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A Comparative Study of the Sound Systems of Ikwo Igbo and Standard Igbo Dialects

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ABSTRACT

Development is often associated with challenges. The inability to study the numerous available dialects of Igbo language is one of the identified challenges facing the development of Igbo language particularly in the area of Igbo language teaching and learning, structural development of Igbo language, computation, and reconciliation of Igbo language with Information and Communication Technologies. Therefore, there is need to study the varying dialects of Igbo language before we can set a standard structure for the language which will facilitate a better teaching and learning of Igbo language, and harness the reconciliation of Igbo language with information and communication technologies. The present study investigated the structural differences between the sound system of Ikwo Igbo and Standard Igbo dialects. Descriptive research design was adopted for this work. However, it was largely discussed focusing on an aspect of generative phonology called feature theory. From this research, we discovered that the sound system of the two dialects are the same, except that while standard Igbo has thirty-six (36) phonemes; comprising eight (8) vowels and twenty-eight (28) consonants, the Ikwo dialect has forty-five (45) phonemes; comprising nine (9) vowels and thirty-six (36) consonants. It was observed that the sounds /s/ and /z/ cannot occur before /i/ or /i̱/ in Ikwo dialect, rather /s/ and /z/ changes their forms to [ʃ] and [ʒ] respectively when the high front vowels [i] or [ɪ] is occurring after them. Vowel sounds occurring at utterance final positions in Ikwo dialect is usually elided as utterances are ended more abruptly than in Standard Igbo. Whereas certain phonemes occur in some environments in Standard Igbo, they assume different forms in Ikwo dialect. Apart from these differences, other features of Ikwo dialect, including the tonal structure corresponds with the Standard Igbo dialect sound system.

Keywords: minimal pairs, contrastive distribution, complementary distribution, language, dialect, phonemes

INTRODUCTION

The linguistic diversity dominant in Igbo region led to the development of a Standard Igbo variety to help unify the speakers of the different dialects of Igbo language. Igbo language is classified as one of the languages of New Benue-Congo under the Niger-Congo family [1]. Ikwo is one of the dialects of Igbo language spoken in Ikwo local government area of Ebonyi state, Nigeria. It is important to know that Ikwo dialect shares certain linguistic similarity with other neighboring dialects like; Izhi, Ezza, Ezzamgbo, Ohaozara, and other Abakaliki dialects. Ikwo is bounded to the east and south by the Cross river state, west by the Ezza south local government area, and north by the Abakaliki local government area of Ebonyi state (Izhi), [2].

Currently, Ikwo local government area has been divided into six (6) developmental centers which include: Ikwo south, central, East, south-east, Ndufu Ikwo, and Ikwo development centers. The structure (phonological, morphological, syntactic, etc) of the Ikwo dialect remains the same in all the communities in Ikwo L.G.A, except in those communities who share boundary with other Local Governments and states. For instance, the Opherekpe,

Ndegu-Anmegu, and Okpuitumo communities who share boundary with the Cross-river state has dialectal features that differ very slightly from the Ikwo dialect but these differences does not exist at the level of phonology. Linguistically, it is natural to have variation in dialect form at boundary regions. Traditionally, it is divided into five (5) divisional zones and comprising of seventeen (17) communities. The five divisional zones are; Ụnwẹka zone (it comprises three communities), Alike zone (comprises of four communities), Ẹchara zone (comprises two communities), Mgbabụ zone (has six communities), Ọkpitumo zone (has two communities).

A white man, Meier organized a team of Ikwo speakers like; Elder Thomas Uzim, Mr. Elias Uguru, and Mr. William Akichi and collected word lists in Ikwo, from which, they developed orthography for writing the Ikwo dialect in 1972. During this period, they translated lot of books from English to Ikwo. Example; they translated the holy bible to Ikwo dialect. They also wrote series of texts in Ikwo dialect like; 'Oreke Gụa Ikwo volume 1, 2, and 3', since then, no one has attempted a linguistic study of the Ikwo dialect again.

The branch of linguistics that investigates the sound structure of languages is known as phonetics and phonology. Sound is the basis of every language [3]. Language acquisition begins with the observation and learning of the sounds existing in the particular language of study. However, the two notable approaches to phonological study are; the Classical approach and the Generative approach. These approaches focus on the sound structure of human languages and are both offshoots of structural grammar [4].

The early comparative study of languages, began with the Indo-European languages, but has expanded to several other languages [5]. The major goal of the comparative study of languages that began in the early eighteenth century was to find out the reason for the interrelatedness of languages, establish language families, and reconstruct prehistoric proto languages.

With the advent of information and communication technologies, which has come today to be a major means of determining the development of a country, technology has been introduced into language use, study, and development. Of course, the Igbo language will not be exempted from this. We are quite aware that a number of persons have been working tremendously to reconcile the Igbo language with developing technologies (an aspect known as computational linguistics), but because of certain challenges which have been left unresolved, these woks have many flaws.

Therefore, to overcome these challenges and promote the development of Igbo language there is need to study and identify the structure of every dialect of Igbo language, beginning from the sound structure to syntactic structure, from such study we can set a standard for Igbo language. The Igbo language is one of the three major languages spoken in Nigeria. The Igbo land is a common linguistic and cultural region in southern Nigeria, characterized by a high degree of cultural and linguistic diversity [6]. [7], claims that the Igbo people are found at the Southeastern part of Nigeria.

The dialects of Igbo are; Ngwa, Ohuhu, Onitsha, Orlu, Owerri, Nsukka, Umuahia, Nike, Anam, Nzam, Asaba, Agbor, Ogwashi-Ukwu, Aboh, Kwale, Ndoni, Ahoada, Ozuzu, Ibeku, Elele, Ikwere, Diobu, Ndoki, Azumini, Oratta, Ezinihitte, Umunoha, Idemili, Mbaise, Obowo, Ndirimo, Amaraku, Agbaja, Okigwe, Isuitem, Uzuakoli, Aba, Abata, Ohafia, Bende, Ihiala, Nnewi, Akaeze, Uburu, Awgu, Udi, Enugu-Ezike, Isuama, Umuezeohaka, Ozara, Ogba, Ekpeye, Igbo Izugbe, Eha Amufu, Ikwo, Izhi, Ezaa, Mgbo, Okposi, Afikpo, Arochukwu, and Ika, (for more details, see [8] [9].

However, [10] presents a classification of the Igbo dialects into clusters using both the phonological and grammatical criteria. Based on these criteria, she grouped Igbo dialects in five clusters namely: the Niger Igbo, Inland West Igbo, Inland East Igbo, Waawa Igbo/Northern Igbo, and Riverain Igbo. She noted that the Niger Igbo cluster is located around

the West of River Niger, in what is currently known as Delta state. To her, Niger Igbo has two main dialects namely; Ika Igbo and Aniocha (Enuani) Igbo. Aniocha has Asaba, Ibusa and others as satellite dialects while Ika has Agbo, Ukwuani, as satellite dialects.

