

COMPARATIVE ANALYSIS OF EDO AND IKWERRE SOUND SYSTEM



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CERTIFICATION

This is to certify that this research was duly carried out and submitted by **CHUKUNDAH PRECIOUS ABOSEDE** with Matric Number **ART12004711** in the Department of Linguistics Studies, Faculty of Arts, University of Benin, Benin City, in partial fulfilment of the requirement for the Award of Bachelor of Arts (B.A) Degree in Linguistics Studies.

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PLAGIARISM PAGE

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Date

DEDICATION

I dedicate this research to Almighty God, whose wisdom, strength, and guidance have sustained me throughout this journey. His grace has been my source of inspiration, and His blessings have made this work possible. All glory and honor belong to Him.

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ABSTRACT

This study presents a comparative phonological analysis of Edo and Ikwerre, two Niger-Congo languages spoken in Edo State and Rivers State, Nigeria, respectively. While both languages share historical and typological connections within the Niger-Congo family, their phonological systems exhibit significant differences in segmental features, phonotactic structures, and phonological processes. The study aims to identify and analyze these differences and similarities, focusing on their consonantal and vowel inventories, phonological rules, and prosodic features. The study adopts Comparative Phonology (Hyman, 1975) as its theoretical framework, providing a systematic approach to examining the phonological structures of the two languages. Data were collected through primary sources from native speakers and secondary sources from previous linguistic research. The analysis reveals that Edo employs Advanced Tongue Root (ATR) vowel harmony, while Ikwerre exhibits nasalization and prenasalized consonants. Ikwerre's phonology is characterized by aspirated stops and glottalized sounds. Additionally, phonological processes such as assimilation, vowel harmony operate differently in both languages, further highlighting their phonological distinctiveness. The findings contribute to the classification of Edo as an Edoid language and Ikwerre as an Igboid language, reinforcing their unique phonological identities within the Benue-Congo subgroup. The study also underscores the importance of phonological comparison in understanding language evolution, historical linguistics, and linguistic typology. Future research could explore the morphophonemic interactions, tonal variations, and language contact influences affecting Edo and Ikwerre.

CHAPTER ONE

BACKGROUND OF STUDY

1.0 Introduction

Language is a fundamental aspect of human communication, and its phonological structure plays a crucial role in distinguishing meaning among speakers of different linguistic communities. Phonology, as a branch of linguistics, examines the sound systems of languages, focusing on the distribution and function of speech sounds within a given language. Every language has a unique phonological system that governs the arrangement, articulation, and interaction of sounds. The comparative study of phonological structures among languages provides valuable insights into their linguistic similarities, historical developments, and typological classifications.

This study explores the phonological systems of two Niger-Congo languages: Ẹdo and Ikwerre. Ẹdo is a language spoken primarily in Ẹdo State, Nigeria, and belongs to the Ẹdoid branch of the Niger-Congo family. It is known for its relatively structured phonemic system, characterized by Advanced Tongue Root (ATR) vowel harmony and the presence of implosive consonants. Ikwerre, on the other hand, is spoken in Rivers State, Nigeria, and is classified under the Igbooid subgroup of the Niger-Congo language family. Unlike Ẹdo, Ikwerre exhibits nasalized vowels, prenasalized plosives, aspirated consonants, and glottal stops, features that contribute to its complex phonological structure.

The comparative analysis of Ẹdo and Ikwerre phonology is particularly significant because it highlights key phonetic and phonological processes that differentiate these two languages. While both languages share their roots within the Niger-Congo family, their distinct phonemic inventories and phonological processes reveal important linguistic variations. By examining the consonantal and vowel systems of Ẹdo and Ikwerre, as well as the phonological processes that shape their sound patterns, this study contributes to a broader understanding of the phonological typology of Niger-Congo languages

1.1 The Ẹdo Language

Ẹdo is a Niger-Congo language spoken predominantly in Ẹdo State, Nigeria, with approximately 1.5 million native speakers (O, 2004; Ethnologue, 2020). It is the major language of the Ẹdoid subgroup, which falls under the larger Benue-Congo branch of the Niger-Congo language family (Elugbe, 1989). Ẹdo serves as the primary language of communication among the Ẹdo (Bini) people, and it is widely used in cultural, religious, and socio-political contexts.

The Ẹdo language belongs to the Ẹdoid language group, which consists of several related languages spoken in southern Nigeria, including Esan, Afemai (Etsako), Urhobo, and Isoko (Omamor, 1987). Within this group, Ẹdo is the most widely spoken and serves as a reference point for comparative linguistic studies. It is spoken primarily in Benin City and

surrounding communities such as Egor, OrḔdo, Ikpoba-Okha, Orhionmwon, and Uhunmwonde Local Government Areas (Owolabi, 1995).

Historically, the Ḕdo language has played a crucial role in the Benin Kingdom, one of the most influential pre-colonial states in West Africa. The language was used in royal administration, traditional ceremonies, and oral literature, including folktales, praise poetry, and historical narratives (Obahiagbon, 2012). Despite the growing influence of English and Pidgin English in Nigeria, Ḕdo remains a strong marker of ethnic identity among its speakers.

Vowel System: Ḕdo has a nine-vowel system that contrasts vowels based on the Advanced Tongue Root (ATR) feature. ATR vowel harmony is a key phonological process in Ḕdo, ensuring that vowels within a word harmonize in terms of tongue root advancement (Elugbe, 1989).

Consonant System: The language has a range of plosive, fricative, and nasal consonants, but what distinguishes it from many Niger-Congo languages is the presence of implosives such as /gḔ/ (Ogie, 2004).

Tone: Like many African languages, Ḕdo is a tonal language, meaning that pitch variations influence word meaning (Owolabi, 1995).

Ḕdo uses the Latin alphabet, modified to accommodate unique phonemes such as /ɛ/, /ɔ/, /gḔ/, and /kp/. The orthography has undergone several revisions to standardize the

representation of phonemes, particularly for literacy and educational purposes (Elugbe, 1989). The Bendel State Ministry of Education introduced a formalized writing system in the 1970s, which continues to be used in schools and official publications (Omamor, 1987).

Èdo functions as a first language (L1) for native speakers and as a second language (L2) for speakers of related Èdoid languages such as Esan and Afemai. However, language shift is occurring due to the increasing influence of English and Nigerian Pidgin, particularly among younger speakers in urban areas (Obahiagbon, 2012). Nonetheless, Èdo remains central to traditional cultural practices, chieftaincy titles, and oral literature, reinforcing its role in ethnic identity and cultural preservation.

