units in English connected speech. The duration (3057.125) of Edo bilingual males measured in Rhythm Ratio was 20.4 while that of the females (3110.125) was 20.7RR. Mann Whitney U test showed that there was no significant difference for gender in duration (0.482) and RR (0.293) at > 0.05 level of signicance respectively, which is greater than 0.05.

Educated Edo English Speakers statistical, metrical and acoustic findings for stressed and unstressed syllables alternation and duration of rhythm units in English connected speech do not conform to the Standard British English form. Educated Edo English Speakers durational measures of rhythm units in English connected speech measured through Gibbon and Gut (2001) Rhythm Ratio acoustic measures of 0-100, further confirmed this phenomenon through the mean performance of 41.1 RR for EEES, titlting towards syllable-timing rhythm and 81.5 for NB, tilting towards stress-timing rhythm. Therefore, EEES rhythm pattern confirms earlier description of other NE rhythm as in-elastic-timed (Eka, 1993) or syllable-timed (Akinjobi, 2004; Ilolo, 2013).

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This investigation was conducted to verify whether or not Educated Edo English Speakers could alternate stressed and unstressed syllables in English rhythm groups as observed in Standard British English rhythm. Earlier scholars (Eka, 1993; Ufomata, 1996; Udofot. 1997, 20003; O' Connor, 2000; Akinjobi, 2004; and Ilolo, 2013) claim that there is a "marked" difference in Nigerian English rhythm (syllable-timed) as compared to Standard British English which is stressed-timed. These scholars have also claimed that this "marked" difference in Nigerian English rhythm (syllable-timed) and Standard British English rhythm (stressed-timed) has often resulted in unintelligibility of the spoken English of most Nigerians, especially to the native speakers. This study has, therefore, re-confirmed the existing claim from a minority ethnic group (Edo) in Nigeria, and through non-impressionistic acoustic measures - Gibbon and Gut (2001) Rhythm Ratio of 0-100.

6.1 Conclusion

Three sets of data were used for this investigation. Set A consists of six English utterances with anacrusis expected to be produced as rhythm groups. Set B was made up of a short English passage of four sentences with forty rhythm units (segmented into 150 stressed and unstressed syllable alternation), carefully built into the passage on "Quality University Education in Nigeria.", and Set C comprised 10 English words with syllabic consonants. The instrument was validated by experts in the field of English phonology, and administered on one hundred and fifty Educated Edo English Speakers (seventy-five males and seventy-five females). These informants are University of Benin and Ambrose Ali University undergraduates in Nigeria. The aim of the investigation was to verify whether or not Educated Edo English Speakers could appropriately alternate stressed and unstressed syllable in English rhythm groups, as well as account for the duration of rhythm units of English connected speech in the description of Edo English rhythm, and the implication for NE rhythm, using non-impressionistic acoustic measures – Gibbon and Gut (2001) Rhythm Ratio acoustic measures of 0-100.

`From the statistical, acoustic and metrical analysis, it was evident that there was indeed a 'marked' difference in Standard British English rhythm and Educated Edo

English rhythm. The informants statistical, acoustic and metrical findings estabilised that their inability to appropriately alternate stressed and unstressed syllables in the English rhythm groups could be as a result of the fact that stressed and unstressed syllables alternation is not a phonological feature of Edo language.

Furthermore, it was observed from the acoustic findings that the "marked' difference in the durational measures of the English rhythm groups in connected speech, of EEES compared to SBE form, could as well be as a result of the linguistic background of the informants. Like other L2 users of the English language, most of the informants' came in contact with English in the formal setting as confirmed through oral interview. Therefore, the fact that the informants had already been exposed to their mother tongue - Edo language, could clearly account for the reason why variation exists in Edo English rhythm compared to Standard British English form. It is therefore important to note that proficiency in English rhythm in L2 context may depend greatly not only on educational attainment but early exposure to good and Standard English. In addition, it is observed that Educated Edo English Speakers inability to alternate stressed and unstressed syllables in the English rhythm groups, as manifested through the metrical analysis, could as well be as a result of their lack of intuition in the alternation of stressed and unstressed syllables in connected speech of SBE.

6.2 Recommendations

Arising from the findings above, it is hoped that the following recommendations highlighted below would help to improve Educated Edo English Speakers and Nigerian users of English in the appropriate alternation of stressed and unstressed syllables in English rhythm groups. Also, it is assumed if the underlisted measures are properly taken, EEES and NE speakers would generally improve on their spoken English; distortion of communication and unintelligibility issues would be reduced to a minimal level.

- Educational administrators should reintroduce practical oral English examination into the curriculum of Nigeian secondary schools and universities. The idea of alternative to practical examination for spoken English in local and national examinations does not help to improve spoken English performance in Nigeria.
- The appropriate stress pattern of every English rhythm group should, from the earliest stage of the learners education, be taught as part of the individual word. This would help to reduce the arduous task of having to memorise the complex

rules of stress placement of Standard British English later in life (Oyeniyi, 2006; Akindele, 2011).

- Similarly, teachers at all levels of the educational strata, should be made to undergo regular in-service training and workshops on spoken English. This will help to develop them further and make them function as models for appropriate speech. Facilities for teaching stress (functioning audio visual aids and language laboratory), which is very crucial for the understanding of Standard Brtish English rhythm; should be readily available and accessible. The teaching of Standard British English rhythm would be made more practical and improved with the use of these facilities, and also make the language lesson less teacher - oriented.
- Since the English language is used as a medium of instruction in Nigerian schools (i.e. upper primary to tertiary), second language users of English should be made to learn that if stressed and unstressed syllables are not applied appropriately, the rhythm of an utterance would be distorted and oral comprehension becomes difficult. Therefore, it is very crucial for language teachers to pay special attention to learners from tone language backgrounds, especially Edo English speakers. This is to ensure that they grasp the significance of applying stressed and unstressed syllables in rhythm units. This could be in the form of creation of an awareness column in lecture rooms where certain groups of words are written with their appropriate stress marks on the rhythm groups. This would enable the students get used to the appropriate alternation of stressed and unstressed syllables in rhythm units and spurred them to learn more, since this is crucial for intelligibility in SBE.
- Moreover, to avoid the consequences of the inappropriate alternation of stressed and unstressed syllables in English rhythm groups of EEES as well as the spoken English of educated Nigerians generally, conscious efforts should be made by Nigerian English speakers, to get exposed to the correct forms of pronunciation of English words from the earliest stage of education. This could be achieved by accessing foreign stations like BBC where programmes from native sources are domiciled, for practice of correct forms. This will help them to approximate to a near-native performance (Akinjobi, 2010, 2014; Akindele, 2012; Aina, 2014).
- Furthermore, Educated Edo English speakers can access satellite television providers such as DStv, My tv, Hi tv etc where non-acculturation sources could be easily made available to guide and improve their pronunciation, especially in the

area of appropriate alternation of stressed and unstressed syllable in rhythm units (Akinjobi, 2014; Akindele, 2014).

- As second language users of English, 'Standard English immersion programmes' should be encouraged. Linguists, language experts and professionals from countries where English is spoken as a native language, could be invited for workshops to help in training and re-training of Nigerian teachers and broadcasters who are expected to serve as models and direct links to majority of Nigerians who aspire to improve on their spoken English.
- Furthermore, government should see it as an urgent need to establish English as Second Language (ESL) academies across the six geo-polotical zones. Academic workshops on 'Standard English' can be organised oftenly. Government should provide adequate funds for the up-keep of these research centres. Experts in English as Second language teachers, students and other interested individuals could go for practical exposure to standard spoken English training like the French Villages.
- In the present world of technology and social net working, many L2 users of English in Nigeria have access to the world from their door step. Nigerian English speakers should seize this opputinty to open communication links with friends, pals and families in native English countries through skype, twitter etc. With these audio-visual internet interactions, immediate feedback is created and access to native English speakers' accent in practical forms is possible.

6.3 Suggestion for further studies

Other areas of English suprasegmentals, especially English intonation, in the light of their usage in Edo English could be investigated. Also, the investigation on Edo English rhythm can be extended to other Educated Edo English speakers who are professionals like English language teachers and broadcasters. Finally, the research could be extended to the rhythm of other minority indigenous languages, since over 522 living languages have been attested as spoken in Nigeria.

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APPENDICES

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Appendix 1

Table 1: Educated Edo English Speakers and Native Baselines overall duration and rhythm ratio

S/N	DURATION	RR	SN	DURATION	RR	S/N	DURATION	RR	S/N	DURATION	RR
Native baseline I	4.563	81.47									
Native baseline II	4.571	81.50									
EEES 1	0.478	32.12	EEES41	1.292	55.97	EEES81	0.619	37.96	EEES121	0.582	36.52
EEES 2	0.565	35.86	EEES42	1.240	54.96	EEES82	0.531	34.43	EEES122	0.826	44.91
EEES 3	0.272	21.23	EEES43	0.990	49.39	EEES83	0.629	38.33	EEES123	0.652	39.18
EEES 4	1.251	55.18	EEES44	0.580	36.44	EEES84	0.563	35.76	EEES124	0.420	29.36
EEES 5	1.421	58.27	EEES45	0.538	34.43	EEES85	0.974	48.99	EEES125	0.529	34.35
EEES 6	0.869	45.00	EEES46	0.356	26.06	EEES86	0.541	34.85	EEES126	0.569	36.00
EEES 7	0.887	46.67	EEES47	0.148	12.80	EEES87	1.224	54.64	EEES127	0.616	37.85
EEES 8	0.754	42.68	EEES48	1.385	57.65	EEES88	0.623	38.11	EEES128	1.207	54.30
EEES 9	0.142	12.34	EEES49	0.602	37.31	EEES89	0.686	40.39	EEES129	1.040	50.61
EEES 10	1.107	52.16	EEES50	1.377	57.51	EEES90	0.824	44.85	EEES130	0.435	30.09
EEES 11	0.941	48.14	EEES51	0.252	19.98	EEES 91	0.175	14.78	EEES131	0.442	30.43
EES 12	0.715	41.40	EEES52	0.825	44.88	EEES92	0.576	36.28	EEES132	0.633	38.48
EEES 13	0.668	39.76	EEES53	1.048	50.80	EEES93	1.296	56.04	EEES133	1.107	52.17
EEES 14	0.981	49.16	EEES54	0.948	48.32	EEES94	0.721	41.59	EEES134	0.348	25.63
EEES 15	1.225	54.66	EEES55	0.670	39.84	EEES95	0.157	13.47	EEES135	0.176	14.85
EEES 16	1.023	50.20	EEES56	0.378	27.24	EEES96	0.544	34.98	EEES136	0.610	37.61
EEES 17	1.021	50.16	EEES57	0.788	43.76	EEES 97	1.031	50.40	EEES137	0.531	34.43
EEES 18	0.810	44.43	EEES58	0.663	39.58	EEES 98	1.158	53.28	EEES138	0.534	34.54
EEES 19	0.717	41.46	EEES59	0.384	28.35	EEES 99	0.490	32.65	EEES139	0.766	43.06
EEES 20	0.938	48.05	EEES60	0.951	48.39	EEES100	1.000	49.64	EEES140	0.955	48.50
EEES 21	0.785	43.66	EEES61	0.992	49.44	EEES101	1.247	55.10	EEES141	0.565	35.84
EEES 22	0.918	47.52	EEES62	1.250	55.16	EEES102	0.508	33.44	EEES142	1.093	51.85
EEES 23	0.675	40.01	EEES63	0.758	42.81	EEES103	1.222	54.60	EEES143	1.217	54.50
EEES 24	1.038	50.57	EEES64	1.130	52.67	EEES104	0.707	41.12	EEES144	1.250	55.16
EEES 25	1.276	55.66	EEES65	0.855	45.76	EEES105	0.705	41.05	EEES145	1.302	56.15
EEES 26	0.153	13.18	EEES66	1.093	51.85	EEES106	0.302	23.03	EEES146	0.420	29.36
EEES 27	0.540	34.82	EEES67	0.557	35.52	EEES107	0.592	36.92	EEES147	0.858	45.85
EEES 28	1.195	54.05	EEES68	0.455	31.04	EEES108	1.043	50.69	EEES149	0.903	47.11