[11] classified the Igbo dialects into these groups; West Niger group of dialects, East Niger groups, East Central group, Cross river group, South Western group, North Eastern group, North group, and North West group of dialects.

MATERIALS AND METHODS

The primary method of data collection is introspection; selected speakers were used where necessary. Several trips to all the different communities in Ikwo, were made to observe the sound pattern of speakers (male and female, old and young speakers of different ages) in order to validate the true sound structure of Ikwo. This was done to observe variations in the speech forms of Ikwo speakers. The data is purely analyzed descriptively.

Phonemic Comparison Between Sounds Of Ikwo Igbo And Standard Igbo

Graphical presentation of the phonemes of the two varieties under study is the best way to reveal their similarities or otherwise. These are shown with the aid of tables below.

The analysis of Ikwo consonantal phonemes

According to [12], consonantal sounds show greater constriction of the vocal tract than vowel sounds and have less prominence. Consonant sounds are described in terms of where constriction is made, how it is made, and what kind of phonation supports it.

There are 36 consonants observed in Ikwo. Presented as shown below

[p], [b], [t], [d], [k], [g], [kp], [gb], [kʷ], [gʷ], [pʲ], [bʲ], [ɸ], [f], [v], [s], [z], [ɣ], [h], [ʃ], [ʒ], [ʃʷ], [pf], [bv], [ts], [dz], [tʃ], [dʒ], [m], [n], [ŋ], [ŋʷ], [ɲ], [Ɵ], [l], [ɹ], [w], [j],

From the 36 consonants, 34 are phonemic. The consonants are phonetically described and their phonemic status justified below

[p] and [b] are bilabial stops. While [p] is voiceless, [b] is voiced. They occur as in:

Voiceless bilabial stop [p]	Voiced bilabial stop [b]
[épépé] ‘half’	[èbèm] ‘lightning’
[òpù] ‘flute’	[mbá] ‘country’
[mpò] ‘horn’	[òbòdò] ‘town
[mpʲó] ‘tiny hole or opening’	[mkpótúbó] ‘navel’
[mpʲà] ‘secret’	[bʲá] ‘come’

Whenever the bilabial plosives occur before the sounds [i] and [i] in the dialect, they are usually palatalized. Other instances showing where [b] is occurring before [i/i̱] are below;

[bʲ]
[èbʲè] ‘guest’
[ɔbʲà] ‘visitor’

The sounds [pʲ] and [bʲ] are not phonemic in the dialect but occurs in the dialect when [b] and [p] are followed by the vowel sound [i or ɪ]

[t] and [d] are alveolar plosives; while [t] is voiceless, [d] is voiced. They occur as in;

[t]	[d]
[ńtó] ‘ashes’	[bídó] ‘start’
[mkpótúbó] ‘navel’	[gúdé] ‘hold’
[ǹtánó] ‘today’	[òdà] ‘swamp land’
[épɔ́tɔ́] ‘mud/clay’	[ńdó] ‘people’
[ŋʷ átà] ‘child’	[dà] ‘fail, fall’
[tà] ‘chwe’	[dì] ‘endure’

These sounds are not restricted to any environment in the dialect.

[k] and [g] are velar stops; while [k] is voiceless, [ɡ] is voiced. They occur as in;

[k]	[ɡ]
[ékálí] 'branch'	[ógóró] 'harmattan'
[ɔ́kɔ̀] 'fowl'	[ǹgèlè] 'small body of water flowing'
[ìkùkù] 'air'	[ɔ̀gíɲí] 'a small rat that lives in bush'
[kà] 'answer'	[ɔ̀gèrèɲà] 'old, elderly]
[ŋ́kó] 'firewood'	[gɔ̀] 'bend'

These sounds can occur in any permissible vowel environment in Igbo language.

[kp] and [ɡb] are labio velar plosives; while [kp] is voiceless, [gb] is voiced. They occur as in;

[kp]	[gb]
[mkpúmà] 'stone'	[ígbógbó] 'small pox'
[úrúkpú] 'cloud'	[àgbà] 'jaw'
[kpɪ́rɪ́ kpɪ́rɪ́] 'small'	[ègbójì] 'hair'
[ákpóró] 'fruit'	[gbɪ́rɪ́rɪ́] 'slim'
[kpàtà] 'pluck leaf from tree'	[mgbéɲá] 'sleep'

These sounds can occur in any permissible vowel environment in Igbo language.

[kʷ] and [ɡʷ] are labialized velar stops; while [kʷ] is voiceless, [ɡʷ] is voiced. They occur as in;

[kʷ]	**[ɡʷ]**
[ékʷɔ́] 'leaf or book'	[élíígʷé] 'heaven'
[íkʷè] 'mortar''	[ógʷɔ̀] 'debt/ payment
[àkʷà] 'bed/bridge'	[ǹgʷɔ̀] 'thatch
[kʷɔ̀rò] 'lift someone with back'	[ókéńgʷéré] 'agama lizard'
[ókʷárá] 'cough'	[ŋ́gʷò] 'ingredient'

These sounds cannot occur before the high vowels; [i and ɪ] and before [u and ʊ] respectively.

[ɸ] and [ʃʷ] are voiceless fricatives. While [ɸ] is a bilabial fricative, [ʃʷ] is a labialized palato-alveolar fricative. They occur as in;

[ɸ] is a voiceless bilabial fricative	[ʃʷ] voiceless palato-alveolar fricative
[mmàmí ɸé] 'knowledge'	[ɔ́ʃʷá] 'forest'
[áɸóɸó] 'suffering'	[ɛ́ʃʷì] 'wing'
[éɸá] 'name'	[ɪ̀ʃʷì] 'whole'
[èɸóró] 'sweat'	[óʃʷì] 'fluted pumpkin'
[ákóréɸɔ́] 'intestine'	[èʃʷè] 'afternoon'
[ɸò] 'peel'	[ʃʷɔ̀] 'dissolve or loosen'

The sound [ɸ] in Ikwo dialect can occur anywhere. The sound [ʃʷ] cannot occur before [u] or [ʊ].

[f] and [v] are labiodental fricatives. While [f] is voiceless, [v] is voiced. They occur as in;

[f], voiceless labiodental fricative	[v], voiced labiodental fricative
[fɔ́tá] 'choose'	[ívú] 'load'
[lɔ́fɔ́ta] 'come out'	[úkúvú] 'shoulder'
[áfà] 'year'	[mvɔ́] 'nail'
[éférè] 'plait'	[vɪ́rɪ́vɪ́rɪ́] 'tiny'
[fírítá]'bend down'	[óvóvóʃɪ́] 'act speedly'

These sounds can occur in any permissible vowel environment in Igbo language.