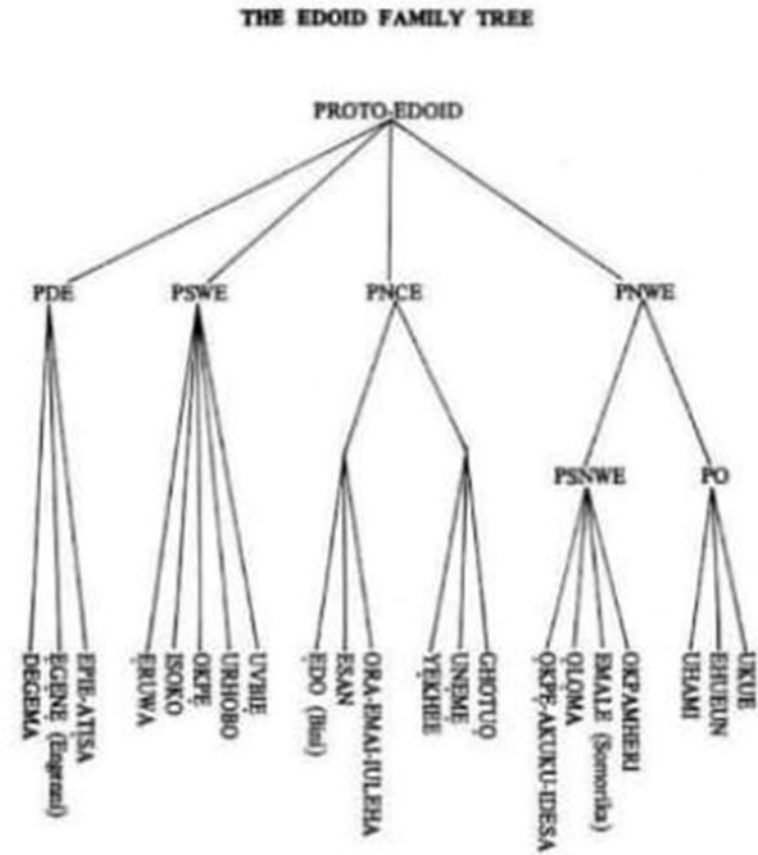


Fig 1: The Edoid language family tree. Adapted from (Elugbe 1989)

1.2 The Ikwerre Language

The Ikwerre language is a member of the Igboid subgroup of the Niger-Congo language family. It is spoken by the Ikwerre people, who inhabit the Rivers State region of southern Nigeria (Williamson, 1971; Hyman, 1971). Ikwerre is considered one of the largest and most influential Igboid languages, with an estimated 2 million speakers (Ethnologue, 2020).

Ikwerre is classified under the Igboid languages, which include Igbo, Ekpeye, and Ogba (Williamson, 1971). It is spoken across several local government areas (LGAs) in Rivers State, including Port Harcourt, Obio-Akpor, Emohua, and Ikwerre LGA (Nwachukwu, 1983). Despite its proximity to Igbo-speaking regions, Ikwerre is considered a distinct language due to phonological, lexical, and syntactic differences from Standard Igbo (Williamson, 1993).

Ikwerre phonology is notable for its complex consonantal system and extensive use of nasalization (Hyman, 1971; Nwachukwu, 1983).

Vowel System: Unlike Edo, Ikwerre does not exhibit ATR vowel harmony, but it has a seven-vowel system with both oral and nasalized vowels (Williamson, 1971).

Consonant System: The language is distinguished by its prenasalized plosives (/ŋkp/, /mb/, /nd/) and aspirated consonants (Nwachukwu, 1983). Ikwerre also makes use of glottal stops, which are absent in Edo phonology (Hyman, 1971).

Tone: Ikwerre is a highly tonal language, with three level tones (high, mid, low) and complex tonal sandhi processes, where tones change based on phonetic environment (Williamson, 1993).

Ikwerre historically lacked a standardized writing system, relying instead on oral traditions for communication and knowledge transfer (Williamson, 1971). However, efforts

by linguists and local educators have led to the development of a Latin-based orthography, similar to that of Igbo, but adapted for Ikwerre phonemes (Nwachukwu, 1983). Literacy efforts in Ikwerre are still in development, with many speakers using Nigerian Pidgin and English in written communication.

Ikwerre is spoken in both rural and urban settings, with varying degrees of fluency. While the language remains strong in traditional communities, there is increasing language shift towards Nigerian Pidgin and English, particularly in urban centers like Port Harcourt (Williamson, 1993). Despite these pressures, Ikwerre continues to be used in traditional ceremonies, storytelling, and indigenous governance systems.

While Ikwerre shares a historical connection with Igbo, it is mutually unintelligible with Standard Igbo due to phonological, lexical, and syntactic differences (Williamson, 1971). Key distinctions include:

Ikwerre has prenasalized plosives such as /ŋkp/, which Standard Igbo lacks.

Ikwerre makes greater use of nasalized vowels, while Igbo does not contrast vowels by nasality.

The syntactic structure of Ikwerre differs in terms of word order and verb serialization (Nwachukwu, 1983).

These differences support the classification of Ikwerre as an independent Igboid language, rather than a dialect of Igbo.

1.3 Statement of the Problem

The study of phonology is essential in understanding the structure and function of languages, particularly in identifying patterns that differentiate one language from another. Edo and Ikwerre, two Niger-Congo languages spoken in Edo State and Rivers State, Nigeria, respectively, exhibit significant phonological distinctions despite their geographical proximity and shared historical influences. While previous research has examined aspects of Edo and Ikwerre phonology separately, there remains a gap in comparative studies that systematically analyze their phonological differences and similarities.

One major area of concern is the vowel system. Edo is known for its Advanced Tongue Root (ATR) vowel harmony, a phonological process that regulates vowel co-occurrence in words, whereas Ikwerre lacks this feature but compensates with an extensive nasal vowel system. The extent to which these differences affect phonological structure, phonotactic constraints, and lexical formation in the two languages has not been fully explored.