EEES 29	0.429	29.80	EEES69	0.501	33.14	EEES109	0.624	38.15	EEES150	0.647	39.00
EEES 30	0.409	28.82	EEES70	0.864	46.02	EEES110	0.515	33.75			
EEES 31	1.286	55.86	EEES71	1.313	56.36	EEES111	0.441	30.38			
EEES 32	0.542	34.90	EEES72	0.539	34.77	EEES112	0.308	23.38			
EEES 33	0.237	19.02	EEES73	0.934	47.95	EEES113	1.085	51.66			
EEES 34	1.346	56.96	EEES74	0.330	24.63	EEES114	0.405	28.62			
EEES 35	1.095	51.89	EEES75	1.008	49.84	EEES115	1.020	50.14			
EEES 36	0.620	38.00	EEES76	1.030	50.37	EEES116	1.031	50.40			
EEES 37	0.474	31.92	EEES77	1.008	41.53	EEES117	0.555	35.43			
EEES 38	1.090	51.78	EEES78	1.030	38.41	EEES118	0.534	34.56			
EEES 39	1.152	53.15	EEES79	0.719	46.97	EEES119	0.733	41.99			
EEES 40	1.071	51.34	EEES80	0.631	38.41	EEES120	1.176	53.66			

Table 1 above presents the overall duration and rhythm ratio of Educated Edo English Speakers and Naïve Baselines in the duration of rhythm units of the English passage. The duration of the informants was 0.153 milliseconds amounting to 13.18 rhythm ratio to 1.421 milliseconds of 58.30 rhythm ratio while that of the Native baselines ranged from 4.563 of 81.47 to 4.571 of 81.50 rhythm ratio showing disparity in the duration of SBE rhythm units compared to EEES.

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*Formula: RR = 100

Where m is the sum of all stressed and unstressed syllables in rhythm units. Di = is the given stressed syllable which = dk. Dj is unknown but it is given as dj = dk+1. To get the RR value for the English passage of 150 stressed and unstressed syllables alternation of Native Baseline 1, divide total duration of NB by 149 and multiply by 14800 = 81.5

Table 2: Duration and the rhythm ratio of Educated Edo English females

S/N	DURATION	RR	SN	DURATION	RR
EEES 1	0.478	32.12	EEES41	1.292	55.97
EEES 2	0.565	35.86	EEES42	1.240	54.96
EEES 3	0.272	21.23	EEES43	0.990	49.39
EEES 4	1.251	55.18	EEES44	0.580	36.44
EEES 5	1.421	58.27	EEES45	0.538	34.43
EEES 6	0.869	45.00	EEES46	0.356	26.06
EEES 7	0.887	46.67	EEES47	0.148	12.80
EEES 8	0.754	42.68	EEES48	1.385	57.65
EEES 9	0.142	12.35	EEES49	0.602	37.31
EEES 10	1 .107	52.16	EEES50	1.377	57.51
EEES 11	0.941	48.14	EEES51	0.252	19.98
EES 12	0.715	41.40	EEES52	0.825	44.88
EEES 13	0.668	39.76	EEES53	1.048	50.80
EEES 14	0.981	49.16	EEES54	0.948	48.32
EEES 15	1.225	54.66	EEES55	0.670	39.84
EEES 16	1.023	50.20	EEES56	0.378	27.24
EEES 17	1.021	50.16	EEES57	0.788	43.76
EEES 18	0.810	44.43	EEES58	0.663	39.58
EEES 19	0.717	41.46	EEES59	0.384	28.35
EEES 20	0.938	48.05	EEES60	0.951	48.39
EEES 21	0.785	43.66	EEES61	0.992	49.44
EEES 22	0.918	47.52	EEES62	1.250	55.16
EEES 23	0.675	40.01	EEES63	0.758	42.81
EEES 24	1.038	50.57	EEES64	1.130	52.67
EEES 25	1.276	55.66	EEES65	0.855	45.76
EEES 26	0.153	13.18	EEES66	1.093	51.85
EEES 27	0.540	34.82	EEES67	0.557	35.52
EEES 28	1.195	54.05	EEES68	0.455	31.04
EEES 29	0.429	29.80	EEES69	0.501	33.14
EEES 30	0.409	28.82	EEES70	0.864	46.02
EEES 31	1.286	55.86	EEES71	1.313	56.36
EEES 32	0.542	34.90	EEES72	0.539	34.77
EEES 33	0.237	19.02	EEES73	0.934	47.95
EEES 34	1.346	56.96	EEES74	0.330	24.63
EEES 35	1.095	51.89	EEES75	1.008	49.84
EEES 36	0.620	38.00			
EEES 37	0.474	31.92			
EEES 38	1.090	51.78			
EEES 39	1.152	53.15			
EEES 40	1.071	51.34			

Table 2 above displays the overall duration and rhythm ratio of seventy-five Educated Edo English females the English passage. The female informants duration measured 0.142 of 12.35RR to 1.421 of 58. 30RR.

Table 3: Duration and the rhythm ratio of Educated Edo English males

S/N	DURATION	RR	SN	DURATION	RR
EEES 1	0.824	44.87	EEES 41	0.435	30.11
EEES 2	0.175	14.79	EEES 42	0.442	30.45
EEES 3	0.576	36.30	EEES 43	0.633	38.50
EEES 4	1.296	56.07	EEES 44	1.107	52.19
EEES 5	0.721	41.61	EEES 45	0.348	25.64
EEES 6	0.157	13.48	EEES 46	0.758	58.41
EEES 7	0.544	34.99	EEES 47	0.610	37.63
EEES 8	1.031	50.42	EEES 48	0.531	34.45
EEES 9	0.619	37.98	EEES 49	0.826	44.93
EEES 10	0.531	34.45	EEES 50	0.652	39.20
EEES 11	0.629	38.35	EEES 51	0.420	29.38
EES 12	0.563	35.78	EEES 52	0.529	4.37*
EEES 13	0.974	49.01	EEES 53	0.569	36.02
EEES 14	0.541	34.87	EEES 54	0.616	37.86
EEES 15	1.224	54.67	EEES 55	1.207	54.32
EEES 16	0.623	38.13	EEES 56	1.040	50.64
EEES 17	0.686	40.41	EEES 57	1.031	50.42
EEES 18	1.030	50.40	EEES 58	0.555	35.45
EEES 19	1.008	49.86	EEES 59	0.534	34.58
EEES 20	1.030	50.40	EEES 60	0.733	42.01
EEES 21	0.719	41.55	EEES 61	1.176	53.68
EEES 22	0.631	38.43	EEES 62	0.534	34.58
EEES 23	1.158	53.30	EEES 63	0.766	43.08
EEES 24	0.490	32.67	EEES 64	0.955	48.52
EEES 25	1.000	49.66	EEES 65	0.565	35.86
EEES 26	1.247	55.12	EEES 66	1.093	51.87
EEES 27	0.508	33.46	EEES 67	1.217	54.53
EEES 28	1.222	54.63	EEES 68	1.250	55.18
EEES 29	0.707	41.14	EEES 69	1.302	56.18
EEES 30	0.705	41.07	EEES 70	0.858	45.87
EEES 31	0.592	36.94	EEES 71	0.903	47.13
EEES 32	1.043	50.71	EEES 72	0.647	39.02
EEES 33	0.624	38.17	EEES 73	1.031	50.40
EEES 34	1.030	50.37	EEES 74	0.555	35.43
EEES 35	1.008	41.53	EEES 75	0.534	34.58
EEES 38	0.631	38.41			
EEES 39	0.824	44.85			
EEES 40	0.175	14.78			

In table 3 above, the duration and rhythm ratio of seventy-five Educated Edo English males in the duration of rhythm units (150 stressed and unstressed syllables) of the English passage spanned from 0.157 milliseconds amounting to 13.48 RR to 1.302 milliseconds of 56.18 rhythm ratio. The difference in the RR of EEE males and females is further illustrated below with:

Mann-Whitney U Test

Ranks

	Sex	N	Mean Rank	Sum of Ranks
Duration_1	Female	75	77.99	5849.50
	Male	75	73.01	5475.50
	Total	150		
RR_1	Female	75	79.23	5942.00
	Male	75	71.77	5383.00
	Total	150		
Duration_2	Female	75	78.18	5863.50
	Male	75	72.82	5461.50
	Total	150		
RR_2	Female	75	79.63	5972.00
	Male	75	71.37	5353.00
	Total	150		

Moses Test

Frequencies

	Sex	N
Duration_1	Female (Control)	75
	Male (Experimental)	75
	Total	150
RR_1	Female (Control)	75
	Male (Experimental)	75
	Total	150
Duration_2	Female (Control)	75
	Male (Experimental)	75
	Total	150
RR_2	Female (Control)	75
	Male (Experimental)	75
	Total	150

One-Sample Kolmogorov-Smirnov Test

		Dur_EEES	RR_EEES
N		149	149
Normal Parameters[a,b]	Mean	.7777	41.3781
	Std. Deviation	.32298	10.99427
Most Extreme Differences	Absolute	.089	.094
	Positive	.089	.063
	Negative	-.073	-.094
Kolmogorov-Smirnov Z		1.087	1.149
Asymp. Sig. (2-tailed)		.188	.143

a. Test distribution is Normal.
b. Calculated from data.

One-Sample Kolmogorov-Smirnov Test 2

		Dur_EEES	RR_EEES
N		149	149
Uniform Parameters[a,b]	Minimum	.14	12.34
	Maximum	1.42	58.27
Most Extreme Differences	Absolute	.098	.271
	Positive	.078	.015
	Negative	-.098	-.271
Kolmogorov-Smirnov Z		1.199	3.310
Asymp. Sig. (2-tailed)		.113	.000

a. Test distribution is Uniform.

b. Calculated from data.