[s] and [z] are alveolar fricatives. While [s] isvoiceless, [z] is voiced. They occur as in;

[s], voiceless alveolar fricative	[z], voiced alveolar fricative
[ńsò] 'hole'	[ɔ́zɔ́] 'fertilizer'
[ésózɔ́] 'road'	[zà] 'answer'

[nsɔ] ‘holiness’ [ézè] ‘king’
[ɔsɔ] ‘running’ [àzò] ‘back’
[sà] ‘wash’ [zɛ̀] ‘lie down’

The sounds [s] and [z] cannot occur in the environment before [u].
[ʃ] and [ʒ] are post alveolar fricatives. While [ʃ] is voiceless, [ʒ] is voiced. They occur as in;

[ʃ]	[ʒ]
[ɛɲánʃí] ‘night’	[ózí] ‘message’
[mgbáʃí] ‘owl’	[ézí] ‘pig’
[nʃì] ‘feces’	[ézíópfú] ‘truth’
[íʃí] ‘head’	[ʒì] ‘send’
[ɛ̀gbʊ́ʃì] ‘hair’	[ʒìtà] ‘steal’

The post alveolar fricatives [ʃ] and [ʒ] occurs before the high front unrounded vowels, [i] and [ɪ] in this dialect.
[ɣ] and [h] are fricatives, while [ɣ] is a voiced velar fricative, [h] is a voiceless glottal fricative. They occur as in;

[ɣ] is a voiced velar fricative.	[h] is a voiceless glottal fricative.
[éɣú] ‘goat’	[óhù] ‘slave’
[ɣò] ‘bath’	[nʷòhò] ‘die’
[ɛ̀ɣìrɪ́ɣá] ‘mixed’	[hà] ‘leave someone/ something’
[óɣɔ̀] ‘deceit’	[hɛ̀] ‘give out a portion of something’
[ɣé] ‘fry’	[hètà] ‘carry a baby’

This sound can occur in any permissible consonant environment in Igbo language. However, [h] cannot occur before the high front unrounded vowel, [i and ɪ] in Ikwo.
[pf] and [bv] are labiodental affricates. While [pf] is voiceless, [bv] is voiced. They occur as in;

[pf]	[bv]
[nʧípfú] ‘god’	[ɔ̀bvù] ‘drug’
[ópfú] ‘speech’	[óbvú] ‘thorn’
[épfònà] ‘nest’	[úbvú] ‘mountain/hill’
[ókérépfú] ‘rat’	[ébvù] ‘music’
[mbèpfú] ‘tortoise’	[mkpátámébvò] ‘ampit’

These labiodental fricatives occur before the back, high vowel [u and ʊ] in this dialect.
[ts] and [dz] are alveolar affricates. While [ts] is voiceless, [dz] is voiced. They occur as in;

[ts]	**[dz]**
[étsé] ‘gum’	[ódzú] ‘copse’
[útsù] ‘penis’	[ɔ́dzò] ‘pestle’
[étsúnʷàrì] ‘millipede’	[dzà] ‘plant by root’
[òtsɔ́] ‘taste’	[dzètà] ‘acquire’
[tsɪ́rɪ́tá] ‘bend down’	[ídzírí] ‘when crop/plant is much in a place.

This sound can occur in any permissible consonantal environment in Igbo language.
[tʃ] and [dʒ] are post-alveolar affricates. While [tʃ] is voiceless, [dʒ] is voiced. They occur as in;

[tʃ]	**[dʒ]**
[nʧí] ‘grass cuter’	[dʒé] ‘go’
[oʧé] ‘length’	[dʒàbè] ‘tie rope over for signal’
[ɔʧì] ‘laughter’	[ódʒì] ‘fork’
[ɔ̀bálɔʧɛ̀ʧɛ̀] ‘cockroach’	[ɔ́dʒí] ‘cola’
[[tʃɔ̀] ‘find’	[ndʒɔ́] ‘bad’

These sounds cannot occur before the high back vowels, [u] and [ʊ].
[l] and [ɹ] are voiced alveolar consonants. While [l] is a voiced alveolar lateral approximant, [ɹ] is voiced alveolar flap. They occur as in;

[l] voiced alveolar lateral approximant.	**[ɹ] is voiced alveolar flap.**
[ǹgèlè] 'small flowing body of water'	[éɹú] 'mushroom'
[ólɔ̀] 'house'	[ákpóɹó] 'fruit'
[ógólógó] 'tall'	[ɹí] 'eat'
[àlì] 'land'	[ɹé] 'sell'
[òmélɛ́hó] 'sickness'	[ɹá] 'rape'

These sounds can occur in any permissible consonantal environment in Igbo.
[m] and [n] are both voiced nasal consonants. While [m] is a voiced bilabial nasal sound, [n] is a voiced alveolar nasal. They occur as in;

[m]	**[n]**
[m̀míní] 'water'	[m̀míní] 'water'
[m̀màmíɸé] 'wisdom'	[ǹtánó] 'water'
[ókpòmɔ̀kù] 'heat'	[ùrɛ́ɲánʃĩ] 'evening'
[òmélɛ́hó] 'sickness'	[ḿkpákpándó] 'stars'
[m̀kpátámébvò] 'armpit'	[nɔ̀dò] 'sit'

These sounds can occur in any permissible consonantal environment in Igbo.
[ɲ] and [ŋ] are voiced nasal sounds, while [ɲ] is a voiced palatal nasal, [ŋ] is a voiced velar nasal. They occur as in;

[ɲ] is a voiced palatal nasal sound.	[ŋ] is a voiced velar nasal.
[ɲóbé] 'to lie somebody down'	[ŋó] 'drink'
[ɲí] 'climb'	[ŋè] 'cross'
[ŋʷáɲí] 'woman'	[ɔɸóŋó] 'new'
[ǹɲé] 'wife/ female'	[ódʒíŋú] 'black'
[ɔ̀ɲà] 'trap'	[éŋó] 'bee'

The sound [ɲ] cannot occur before the high back vowels, [u] and [ʊ]. However, [ŋ] cannot occur before [o and ɔ], and [i and i̱] in this dialect.
[ŋʷ] and [Θ] are voiced consonants. While [ŋʷ] is a voiced labialized-velar nasal, [Θ] is a voiced bilabial click. They occur as in;

[ŋʷ] is a voiced labialized-velar nasal.	[Θ] is a voiced bilabial click.
[éŋʷóró] 'smoke'	[Θà] 'tie'
[ɔ́ŋʷá] 'moon'	[áΘáΘá] 'wash'
[ŋwérú] 'own'	[Θó] 'mould'
[ŋʷóké] 'male'	[Θè] 'mould for'
[ŋʷi̱ríŋʷi̱rí] 'sun fly'	[ΘɔmΘɔm] 'ideophonic expression of tallness'
[ŋʷè] 'anything'	[óΘá] 'remainder'

[ŋʷ] can occur in any permissible consonantal environment in Igbo. [Θ] cannot occur before the high front unrounded vowel, [i and i̱] in Ikwo.