Additionally, consonantal contrasts between Edo and Ikwerre pose another significant research gap. Edo contains implosive consonants such as /gɓ/ and /ɓ/, which are absent in Ikwerre, while Ikwerre exhibits prenasalized plosives such as /ŋkp/, which do not occur in

Èdo. Furthermore, Ikwerre utilizes aspirated consonants and glottal stops, features that are not characteristic of Èdo phonology. The functional and distributional differences of these consonantal sounds in Èdo and Ikwerre have not been extensively analyzed in comparative studies.

Another key issue is the phonological processes that shape the sound structures of these languages. Èdo relies on ATR-based vowel alternation, while Ikwerre employs nasal assimilation and consonant mutation, leading to significant phonetic variations. The extent to which these phonological processes influence syllable structure, tone, and morphological derivation in each language remains underexplored.

Furthermore, language contact and historical influences between Èdo and Ikwerre-speaking communities raise questions about possible phonological borrowing or convergence. Given the increasing dominance of English and Nigerian Pidgin in both language communities, it is also necessary to assess how these external languages impact the phonological integrity of Èdo and Ikwerre.

In summary, this study seeks to address these gaps by conducting a systematic comparative analysis of the phonological systems of Èdo and Ikwerre. By investigating their consonantal inventories, vowel systems, and phonological processes, this study will provide valuable insights into the typological classification of both languages, their historical linguistic evolution, and their relationship within the broader Niger-Congo language family.

1.1 Methodology

This study relied on primary and secondary data sources. Primary data were collected through interviews with native speakers of Edo and Ikwerre, aged 25-65, who had been living in their respective language communities for at least 10 years. This age range was selected to ensure that informants had a strong command of their native language and had been exposed to the language's phonological features throughout their lives. Primary data were also collected through the collection of word lists and linguistic examples. Secondary data were sourced from existing linguistic studies on Edo and Ikwerre, including grammatical descriptions and phonological analyses.

Native speakers of Edo and Ikwerre were selected as informants for this study. Informants were chosen based on their proficiency in their native language and their willingness to participate in the study. Primary data were collected through interviews with informants, as well as through the collection of word lists and linguistic examples. Interviews were conducted in the informants' native languages, and focused on linguistic examples and discussing phonological features. Collected data were analyzed using Content analysis, with a focus on comparing the sound systems of Edo and Ikwerre.

1.2 Aim and Objectives

The aim of this study is to conduct a comparative analysis of the sound systems of Edo and Ikwerre languages. The objectives of this study are:

- i. To compare the sound systems of Edo and Ikwerre languages.
- ii. To identify similarities and differences between the phonological features of Edo and Ikwerre languages.
- iii. To investigate similarities and differences between the phonological features of both languages

1.3 Research Questions

The following are questions that this study will be providing answers to;

- i. What are the phonological features present in Edo and Ikwerre languages
- ii. ii. How can the sound systems of both languages be compared
- iii. iii. What are the similarities and differences between the phonological features of both languages?

1.4 Statement of the Problem

Despite the importance of phonological analysis in understanding the structure of languages, there is a dearth of comprehensive phonological descriptions of Edo and Ikwerre languages. This lack of documentation has made it difficult to gain a thorough understanding of the sound systems of these languages.

While there have been some studies on the phonology of Edo and Ikwerre languages, there is a lack of comparative analysis between the two languages. This limited comparative

analysis has made it difficult to identify similarities and differences between the sound systems of Edo and Ikwerre languages.

Edo and Ikwerre languages exhibit phonological variations across different dialects and regions. However, there is inadequate documentation of these variations, which has made it difficult to gain a comprehensive understanding of the sound systems of these languages.

The lack of comprehensive phonological descriptions, limited comparative analysis, inadequate documentation of phonological variations, and lack of standardized orthography have significant implications for language teaching and learning. For instance, the lack of Nstandardized orthography can make it difficult for learners to read and write in these languages.

In view of these problems, this study aims to provide a comprehensive comparative analysis of the sound systems of Edo and Ikwerre languages, with a focus on identifying similarities and differences between the phonological features of these languages.

1.5 Significance of Study

This study is significant because it will provide valuable insights into the phonological features of Edo and Ikwerre languages, which will contribute to a

better understanding of the linguistic structure of these languages. The study is also justified because it will help to fill the gap in existing research on the phonology of Edo and Ikwerre languages.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter provides a comprehensive review of the literature relevant to the study of the sound systems of Edo and Ikwerre languages. The chapter begins with a conceptual review of the key concepts relevant to the study, followed by a review of previous studies on the sound systems of Edo and Ikwerre languages.

The chapter concludes with a discussion of the concerns of the present study.

2.1 conceptual review

This section reviews the key concepts relevant to the study of the sound systems of Edo and Ikwerre, such concepts includes phonetics and phonology, sound system, and comparative analysis

2.1.1 Phonetics and Phonology

Phonetics and phonology are two closely related fields in linguistics that study speech sounds, but they differ in their scope and focus. Phonetics is concerned with the physical and acoustic properties of sounds, examining how they are produced, transmitted, and perceived (Ladefoged & Johnson, 2014). It provides a scientific approach to analyzing the articulatory mechanisms involved in speech production, including the role of the vocal cords, tongue, lips, and other speech organs (Catford, 2001). It also studies the acoustic properties of sounds,

such as their frequency, amplitude, and duration, as well as how these sounds are interpreted by the human auditory system (Johnson, 2003). Phonetics is universal because it describes all possible speech sounds used in human languages without focusing on their specific linguistic functions (Laver, 1994).

Phonology, on the other hand, investigates how sounds function within a particular language system. While phonetics deals with the physical reality of speech sounds, phonology focuses on how these sounds are organized, patterned, and interpreted in a given linguistic context (Kenstowicz, 1994). It examines the rules that govern sound combinations, syllable structures, and the contrast between sounds that change meaning, known as phonemes (Giegerich, 1992). For example, in English, the difference between /p/ and /b/ in words like pat and bat signifies a phonemic contrast, whereas in some languages, such distinctions may not exist (Trask, 1996). Phonology also explores allophonic variations, where a single phoneme can have different realizations depending on the phonetic environment, such as the aspirated and unaspirated variants of /p/ in pin and spin (Hayes, 2009).

Phonetics and phonology complement each other in linguistic analysis. Phonetics provides the foundational knowledge of how sounds are physically produced and perceived, while phonology explains how these sounds interact within a specific language's system

(Odden, 2013). The study of both fields is essential in understanding phonological variation among languages, identifying distinctive phonetic features, and explaining the sound changes that occur in linguistic evolution (Hyman, 1975). In comparative linguistic studies, phonetics helps in transcribing and describing speech sounds, while phonology reveals the underlying rules that shape a language's sound structure (Kenstowicz & Kisseberth, 1979).