One-Sample Kolmogorov-Smirnov Test 3

		Dur_EEES	RR_EEES
N		149[c]	149[d]
Poisson Parameter[a,b]	Mean	.7777	41.3781

Table 4: Detailed analysis of Educated Edo English Speakers durational measures and rhythm ratio of sentence 1 calculated in milliseconds (ms)

Informants				//it həs bi:n sedΔətᴗsevrəl					ˈedʒʊkeɪtɪd				
	It	həs	bi:n	Sed	Δət	ˈsev	rəl	RR	ˈe	dʒʊ	keɪ	tɪd	RR
	US	US	US	US	US				SS	US	SS	US	
Native baseline 1	0.007	0.012	0.031	0.035	-	1.999	-	66.16	0.724	0.106	0.109	0.052	48.73
Native baseline 2	0.009	0.015	0.030	0.037	-	1.997	-	66.20	0.744	0.109	0.121	0.032	49.10
EEES	0.027	0.022	0.034	0. 040	0.085	0.300	0.330	44.64	0.050	0.076	0.110	0.130	26.23
EEES 2	0.025	0.027	0.040	0. 046	0.083	0.191	0.198	37.09	0.088	0.110	0.120	0.132	30.38
EEES 3	0.021	0.028	0.036	0.049	0.099	0.340	0.349	46.97	0.098	0.111	0.143	0.153	32.85
EEES 4	0.020	0.026	0.039	0.050	0.086	0.315	0. 349	45.97	0.062	0.091	0.106	0.141	27.97
EEES 5	0.011	0.021	0.030	0.042	0.069	0.192	0.199	35.31	0.099	0.130	0.163	0.189	35.98
EEES 6	0.019	0.030	0.037	0.048	0.077	0.176	0.195	36.02	0.071	0.091	0.101	0.138	28.02
EEES 7	0.018	0.022	0.032	0.045	0.094	0.188	0.233	37.91	0.045	0.079	0.107	0.131	26.02
EEES 8	0.023	0.027	0.034	0.047	0.080	0.106	0.130	30.24	0.060	0.099	0.113	0.142	28.66
EEES 9	0.013	0.022	0.035	0.046	0.158	0.344	0.435	50.22	0.069	0.098	0.101	0.121	27.42
EEES 10	0.015	0.027	0.037	0.049	0.095	0.197	0.199	37.43	0.052	0.077	0.110	0.140	26.91
EEES 11	0.014	0.022	0.031	0.051	0.101	0.228	0.400	44.90	0.065	0.084	0.121	0.131	28.02
EEES 12	0.022	0.029	0.035	0.039	0.124	0.313	0.379	47.47	0.078	0.097	0.105	0.124	28.17
EEES13	0.027	0.022	0.032	0.037	0.093	0.303	0.350	45.38	0.089	0.096	0.118	0.133	29.72
EEES 14	0.019	0.027	0.034	0. 041	0.131	0.345	0.375	48.26	0.100	0.115	0.124	0. 131	31.30
EEES15	0.016	0.026	0.031	0.044	0.139	0.171	0.194	37.51	0.092	0.109	0.122	0.139	30.94
EEES 16	0.019	0.026	0.038	0.046	0.151	0.373	0.541	53.28	0.090	0.104	0.120	0.151	31.07
EEES 17	0.021	0.030	0.040	0.050	0.100	0.143	0.179	35.27	0.062	0.121	0.135	0.155	31.44
EEES 18	0.015	0.027	0.033	0.040	0.070	0.081	0.094	25.91	0.071	0.100	0.119	0.140	29.44
EEES 19	0.021	0.029	0.037	0.051	0.129	0.308	0.378	47.78	0.082	0.119	0.122	0.129	30.48
EEES 20	0.018	0.027	0.035	0.058	0.121	0.247	0.299	43.66	0.049	0.095	0.101	0.111	25.70
EEES 21	0.016	0.025	0.036	0.053	0.099	0.230	0.284	41.73	0.073	0.101	0.128	0.139	29.96
EEES 22	0.019	0.021	0.030	0.048	0.138	0.301	0.314	45.58	0.095	0.110	0.123	0.128	30.66
EEES 22	0.017	0.024	0.031	0.055	0.161	0.311	0.329	47.13	0.091	0.121	0.129	0.151	32.28
EEES 24	0.015	0.027	0.037	0.054	0.109	0.113	0.135	32.20	0.073	0.100	0.109	0.119	28.02
EEES 25	0.020	0.022	0.039	0.059	0.102	0.231	0.308	42.93	0.088	0.095	0.102	0.121	28.27

Table 4 cont: Detailed analysis of Educated Edo English Speakers' durational measures and rhythm ratio of sentence 1 calculated in milliseconds (ms)

Informants		//əsweləsˈpeərəntsəndɪm//					//ˈplɔiɪəzəv//					
	əs	Wel	əs	∪peə	rənts	ənd	ɪm	RR	∪plɔi	əz	əv	RR
	US	US	US	SS	US	US	US		SS	US	US	
Native baseline 1	-	0.017	0.032	0.153	0.110	0.095	0.982	56.93	2.140	0.009	0.012	66.94
Native baseline	-	0.020	0.038	0.151	0.099	0.089	0.989	56.87	2. 122	0.009	0.007	66.71
EEES 1	0.0 52	0.077	0.093	0.108	0.150	0.183	0.093	36.94	0.110	0.180	0.220	33.07
EEES 2	0.041	0.069	0.100	0.105	0.178	0.200	0.100	43.30	0.110	0.120	0.142	26.54
EEES 3	0.067	0.075	0.097	0.101	0.112	0.157	0.097	40.52	0.110	0.176	0.210	32.46
EEES 4	0.055	0,087	0.094	0.119	0.141	0.166	0.094	42.15	0.109	0.111	0.219	29.87
EEES 5	0.0 52	0.077	0.105	0.130	0.121	0.190	0.105	42.90	0.146	0.180	0.187	33.19
EEES 6	0.039	0.049	0.089	0.114	0.126	0.175	0.089	39.66	0.100	0.157	0.198	30.61
EEES 7	0.027	0.055	0.101	0.110	0.124	0.150	0.101	39.21	0.163	0.188	0.192	34.45
EEES 8	0.055	0.057	0.090	0.108	0.133	0.144	0.090	39.52	0.138	0.147	0.162	30.24
EEES 9	0.052	0.077	0.084	0.134	0.156	0.175	0.084	42.34	0.119	0.153	0.171	30.06
EEE 10	0.041	0.069	0.083	0.121	0.134	0.151	0.083	39.70	0.241	0.289	0.312	44.75
EEES 1`1	0.063	0.075	0.092	0.106	0.110	0.125	0.092	39.03	0.213	0.231	0.269	40.75
EEES 12	0.055	0,087	0.079	0.093	0.102	0.172	0.079	39.17	0.133	0. 153	0.212	32.55
EEES13	0.052	0.077	0.086	0.142	0.157	0.160	0.086	42.28	0.104	0.122	0.149	26.70
EEES 14	0.041	0.069	0.089	0.094	0.101	0.119	0.089	36.79	0.101	0.112	0.121	24.51
EEES15	0.032	0.049	0.099	0.122	0.220	0.232	0.091	44.84	0.119	0.121	0. 212	30.48
EEES 16	0.030	0,041	0.111	0.127	0.149	0.242	0.111	43.84	0.212	0.241	0.272	41.15
EEES 17	0.052	0.077	0.118	0.155	0.186	0.219	0.118	47.05	0.121	0.212	0.229	35.22
EEES 18	0.059	0.069	0.098	0.125	0.149	0.170	0.098	42.53	0. 109	0. 110	0.129	25.27
EEES 19	0.080	0.095	0.104	0.119	0.153	0.189	0.104	44.81	0.112	0.125	0.170	28.32
EEES 20	0.069	0.087	0.091	0.130	0.178	0.210	0.091	45.15	0.126	0.141	0.221	32.11
EEES 21	0.078	0.097	0.117	0.145	0.186	0.291	0.117	49.70	0.119	0.123	0.127	30.34
EEES 22	0.044	0.067	0.103	0.119	0.174	0.196	0.103	43.69	0.121	0.411	0.423	47.83
EEES 22	0.067	0.075	0.102	0.137	0.160	0.184	0.102	44.32	0.215	0.218	0.229	41.38
EEES 24	0.053	0.088	0.101	0.123	0.178	0.190	0.101	44.52	0.129	0.208	0.232	35.50
EEES 25	0.051	0.061	0.084	0.104	0.126	0.152	0.084	39.00	0.189	0.220	0.241	38.57

Table 4 cont: Detailed analysis of Educated Edo English Speakers durational measures and rhythm ratio of sentence 1 calculated in milliseconds (ms)

						//ˈgɪnɪŋtə//				//ˈget//	
	ˈleɪ	bə	rə	bɪ	RR	ˈgɪn	nɪŋ	tə	RR	ˈget	RR
	SS	US	US	US		SS	US	US		SS	
Native baseline 1	2.432	0.015	0.011	0.021	69.77	1.308	0.017	-	55.80	2.041	65.72
Native baseline 2	2.732	-	-	0.024	71.84	1.289	0.029	-	55.67	2.062	65.94
EEES 1	0.120	0.130	0.141	0.160	34.78	0.180	0.198	0.222	36.71	0.250	20.00
EEES 2	0.100	0.120	0. 151	0.157	33.83	0.100	0.171	0.210	31.80	0.276	21.18
EEES 3	0.101	0.140	0.210	0.320	42.62	0.121	0.183	0.217	33.54	0.162	13.65
EEES 4	0.119	0.205	0.219	0.227	42.59	0.102	0.110	0.124	24.62	0.190	15.65
EEES 5	0.110	0.210	0.190	0.240	41.96	0.104	0.121	0.138	26.07	0.122	10.65
EEES 6	0.109	0.168	0.179	0.190	38.42	0.115	0.133	0.200	30.29	0.190	15.63
EEES7	0.101	0.141	0.145	0.180	35.42	0.101	0.126	0.139	26.23	0.162	13.65
EEES 8	0.116	0.125	0.177	0.193	37.13	0.121	0.164	0.195	31.75	0.114	10.02
EEES 9	0.103	0.132	0.149	0.191	35.74	0.112	0.125	0.176	28.61	0.212	17.13
EEES10	0.100	0.121	0.145	0.152	33.41	0.105	0.128	0.134	26.28	0.201	16.39
EEES 11	0.108	0.112	0.118	0.130	31.21	0.101	0.121	0. 129	25.43	0.214	17.26
EEES 12	0.126	0.129	0.138	0.140	34.04	0.105	0.129	0.141	26.70	0.219	17.59
EEES 13	0.109	0.117	0.123	0.147	32.46	0.119	0.162	0.181	30.94	0.224	17.92
EEES 14	0. 103	0.122	0.138	0.219	36.02	0.102	0.119	0.129	25.38	0.125	10.89
EEES 15	0.110	0.125	0.143	0.210	36.25	0.127	0.138	0.156	29.00	0.230	18.31
EEES 16	0.179	0.210	0.228	0.233	44.98	0.129	0.134	0.229	32.28	0. 251	19.65
EEES 17	0.109	0.187	0.200	0.246	41.70	0.116	0.157	0.198	31.35	0.220	17.65
EEES 18	0.145	0.170	0.193	0.202	40.65	0.112	0.115	0.121	25.27	0.295	22.31
EEES 19	0.119	0.141	0. 180	0.193	37.95	0.124	0.142	0.163	29.39	0.292	22.13
EEES 20	0.111	0.121	0. 140	0.158	33.91	0.213	0.226	0.229	39.21	0.296	22.36
EEES 21	0.131	0. 148	0.159	0.171	37.06	0.133	0.142	0.153	29.34	0. 162	13.65
EEES 22	0.110	0.123	0.128	0.240	36.75	0.112	0.121	0.140	26.60	0.199	16.25
EEES 23	0.201	0.231	0.253	0.271	47.85	0.121	0.141	0.149	28.52	0.212	17.13
EEES 24	0.181	0.211	0.229	0.242	45.35	0.112	0.128	0.143	27.11	0.219	17.59
EEES 25	0.153	0.189	0.212	0.233	43.12	0.117	0.139	0.154	28.47	0.221	17.72