[j] and [w] are voiced semi-vowels. While [j] is a voiced palatal semi-vowel, [w] is a voiced labialized velar semi-vowel. They occur as in;

[j] is a voiced palatal semi-vowel.	[w] voiced labialized velar semi-vowel.
[ójí] 'cold'	[wòtà] 'bring/take'
[jékʷá] 'add'	[ówíríwó] 'bitter cola'
[jà] 'suffer'	[íwé] 'anger'
[jɔ̀] 'sieve'	[òwà] 'world'
[ɔ̀jì] 'friend'	[èwò] 'grass'

[j] cannot occur before the high back vowels, [u] and [ʊ]. However, [w] can occur in any permissible consonantal environment in Igbo.

Patterns of articulation of the observed consonant sounds in Ikwo

There are three branches of phonetics. Here our focus is on articulatory phonetics, based on the place and manner of articulation of Ikwo consonantal sounds with the state of the Glottis. (See [13], [14], [15], for more details)

Manner of articulation

Manner of articulation covers both the degree and extent of a constriction and the way the constriction is formed in the vocal tract [16].

Stops

A stop is produced by the formation and rapid release of a complete closure at any point in the vocal tract from the glottis to the lips. (For more details see [17].

Plosive sounds in Ikwo dialect are; [p], [b], [t], [d], [k], [g], [kp], [gb], [kw], [gw].

Affricates

If after a complete closure, there is a gradual release of the obstruction we have affricate sounds. The affricates in Ikwo dialect are; [ʧ], [ʤ], [pf], [bv], [ts], [dz].

Fricatives

A fricative is a stable articulation produced by a constriction in the vocal tract that is narrow enough to create turbulent airflow. This noise of the turbulence modified by the effects of the vocal tract shape accords a fricative the characteristics of a hissing or sibilant quality.

The fricatives in Ikwo dialect are; [f], [v], [s], [z], [ʃ], [ɣ], [h], [ɸ], [ʒ], and [ʃʷ].

Nasals

The nasals can be considered as stops; because the airflow is blocked at some point in the oral cavity, at the same time, while the velum is lowered to allow airflow through the nasal cavity. The sounds are therefore, perceived as potentially stable and continuous rather than as stops in the true sense. The nasal sounds in Ikwo dialect are as follows; [m], [n], [ŋ], [ɲ], [ŋw].

Approximants

An approximant has a stable articulation in which the constriction is normally greater than in a vowel, but not enough to produce turbulence at the point of constriction. We have the central and lateral approximants. The central approximant is; [ɹ]. The lateral approximant is [l].

Clicks

Clicks are obstruent articulated with two closures (points of articulation) in the mouth, one forward and one at the back. The enclosed pocket of air is rarefied by a sucking action of the tongue. In Ikwo dialect, we have the labial click, written with a bull's eye, [ʘ]. These are lip-smacking sounds, but without the pursing of the lips found in a kiss.

Semi-vowels

Semi-vowels are vowel-like consonants. This is because the airflow is not stopped or impeded so as to cause a friction sound, but the aperture through which the air passes is smaller than the aperture of any vowel. In Ikwo dialect, we have these semi-vowels, [w], [j].

Flap

In the production of a flap sound, the active articulator strikes the passive articulator in passing manner not so much to create a brief closure but more as the incidental effect of the articulatory gesture. The most common flaps are the ones in which the tongue strikes the alveolar ridge in passing. The flap [ɹ], exist in Ikwo dialect.

Places of articulation

Bilabials

Sounds produced involving the two lips are referred to as bilabial sounds. The bilabial sounds observed in Ikwo dialect are; [p], [b], [m], [ʘ], and [ɸ]. In producing [p and b] the two lips strikes together. However, in producing [pʲ and bʲ], after the striking together of the lips, a secondary articulation is made between the back of the tongue and the palate. [pʲ and bʲ] are not phonemic sounds so, we shall not talk much about them.

In producing the bilabial click [ʘ], it involves two closures (points of contacts) in the mouth, one forward and one at the back. The one forward involves the smacking of the lips. It produced with lingual ingressive airstream mechanism. Another sound involving the lips is the bilabial fricative [ɸ].

Labiodentals

These are sounds produced with the lips articulating with the teeth. The observed labiodental sounds in Ikwo are; [f], [v], [pf], [bv].

Apico-alveolar

These are sounds produced with the tongue tip and alveolar region. Examples of such sounds observed in Ikwo dialect are; [t], [d], [ɹ], [ts], [dz]. The sounds [ts and dz] involves double articulation. The tongue tip first makes a contact with the alveolar, while releasing the contact the tongue body makes another contact with the alveolar region.

Lamino-alveolar

These are sounds produced with the tongue blade and alveolar region. Examples of the lamino-alveolar sounds observed in Ikwo dialect are; [s], [z], [ts], [dz], [l], [n].

Lamino-postalveolar

This describes sounds produced with the tongue blade and postalveolar region. Example of such sounds observed in Ikwo dialect are; [ʃ], [ʒ], [tʃ], [dʒ].

Labialized post-alveolar

Labialized post-alveolar sound [ʃʷ] is a sound produced with the tongue body trying to make a contact with a point after the alveolar and before the palate, which involves the rounding of the lips as well.

Lamino-palatal

Describes sounds produced involving tongue blade and palatal region. They are [pʲ], [bʲ], [ɲ],[j].

Velar

This describes sounds produced with the tongue body and soft palate. They are; [k], [ɡ], [ɣ], [ŋ].

Labio- velar

These are sounds produced involving the striking together of the two lips, and the tongue body trying to make a contact with the soft palate. They are; [k͡p], [ɡ͡b].

Labialized velar

These are sounds produced with the tongue body and the soft palate involving the rounding of the lips. They are; [kʷ], [gʷ], [ŋʷ], [w].

Glottal

Describes sounds produced with the glottis (vocal folds). We have [h].

Not all the identified sounds are phonemic in this dialect. The phonemic sounds were identified using the minimal pairs and represented in the chart as you will see below.