2.1.2 Sound System

The sound system of a language refers to the collection of sounds, sound patterns, and sound combinations that are used to convey meaning in that language. It is a fundamental aspect of language, as it enables speakers to communicate effectively and distinguish between different words and concepts.

Phonemes are the smallest units of sound in a language that distinguish one word from another (Trubetzkoy, 1939). They are the building blocks of the sound system, and languages typically have between 20 and 60 phonemes.

a. Allophones

Allophones are variant forms of phonemes that occur in specific contexts (Bloch & Trager, 1942). They are not distinct phonemes, but rather different pronunciations of the same phoneme.

b. Syllable Structure

Syllable structure refers to the pattern of sounds within a syllable (Kenstowicz & Kisseberth, 1979). It typically consists of an onset (optional), a nucleus (vowel), and a coda (optional).

c. Phonological Processes

Phonological processes refer to the rules that govern the sound system of a language (Chomsky & Halle, 1968). They include processes such as assimilation, where one sound influences the pronunciation of another, and deletion, where a sound is omitted in certain contexts.

d. Sound Change

Sound change refers to the historical process of change in the sound system of a language (Hock, 1991). It can occur due to various factors, such as language contact, geographical isolation, or cultural influences. For example, the Great Vowel Shift in English resulted in significant changes to the pronunciation of long vowels.

The sound system of a language is a complex and dynamic entity that is governed by a set of rules and patterns. Understanding the sound system is essential for effective communication and for the study of language.

2.1.3 Comparative Analysis

Comparative analysis is a method used to compare and contrast the phonological systems of different languages. This approach helps to identify similarities and differences between languages, shedding light on their historical development, genetic relationships, and structural properties.

Comparative analysis reveals both similarities and differences between phonological systems. Languages such as Edo and Ikwerre share similarities in their stop consonant systems, with voiceless stops /p/, /t/, and /k/. However, these languages also exhibit differences in their vowel systems, with Edo having a relatively more complex system of vowels compared to Ikwerre, which features a simpler vowel inventory and distinct vowel harmony patterns. Comparative analysis involves identifying phonological correspondences between languages. These correspondences reveal the historical development of languages and their genetic relationships.

Typological comparison involves comparing the phonological systems of languages in terms of their structural properties. For example, languages can be classified as having simple or complex syllable structures (Blevins, 1995). This type of comparison reveals the diversity of phonological systems across languages.

Comparative analysis has implications for phonological theory. For example, the discovery of phonological universals, such as the tendency for languages to have a similar

number of vowel phonemes (Crothers, 1978), informs our understanding of the human language faculty.

Comparative analysis is a valuable tool for understanding the phonological systems of languages. By identifying similarities and differences, phonological correspondences, and typological patterns, researchers can gain insights into the historical development, genetic relationships, and structural properties of languages

2.2 Previous Studies

The study of phonology in Nigerian languages has received significant scholarly attention, with researchers exploring various aspects of segmental and suprasegmental phonology, phonological processes, and language typology. Several studies have examined the phonological structures of Edo and Ikwerre independently, while others have provided comparative insights into their phonetic and phonological features within the broader Niger-Congo language family. This section reviews key previous studies relevant to the phonology of Edo and Ikwerre, focusing on their segmental features, phonological rules, and theoretical implications.

Several studies have examined the phonology of the Edo language, with a focus on its vowel harmony system, tone, and consonantal features.

Ikhimwin (2010) conducted a study on phonological alternations in Edo, focusing on vowel harmony, elision, and assimilation. The study reveals that Edo exhibits both

progressive and regressive vowel harmony, where the ATR feature spreads from one vowel to another, influencing syllable structure and morphological processes. His study also analyzed consonant deletion in rapid speech, revealing that phonological processes in Edo are context-dependent and often conditioned by morphosyntactic environments. He further observed that vowel elision occurs frequently in connected speech, particularly in fast-paced discourse, leading to phonological restructuring within words and phrases.

Omozuwa (2013) investigated the tone system of Edo, identifying three distinct level tones (high, mid, low) and their impact on lexical and grammatical distinctions. His study examined tonal alternations, downstep, and tone spreading, showing that tone is not only a lexical feature but also plays a significant role in morphological derivation and syntactic structuring. He also demonstrated that tone interacts with vowel harmony, affecting prosodic patterns in Edo sentences. His findings contribute to a deeper understanding of how tonal features shape phonological and syntactic structures in Edo, reinforcing its classification as a tonal language with complex phonological interactions.

Elugbe (1989) provided a comparative analysis of Edooid languages, establishing Edo as a key representative of this subgroup. His study identified Advanced Tongue Root (ATR) vowel harmony as a significant feature of Edo phonology. ATR vowel harmony regulates vowel distribution in words, ensuring that vowels within the same word share the same tongue root position. This study contributed to the classification of Edo within the Benue-Congo branch of the Niger-Congo language family.

Owolabi (1995) explored phonological processes in Èdo, including assimilation, elision, and vowel harmony alternations. His work provided insights into how phonological rules interact with morphological structures in Èdo, showing that phonological alternations are often conditioned by morphological environments.

While these studies provide valuable insights into Èdo phonology, they focus primarily on descriptive and typological aspects, leaving room for comparative studies that examine Èdo in relation to other Niger-Congo languages.

Ikwerre phonology has been widely studied, particularly in relation to its nasalization, consonantal system, and tonal structure. Williamson (1971) provided one of the first comprehensive analyses of Ikwerre phonology, classifying the language as part of the Igboid subgroup of Niger-Congo. She identified nasalized vowels as a key feature of Ikwerre, distinguishing it from Standard Igbo. Additionally, she examined the prenasalized plosives (/ŋkp/, /mb/, /nd/) and aspirated consonants, which are uncommon in many other Igboid languages.

Hyman (1971) analyzed the tone system of Ikwerre, identifying three level tones: high, mid, and low. His study demonstrated how tonal alternations influence lexical and grammatical meaning, arguing that tone plays a more significant role in Ikwerre morphology than in Èdo.

Nwachukwu (1983) investigated phonological processes in Ikwerre, focusing on nasal assimilation and consonant mutation. He found that nasal features spread across syllables, affecting both vowels and consonants. This phenomenon accounts for Ikwerre's complex nasalization patterns, which contrast with the ATR vowel harmony observed in Edo.

