

AN INVESTIGATION INTO CONSONANT CLUSTER PRONUNCIATION AMONG
BURA SPEAKERS OF ENGLISH LANGUAGE IN BIU, BORNO STATE, NIGERIA

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Adamu Aliyu

Department of English Language
College of Education Waka-Biu, Borno State
adamualiyu893@gmail.com
07034858588

This study investigates the pronunciation of English consonant clusters by Bura speakers in Biu, Borno State, Nigeria. It focuses on identifying common mispronunciations, analyzing their causes, and examining the impact on communication. The research adopts Ormrod's Behaviorist Theory of Language Transfer as its theoretical framework and utilizes a descriptive survey methodology. A sample of 30 lecturers from the College of Education Waka-Biu, who speak Bura as their first language, was selected through purposive sampling. Data collection was conducted using a structured questionnaire and analyzed using statistical tools. The findings reveal that Bura speakers frequently mispronounce English consonant clusters due to phonotactic constraints in their native language, often substituting or modifying sounds through epenthesis or deletion. For example, "school" is pronounced as "sukul," and "spoon" as "supun." These mispronunciations distort meaning, creating barriers to effective communication. The study underscores the influence of mother tongue interference and highlights the need for targeted pronunciation interventions to improve intelligibility among Bura English speakers. In conclusion, the research emphasizes the importance of addressing phonological transfer through focused language instruction, tailored teaching strategies, and the use of technology to enhance pronunciation skills. This work contributes to understanding the interplay between first language influence and second language acquisition, offering practical insights for educators and linguists.

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Introduction

Literature of phonology shows that Consonant clusters are often a target of phonological modification, such as vowel epenthesis, consonant deletion, feature change, metathesis. Even though some authorities do not consider the syllable to be a relevant phonological entity such as (J. Wells 2019), These concept has gained much pounded in the field of phonology, basically because the syllable blots the end of segmental features and the beginning of the supra-segmental features (Ukam, 2015, Ukam, Uwen & Omale, 2017, Ukam 2020). Vowels

epenthesis as a modification to underlying consonant clusters from joint perspectives of phonological typology and speech perception focusing on cluster-dependent asymmetries are observed in vowel epenthesis in this study. Previous studies (Suyeon Yun2016, Rungruang, 2017) primarily strong-minded on either the onset or coda clusters in an attempt to show the problems faced by L2 learners' production (Ukam & Kadiri, 2024).

It is so common that most Nigerian languages allow simple, restricted, unmarked syllable structure, or never have consonant combinations or clusters at both beginning and

end of words, others (like English), for example, allow very complex, marked or consonant clusters between three and four at the margins. Other languages may not have as many consonant clusters as English, while some languages (e.g. Slovak) have even more consonant clusters than English (Gregova, 2010 in the works of Ukam & Kadiri, 2024). However, it is crucial to mention an important feature of English syllable structure which usually creates some pronunciation problems for users as well as learners, more especially Bura speakers of English as a second language. Majority of Bura speakers of English as second language have difficulty with the production of consonant cluster which occurs in English language. In many English words there may be an initial cluster of two or three consonants. Therefore, if a Bura speaker of English language is to speak English properly so that speakers from other countries in the world understand, he must pronounce such words that begin with two or three consonant without dropping any of the consonant or inserting a vowel between clusters.

Phonotactic constraints have been shown to play a role in second language acquisition. In second language acquisition the modifications made by non-native speakers to the production of second language syllable structure has received serious attention. More limited attention has been paid to the perception and judgment of syllable in a second language. This study would described the phonotactic constraints by examining the judgment, perception and production of word-initial and word-end consonant clusters by Bura users of English as a second language. The issues to which these tasks are relevant will first be outlined. A central issue in second language speech acquisition has been the role of the first language (Leather, 1999) and

(Major, 2001). The study therefore pose questions how can Bura speaker of English language impact speak English properly in this modern age of technology? Likewise how can the effects of miscue in consonant clusters could be in isolated in English words.