Data arranged in minimal pairs to show ikwo phonemes

1. ébébé /ébébé/ 'slicing'
   Épépé /épépé/ 'half'
2. Ibo /íbó/ 'door'
   Igbo /ígbó/ 'ridge'.
3. Chè /ʧè/ 'throw inside'
   Sè /sè/ 'draw'
4. Du /dù/ 'lead'
   Tu /tù/ 'to plant'
5. Ọdzụ /ɔ́dzɔ̀/ 'tail'
   Ọdụ /ɔ́dɔ̀/ 'to stay for long'
6. Pẹ /Pè/ 'carry and give'
   Pe /pè/ 'to cut yam'
7. Feta /fètà/ 'to uproot'
   Sweta /ʃʷètà/ 'pass'
8. Gebe /gébé/ 'hang'
   Tebe /tébé/ 'to cook soup'
9. Egbe /égbè/ 'gun'
   Ekpe /ékpè/ 'boundry'
10. Oghu /óɤù/ 'a kind of snake'
    Obu /óbù/ 'heart'
11. Ogvu /óbvú/ 'thorn'
    Ogu /ógú/ 'Insect'
12. Ụgwọ /ógwɔ́/ 'debt'
    Ụgbọ /ógbɔ́/ 'boat'
13. Ohu /óhù/ 'slave'
    Obu /óbù/ 'heart'
14. Rị /ɹí/ 'crawl'
    Ri /ɹí/ 'eat'
15. Ọji /ɔ́ʤí/ 'cola'
    Ọchị /ɔ́ʧĩ/ 'Darkness'
16. Oku /òkù/ 'call'
    Ogu /ògù/ 'Bamboo'
17. Okfu /ópfú/ 'speech'
    Ogvu /óbvú/ 'thorn'
18. Ọkpụ /ɔ́kpʊ́/ 'bone'
    Ọgbụ /ɔ́gbʊ́/ 'a vegetable tree'
19. Ọkwa /ɔ́kwá/ 'chopping board'
    Ọba /ɔ́bá/ 'barn'
20. Olu /ólú/ 'neck, voice'
    okfu /ópfú/ 'speech'
21. Mụ /mɔ̀/ 'learn'
    Nụ /nɔ̀/
22. Ẹnụ /éŋʊ́/ 'bee'
    Ẹnụ /énʊ́/ 'hole'
23. Nma /Θà/ 'tie'
    Ma /mà/ 'measure'
24. Nwụta /ŋwʊ́tá/ 'catch'

Nụta /nʊ́tá/ ‘hear’
25. Inyi /íɲí/ ‘dirt’
Iyi /íjí/ ‘river’
26. Gbo /gbò/ ‘to stop something’
Gbọ /gbɔ̀/ ‘to vomit’
27. Opu /ópù/ ‘horn’
Obu /óbù/ ‘parlour’
28. Pata /pàtà/ ‘carry’
kata /kàtà/ ‘answer correctly’
29. Phẹ /ɸè/ ‘to roll out and give’
Pẹ /pè/ ‘to carry and give’
30. Ọswa /ɔ́ʃʷá/ ‘forest’
Ọsa /ɔ́sá/ ‘comb’
31. Tọ /tɔ̀/ ‘thicken’
Tsọ /tsɔ̀/ ‘to deep’
32. Vụta /vòtà/ ‘uproot’
Wụta /wòtà/ ‘to take water’
33. bvú /bvú/ ‘dig’
Pfú /pfú/ ‘say’
34. ngụ́ /ŋʊ́/ ‘drink’
Nụ́ /nʊ́/ ‘give’
35. Yeru /jéɹʊ̄/ ‘put for’
Zeru /zéɹʊ̄/ ‘to stay away from’
36. shi /ʃí/ ‘cook’
Ri /ɹí/ ‘eat’
37. zh /ʒì/ ‘send’
Di /dì/ ‘endeure’

From the above minimal pairs we were able to identify 36 consonantal phonemes.

Table 1: The consonantal phonemic chart of Ikwo dialect of Igbo

Place / Manner	Bilabial	Labio-dental	Alveolar	Post-alveolar	Labial-ized post-alveolar	Palatal	Velar	Labio-velar	Lab-ialized velar	**Glott**al
Plosives	p b		t d				k g	kp gb	kʷ gʷ	
Affric-ates		pf bv	ts dz	ʧ ʤ						
Frica-tives	φ	f v	s z	ʃ ʒ	ʃʷ		ɣ			h
Late-ral aproxi-mant			l							
Flap			ɹ							
Nasal	m		N			ɲ	ŋ		ŋʷ	
Click	ʘ									
Semi Vowels						j			w	

In the chart, the sounds to the left are voiceless while, the sounds at the right are voiced sounds.

We would have shown the distinctive features of these phonemes but because of space, the distinctive features of these sounds, can be inferred from the chart.

The analysis of Ikwo vowel phonemes

They are speech sounds produced with a free flow of air in the mouth. [18] sees vowels as a modification of a voiced sound that involves no closure, friction, or contact between the passive and active articulators.

Ikwo dialect features vowel harmony with two sets of oral vowels distinguished by pharyngeal cavity size described in terms of retracted tongue root (RTR). Therefore, we have the heavy and light vowels. Remember, vowel sounds are classified based on the following factors:

1. Height of the tongue in the mouth (high, mid-high, mid-low, and low)
2. Portion of the tongue (front, centre and back)
3. The shape of the lips (rounded and unrounded).

The observed vowel phonemes in Ikwo dialect

The observed vowel sounds in Ikwo dialect from the data are; [a], [e], [ɛ], [i], [ɪ], [o], [ɔ], [ə], [u], [ʊ].

[i] and [ɪ] are high front unrounded vowels. While [i] is a heavy vowel, [ɪ] is a light vowel. They occur as in;

[i]	[i]
[ímí] 'nose'	[i̩ŋà] 'horse'
[íʃí] 'head'	[ą́ŋ́i̩ŋ́i] 'purging'
[íɾí] 'ten'	[à̩l̩i̩] 'land'
[íte̋] 'pot'	[mi̩tà] 'bear'

[u] and [ʊ] are high back rounded vowels. While [u] is heavy, [ʊ] is a light vowel. They occur as in;

[u]	**[ʊ]**
[úfú] 'home'	[ólɔ̀] 'house'
[úɹù] 'gain'	[mó] 'give birth'
[úmé] 'strength'	[ò dɔ̀] 'rope'
[íɸùɹà] 'theif'	[ózɔ̀] 'raod'

[e] and [o] are mid-high heavy vowels. While [e] is a front, and unrounded vowel, [o] is a back, and rounded vowel. They occur as in;

[e]	[o]
[éʒì̩] 'pig'	[óɸé] 'soup'
[épépé] 'half'	[ó̩ʃí] 'seat'
[mé] 'do'	[ómé] 'germinated leaf'
[ḿmé] 'blood'	[ò dódó] 'yellow'

[ɛ] and [ɔ] are mid-low light vowels. While [ɛ] is a front vowel and unrounded, [ɔ] is a back vowel and rounded. They occur as in;