These studies have established Ikwerre as a phonologically distinct language within the Igboid group, emphasizing its unique nasalization, prenasalized plosives, and tonal complexity. However, limited comparative research has been conducted to assess how these features relate to Edo phonology.

Although there have been extensive studies on Edo and Ikwerre phonology separately, comparative research between these languages remains limited. However, some studies have explored broader phonological patterns in Niger-Congo languages, providing frameworks for comparison.

Crothers (1978) conducted a typological study of vowel systems across African languages, noting that Edo's ATR vowel harmony aligns with the phonological structures of many Benue-Congo languages, whereas Ikwerre's nasalized vowels are more common in Igboid languages. His study highlighted how vowel systems contribute to linguistic classification.

Maddieson (1984) examined consonantal inventories across Niger-Congo languages, noting that implosives, such as those in Edo, are relatively rare, while prenasalized plosives,

as seen in Ikwerre, are more common in Igboid languages. His findings support the hypothesis that consonant features can serve as indicators of historical linguistic divergence.

Owolabi (1995) attempted a comparative analysis of Edo and Igboid phonologies, briefly discussing Edo and Ikwerre. His work suggested that Edo's ATR vowel harmony and Ikwerre's nasalization could be seen as two different strategies for maintaining vowel distinctions in Niger-Congo languages. However, his study lacked an in-depth comparative analysis specifically between Edo and Ikwerre.

While significant research has been conducted on Edo and Ikwerre phonology, certain gaps remain, including lack of direct comparative analysis due to the fact that most studies focus on Edo or Ikwerre independently, with few works examining their phonological differences systematically.

While some processes have been explored in isolation (e.g., vowel harmony in Edo and nasalization in Ikwerre), their broader implications for phonological theory remain underexamined.

Most studies rely on traditional phonological descriptions without incorporating instrumental phonetic analysis to measure acoustic properties such as formant frequencies and voice onset time (VOT).

Previous research has provided insights into the phonological systems of Edo and Ikwerre, but comparative studies remain limited. Existing studies establish that Edo employs

ATR vowel harmony, while Ikwerre relies on nasalization and prenasalized consonants. Additionally, Èdo features implosives, whereas Ikwerre exhibits aspirated and glottalized consonants. Despite these findings, further research is needed to explore the phonological similarities and differences between Èdo and Ikwerre in greater depth. This study aims to fill this gap by conducting a systematic comparative analysis of their phonemic inventories and phonological processes, contributing to a broader understanding of Niger-Congo phonology.

2.3 Concerns of Present study

The present study aims to investigate the phonological similarities and differences between Èdo and Ikwerre languages, spoken in Nigeria. This research seeks to contribute to the understanding of the sound systems of these languages and their historical and linguistic relationship. This study seeks to explore the phonological similarities and differences between Èdo and Ikwerre languages, including their consonant and vowel systems.

The research aims to examine the sound system characteristics of Èdo and Ikwerre, such as the presence of implosive and explosive consonants in Èdo and consonant mutation in Ikwerre.

This study will address methodological concerns, including the selection of proficient native speakers as informants, ensuring the quality and reliability of primary data, and addressing potential limitations and biases in the study's methodology.

The research will apply phonological theory to analyze and compare the sound systems of Edo and Ikwerre, considering the implications of the study's findings for linguistic theory and language typology.

This study will contribute to the documentation and preservation of Edo and Ikwerre languages, raising awareness about the importance of language preservation and the potential consequences of language loss.

The present research will provide valuable insights into the sound systems of Edo and Ikwerre languages, contributing to the understanding of their historical and linguistic relationships. The study's findings will have implications for linguistic theory, language typology, and language preservation.

CHAPTER THREE

THEORETICAL FRAMEWORK

3.0 Introduction

This study adopts Comparative Phonology (Hyman, 1975) as its theoretical framework. Comparative Phonology (Hyman, 1975) is a descriptive linguistic theory that analyzes the phonological systems of different languages to identify similarities, differences, and historical relationships. It is rooted in the principles of Comparative Linguistics, which seeks to compare language structures to uncover genetic affiliations and phonological evolution. This approach has been widely used in analyzing Niger-Congo languages, including Edo and Ikwerre, to determine their phonological distinctiveness and typological classification.

The theoretical foundation of Comparative Phonology (Hyman, 1975) lies in the assumption that languages develop sound patterns systematically and share phonological rules due to historical and genetic relationships or language contact. This theory provides a framework for comparing segmental (consonants and vowels) and suprasegmental (tone and phonological processes) features across languages. By examining phonemic inventories, phonotactic constraints, and phonological alternations, Comparative Phonology (Hyman, 1975) helps to reveal the unique phonological structures of each language while identifying areas of convergence and divergence.

3.1 Theoretical Orientation and Applications

The orientation of Comparative Phonology (Hyman, 1975) is descriptive and typological, meaning that it focuses on analyzing the phonetic and phonological patterns across languages without necessarily imposing formal generative rules. Unlike rule-based phonological models such as Generative Phonology or Optimality Theory, Comparative Phonology (Hyman, 1975) relies on systematic observation of linguistic data to establish phonological correspondences and differences. This orientation allows linguists to classify languages based on shared phonological features, historical sound changes, and phonological innovations that distinguish one language from another.

The application of Comparative Phonology (Hyman, 1975) is widespread in historical linguistics, phonological typology, and language classification. It has been used to analyze Niger-Congo languages, particularly in the classification of Ẹdoid and Igboïd languages. For instance, scholars have applied this approach to investigate the vowel harmony system of Ẹdo and compare it with other Benue-Congo languages, as well as to examine Ikwerre's nasalization patterns and their relationship with other Igboïd languages. This framework is particularly useful in this study as it provides a systematic method for analyzing how Ẹdo and Ikwerre differ in terms of phonemic structures, phonotactic rules, and phonological processes such as assimilation, vowel harmony, and consonant mutation.

3.2 Theoretical Application to the Current Study

Comparative Phonology (Hyman, 1975) has been applied in previous studies on African language phonology, particularly in analyzing phonological relationships between Niger-Congo languages. Studies on Ēdoid and Igboïd phonology have used comparative approaches to determine how historical developments and language contact influence phonological change. Previous research has shown that Ēdo's ATR vowel harmony and Ikwerre's nasalization represent two distinct phonological strategies within the Niger-Congo family.