Table 4 cont: Detailed analysis of Educated Edo English Speakers durational measures and rhythm ratio of sentence 1 calculated in milliseconds (ms)

S/N Participants	//ˈwʌrɪdə//				//ˈbaʊtðə//			//ˈkwɒlɪtiəv//				
	ˈwʌ	rɪd	ə	RR	ˈbaʊ	ðə	RR	ˈkwɒ	lɪ	ti	əv	RR
	SS	US	SS		SS	US		SS	US	US	US	
Native baseline 1	1.213	0.209	-	57.49	1.350	-	56.25	1.512	0.026	0.106	-	60.42
Native baseline 2	1.311	0.200	-	58.92	1.339	-	56.05	1.512	0.020	0.126	-	61.08
EEES 1	0.100	0.126	0.221	30.24	0.107	0.244	25.43	0.105	0.242	0.265	0.311	49.51
EEES 2	0.098	0.135	0.256	32.15	0.100	0.232	24.40	0.100	0.195	0.284	0.330	46.62
EEES 3	0.096	0.100	0.230	29.25	0.118	0.310	29.34	0.111	0.200	0.264	0.295	45.55
EEES 4	0.103	0.198	0.275	35.78	0.111	0.289	27.97	0.099	0.180	0.221	0.248	41.90
EEES 5	0.115	0.245	0.310	39.28	0.099	0.252	25.43	0.104	0.156	0.200	0.291	41.99
EEES 6	0.101	0.118	0.243	30.94	0.103	0.295	27.87	0.092	0.133	0.189	0.267	39.66
EEES 7	0.090	0.132	0.278	32.63	0.098	0.256	25.60	0.098	0.141	0.266	0.281	43.09
EEES 8	0.113	0.146	0.297	34.98	0.101	0.283	27.16	0.101	0.123	0.188	0.312	41.12
EEES 9	0.109	0.210	0.312	37.88	0.120	0.377	32.50	0.094	0.186	0.205	0.253	41.57
EEES 10	0.111	0.169	0.255	34.12	0.109	0.346	30.61	0.117	0.150	0.241	0.299	43.72
EEES 11	0.110	0.156	0.281	34.62	0.114	0.389	32.76	0.103	0.184	0.302	0.354	47.52
EEES 12	0.108	0.144	0.198	30.38	0.108	0.341	30.34	0.110	0.182	0.295	0.371	47.90
EEES 13	0.116	0.139	0.205	30.85	0.102	0.355	30.71	0.116	0.242	0.300	0.343	48.98
EEES 14	0.121	0.178	0.320	37.43	0.097	0.289	27.26	0.109	0.239	0.278	0.295	46.94
EEES 15	0.112	0.188	0.300	36.71	0.129	0.301	29.44	0.115	0.184	0.255	0.311	45.41
EEES 16	0.101	0.143	0.221	31.07	0.120	0.296	28.76	0.106	0.145	0.229	0.355	43.96
EEES 17	0.115	0.144	0.283	34.41	0.116	0.255	26.49	0.120	0.189	0.222	0.314	44.84
EEES 18	0.129	0.161	0.335	37.66	0.213	0.315	33.83	0.112	0.163	0.264	0.335	45.66
EEES 19	0.125	0.222	0.314	38.96	0.208	0.270	31.66	0.107	0.142	0.278	0.323	44.98
EEES 20	0.118	0.159	0.233	33.07	0.116	0.341	30.71	0.100	0.191	0.268	0.305	45.38
EEES 21	0.120	0.177	0.282	35.90	0.100	0.293	27.62	0.111	0.155	0.184	0.293	41.73
EEES 22	0.112	0.184	0.223	33.45	0.123	0..346	31.26	0.110	0.161	0.247	0.301	44.08
EEES 23	0.110	0.222	0.313	38.39	0.104	0.245	25.33	0.108	0.213	0.250	0.339	46.65
EEES 24	0.092	0.120	0.240	30.48	0.119	0.312	29.49	0.115	0.189	0.248	0.360	46.70
EEES 25	0.100	0.153	0.198	30.43	0.122	0.353	31.53	0.104	0.215	0.243	0.332	46.21

Table 4 cont: Detailed analysis of Educated Edo English Speakers durational measures and rhythm ratio of sentence 1 calculated in milliseconds (ms)

S/N	//ˈgrædʒʊeɪtsfrəmðiːz//						//ˌjuːnɪˈvɜːsɪtɪzðə//						
	græ	dʒʊ	eɪts	frəm	ðiːz	RR	juː	nɪ	vɜː	sɪ	tɪz	ðə	RR
	SS	US	SS	US	US		SS	US	SS	US	US	US	
Native baseline 1	1.167	0.119	1.065	0.137	1.407	75.58	2.107	0.192	3.383	0.562	0.728	-	85.63
Native baseline 2	1.167	0 115	1.059	0. 121	1.501	77.85	2.120	0.179	3.370	0.462	0.528	-	85.13
EEES 1	0.082	0.113	0.145	0.201	0.262	43.42	0.101	0.138	0.149	0.160	0.191	0.212	47.72
EEES 2	0.091	0.126	0.157	0.264	0.312	47.50	0.099	0.121	0.128	0.149	0.187	0.236	46.91
EEES 3	0.103	0.139	0.200	0.246	0.307	48.63	0.100	0.116	0.135	0.158	0.200	0.243	47.75
EEES 4	0.119	0.165	0.211	0.230	0.323	49.89	0.089	0.120	0.146	0.177	0.213	0.251	48.86
EEES 5	0.100	0.146	0.241	0.255	0.304	49.85	0.093	0.109	0.134	0.165	.0.195	0.240	47.33
EEES 6	0.096	0.138	0.233	0.247	0.318	49.52	0.102	0.115	0.140	0.159	0.172	0.229	46.83
EEES7	0.090	0.122	0.176	0.193	0.274	44.94	0.096	0.122	0.131	0.146	0.188	0.200	45.91
EEES 8	0.101	0.134	0.181	0.239	0.300	49.04	0.084	0.111	0.143	0.159	0.161	0.218	45.72
EEES 9	0.099	0.128	0.227	0.240	0.296	48.50	0.080	0130	0.137	0.143	0.155	0.232	45.75
EEES10	0.104	0.131	0.172	0.283	0.291	48.28	0.101	0.117	0.121	0.124	0.201	0.219	45.91
EEES 11	0.087	0.154	0.234	0.255	0.303	49.54	0.089	0.119	0.130	0.145	0.162	0.220	45.41
EEES 12	0.095	0.133	0.153	0.276	0.322	48.23	0.078	0.122	0.131	0.137	0.145	0.203	43.99
EEES 13	0.105	0.162	0.203	0.211	0.317	48.70	0.074	0.118	0.121	0.129	0.150	0.221	43.90
EEES 14	0.101	0.129	0.218	0.255	0.294	48.18	0.071	0.100	0.106	0.172	0.221	0.241	46.67
EEES 15	0.111	0.139	0.143	0.210	0.243	44.68	0.081	0.108	0.123	0.143	0.182	0.205	44.75
EEES 16	0.093	0.168	0.180	0.244	0.323	48.94	0.077	0.101	0.120	0.131	0.166	0.227	44.17
EEES 17	0.088	0.153	0.178	0.203	0.291	46.53	0.074	0.106	0.115	0.161	0.203	0.232	46.13
EEES 18	0.102	0.149	0.191	0.249	0.280	47.42	0.081	0.117	0.129	0.227	0.240	0.246	49.91
EEES 19	0.087	0.112	0.161	0.224	0.256	44.51	0.084	0.110	0.138	0.163	0.171	0.204	45.55
EEES 20	0.100	0.118	0.145	0.170	0.285	43.87	0.094	0.111	0.126	0.137	0.151	0.180	43.48
EEES 21	0.083	0.140	0.159	0.211	0.243	44.40	0.090	0.108	0.115	0.148	0.172	0.208	44.72
EEES 22	0.113	0.174	0.210	0.256	0.282	49.58	0.094	0.113	0.124	0.151	0.164	0.192	44.64
EEES 23	0.095	0.128	0.155	0.184	0.241	43.42	0.091	0.106	0.122	0.178	0.193	0.207	46.30
EEES 24	0.090	0.134	0.227	0.262	0.333	49.84	0.089	0.114	0.134	0.165	0.224	0.239	48.08
EEES 25	0.101	0.142	0.189	0.279	0.301	49.04	0.080	0.107	0.118	0.132	0.213	0.240	46.10

Table 4 shows the details of EEES and NB duration and rhythm ratio in sentence 1 of the English passage. The duration of the informants was 0.125 milliseconds amounting to 10.88RR to 1.04 milliseconds of 49.91RR while that of the Native Baselines ranged from 0.991 of 48.73 rhythm ratio to 6.972 of 85.63 RR showing disparity in duration of NB compared to EEES durational measures.

Table 5: Detailed analysis of Educated Edo English Speakers durational measures and rhythm ratio of sentence 3, calculated in milliseconds (ms)