[ɛ]	[ɔ]
[ɛ́kʷɔ́] 'book or leaf'	[ɛ́kʷɔ́] 'book or leaf'
[ɛ́ká̩lí] 'branch'	[ɛ́pɔ́tɔ̀] 'mud'
[ɛ́pɔ́tɔ̀] 'mud'	[á̩kɔ́] 'story'
[ùɾɛ́ŋ́nánʃĩ] 'evening'	[ɔ́dzò] 'pestle'

[a] is a front low vowel. It occurs as in;
[áfà] 'year'
[ǹtánó] 'today'
[óŋ́á̩ɸòà] 'yesterday'
[ùɾɛ́ŋ́nánʃĩ] 'evening

[ə] is a schwa sound. It occurs as in;
[ɛ́kə́] 'hand'
[ɛ́gə́] 'like this'

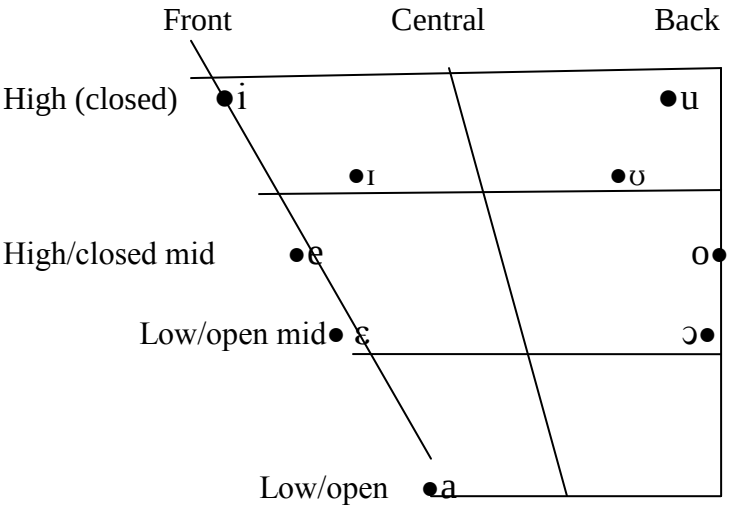
The schwa sound occurs in this dialect by a mere chance because there are not enough data to show its occurrences. However, it occurs whenever a vowel sound is occurring at utterance end before the velar stop [k] and [g]. We shall not talk about this sound here because it is not phonemic in the dialect.

We identified 9 phonemic vowel sounds using minimal pairs which are represented in the chart below.

1. ẹka /ɛ̀kà/ "maggot"
   ẹkụ /ɛ̀kò/ "wealth
2. Pẹ /Pɛ̀/ 'carry and give'
   Pe /pè/ 'to cut yam'
3. nyi /ɲí/ 'climb'
   nyi̩ /ɲí/ 'release excreta from the body like; feces, urine, or fart.'
4. kota /kó̩tá/ ' to bring out something hanged to a position'
   kọta /kɔ́tá/ ' to use spoon to take a portion of something'

5. ru /rú/ 'to walk in water'
   rụ /ró/ 'to work'

Fig 1: T1 The Ikwo vowel chart



When you look at the chart above, you will observe that all the front vowels are unrounded but, the back vowels are rounded.

Consonantal phonemic segments of standard Igbo dialect.

Standard Igbo dialect has twenty-eight (28) consonantal phonemes. (For more details, see [18], [19], [20] [21]. The consonants with their distinctive features can be seen in the chart below;

Table 2: The consonant chart of Standard Igbo

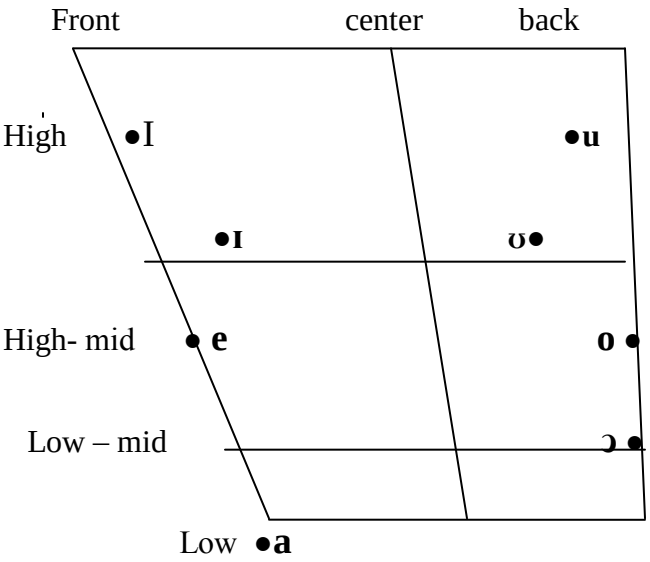
Place / Manner	Bilabial	Labio-dental	Alveolar	Post-Alveolar	Palatal	Velar	Labial velar	Labialized velar	Glottal
Plosive	p b		t d			k g	k͡p g͡b	kw gw	
Fricatives		f v	s z	ʃ		ɣ			h
Affricates				ʧ ʤ					
Nasals	m		N		ɲ	ŋ		ŋw	
Flap			ɾ						
Lateral approximant			L						
Semi vowel					J			w	

The sounds to the left are voiceless while the sounds to the right are voiced.

The description of standard Igbo vowel phonemes

Many scholars have shown that the Standard dialect of Igbo has eight (8) vowel phonemes. The chart below shows the vowel sounds of the Standard Igbo based on Ikekeonwu (1999).

Fig 2: T1 The standard Igbo vowel chart



1. At segmental level, the phonemes of Standard Igbo and Ikwo are the same, except that the Ikwo has 9 additional phonemes. The additional consonantal phonemes in Ikwo dialect are; /pf/, /bv/, /ts/, /dz/, /ɸ/, /ʒ/, /ʃʷ/, /Θ/.

Features of the observed additional sounds in Ikwo dialect

The features of the sounds [pf] and [bv]

1. Their manner of articulation is affricate, which means they are produced by first stopping the airflow entirely, then allowing airflow through a constricted channel at the place of articulation, which causes turbulence. They have two important stop components;
   - Bilabial; it is articulated with both lips.
   - Labiodental; it is articulated with the lower lip and the upper teeth.
2. The fricative component of these affricates is labiodental, they are articulated with the lower lip and the upper teeth.
3. While the phonation of [pf] is voiceless, the phonation of [bv] is voiced.
4. They are oral consonant, which means air is allowed to escape through the mouth only.
5. They are central consonant, meaning that they are produced by directing the airstream along the centre of the tongue not the sides.
6. The airstream mechanism is pulmonic, which means they are articulated by pushing air solely with the lungs and diaphragm, just like in most sounds.