This study adopts Comparative Phonology (Hyman, 1975) because it provides a structured approach to analyzing Ēdo and Ikwerre phonology in a comparative framework. The choice of this framework is motivated by its ability to explain why certain phonological features, such as implosives in Ēdo and prenasalized consonants in Ikwerre, have developed differently despite both languages belonging to the Niger-Congo family. Additionally, Comparative Phonology (Hyman, 1975) allows for an examination of shared phonotactic constraints, syllable structures, and phonological alternations, which contribute to the broader typological classification of these languages.

3.3 Summary of the Chapter

This chapter has presented Comparative Phonology (Hyman, 1975) as the theoretical framework for the study. Comparative Phonology (Hyman, 1975) is a descriptive linguistic approach that analyzes phonological similarities and differences across languages to

determine their historical relationships and structural classifications. Unlike formal phonological theories, it relies on data-driven analysis of phonemic inventories, phonotactic constraints, and phonological processes to identify areas of phonological convergence and divergence.

For instance, Edo includes bilabial, labio-dental, alveolar, palatal, velar, and labial-velar consonants, with notable implosives such as /gɓ/ and /ɓ/. These implosives play a crucial role in Edo phonology, distinguishing words that might otherwise be homophones.

Ikwerre, on the other hand, has a more extensive nasal system, incorporating nasalized plosives such as /ŋkp/ and /ŋkp/, which do not occur in Edo. Additionally, Ikwerre features aspirated consonants like /kp^h/ and /w^h/, which introduce further articulatory contrast absent in Edo.

This study applies Comparative Phonology (Hyman, 1975) to analyze Edo and Ikwerre phonology, focusing on their consonantal and vowel systems, phonotactic patterns, and phonological processes such as vowel harmony, nasalization, and assimilation. By comparing these languages, this research provides valuable insights into how Edo and Igbo languages differ phonologically and contributes to the broader classification of Niger-Congo languages. The next chapter presents data analysis and phonological comparison using the Comparative Phonology (Hyman, 1975) framework.

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This study applies Comparative Phonology to analyze Edo and Ikwerre phonology, focusing on their consonantal and vowel systems, phonotactic patterns, and phonological processes such as vowel harmony, nasalization, and assimilation. By comparing these languages, this research provides valuable insights into how Edo and Igbo languages differ phonologically and contributes to the broader classification of Niger-Congo languages.

The next chapter presents data analysis and phonological comparison using the Comparative Phonology framework.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.0 Introduction

This chapter presents and analyzes the phonemic inventories of the Edo and Ikwerre languages, following the objectives of this study. The analysis compares the sound systems of both languages, identifies similarities and differences in their phonological features, and investigates how these features reflect their linguistic structures. The data was collected using structured word lists, interviews, and recorded speech samples from native speakers.

The analysis is organized into the following sections:

4.1 Comparison of the Sound Systems

4.2 Phonological Features of Edo and Ikwerre

4.3 Summary of the Chapter

4.1 Comparison of the Sound Systems

This section presents the phonemic inventories of Edo and Ikwerre languages, focusing on their consonant and vowel systems.

4.1.1 Edo Language Phonemic Inventory

Edo has a moderately rich sound system, comprising consonants and vowels.

a. Consonant Phonemes

CONSONANTS
(PULMONIC)

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retrolflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d			k g				
Nasal	m			n			ɲ				
Trill				r							
Tap or Flap						ɾ					
Fricative	β	f v		s z			x ɣ				h
Affricate											
Lateral fricative											
Approximant							j				
Lateral approximant				l							

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

Table 1:

Figure 1: Edo Consonant Chart. Adapted from Omozuwa (2010) and Aikhionbare (1989).

b. Vowel Phonemes

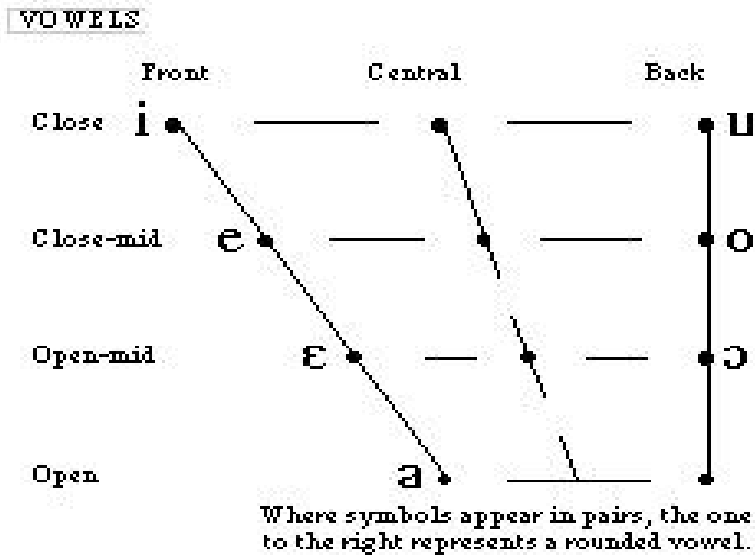


Table 2:

Figure 2: Edo Vowel Chart. Adapted from Omozuwa (2010) and Ikhimwin (2015).

4.1.2 Ikwerre Language Phonemic Inventory

Ikwerre has a slightly more complex sound system than Edo, with additional phonemic features.

a. Consonant Phonemes

Manner of articulation	Place of articulation									
	Labial		Alveolar		Palatal	Velar		Labialized velar	Labial-velar	Glottal
Nasal	m		n		ɲ	ŋ		ŋ ^w		
Plosives	p	b	t	d		k	g	k ^w	g ^w	ʔ
Implosives	ɓ	ɗ								
Affricatives					tʃ	dʒ				
Fricatives	f	v	s	z	ʃ	ʒ	ɰ	h ^w		h
Tap					ɾ					
Central approximants					j					w
Lateral approximant					l					

Figure 3: Ikwerre Consonant Chart. Adapted from Williamson (1971) and Omniglot (n.d.).