S/N	//ˈfæktrɪ//			//ˈmeɪnzðəði//				//ˈɪʃuːəv//			//ˈkwɒlɪti//			
	ˈfækt	rɪ	RR	ˈmeɪnz	ðə	Δi	RR	ˈɪʃuː	əv	RR	ˈkwɒ	lɪ	ti	RR
	SS	US		SS	US	US		SS	US		SS	US	SS	
Native baseline 1	3.957	0.128	79.29	2.441	-	0.010	70.10	2.513	-	70.61	2.551	0.665	0.779	78.94
Native baseline 2	3.925	0.120	79.14	2.349	-	0.020	69.40	2.533	-	70.64	2.765	0.605	0.679	79.15
EEES 1	0.303	0.306	39.09	0.166	0.198	0.244	36.87	0.370	0.461	44.79	0.152	0.200	0.269	37.35
EEES 2	0.290	0.310	37.01	0.200	0.234	0.400	44.34	0.158	0.209	26.18	0.142	0.227	0.264	37.79
EEES 3	0.800	0.890	52.01	0.180	0.211	0.332	40.91	0.271	0.353	37.92	0.180	0.288	0.312	42.72
EEES 4	0.360	0.640	49.10	0.205	0.345	0.397	47.42	0.194	0.277	31.22	0.177	0.230	0.256	38.87
EEES 5	0.200	0.646	45.03	0.161	0.175	0.281	37.20	0.200	0.432	38.22	0.181	0.232	0.267	39.46
EEES 6	0.234	0.440	39.25	0.112	0.162	0.183	30.58	0.217	0.292	32.89	0.293	0.150	0.396	45.03
EEES7	0.124	0.0226	25.27	0.143	0.304	0.377	44.58	0.231	0.300	33.82	0.276	0.280	0.313	45.33
EEES 8	0.531	0.534	39.64	0.162	0.184	0.303	38.37	0.261	0.275	34.02	0.241	0.255	0.279	42.57
EEES 9	0.665	0.688	40.25	0.121	0.179	0.258	34.92	0.200	0.305	32.72	0.140	0.140	0.796	51.55
EEES10	0.148	0.291	29.74	0.100	0.149	0.230	31.58	0.106	0.349	30.87	0.198	0.266	0.300	42.23
EEES 11	0.332	0.356	40.71	0.096	0.111	0.128	30.30	0.236	0.549	39.06	0.076	0.293	0.622	49.12
EEES 12	0.172	0.609	43.28	0.058	0.182	0.313	34.72	0.290	0.534	44.34	0.099	0.201	0.261	34.30
EEES 13	0.388	0.439	41.92	0.084	0.150	0.235	31.13	0.305	0.328	37.79	0.112	0.190	0.279	35.83
EEES 14	0.102	0. 120	17.71	0.061	0.125	0.142	24.08	0.2666	0.776	50.12	0.093	0.108	0.221	28.93
EEES 15	0.098	0. 106	16.52	0.090	0.114	0.154	25.70	0.215	0.284	32.45	0.088	0.119	0.266	31.30
EEES 16	0.118	0.214	24.30	0.107	0.119	0.168	27.56	0.254	0.390	38.19	0.141	0.208	0.249	36.49
EEE 18	0.238	0.557	44.32	0.237	0.181	0.218	37.90	0.104	0.152	19.87	0.232	0.272	0.330	44.34
EEES 19	0.222	0.290	33.42	0.141	0.172	0.234	34.47	0.123	0.300	28.98	0.267	0.281	0.401	47.47
EEES 20	0.377	0.641	49.79	0.202	0.254	0.331	42.94	0.109	0.140	19.43	0.135	0.149	0.263	34.47.
EEES 21	0.252	0.401	38.52	0.196	0.250	0.346	43.09	0.021	0.168	15.68	0.120	0.155	0.275	34.60
EEES 22	0.241	0.383	37.46	0.172	0.224	0.253	38.37	0.154	0.318	31.64	0.137	0.192	0.215	34.35
EEES 23	0.228	0.350	35.71	0.190	0.268	0.301	42.07	0.188	0.391	36.19	0.142	0.210	0.285	37.94
EEES 24	0.433	0.454	46.39	0.229	0.233	0.260	40.88	0.123	0.243	26.12	0.138	0.171	0.330	38.01
EEES 25	0.484	0.488	48.64	0.118	0.195	0.200	35.06	0.101	0.200	22.56	0.104	0.115	0.138	25.65

Table 5 cont: Detailed analysis of Educated Edo English Speakers durational measures and rhythm ratio of sentence 2 and 3 calculated in milliseconds (ms)

S/N	//ˈkænətbidɪ//					//ˈtɜːmɪndbaɪðə//					//ˌjuːnɪˈvɜːsɪtiə//					
	ˈkæn	ət	bi	dɪ	RR	ˈtɜː	mɪnd	baɪ	ðə	RR	ˌjuː	nɪ	ˈvɜː	sɪ	ti	ə
	SS	US	SS	US		SS	US	SS	US		SS	US	SS	US	SS	US
Native baseline 1	3.263	1.102	0.119	0.060	80.90	2.060	0.202	2..345	-	81.10	3.460	0.044	3.743	0.085	0.099	85.94
Native baseline 2	3.269	1.200	0.109	0.078	81.25	2.160	0.100	2..145	-	80.44	3.479	0.740	3.443	0.096	0.103	86.50
EEES 1	0.357	0.358	0.360	0.362	58.20	0.351	0.352	0.353	0.354	57.74	0.050	0.600	0.100	0.150	0.200	0.220
EEES 2	0.300	0.320	0.330	0.390	56.52	0.260	0.278	0.288	0.310	52.49	0.030	0.050	0.180	0.200	0.220	0.200
EEES 3	0.061	0.221	0.387	0.432	51.72	0.215	0.245	0.278	0.320	50.74	0.040	0.062	0.190	0.210	0.230	0.236
EEES 4	0.009	0.287	0.422	0.431	52.77	0.301	0.332	0.355	0.431	57.72	0.056	0.066	0.078	0.099	0.120	0.134
EEES 5	0.033	0.265	0.401	0.441	52.57	0.299	0.305	0.324	0.351	55.39	0.067	0.075	0.088	0.090	0.118	0.229
EEES 6	0.114	0.118	0.121	0.125	31.92	0.305	0.326	0.359	0.422	57.78	0.042	0.063	0.171	0.211	0.229	0.305
EEES7	0.073	0.168	0.195	0.205	38.55	0.300	0.315	0.333	0.400	56.66	0.074	0.094	0.105	0.209	0.222	0.301
EEES 8	0193	0.200	0.204	0.209	44.04	0.287	0.299	0.312	0.350	54.79	0.051	0.072	0.I01	0.214	0.236	0.343
EEES 9	0.092	0.110	0.123	0.167	32.54	0.312	0.330	0.341	0.352	56.43	0.045	0.053	0.106	0.208	0.225	0.246
EEES10	0.047	0.129	0.220	0.246	38.59	0.235	0.250	0.289	0.317	51.49	0.036	0.047	0.102	0.200	0.215	0.227
EEES11	0.060	0.101	0.130	0.256	34.89	0.254	0.266	0.278	0.325	52.20	0.042	0.057	0.105	0.117	0.136	0.154
EEES12	0.070	0.113	0 1.25	0.179	32.32	0.305	0.312	0.324	0.335	55.34	0.054	0.068	0.114	0.206	0.232	0.254
EEES13	0.106	0.202	0.261	0.319	46.42	0.292	0.304	0.316	0.340	54.87	0.012	0.057	0.100	0.102	0.139	0.189
EEES14	0.047	0.106	0.126	0.204	32.14	0.256	0.262	0.287	0.300	51.81	0.016	0.060	0.100	0.102	0.137	0.183
EEES15	0.085	0.115	0.124	0.136	31.09	0.239	0.250	0.275	0.307	51.04	0.011	0.063	0.097	0.104	0.133	0.177
EEES16	0.090	0.111	0.200	0.210	37.43	0.302	0.317	0.331	0.365	56.06	0.015	0.070	0.095	0.106	0.129	0.171
EEES17	0.073	0.108	0.214	0.300	40.47	0.288	0.304	0.321	0,340	54.89	0.071	0.091	0.106	0.125	0.143	0.165
EEES18	0..080	0.105	0.185	0.222	36.70	0.302	0.317	0.335	0.358	56.01	0.052	0.084	0.099	0.110	0.135	0.154
EEE 19	0.068	0.107	0.115	0.178	31.46	0.265	0.282	0.304	0.324	53.32	0.081	0.097	0.113	0.131	0.150	0.200
EEES20	0.055	0.101	0.124	0.187	31.42	0.273	0.295	0.332	0.356	54.95	0.065	0.073	0.089	0.107	0.122	0.138
EEES21	0.060	0.121	0.139	0.227	34.89	0..300	0.321	0.342	0.362	56.24	0.080	0.091	0.112	0.127	0.144	0.195
EEES22	0/096	0.134	0.142	0.207	36.19	0.200	0.245	0.260	0.300	49.47	0.062	0.079	0.086	0.105	0.119	0.`135
EEES23	0.069	0.108	0.135	0.150	31.19	0.256	0.281	0.301	0.322	53.00	0.059	0.080	0.088	0.103	0.115	0.129
EEES24	0.080	0.112	0.139	0.179	33.33	0,210	0.236	0.254	0.280	48.85	0.055	0.075	0.101	0.110	0.122	0.200
EEES 25	0.059	0.107	0.119	0.156	30.20	0.236	.0.267	0.282	0.305	51.47	0.053	0.070	0.098	0.102	0.114	0.219

Table 5 cont.: Detailed analysis of Educated Edo English Speakers durational measures and rhythm ratio of sentence 2 and 3 calculated in milliseconds (ms)

S/N	//ˈləʊnɪt//				//ˈɔːlsəʊdɪ//				//ˈpendzɒnə//				//ˈnʌmbərəv//			
	RR	ˈləʊn	ɪt	RR	ɔːl	səʊ	dɪ	RR	ˈpen	dzɒ	ə	RR	ˈnʌm	bə	əv	RR
		SS	US		SS	SS	US		SS	US	US		SS	US	US	
Native baseline 1	86.99	3.455	3.223	85.85	3.145	I.565	0.089	81.68	2.935	0.120	-	74.36	2.203	-	-	67.89
Native baseline 2	87.56	3.405	3.210	85.74	3.040	1.535	0.072	81.22	2. 735	0.118	-	73.08	2.300	-	-	68.79
EEES 1	43.25	0.133	0.238	26.70	0.094	0.290	0.330	41.72	0.300	0.327	0.385	48.13	0.129	0.275	0.284	40.22
EEES 2	45.34	0.140	0.301	30.20	0.100	0.210	0.320	38.14	0.280	0.310	0.386	48.75	0.010	0.256	0.390	39.09
EEES 3	48.54	0.075	0.239	24.71	0.099	0.180	0.380	39.20	0.194	0.297	0.338	44.73	0.170	0190	0.270	38.15
EEES 4	35.14	0.180	0.345	39.97	0.087	0.117	0.159	26.28	0.136	0.208	0.337	39.98	0.051	0.178	0.480	40.05
EEES 5	39.49	0.120	0.297	29.04	0.103	0.224	0.278	37.20	0.172	0.321	0,400	46.56	0.123	0.215	0.330	39.52
EEES 6	49.86	0.110	0.264	26.86	0.033	0.120	0.246	30.77	0.200	0.248	0.298	42.17	0.082	0.154	0.362	36.93
EEES 7	49.47	0.087	0.228	23.64	0.038	0.125	0.300	31.24	0.132	0.201	0.257	36.62	0.073	0.108	0.350	34.23
EEES 8	49.76	0.063	0.193	20.11	0.053	0.215	0.409	39.84	0.219	0.306	0.485	47.37	0.050	0.118	0.249	29.04
EEES 9	45.00s	0.152	0.349	32.94	0.043	0.119	0.345	33.20	0.142	0.271	0.394	44.07	0.044	0.152	0.333	34.02
EEES 10	44.67	0.092	0.246	24.93	0.039	0.122	0.386	34.89	0.183	0.226	0.361	42.93	0.039	0.150	0.391	36.23
EEES 11	37.43	0.104	0.403	33.20	0.050	0.133	0.448	38.18	0.111	0.253	0.378	42.04	0.027	0.225	0.306	35.35
EEES 12	47.50	0.100	0.404	33.07	0.250	0.302	0.354	46.91	0.093	0.207	0.284	36.38	0.168	0.284	0.403	45.49
EEES 13	36.70	0.102	0.598	40.64	0.190	0.241	0.389	44.46	0.116	0.292	0.371	43.21	0.112	0.216	0.374	40.70
EEES 14	36.93	0.122	0.408	34.19	0.180	0.242	0.293	44.14	0.133	0.215	0.296	38.66	0.086	0.197	0.277	35.43
EEES 15	33.97	0.121	0.448	35.79	0.123	0.345	0.478	47.98	0.098	0.203	0.274	36.03	0.091	0.188	0.235	33.50
EEES 16	36.47	0.128	0.499	38.03	0.127	0.205	0.356	40.22	0.101	0.202	0.356	39.20	0.104	0.208	0.417	43.34
EEES 17	40.67	0.112	0.358	31.55	0.058	0.208	0.348	37.58	0.092	0.134	0.294	33.76	0.095	0.242	0.320	39.13
EEE 18	38.29	0.200	0.415	37.59	0.052	0.200	0.342	36.70	0.087	0.169	0.288	34.77	0.100	0.250	0.400	42.30
EEES 19	43.00	0.108	0.400	33.24	0.127	0.200	0.334	38.03	0.122	0.258	0.331	41.04	0.083	0.101	0.323	33.20
EEES 20	36.78	0.097	0.227	24.15	0.187	0.214	0.300	40.67	0.100	0.190	0.272	33.63	0.090	0.246	0.497	44.85
EEES 21	42.26	0.084	0.332	28.99	0.194	0.245	0.389	44.70	0.211	0.384	0;400	49.22	0.104	0.299	0.542	47.95
EEES 22	36.46	0.107	0.486	36.74	0.201	0.297	0.442	47.82	0.193	0.372	0.420	48.97	0.073	0.262	0.488	44.55
EEES 23	35.99	0.076	0.342	29.09	0.165	0.276	0.431	45.97	0.124	0.237	0.441	43.92	0.080	0.275	0.399	42.42
EEES 24	39.34	0.082	0.349	29.72	0.176	0.205	0.399	43.25	0.105	0.212	0.394	41.01	0.086	0.107	0.344	34.48
EEES 25	39.09	0.094	0.441	34.40	0.154	0.286	0.401	45.08	0099	0.200	0.317	37.62	0.102	0.237	0.383	41.31