Lastly, can by investigating one phenomenon in a variety of tasks, allowed people learned about the constraints on transfer from the first language to the second language. A phenomenon which has long been observed is the epenthesis of a vowel after /s/ in English by native speakers of Bura during production that uses English for communication. Thus, Bura speaker or user of English often pronounces “school /sku:l/ as /sukul/. This well-established phenomenon served as a useful starting point in investigating what transfer is and in what L2 behavior’s it may be manifested. What causes Bura speakers epenthesis in English language sound production? Are these errors typically attributed to transfer from L1? However, how has various researchers have pointed out, the term transfer been used in different ways in the L2 learning of the English language (Hammarborg, 1997) and (Jarvis, 2000), can it be pertinent therefore to make use of well-articulated sounds to attain the required standard and comprehensive communication competence by the English users despite the fact that non-native speakers of English language may not achieve 100 percent fluency compared to native speakers called a study of this nature.

Statement of the Problem

There are scholars and researchers who had written about phonology describing many challenges associated with it, in relation to different languages in the world. Relatively, Bura language is not an exception, where the Bura speakers of English language have

challenges, specifically, consonant cluster which is still being faced with numerous pronunciation challenges which need to be clarified in a comprehensive manner in order to reduce or to completely remove the misunderstanding associated with the production of consonant cluster. Many English language speakers with different linguistic backgrounds would of course face varying degrees of difficulties in proper pronunciation of English sounds. These differences between the sound systems are regarded as barriers against competence in the pronunciation of English language sounds. This research therefore would identify and analyze the challenges associated with perception and production of consonant cluster as used by the Bura speakers of English by bringing side by side words which contain consonant clusters in order to clearly show how the Bura users of English language mispronounced them.

Objectives of the Study

The aim of this research work is to study pronunciation errors of certain consonant clusters as used by the Bura speakers of English language under the following objectives:

- (i) Identify some English language consonant clusters mispronounced by the Bura speakers of English language.
- (ii) Examine how the mispronounced consonant clusters are affected by the Bura speakers of English language and also how it distorts meaning.

Research Questions

Following research questions were raised to answered the research objectives:

- What are some of the mispronounced consonant clusters by the Bura speakers of English language?

- Has the mispronounced consonant clusters affect the Bura speakers of English language and distorts meaning.

Review of Related Literature

Consonant clusters refer to the arrangements or blends of consonants found at the beginning or end of words and syllables while, While Crystal (1991) in Ukam, & Kadiri, (2024) professes that consonant clusters are those series of adjacent sounds occurring in restricted patterns at the beginning or end of syllable, (Phoon et al., 2015), similarly, groups consonant clusters at both inception and coda positions differently. He opined that, the initial three-consonant clusters (e.g. spring), for instance, can be classified as pre-initial (e.g. /s/), initial (e.g. /p/) and post-initial (e.g. /r/), although he argues that only /s/, which is in initial cluster, whether in two- or three-consonant clusters, can be regarded as pre-initial. The author also groups coda clusters (e.g. prompts) into four different segments: pre-final (e.g. /m/), final (e.g. /p/), and post-final 1 (e.g. /t/) and post-final 2 (e.g. /s/). Repka even goes further to explain that some English words (like ‘sixths’) may not have pre-final, but have post-finals 1, 2 and 3. While in the works of Language is a complex and adaptive system of symbols and signs used for human communication (Repka, 2021). The concept of mother tongue interference has been reviewed in a number of literatures. Key to this notion is the effect of an individual’s native language upon proficiency in a second or foreign language. Mother tongue interference (MTI) might affect second language learners, particularly in the areas of transfer of structures of grammar, pronunciation and morphology from first to second language (Igwebuike et al, 2022). According to Kasap &Emamvirdi (2023),

‘mother tongue falls into two types: positive and negative transfer’ (5).

Mispronunciation and grammatical errors are the commonest type of mother tongue interference manifestations (Manrique], 2013). Hence, mispronunciation in the public domain is a crucial challenge that draws the attention of but audience and experts to the problems of effective communication (Oyewole, 2017). In this case, it is in English. English language is one of the most widely used languages in the world. It serves a key role in cross-cultural communication.