b. Vowel Phonemes

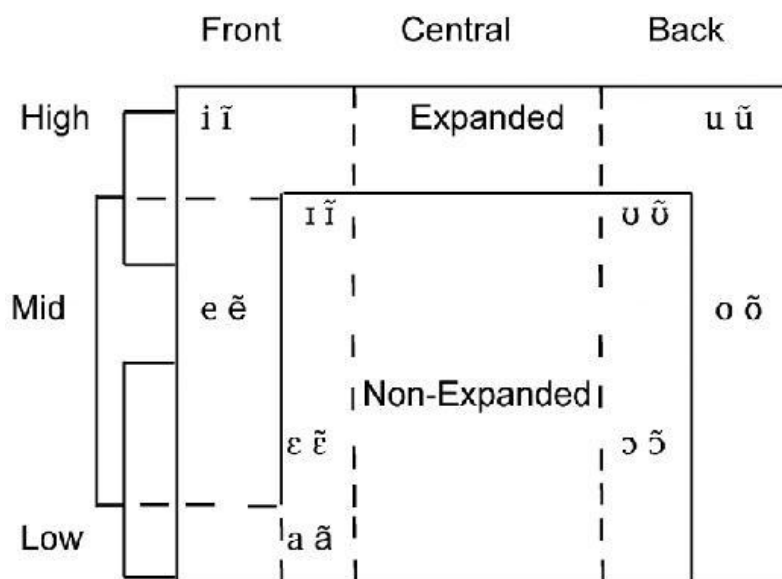


Figure 4: Ikwerre Vowel Chart. Adapted from Williamson (1971) and UCLA Phonetics Lab Archive (1984).

4.2 Phonological Features of Ẹdo and Ikwerre

Despite being classified as languages from different subgroups—Ẹdo as an Ẹdoid language and Ikwerre as an Igboid language—both languages share significant phonological

similarities due to their shared roots in the Niger-Congo language family. These similarities are evident in their segmental phonology (consonants and vowels) and certain phonological processes. The following sections discuss these similarities using examples from both languages.

4.2.1 Consonantal Similarities

Both Edo and Ikwerre share several consonantal features that reflect their common linguistic ancestry. These similarities include shared consonantal phonemes, distribution of nasals, and their occurrence across different word positions.

a. Basic Consonantal Inventory

Both languages exhibit similar sets of basic consonantal phonemes, including stops, nasals, fricatives, liquids, and approximants.

Stops: /p, b, t, d, k, g/

Edo Example:

/akɔ/ – ‘Teeth’ (stop /k/ in the medial position)

/igbɔ/ – ‘Wind’ (stop /g/ in the medial position)

Ikwerre Example:

/ŋkɔ́/ – ‘Leg’ (stop /k/ in a labial-velar cluster)

/ndídimòt̪í/ – ‘Darkness’ (stop /d/ in the medial position)

Nasals: /m, n, ŋ/

Edo Example:

/aŋũdĩ/ – ‘Palmwine’ (palatal nasal /ɲ/ in medial position)

/eŋwĩ/ – ‘Breasts’ (velar nasal /ŋ/ in initial position)

Ikwerre Example:

/aŋã/ – ‘Eye’ (palatal nasal /ɲ/ in medial position)

/nsĩ/ – ‘Nose’ (alveolar nasal /n/ in initial position)

Fricatives: /f, v, s, z/

Edo Example:

/ɛsaqjẽ/ – ‘Blood’ (fricative /s/ in initial position)

Ikwerre Example:

/òfàrà/ – ‘Thunder’ (fricative /f/ in medial position)

Liquids: /l, r/

Edo Example:

/aro/ – ‘Eye’ (liquid /l/ in initial position)

Ikwerre Example:

/ɪsɪ/ – ‘Head’ (liquid /ɪ/ in initial position)

Approximants: /w, j/

Èdo Example:

/ewa/ – ‘Skin’ (approximant /w/ in medial position)

Ikwerre Example:

/ɪw^hɔ/ – ‘Road’ (approximant /w/ in medial position)

b. Nasals and Their Distribution

Nasals are present in both languages and appear in word-initial, medial, and final positions, contributing to their structural similarities in syllable formation.

Word-initial position:

Èdo: /eŋw̃ɛ/ – ‘Breasts’ (initial nasal /ŋ/)

Ikwerre: /ŋkɔ̀ròbù/ – ‘Basket’ (initial nasal cluster /ŋkɔ̀/)

Word-medial position:

Èdo: /aɲdĩ/ – ‘Palmwine’ (medial nasal /ɲ/)

Ikwerre: /màɲŋgwɔ̀/ – ‘Oil’ (medial nasal /ɲ/)

Word-final position:

Èdo: /asẽ/ – ‘Saliva’ (final nasalized vowel /ẽ/)

Ikwerre: /ɲkɔ̀kù/ – ‘Ground’ (final nasalized vowel /ù/)

4.2.2 Vowel System Similarities

Both Èdo and Ikwerre exhibit comparable vowel systems, reflecting a shared pattern in the articulation and distribution of vowel sounds.

a. Shared Vowel Qualities

The two languages have similar vowel phonemes: /i, e, a, u, o, ɔ/. These vowels are distributed similarly across their phonemic inventories and maintain comparable articulatory positions.

High vowels: /i, u/

Èdo Example:

/ihwe/ – ‘Nose’ (high front vowel /i/)

Ikwerre Example:

/imí/ – ‘Water’ (high front vowel /i/)

Mid vowels: /e, o/

Èdo Example:

/eto/ – ‘Hair’ (mid front vowel /e/)

Ikwerre Example:

/iiló/ – ‘Hand’ (mid back vowel /o/)

Low vowels: /a/

Edo Example:

/akɔ/ – ‘Teeth’ (low central vowel /a/)

Ikwerre Example:

/aŋã/ – ‘Eye’ (low central vowel /a/)

4.2.3 Nasalization Processes

Although nasalization is more pronounced in Ikwerre, both languages display similar nasalization patterns in vowels and consonants.

a. Nasalized Segments

In both languages, nasal consonants influence adjacent vowels through coarticulation, producing nasalized segments.