Table 5 cont: Detailed analysis of Educated Edo English Speakers durational measures and rhythm ratio of sentence 2 and 3 calculated in milliseconds (ms)

S/N	//ˈfæktəuzwɪtʃɪn//					//ˈkluːdðiə//				//ˈbɪlətiəvðə//					
	ˈfækt	əuz	wɪtʃ	ɪn	RR	ˈkluːd	di	ə	RR	bɪ	lə	ti	əv	ðə	RR
	SS	US	US	US		SS	US	US		US	US	SS	US	US	
Native baseline 1	2`967	1.343	1.647	1.323	86.78	2.148	1.898	-	79.14	2.310	-	0.453	-	-	72.47
Native baseline 2	2`991	1.360	1.545	1.350	86.73	2.220	1.681	-	78.56	2.331	-	0. 478	-	-	72.79
EEES 1	0.052	0.100	0.108	0.248	32.24	0.074	0.272	0.319	39.42	0.043	0.125	0.243	0.280	0.335	49.98
EEES 2	0.070	0.090	0.400	0.092	38.95	0.081	0.289	0.332	40.40	0.039	0.111	0.200	0.285	0.360	49.22
EEES 3	0.082	0.108	0.136	0.300	37.90	0.069	0.165	0.259	32.59	0.031	0.123	0.216	0.238	0.275	46.28
EEES 4	0.050	0.087	0.134	0.281	35.10	0.081	0.173	0.330	36.38	0.029	0.115	0.188	0.251	0.276	45.60
EEES 5	0.091	0.100	0.139	0.350	39.95	0.100	0.181	0.400	39.98	0.030	0.132	0.221	0.254	0.287	47.40
EEES 6	0.097	0.110	0.142	0.347	40.54	0.095	0.241	0.339	39.77	0.041	0.128	0.214	0.263	0.290	47.71
EEES7	0.100	0.118	0.141	0.296	39.05	0.101	0.221	0.325	38.77	0.033	0.119	0.132	0.184	0.245	41.08
EEES 8	0.117	0.180	0.129	0.301	41.54	0.098	0.210	0.313	37.18	0.040	0.102	0.144	0.231	0.304	44.49
EEES 9	0.104	0.171	0.150	0.285	40.98	0.103	0.221	0.400	41.44	0.027	0.101	0.108	0.126	0.142	33.03
EEES10	0.097	0.106	0.142	0.277	37.84	0.096	0.235	0.338	39.56	0.038	0.100	0.117	0.123	0.295	39.70
EEES 11	0.088	0.111	0.225	0.309	41.74	0.089	0.229	0.400	41.25	0.100	0.201	0.225	0.233	0.265	49.93
EEES 12	0.090	0.109	0.218	0.336	42.39	0.076	0.234	0.398	40.91	0.019	0.107	0.194	0.255	0.311	46.86
EEES 13	0.086	0.124	0.235	0.396	45.08	0.070	0.300	0.346	41.18	0.045	0.122	0.145	0.211	0.323	45.23
EEES 14	0.089	0.113	0.226	0.339	42.84	0.071	0.243	0.331	38.70	0.041	0.137	0.150	0.192	0.346	45.80
EEES 15	0.101	0.142	0.244	0.373	45.63	0.085	0.303	0.365	42.39	0.050	0.118	0.126	0.241	0.354	46.22
EEES 16	0.098	0.171	0.236	0.333	45.00	0.100	0.314	0.388	43.92	0.048	0.109	0.200	0.228	0.374	48.31
EEES 17	0.082	0.167	0.206	0.271	41.51	0.080	0.153	0.283	33.59	0.052	0.123	0.235	0.246	0.361	49.76
EEES 18	0.103	0.157	0.177	0.210	38.77	0.092	0.229	0.386	40.87	0.044	0.111	0.222	0.273	0.305	48.21
EEES 19	0.099	0.119	0.175	0.200	38.74	0.074	0.215	0.332	37.47	0.046	0.136	0.191	0.281	0.344	49.30
EEES 20	0.106	0.160	0.180	0.235	39.98	0.066	0.198	0.243	33.20	0.037	0.160	0.230	0.326	0.300	46.99
EEES 21	0.109	0.168	0.180	0.355	42.23	0.078	0.205	0.311	36.78	0.032	0.122	0.243	0.301	0.350	49.42
EEES 22	0.111	0.198	0.240	0.364	47.10	0.070	0.198	0.300	35.75	0.028	0.115	0.209	0.274	0.315	47.85
EEES 23	0.097	0.123	0.283	0.335	45.00	0.068	0.205	0.396	39.56	0.030	0.122	0.196	0.213	0.400	48.36
EEES 24	0.102	0.224	0.236	0.378	47.82	0.075	0.282	0.401	42.55	0.038	0.102	0.188	0.263	0.381	48.64
EEES 25	0.100	0.178	0.212	0.343	44.85	0.071	0.258	0.365	40.43	0.040	0.115	0.139	0.279	0.401	46.86

Table 5 cont: Detailed analysis of Educated Edo English Speakers durational measures and rhythm ratio of sentence 2 and 3 calculated in milliseconds (ms)

S/N	//ˈstjuːdntðə//				//ˈlevl̩əvkə//				kəˈmɪt mənt tə				
	ˈstjuː	dnt	ðə	RR	ˈle	vl̩	əv	kə	RR	ˈmɪt	mənt	tə	RR
Native baseline 1	SS	US	US	72.68	SS	US	US	US	77.07	SS	US	US	86.01
	2.793		-		3.563	-	-	-		3.691	0.887	-	
Native baseline 2	2.891		-	73.33	3.577	-	-	-	77.14	3.896	0.990	-	81.93
EEES 1	0.100	0.232	0.255	36.50	0.056	0.097	0.136	0.280	35.79	0.092	0.184	0.276	35.10
EEES 2	0.094	0.200	0.236	34.19	0.062	0.101	0.184	0.295	38.50	0.089	0.177	0.283	34.98
EEES 3	0.101	0.243	0.307	38.91	0.060	0.100	0.193	0.302	39.06	0.081	0.162	0.247	32.45
EEES 4	0.090	0.181	0.278	34.98	0.075	0.108	0.265	0.317	42.77	0.090	0.183	0.280	30.77
EEES 5	0.092	0.195	0.281	35.75	0.079	0.123	0.263	0.324	43.53	0.100	0.194	0.311	37.20
EEES 6	0.096	0.211	0.292	36.81	0.088	0.144	0.288	0.352	45.97	0.088	0.192	0.349	38.11
EEES 7	0.089	0.112	0.264	31.32	0.090	0.153	0.267	0.373	46.28	0.093	0.200	0.230	33.89
EEES 8	0.093	0.244	0.313	38.88	0.100	0.182	0.236	0.333	45.37	0.112	0.220	0.264	36.07
EEES 9	0.103	0.206	0.239	34.94	0.099	0.162	0.271	0.308	45.08	0.120	0.198	0.299	37.66
EEES 10	0.087	0.123	0.278	32.36	0.103	0.153	0.294	0.332	46.25	0.115	0.217	0.318	38.88
EEES 11	0.099	0.144	0.307	35.02	0.086	0.172	0.258	0.341	45.55	0.123	0.243	0.401	42.84
EEES12	0.110	0.245	0.319	39.73	0.094	0.181	0.275	0.369	47.26	0.119	0.232	0.367	41.50
EEES 13	0.080	0.200	0.289	35.79	0.085	0.169	0.291	0.371	47.18	0.121	0.214	0.293	38.07
EEES 14	0.085	0.217	0.343	38.70	0.102	0.190	0.312	0.383	49.02	0.110	0.208	0.306	37.93
EEES 15	0.091	0.231	0.387	40.94	0.118	0.200	0.319	0.331	48.54	0.114	0.256	0.301	39.63
EEES 16	0.078	0.112	0.226	28.89	0.111	0.214	0.260	0.310	46.61	0.100	0.132	0.261	32.59
EEES 17	0.069	0.162	0.292	33.89	0.116	0.221	0.259	0.277	46.00	0.084	0.181	0.257	33.85
EEES 18	0.077	0.158	0.306	34.65	0.105	0.219	0.250	0.281	45.49	0.095	0.159	0.265	33.72
EEES 19	0.075	0.177	0.354	37.24	0.108	0.227	0.273	0.304	47.07	0.109	0.276	0.349	41.78
EEES 20	0.070	0.107	0.171	25.48	0.091	0.109	0.156	0.180	34.44	0.100	0.153	0.187	30.16
EEES 21	0.066	0.120	0.251	30.01	0.105	0.228	0.251	0.298	46.25	0.104	0.178	0.328	37.39
EEES 22	0.069	0.174	0.322	35.63	0.100	0.214	0.237	0.281	44.82	0.111	0.184	0.295	36.62
EEES 23	0.058	0.199	0.288	34.81	0.094	0.155	0.249	0.343	45.08	0.090	0.244	0.303	38.40
EEES 24	0.049	0.115	0.236	28.20	0.081	0.175	0.236	0.291	43.34	0.099	0.186	0.270	35.22
EEES 25	0.053	0.104	0.275	29.77	0.079	0.183	0.272	0.329	45.72	0.096	0.199	0.314	37.35

Table 5 cont: Detailed analysis of Educated Edo English Speakers and Native Baselines durational measures and rhythm ratio of sentence 2 and 3 calculated in milliseconds (ms)