The features of the sound [ts] and [dz]

1. Their manner of articulation is affricate, which means they are produced by first stopping the airflow entirely, then allowing air flow through a constricted channel at the place of articulation which causes turbulence
2. The place of articulation is alveolar, which means they are articulated with either the tip or the blade of the tongue at the alveolar ridge, called respectively apical and laminal.
3. While the phonation of [ts] is voiceless, the phonation of [dz] is voiced (which means the vocal cords vibrate during its articulation.).
4. They are oral consonants, which means that air is allowed to escape through the mouth only.
5. They are central consonant, meaning that they are produced by directing the airstream along the centre of the tongue not the sides.
6. The airstream mechanism is pulmonic, which means they are articulated by

pushing air solely with the lungs and diaphragm, just like in most sounds.

The features of the sound [ɸ]

This sound is a fricative, articulated with the lips. Its phonation is voiceless.

The features of the sound [ʒ]

1. Its manner of articulation is sibilant fricative, which means it is generally produced by channeling air flow along a groove in the back of the tongue up to the place of articulation, at which point it is focused against the sharp edge of the nearly clenched teeth, causing high frequency turbulence.
2. Its place of articulation is palato-alveolar, which means it is articulated with the tongue blade behind the alveolar ridge, and the front tongue bunched up at the palate.
3. This is a central, oral consonant with a pulmonic airstream mechanism, which has a voiced phonation.

The features of the sound [ʃʷ]

1. Its manner of articulation is sibilant fricative, which means it is generally produced by channeling air flow along a groove in the back of the tongue up to the place of articulation, at which point it is focused against the sharp edge of the nearly clenched teeth, causing high frequency turbulence.
2. Its place of articulation is palato-alveolar, which means it is articulated with the tongue blade behind the alveolar ridge, and the front tongue bunched up at the palate.
3. Its phonation is voiceless.
4. It is an oral consonant, which means air is allowed to escape through the mouth only.
5. It is central consonant.
6. The airstream mechanism is pulmonic.
7. It is labialized, which means it is articulated with the back part of the tongue raised toward the soft palate while rounding the lips in an approximation.

The features of the sound [Ɵ]

a. The airstream mechanism is lingual ingressive (also known as velaric ingressive), which means a pocket of air trapped between two closures is rare field by a sucking action of the tongue, rather than being moved by the glottis or lungs/diaphragm.

b. Its place of articulation is bilabial, which means it is articulated with both lips, and Its phonation is voiced.

2. It is observed that whenever the sound /h/ occur before the vowels [i] and [ɪ] in Standard Igbo, the sound /h/ changes to the sound /ʃʷ/ in Ikwo dialect. Instances of /h/ in Standard Igbo changing to /ʃʷ/ are;

Table 3: Change of /h/ in standard Igbo to /ʃʷ/ in Ikwo

Standard Igbo	Ikwo	Gloss
Éhí	éʃʷí	horse
Áhíhíá	éʃʷá	grass
óhị̀	óʃʷì	fluted pumpkin
áhíá	áʃʷá	market

3. Whenever the voiceless, labialized, velar, consonantal sound [kʷ] occurs before the vowels [u] and [ʊ] in Standard Igbo, the sound [kʷ] changes to a voiceless labiodental affricate [pf] in Ikwo dialect. However, whenever the sound [kʷ] occurs in other environment in Standard Igbo, it remains the same [kʷ] in Ikwo dialect. For instance

Table 4: Change of /kʷ/ in standard Igbo to /pf/ in Ikwo

STANDARD IGBO	IKWO DIALECT	GLOSS
ókʷú	ópfú	speech
ɔ́kʷá	ɔ́kʷá	position
ɔ́kʷòrò	ɔ́pfòrò	okra
úkʷù	úpfù	waist

4. Whenever the voiced, labialized, velar consonant [gʷ] occurs before [u] or [ʊ] in Standard Igbo dialect, it changes to a voiced, labiodental, affricate [bv] in Ikwo dialect. Instances are

Table 5: Change of /gʷ/ in standard Igbo to /bv/ in Ikwo

STANDARD IGBO	IKWO DIALECT	GLOSS
ɔ́gʷɔ̀	ɔ́bvɔ̀	drug
ógʷú	óbvú	thorn
úgʷú	úbvú	Hill or mountain
ógʷɔ́	ógʷɔ́	payment
àgʷà	àgʷà	Character

5. Whenever the sound [z] occurs in Standard Igbo before the high, back, rounded, and heavy vowel, [u] , the sound [z] becomes [dz] in Ikwo. However, if the vowel after dz is i/i̩ in Ikwo dialect, then [dz] automatically becomes [ʒ]. Look at the table below.

Table 6: Change of /z/ in standard Igbo to /dz/ in Ikwo

STANDARD IGBO	IKWO	GLOSS
zùtèrè	ʒítáɹó	stole
zùrù	dzúɹú	General/everywhere
ózú	ódzú	corpse
zùkòtàɹà	dzúkótáɾú	gather
ézì	éʒì	pig

6. Whenever the sound [s] and [z] occur in Standard Igbo before [i] or [i], the consonants [s] becomes [ʃ], while [z] becomes [ʒ] in Ikwo dialect. See instances below.

Table 7: Change of /s/ in standard Igbo to /ʃ/ in Ikwo

STANDARD IGBO	IKWO	GLOSS
ísí	íʃí	head
ńsí	ńʃí	faces
ńsí	ńʃí	poison
ósísí	óʃí	tree

Table 8: Change of /z/ in standard Igbo to /ʒ/ in Ikwo

STANDARD IGBO	IKWO	GLOSS
zìɹì	ʒíɾù	sent
ézì	éʒì	pig
ózí	óʒí	message
zìá	ʒìá	send

8. whenever the voiceless alveolar fricative [s] occur in standard Igbo before the high back heavy vowel [u], the consonant [s] becomes a voiceless alveolar affricate [ts] in Ikwo. Instances

Table 9: change of /s/ in standard Igbo to /ts/ in Ikwo

STANDARD IGBO	IKWO	GLOSS
ɔ́sɔ́	ɔ́tsɔ́	egwusi soup thickner
sɔ́ɔ̀	tsɔ́	pound
ésú	Étsé	gum

9. Standard Igbo and Ikwo has the same tonal pattern. However, the Ikwo dialect, is spoken very fast and utterances in Ikwo are ended more abruptly than in Standard Igbo.

From the above analysis, the similarities and dividing strands between Standard Igbo dialect and Ikwo were made obvious. Therefore, we shall not go back to that because of space.

CONCLUSION

This work so far has dealt with the comparison of the sound structures of Standard Igbo and Ikwo dialects of Igbo. We discovered that although the both dialects share a great height of similarities, they still have some differences existing between their sound structures [22] [23].