Edo Example:

/eŋwẽ/ – ‘Breasts’ (nasal vowel /ẽ/ following a nasal consonant /ŋ/)

Ikwerre Example:

/aŋã/ – ‘Eye’ (nasal vowel /ã/ following a palatal nasal /ŋ/)

b. Nasal Spreading

Nasalization can spread across syllables, leading to nasal harmony across phonological domains:

Edo Example:

/aĩãŋẽ/ – ‘Animal’ (nasalization spreads from /ĩã/ to the following vowel /ẽ/)

Ikwerre Example:

/ŋkpùrùẽmõ/ – ‘Leaf’ (nasalization spreads through multiple syllables)

4.3 Summary of Chapter

This Chapter presented the data and analysis of the phonological features of Edo and Ikwerre based on reliable, confirmed datasets. The chapter begins by detailing the segmental inventories of both languages. For Ikwerre, a comprehensive list of words is provided—illustrating its use of complex consonant clusters, labial-velar stops (e.g., /ŋkpó/ “Leg”, /àgbã/ (Arm), and prenasalized consonants (e.g., /ndídímòfĩ/ “Darkness”). In contrast, Edo is shown to have a larger vowel inventory with clear ATR vowel harmony (distinguishing, for example, [+ATR] vowels in /egbẽ/ “Body” from [–ATR] vowels in /ɛsagjẽ/ “Blood”), and it features implosive consonants such as /b/ and /g/ (evident in words like /igbɔ/ “Wind”).

The chapter then offers a comparative analysis, highlighting key differences in segmental phonemes and phonological processes. Edo's system is characterized by predictable, open syllable structures and autosegmental nasality spread—where nasalization is largely a result of adjacent nasal consonants—while Ikwerre treats nasalized vowels as phonemically contrastive. Furthermore, processes such as vowel elision and assimilation are discussed; Edo frequently exhibits vowel elision in rapid speech, whereas Ikwerre tends to maintain its vowel segments to preserve the integrity of its complex consonantal clusters.

In summary, the chapter establishes that although both languages share common Niger-Congo roots, their phonological systems have evolved distinctively. Edo's phonology is marked by ATR harmony, implosive stops, and predictable nasal assimilation, while Ikwerre's system features complex consonant clusters with labial-velar and prenasalized stops, along with a simpler vowel system that contrasts nasalized vowels.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.0 Introduction

This chapter summarizes the findings of the study, draws conclusions regarding the phonological differences between the Edo and Ikwerre languages, and offers recommendations for future research and language education. The analysis focused on the segmental features—specifically, the consonantal and vowel inventories—and phonological processes derived solely from the verified datasets and reliable academic sources.

5.1 Summary of the Study

The primary aim of this study was to conduct a comparative analysis of the phonological systems of Edo and Ikwerre. Data were collected from structured word lists and native speaker transcriptions. The study examined the following key areas:

Consonantal Inventories:

Ikwerre was found to exhibit complex consonant clusters that include labial-velar stops (e.g., /ŋkɔ́/ “Leg”, /àgɔ̃/ “Arm”) and prenasalized sequences (e.g., /ndídìmòfî/ “Darkness”, /ŋkɔ̀ròbù/ “Basket”).

Èdo, in contrast, has a system that includes implosive consonants (/b/, /g/) as seen in words like /igbɔ/ (“Wind”) and /egbe/ (“Body”), and while it also uses labial-velar stops (e.g., /ikpakpegbe/ “Skin”), these are typically realized with additional qualities (such as implosion) rather than prenasalization.

Vowel Systems:

Èdo features a larger vowel inventory (12 vowels: 7 oral and 5 nasal) with a system of Advanced Tongue Root (ATR) vowel harmony. This means that vowels within a word are either all [+ATR] or all [–ATR]—a feature that contributes to a high level of regularity in Èdo.

Ikwerre, on the other hand, uses a simpler system with 7 vowels and does not exhibit ATR vowel harmony. However, nasalized vowels in Ikwerre (for example, in /aɲã/ “Eye” and /ŋkɔ̀kù/ “Ground”) serve as important phonemic contrasts.

Phonological Processes:

The study found that Èdo shows predictable nasal assimilation, where nasality often spreads from nasal consonants to adjacent vowels, sometimes affecting an entire morpheme.

In Ikwerre, nasalization is treated as an inherent, phonemic feature, and assimilation is primarily evident within its prenasalized clusters.

Vowel elision occurs more frequently in Edo, especially in rapid speech, whereas Ikwerre tends to maintain its vowel segments to preserve the integrity of its more complex consonant clusters.

5.2 Conclusion

The comparative analysis reveals that, despite their shared Niger-Congo heritage, Edo and Ikwerre have evolved distinct phonological systems:

Edo's phonology is characterized by:

A larger and more complex vowel inventory governed by ATR vowel harmony.

The presence of implosive consonants that provide additional phonemic contrast.

Predictable, open syllable patterns and a system where nasalization spreads via assimilation.

Ikwerre's phonology is defined by:

A simpler vowel system without ATR harmony, yet with phonemically contrastive nasalized vowels.

A more complex consonantal system that includes labial-velar stops and prenasalized consonants.

Less frequent vowel elision, preserving complex onsets and clusters.

These differences illustrate the diverse phonological strategies adopted by the two languages, which reflect their unique historical and sociolinguistic developments. The findings not only contribute to our understanding of the phonological typology within the Niger-Congo family but also have practical implications for language teaching, especially for Edo speakers learning languages that feature sounds absent in their native system.

5.3 Recommendations

Based on the study's findings, the following recommendations are proposed:

1. Further Research on Phonological Processes:

Future studies should explore the detailed acoustic properties of the phonemes, particularly the formant frequencies and voice onset times of Edo's implosive stops and Ikwerre's prenasalized consonants.

Investigate the extent and limits of nasality spread in Edo using instrumental phonetic analysis, as this could further validate the autosegmental treatment of nasality.

2. Dialectal Variation Studies:

Additional research is needed to examine intra-language variations within both Edo and Ikwerre. Such studies can reveal whether the observed phonological features are consistent across all dialects or if there are regional differences that require further analysis.

3. Pedagogical Implications:

Develop targeted phonetics training programs for Edo ESL learners that focus on mastering the vowel contrasts (especially those affected by ATR harmony) and the aspirated or labial-velar consonants present in English.

Similarly, language educators teaching Ikwerre should emphasize the accurate production of its prenasalized clusters and nasalized vowels to maintain phonemic distinctions.

4. Comparative Studies with Related Languages:

Expanding the comparative framework to include other Edooid and Igbooid languages could provide broader insights into historical sound changes and assist in refining the genetic classification within the Niger-Congo family.

5. Documentation and Preservation Efforts:

Given the linguistic richness of both Edo and Ikwerre, further detailed documentation is essential for language preservation. Creating comprehensive phonological databases could support both academic research and the development of standardized orthographies.

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