S/N	//ˈriːdɪŋəzweləzðə//						//ˈfɪzɪkl//					ˌ //ˌsaɪkəˈlɒdʒɪkḷəndɪ //					
	ˈriː	dɪŋ	əz	wel	əz	RR	ðə	ˈfɪ	zɪ	kl	RR	saɪ	kə	ˈlɒ	dʒɪ	kl	ənd
	Ss	Us	Us	SS	US		US	SS	US	US		SS	US	SS	US	US	US
Native baseline 1	2.530	1.112	0.009	1.317	0.050	82.30	-	2.290	0.017	-	70.67	1.770	0.071	2.208	1.211	-	0.097
Native baseline 2	2. 355	1.102	0.017	1.401	0.059	82.07	-	2.276	0.011	-	70.48	1.657	0.079	2.342	1.214	-	0.105
EEES 1	0.052	0.070	0.088	0.101	0.188	32.85	0.097	0.100	0.154	0.187	34.52	0.062	0.075	0.090	0.105	0.120	0.135
EEES 2	0.060	0.075	0.091	0.112	0.145	32.54	0.083	0.118	0.200	0.212	39.81	0.043	0.090	0.113	0.120	0.174	0.205
EEES 3	0.081	0.092	0.105	0119	0.222	37.73	0.100	0.114	0.153	0.164	34.23	0.059	0.088	0.103	0.131	0.159	0.214
EEES 4	0.094	0.100	0.132	0.263	0.317	46.91	0.056	0.083	0.097	0.105	25.09	0.035	0.067	0.110	0.125	0.134	0.198
EEES 5	0.100	0.127	0.212	0.225	0.284	48.03	0.064	0.073	0.088	0.111	24.82	0.049	0.081	0.097	0.114	0.125	0.200
EEES 6	0.092	0.115	0.128	0.236	0.251	44.52	0.053	0.086	0.099	0.117	28.65	0.060	0.092	0.105	0.118	0.121	0.178
EEES7	0.090	0.106	0.135	0.158	0.289	46.14	0.061	0.100	0.143	0.163	31.42	0.051	0.083	0.104	0.122	0.130	0.163
EEES 8	0.089	0.118	0.174	0.213	0.301	46.61	0.059	0.098	0.136	0.160	30.77	0.048	0.075	0.097	0.126	0.146	0.173
EEES 9	0.076	0.102	0.116	0.144	0.185	37.89	0.066	0.089	0.129	0.140	29.38	0.057	0.089	0.102	0.137	0.159	0.192
EEES10	0.072	0.100	0.133	0.165	0.222	40.36	0.072	0.096	0.134	0.162	31.82	0.053	0.091	0.106	0.147	0.211	0.228
EEES11	0.083	0.120	0.157	0.183	0.241	43.37	0.064	0.092	0.139	0.174	31.51	0.072	0.092	0.115	0.131	0.148	0.162
EEES1 2	0.077	0.103	0.142	0.175	0.205	40.70	0.081	0.102	0.148	0.183	33.51	0.070	0.089	0.121	0.128	0.140	0.159
EEES 13	0.061	0.108	0.131	0.196	0.241	41.87	0.085	0.112	0.159	0.200	35.26	0.084	0.096	0.100	0.108	0.117	0.131
EEES 14	0.070	0.129	0.155	0.229	0.252	44.91	0.090	0.125	0.136	0.181	34.27	0.091	0.100	0.121	0.136	0.155	0.163
EEES 15	0.058	0.091	0.123	0.179	0.211	39.31	0.100	0.142	0.179	0.210	38.19	0.088	0.104	0.133	0.142	0.151	0.180
EEES 16	0.069	0.111	0.173	0.181	0.262	43.74	0.104	0.151	0.182	0.236	39.70	0.093	0.105	0.118	0.125	0.138	0.163
EEES 17	0.055	0.092	0.147	0.201	0.227	41.38	0.098	0.118	0.131	0.198	34.06	0.090	0.111	0.123	0.134	0.145	0.154
EEE 18	0.064	0.112	0.183	0.216	0.245	44.46	0.110	0.131	0.142	0.160	34.73	0.085	0.113	0.140	0.147	0.151	0.162
EEES 19	0.057	0.105	0.148	0.231	0.270	44.20	0.108	0.126	0.137	0.178	34.98	0.101	0.103	0.112	0.139	0.148	0.174
EEES 20	0.060	0.109	0.131	0.187	0.233	41.31	0.102	0.115	0.141	0.152	33.34	0.087	0.095	0.111	0.119	0.133	0.149
EEES 21	0.053	0.116	0.168	0.213	0.281	44.79	0.116	0.152	0.193	0.227	40.23	0.081	0.099	0.104	0.115	0.126	0.137
EEES 22	0.051	0.138	0.171	0.208	0.255	44.55	0.112	0.132	0.168	0.175	36.71	0.077	0.085	0.097	0.104	0.122	0.148
EEES 23	0.049	0.098	0.116	0.211	0.272	42.17	0.109	0.145	0.182	0.209	38.70	0.080	0.093	0.101	0.112	0.138	0.151
EEES24	0.058	0.107	0.134	0.208	0.259	42.81	0.111	0.161	0.215	0.230	41.22	0.092	0.100	0.115	0.134	0.144	0.168
EEES 25	0.050	0.096	0.109	0.181	0.224	39.24	0.107	0.124	0.174	0.188	36.74S	0.101	0.108	0.126	0.129	0.141	0.156

Table 5 cont: Detailed analysis of Educated Edo English Speakers and Native Baselines durational measures and rthythm ratio of sentence 2 and 3 calculated in milliseconds (ms)

			//ˈməʊʃn̩əl//				//ˈfæktəz //		
S/N	ɪ	RR	ˈməʊ	ʃn̩	əl	RR	ˈfækt	əz	RR
	US		SS	US	US		SS	US	
Native baseline 1	0.055	83.31	2..508	-	-	70.57	3.788	-	75. 52
Native baseline 2	0.076	83.45	2.570	-	-	71.05	3.806	-	75.59
EEES 1	0.142	41.61	0.099	0.123	0.197	17.86	0.103	0.118	37.39
EEES 2	0.214	48.13	0.100	0.134	0.200	29.87	0.110	0.245	25.85
EEES 3	0.260	49.69	0.081	0.097	0.120	22.66	0.097	0.196	22.36
EEES 4	0.243	47.08	0.071	0.100	0.176	25.42	0.090	0.174	20.61
EEES 5	0.221	46.40	0.095	0.113	0.188	27.99	0.088	0.136	18.06
EEES 6	0.199	45.97	0.088	0.109	0.145	25.15	0.101	0.162	20.55
EEES7	0.203	45.52	0.103	0.132	0.151	27.48	0.112	0.187	22.71
EEES 8	0.219	46.31	0.099	0.122	0.166	27.53	0.100	0.243	25.20
EEES 9	0.225	48.37	0.111	0.212	0.330	38.99	0.104	0.226	24.48
EEES10	0.242	49.95	0.108	0.179	0.253	34.61	0.096	0.134	18.45
EEES 11	0.221	47.85	0.105	0.184	0.222	33.38	0.084	0.121	16.79
EEES 12	0.219	47.45	0.096	0.151	0.247	32.64	0.079	0.112	15.83
EEES 13	0.150	43.44	0.087	0.103	0.215	28.45	0.080	0.101	15.12
EEES 14	0.187	48.16	0.082	0.100	0.147	24.43	0.089	0.128	17.60
EEES 15	0.209	49.52	0.094	0.139	0.174	28.55	0..096	0.146	19.23
EEES 16	0.184	47.45	0.100	0.132	0.180	28.79	0.092	0.143	18.78
EEES 17	0.192	48.06	0.096	0.128	0.166	27.69	0.082	0.165	19.55
EEE 18	0.187	48.98	0.112	0.131	0.159	28.30	0.100	0.194	22.43
EEES 19	0.190	48.00	0.109	0.141	0.174	29.40	0.099	0.181	21.59
EEES 20	0.177	43.38	0.101	0.134	0.159	27.89	0.095	0.178	21.16
EEES 21	0.166	44.71	0.097	0.120	0.141	26.02	0.101	0.157	20.24
EEE22	0.178	44.20	0.103	0.114	0.126	25.20	0.097	0.141	18.97
EEES 23	0.192	45.84	0.099	0.117	0.135	25.64	0.100	0.155	20.05
EEES 24	0.182	47.69	0.107	0.122	0.143	26.76	0.111	0.184	22.48
EEES 25	0.179	47.82	0.110	0.119	0.128	25.96	0.108	0.180	22.07S

Tables 5 displays the duration and rhythm ratio of EEES and NB of sentence 2 and 3. The duration of Educated Edo English Speakers measured 0.181 milliseconds amounting to 15.12 RR to 1.412 milliseconds of 57.78RR. Whereas, the duration of the Native Baselines ranged from 2.203 milliseconds of 67.89 RR to 7.28ms of 86.78 RR showing disparity in RR values in the duration of rhythm units (stressed and unstressed syllables) of SBE and EEES.

Table 6: Detailed analysis of Educated Edo English Speakers and Native Baselines durational measures and rhythm ratio of sentence 4 calculated in milliseconds (ms)

S/N	//ˈɔːlðiːzhelptədɪ//			//tɜː mɪn fə//						
	ɔːl	ðɪz	Help	tə	dɪ	RR	tɜː	mɪn	fə	RR
	SS	US	SS	US	US		SS	US	US	
Native baseline 1	2.333	0.103	2.309	-	-	78.84	3.991	0.101	-	76.71
Native baseline 2	2.412	0.109	2.331	-	-	79.14	3.995	0.120	-	76.92
EEES 1	0.070	0.080	0.100	0.120	0.123	31.51	0.095	0.109	0.118	23.24
EEES 2	0.052	0.097	0.107	0.128	0.150	33.22	0.071	0.098	0.109	18.96
EEES 3	0.072	0.099	0.102	0.109	0.126	32.15	0.085	0.143	0.214	29.25
EEES 4	0.088	0.092	0.110	0.137	0.144	34.69	0.069	0.122	0.181	35.50
EEES 5	0.055	0.095	0,105	0.135	0.147	33.35	0.149	0.180	0.270	40.25
EEES 6	0.071	0.089	0.102	0.109	0.117	31.30	0.088	0.100	0.121	22.53
EEES 7	0.065	0.084	0.102	0.107	0.120	30.87	0.131	0.171	0.211	32.36
EEES 8	0.046	0.068	0.086	0.103	0.109	27.85	0.087	0.124	0.156	25.62
EEES 9	0.056	0.078	0.107	0.104	0.124	30.47	0.114	0.217	0.243	34.80
EEES10	0.047	0.060	0.079	0.098	0.103	26.63	0.080	0.128	0.155	25.42
EEES11	0.051	0.063	0.087	0.106	0.126	28.84	0.117	0.123	0.179	28.28
EEES12	0.031	0.059	0.097	0.109	0.119	27.99	0.096	0.103	0.128	23.52
EEES13	0.038	0.050	0.067	0.088	0.108	24.79	0.071	0.113	0.127	22.64
EEES14	0.070	0.089	0.102	0.107	0.122	31.39s	0.057	0.077	0.103	18.28
EEES15	0.088	0.100	0.104	0.109	0.120	32.69	0.081	0.102	0.178	25.31
EEES16	0.091	0.103	0.106	0.113	0.123	33.30	0.100	0.120	0.137	25.11
EEES17	0.076	0.081	0.101	0.107	0.111	30.78	0.091	0.132	0.158	26.33
EEES18	0.051	0.064	0.081	0.100	0.110	28.13	0.089	0.122	0.222	28.84
EEES19	0.049	0.066	0.078	0.099	0.121	27.90	0.128	0.134	0.234	31.64
EEES20	0.040	0.051	0.079	0.103	0.112	26.53	0.111	0.133	0.167	27.80
EEES 21	0.038	0.047	0.077	0.108	0.118	26.68	0.119	0.143	0.178	29.16
EEES 22	0.043	0.055	0.073	0.089	0.105	25.52	0.089	0.109	0.226	28.42
EEES 23	0.047	0.059	0.082	0.100	0.109	27.12	0.081	0.191	0.215	31.26
EEES 24	0.044	0.054	0.078	0.097	0.104	26.13	0.112	0.211	0.276	36.76