We discovered that the Standard Igbo dialect has twenty-eight (28) consonantal phonemes, and eight (8) vowel phonemes, making a total number of thirty-six (36) phonemes. However, the Ikwo dialect of

Igbo has thirty-six (36) consonantal phonemes, and nine (9) vowel phonemes, making forty-five (45) phonemes in Ikwo dialect of Igbo. The Ikwo dialect has an additional vowel segment /ɛ/, while other vowel sounds remain the same as the existing eight vowel phonemes of the Standard Igbo. It was also observed that the schwa sound /ə/ occur by a mere chance in Ikwo dialect as a result of the shortening of the length of vowels occurring at utterance ends. For now, we cannot regard the schwa /ə/ sound as a phonemic sound but rather as a phonetic sound since we have limited words showing the sound [24] [25]. Most importantly, it cannot be used as a minimal pair, which shows it is not phonemic in the dialect. The vowel phoneme, /ɛ/ also occurs in Izhi dialect, Ezza dialect, Ezzamgbo dialect, Nsukka dialect, Afikpo dialect, Ohozara dialect, and Enugwu-Ezike etc.

There are some observed consonantal phonemes existing in the Ikwo dialect, which do not exist in Standard Igbo dialect. They are; /pf/, /bv/, /ts/, /dz/, /ɸ/, /ʒ/, /ʃʷ/, /Ɵ/. These consonantal sounds occur in most dialects spoken in Ebonyi state like; Izhi, Ezza, Ezzamgbo, and Ohozara dialects [26].

Whereas certain phonemes occur in some environments in Standard Igbo, they assume different forms in Ikwo.

We have discovered that the Ikwo dialect is spoken very fast. Because of the fastness in speaking the Ikwo dialect, the last vowel segments at utterance ends are usually elided or partially produced.

Irrespective of the observed differences between the sound structure of Standard and Ikwo Igbo, it is observable that there is mutual intelligibility between the two dialects. Whereas an Ikwo speaker can easily understand the Standard Igbo dialect, a speaker of Standard Igbo without the knowledge of Ikwo may find it more difficult to understand Ikwo because of the additional sounds and fastness of utterances in Ikwo [27].

Although many doubt the possibility of Ikwo dialect being a dialect of Igbo language, this research clearly proved that Ikwo is a dialect of Igbo language.

Since Igbo language has a phonemic based orthography, I would recommend a mordification of Igbo orthography to include some important significant sounds existing in the language which has been neglected over time in the standard dialect. Most the additional sounds identified in Ikwo dialect, exist in many other dialects of Igbo language. For instance, in standard Igbo dialect, the sound /ɛ/ is not represented in its orthography and vowel chart, but we frequently use this vowel sound in most dialects including the Standard Igbo dialect. Example; names of places like; /ɛ̀bɔ̀ɲì/ state and /ɛ̀zaǎ/ local government.e.tc. I therefore, encourage linguists to research more into the dialects of Igbo language to know the structure of these dialects beginning from the orthographic, phonological, morphological, and lexical, to the pragmatic form of these dialects in other to foster the development of Igbo language [28].

REFERENCES

1. Aloh, J. E. (2014). *Ikwo man in his community*. Abakaliki, Nigeria: Omega Press.
2. Anagbogu, P.N., Mbah, B.M & Eme, C.A. (2010). *Introduction to linguistics*. Awka: Amaka *and Afikpo Dialects*. B.A Thesis department of linguistics and other
3. Campbell, L. (2004). *Historical linguistics: An introduction*. Cambridge: MIT
4. Chinagọrọm, L. C. (2013). *Uru ezi akanka n'agụmagụ Igbo ugbua*. Owerri: I-O Press..
5. Chomsky, N. (1957). *Syntactic structures*. The Hague: Mouton.
6. Chomsky, N., & Halle, M. (1968). *The sound pattern of English*. New York: Harper and Row.
7. Clerk, J., & Colin, Y. (1995). *An Introduction to phonetics and phonology*. Oxford: Blackwell. department of linguistics & Nigerian languages University of

Nigeria Nsukka. Department of Linguistics & Nigerian Languages University of Nigeria, Nsukka. *dialect.* B. A thesis department of linguistics & Nigerian languages University of Dreams.

8. Emenanjọ, E.N. (1978). *Elements of modern Igbo grammar*. Ibadan, Nigeria: Oxford.
9. Ezi, H. E. 2001). *Comparative study of Standard Igbo dialect and Obinofia dialect.* B. A thesis
10. Gleason, H.A. (1969). *An introduction to descriptive linguistics.* London: Rinehart and Winston.
11. Goldsmith, J. A. (1976). *Autosegmental Phonology.* New York: Garland Press
12. Guddrnhoven, C., & Jacobs, H. (2005). *Understanding phonology*. London: Hodder Arnold.
13. Hooper, J. B. (1976). *An introduction to natural generative phonology*. New York:
14. Hyman, L. M. (1975). *Phonological theory and analysis*. New York: Holt, Richard and Winston.
15. Ikekeonwu, C. I. (1987). *Igbo Dialect Clusters: A Classification.* Seminar paper,
16. Isichie, E. (1976). *A History of Igbo People*. London: Macmillan Press.
17. Katamba, F. (1989). *An introduction to phonology*. London: Longman.
18. Kenstowicz, M. (1994). *Phonology in generative grammar*. Cambridge: Blackwell.
19. Ladefoged, P. (1975). *A course in phonetics*. New York: Harcourt Brace.
20. Mbah, B.M. & Mba, E.E. (2010). *Topics in Phonetics and Phonology*: Nsukka: AP Express
21. Mbah, B. M. & Mbah, E.E.(2014). *Atụtụ amụmamụ asụsụ*. Enugu: Ọsụụ ududo publishers.
22. Ngwa, C. I. (2002). *Comparative study of the phonology of standard Igbo and Akụ dialect*. B. A Nigeria Nsukka. Nigerian Languages, University of Nigeria Nsukka.
23. Nwadike, I.U. (2012). *Igbo language in education*. Anambra, Nigeria: Pacific College press.
24. Nwobu, C. (1995). *Comparative study of the several segments of Awka and Standard Igbo*
25. Nwozuzu, G. I. (2008). *Dialects of the Igbo language*. Nsukka: University of Nigeria press.
26. Nwozuzu, G.I. (2017). *Dialects of Igbo language.* Nsukka: MEKYNO Computer Ventures. Publishers.
27. Sommerstein, H.A. (1977). *Modern phonology*. London : Edward Arnold. thesis department of Linguistics & Nigerian languages University of Nigeria Nsukka.
28. Uche (1993). *A Comparative Assessment of Lexicostatistical Analysis of Abakaliki*