The Nigerian policy on education stipulated that each of the listed 521 indigenous languages has its own peculiar challenges in the aspect of second language learning. In this research work only Bura language in contrast to English language were investigated. Attempt was made to study some common interference between Bura and English language

Gregova (2010), associated English consonant clusters with those of Slovak, opposed that English has about 55 two-consonant clusters at onset position and 55 at coda position, making a total of 110 two-consonant clusters. The source reported that at the level of three-consonant position, the total number for onset were nine, while those of coda were 40 which usually end with the following morphemes /s, z, t, d, θ/. When combined together, three-consonant clusters acknowledged in English were 49, whereas four-consonant clusters were only seven (7). For Slovak, the source had 139 two-consonant clusters, 85 three-consonant clusters (both of which outnumbered those of English) and seven four-consonant clusters, corresponding with those of English. The study concluded that word-initial and word-final consonant clusters showed that frequency, combination

and distribution possibilities of the Slovak phonemes were higher than those of English. And that English consonant clusters could be accounted for by morphology unlike Slovak, which were not morphologically motivated.

Yuliati (2014) investigated codas, without any attention paid to onsets to show how Bahasa Indonesian speakers of English constantly deleted plural, third person and past tense form morphemes in clusters. Although the author did not introduce a theoretical model to show why Indonesian-English speakers prefer one strategy to another, the study further reveals that Indonesian speakers of English did better in the production of more than two consonants in a row. Nevertheless, they usually devoiced final consonant clusters, replacing them with voiceless sounds: they replaced clusters ending with voiced consonants such as /b, g/ with their voiceless counterparts /p, k/. Also, while obstruent consonants disappear to the most devoicing ones, consonant deletion is another repair strategy employed by Indonesian speakers in their spoken English.

Ukam, & Kadiri, (2024) investigates Consonant clusters in the spoken English of Erei-English Bilinguals, where the handling of onset and coda consonant clusters in the speech of Erei-English speakers. Chest pulse and sonority theories were adopted as theoretical frameworks, while ten subjects and 17 tokens were selected for the study. The tokens were read aloud by the subjects, recorded, saved and subjected to Praat for analysis. The findings reveal that Erei-English speakers used two strategies to modify and simplify the production of English consonant clusters: consonant deletion and vowel insertion. The subjects found it difficult to produce two or more consonants in succession at both onset and coda positions. They not only

deleted any consonant in a cluster, they also inserted a vowel(s) in-between a cluster to simplify it; a rehash of their Erei mother tongue. The study concludes that strong first language influence is the major cause of Erei-English speakers' poor performance of the correct production of consonant clusters. The empirical literature are relevant to the current study in concepts and differed in methodology.

This research adopted Ormrod's (1990) Behaviourist Theory of Language Transfer as theoretical framework. He suggested that transfer of language features depends on how similar the learning and transfer tasks are, or where identical elements are concerned in the influencing and influenced language.

Methodology

The researcher use survey in descriptive foam. The descriptive survey was used so as not to manipulate any variable. Primary data in a structured questionnaires, and interview was used. Data are organized and analyzed without altering the nature of the subject under study (Oche, 2007). Descriptive statistical tools were employed to analysis the data using mean values.

The study is situated in Biu, Borno State, Nigeria, with a particular focus on The College of Education Waka-Biu, a renowned institution established in 1986 to produce highly qualified NCE teachers. Beneficiaries of this study include students and academic staff residing in the area, as well as English language educators who aim to enhance

Results and Discussion

Table 4.1: Are the following Some English language consonant clusters mispronounced by the Bura speakers of English language

language consonant clusters mispronounced by the Bura speakers of English language	SA	A	D	SD	Total	Mean	Decision
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teaching methodologies tailored to the phonological challenges faced by Bura speakers.

The population for this study is made up 30 lecturers from college of education Waka-Biu of Borno State, Nigeria who speak Bura as a language. The choice of these populations is because they are rightly related to the subject matter.

The sample size for this study was selected using a purposive sampling technique, targeting individuals with specific characteristics relevant to the study, followed by random selection within the identified group.