EEES 25	0.050	0.068	0.081	0.101	0.107	27.61	0.098	0.181	0.217	33.87

Table 6 cont: Detailed analysis of Educated Edo English Speakers and Native Baselines durational measures and rhythm ratio of sentence 4 calculated in milliseconds (ms)

S/N	//ˈsɪlɪteɪtəndɪn//					//ˈhɑːnsðə//			
	ˈsɪ	Li	teɪt	ən	dɪn	RR	ˈhɑːns	ðə	
	SS	US	SS	US	US		SS	US	
Native baseline 1	4.711	0.908	3.889	-	0.124		3.936	-	76.12
Native baseline 2	4.725	0.809	3.996	-	0.108		3.987	-	76.31
EEES 1	0.034	0.041	0.085	0.095	0.097	24.85	0.125	0.127	19.21
EEES 2	0.022	0.039	0.044	0.078	0.087	25.77	0.103	0.130	18.03
EEES 3	0.057	0.085	0.101	0.109	0.153	35.42	0.100	0191	21.51
EEES 4	0.045	0.066	0.089	0.116	0.120	28.98	0.173	0.199	25.88
EEES 5	0.047	0.058	0.097	0.109	0.126	29.02	0.210	0.217	28.56
EEES 6	0.067	0.079	0.098	0.107	0.119	34.92	0.205	0.302	32.11
EEES7	0.058	0.089	0.100	0.109	0.124	30.95	0.260	0.290	33.87
EEES 8	0.041	0.077	0.103	0.137	0.157	32.44	0.228	0.333	34.30
EEES 9	0.071	0.098	0.101	0.114	0.129	32.36	0.101	0.245	24.53
EEES10	0.081	0.098	0.106	0.119	0.125	33.02	0.106	0.193	21.97
EEES 11	0.067	0.086	0.101	0.112	0.129	31.60	0.104	0.244	24.64
EEES 12	0.052	0.100	0.107	0.128	0.151	33.39	0.109	0.267	26.08
EEES 13	0.047	0.095	0.116	0.139	0.150	33.75	0.107	0.229	24.01
EEES 14	0.074	0.104	0.123	0.138	0.219	35.19	0.124	0.274	27.17
EEES 15	0.091	0.123	0.137	0.146	0.182	38.60	0.121	0.198	23.08
EEES 16	0.078	0.109	0.119	0.138	0.213	37.84	0.136	0.203	24.16
EEES 17	0.083	0.128	0.154	0.214	0.285	44.24	0.118	0.231	24.69
EEE 18	0.086	0.110	0.132	0.156	0.198	38.70	0.112	0.205	22.97
EEES 19	0.078	0.121	0.146	0.187	0.234	41.40	0.115	0.169	21.11
EEES 20	0.074	0.143	0.157	0.185	0.179	40.65	0.129	0.215	24.43
EEES 21	0.098	0.114	0.154	0.200	0.234	42.42	0.113	0.179	21.57
EEES 22	0.067	0.143	0.168	0.219	0. 254	43.88	0.127	0.187	22.81
EEES 23	0.065	0.098	0.138	0.218	0.277	42.30	0. 106	0.200	22.36
EEES 24	0.075	0.101	0.145	0.198	0.235	41.03	0.125	0.231	25.06
EEES 25	0.087	0.107	0.156	0.214	0.222	42.01	0.128	0.244	25.88

Table 6 cont: Detailed analysis of Educated Edo English Speakers and Native Baselines durational measures and rhythm ratio of sentence 4 calculated in milliseconds (ms)

S/N	//ˈkwɒlɪtiəvəv//	//ˈgrædʒʊeɪt//

	ˈkwɒ	lɪ	ti	əv	ə	RR	ˈgræ	dʒʊ	eɪt	RR
	SS	US	SS	US	US		SS	US	SS	
Native baseline 1	3.843	0.019	0.065	-	-	76.08	3.639	0.843	1.510	81.80
Native baseline 2	3.878	0.027	0.088	-	-	76.34	3.700	0.760	1.732	82.18
EEES 1	0.073	0.091	0.111	0.122	0.129	32.90	0.089	0.101	0.198	26.68
EEES 2	0.071	0.099	0.120	0.128	0.139	34.15	0.078	0.100	0.145	23.30
EEES 3	0.107	0.113	0.115	0.123	0.287	40.75	0.093	0.126	0.148	25.62
EEES 4	0.106	0.110	0.134	0.159	0.225	40.41	0.099	0.132	0.184	27.99
EEES 5	0.102	0.120	0.134	0.162	0.196	39.76	0.101	0.145	0.202	29.53
EEES 6	0.090	0.104	0.187	0.219	0.313	45.56	0.104	0.163	0.222	31.35
EEES7	0.084	0.089	0.133	0.242	0.271	42.98	0.111	0.196	0.257	34.42
EEES 8	0.119	0.173	0.201	0.215	0.281	47.46	0.099	0.174	0.206	30.91
EEES 9	0.103	0.148	0.200	0.229	0.314	47.58	0.103	0.185	0.269	34.14
EEES10	0.092	0.112	0.124	0.196	0.219	40.69	0.096	0.124	0.275	31.61
EEES 11	0.105	0.119	0.131	0.230	0.312	45.14	0.101	0.177	0.280	34.18
EEES 12	0.112	0.143	0.157	0.216	0.249	44.60	0.088	0.151	0.197	28.98
EEES 13	0.104	0.116	0.198	0.212	0.224	43.97	0.097	0.162	0.203	30.17
EEES 14	0.117	0.121	0.166	0.270	0.307	47.27	0.105	0.174	0.258	33.35
EEES 15	0.103	0.127	0.139	0.191	0.311	41.83	0.110	0.189	0.245	33.63
EEES 16	0.106	0.`134	0.159	0.195	0.220	42.83	0.095	0.164	0.192	29.67
EEES 17	0.109	0.112	0.124	0.233	0.308	44.84	0.104	0.171	0.283	34.92
EEE 18	0.121	0.152	0.166	0.175	0.202	42.89	0.095	0.166	0.222	31.08
EEES 19	0.111	0.160	0.210	0.234	0.259	47.09	0.113	0.192	0.285	35.42
EEES 20	0.099	0.151	0.189	0.221	0.243	45.29	0.107	0.179	0.294	35.04
EEES 21	0.103	0.118	0.159	0.210	0.321	45.50	0.091	0.150	0.226	30.38
EEES 22	0.122	0.143	0.158	0.200	0.223	43.75	0.114	0.203	0.219	33.30
EEES 23	0.114	0.128	0.139	0.171	0.219	41.56	0.106	0.174	0.212	31.48
EEES 24	0.105	0.138	0.212	0.230	0.259	46.35	0.112	0.198	0.281	35.46
EEES 25	0.100	0.118	0.129	0.135	0.150	36.97	0.100	0.185	0.230	32.44

For table 6, the duration and rhythm ratio of EEES, and the NB for sentence 4 in the English passage was 0.233 milliseconds amounting to 18.03RR to 0.994 milliseconds of 47.58RR for EEES while that of the NB measured 3.788 of 75.52 RR to 6.192 of 82.18 RR showing distinction and disparity in the duration of the Native Baselines compared to EEES.

t-test mean duration for NB 1

	N	Mean	Std. Deviation	Std. Error Mean
Duration NB 1	149	.7777	.32298	.02646

t-test mean duration for NB 1

	Test Value = 4.563					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Dur NB 1	-143.061	148	.000	-3.78531	-3.8376	-3.7330

t-test mean duration for NB 2

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Dur_ NB	149	.7777	.32298	.02646

t-test mean duration for NB 2

	Test Value = 4.571					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Duration	-143.364	148	.000	-3.79331	-3.8456	-3.7410

t-test mean for NB 1 and 2 standard deviation

	N	Mean	Std. Deviation	Std. Error Mean
RR_NB1	149	41.3781	10.99427	.90069

t-test mean RR for NB 1

	Test Value = 81.47					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
RRNB 2	-44.513	148	.000	-40.09195	-41.8718	-38.3121

t-test mean RR for NB 2

	Test Value = 81.5					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
NB 2	-44.546	148	.000	-40.12195	-41.9018	-38.3421

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The categories defined by Sex = Female and Male occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	1.000	Retain the null hypothesis.
2	The distribution of Duration_1 is normal with mean 0.78 and standard deviation 0.32.	One-Sample Kolmogorov-Smirnov Test	.337	Retain the null hypothesis.
3	The distribution of RR_1 is normal with mean 41.80 and standard deviation 10.88.	One-Sample Kolmogorov-Smirnov Test	.141	Retain the null hypothesis.
4	The distribution of Duration_2 is normal with mean 0.78 and standard deviation 0.32.	One-Sample Kolmogorov-Smirnov Test	.271	Retain the null hypothesis.
5	The distribution of RR_2 is normal with mean 41.52 and standard deviation 11.39.	One-Sample Kolmogorov-Smirnov Test	.142	Retain the null hypothesis.
6	The distribution of Dur_EEES is normal with mean 0.78 and standard deviation 0.32.	One-Sample Kolmogorov-Smirnov Test	.188	Retain the null hypothesis.
7	The distribution of RR_EEES is normal with mean 41.38 and standard deviation 10.99.	One-Sample Kolmogorov-Smirnov Test	.143	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

t-test

Decision

Reject H0 if P- value is <0.05. Hence, we can not reject H0

t-test revealed significant difference in duration for (4.563/4.571) and RR (81.5) of NB 1 and 2 with p-value < 0.05(0.000) compared to EEES.

Mann Whitney U test

Duration P-value = 0.482

RR- P- value = 0.293

Decision

The mean of male is not different from that of females in the group. Mann Whitney U test showed insignificant difference for gender with P-value > 0.05, (0.482) and RR (0.293) which is greater than 0.05.

Appendix 2

The following English expressions intend to test some phonological phenomena. Please produce as naturally as possible.

Exercise A

English Word Group

1. I am going home.
2. It was an accident.
3. I was in London.
4. He could have avoided it.
5. She expected it.
6. But there were plenty of them

Exercise B
English Passage

Quality University Education in Nigeria

In the present day Nigeria, more universities tend to be created almost annually. It has been said that several educated, as well as parents and employers of labour are beginning to get worried about the quality of graduates from these universities. The fact remains that the issue of quality cannot be determined by the university alone. It also depends on a number of factors which include the ability of the student, the level of commitment to reading, as well as the physical, psychological and emotional factors. All these help to determine, facilitate and enhance the quality of a graduate.

Exercise C

English words with Syllabic Consonants

a. Comfortable
b. Impeachable
c. Endurable
d. Approachable
e. Controllable
f. Referable
g. Responsible
h. Profitable
i. Avoidable
j. Predictable