The instrument for data collection was the **Consonant Cluster Pronunciation Questionnaire (CCPQ)**, developed by the researcher. It was meticulously designed to collect relevant information on the subject matter, ensuring that the questions were aligned with the study's objectives and effectively addressed the research problem

Method of Data Analysis

The data collected were analysed using specific statistical tools to ensure accuracy and relevance. The analysis focused on the average performance of respondents' responses, with a significance level set at 2.5. Responses with an average score greater than or equal to 2.5 were considered impactful, while those scoring below 2.5 were deemed to have less effect or were infrequently observed. This approach was chosen to quantify the data effectively and identify meaningful patterns in the responses.

English Consonants	Bura Sounds	Gloss									
1. /bl/	/mb/ as in <u>mbalmbala</u>	Not straight	84	21	0	0	105	3.5	Agreed		
2. /br/	/msh/ as in <u>mshatu</u>	Swift	72	33	2	0	107	3.6	Agreed		
3. /sk/	/mpl/ as in <u>mplimta</u>	Loose	72	30	4	0	106	3.5	Agreed		
4. /kr/	/nk/ as in <u>nkamta</u>	Knock down	56	33	6	2	97	3.2	Agreed		
5. /kl/	/nkw/ as in <u>ankwa</u>	Hand cuff	68	33	2	2	105	3.5	Agreed		
6. /pr/	/ng/ as in <u>ngamta</u>	Cover	56	45	2	2	105	3.5	Agreed		
7. /ink/	/gy/ as in <u>gyale</u>	Play	36	54	6	0	96	3.2	Agreed		
8. /stj/	/mpw/ as in <u>mpwa</u>	Flour	32	45	12	1	90	3.0	Agreed		
9. /tj/	/pw/ as in <u>pwaktar</u>	Deceive	4	12	20	15	51	1.7	Disagreed		
10. /bj/	/kw/ as in <u>kwangli</u>	Basin	47	30	13	2	92	3.1	Agreed		
11. /pl/	/mp/as <u>mpamtah</u>	Fight off	12	4	15	22		1.8	Disagreed		

Source: Researcher's computation 2024.

The table presents an analysis of English consonant clusters that are frequently mispronounced by Bura speakers of English. Each row in the table corresponds to a specific consonant cluster, its substituted Bura sound, and its contextual meaning. For example, the English consonant cluster /bl/ is substituted with /mb/ in Bura, as in *mbalmbala*, which means "not straight." Similarly, /br/ is pronounced as /msh/, as in *mshatu*, meaning "swift." The substitution patterns reflect the phonological differences between English and Bura.

it also includes columns for respondents' ratings, categorised as Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). These ratings indicate the extent to which respondents agreed that a particular cluster is mispronounced. The total responses for each cluster were summed, and the mean score was calculated to determine the overall agreement. A mean score of 2.5 or higher indicates consensus among respondents that the

mispronunciation is common, while a mean score below 2.5 indicates disagreement.

It reveals that most of the English consonant clusters investigated were widely agreed upon as being mispronounced by Bura speakers. For example, /bl/ was substituted with /mb/, and /br/ was substituted with /msh/, both of which received mean scores of 3.5 and 3.6, respectively. Other clusters, such as /sk/ substituted with /mpl/ and /kl/ substituted with /nkw/, also showed high levels of agreement with mean scores of 3.5 each. These results highlight that certain clusters pose significant challenges for Bura speakers due to their absence or variation in the Bura phonological system.

However, a few clusters, such as /tj/ and /pl/, were not commonly mispronounced, with mean scores of 1.7 and 1.8, respectively. This indicates that these sounds may either be more similar to native Bura phonemes or less frequently encountered in English usage among the speakers.

Table 4.2: The Following are some of the Mispronounced consonant clusters as it's distorts words meaning to the Bura speakers of English language

S/N	Respondent	Questions items	SA	A	D	SD	Total	Mean	Decision
	Bura Pronunciations	English Pronunciations							
1.	Supun	Instead of Spoon	56	45	1	3	105	3.5	Agreed
2.	Sukul	Instead of School	30	47	10	5	92	3.1	Agreed
3.	Sutobon	Instead of Stubborn	54	36	0	6	96	3.2	Agreed
4.	Sucropulos	Instead of Scrupulous	72	30	0	4	106	3.5	Agreed
5.	Sukul	Instead of Screw	33	56	2	6	97	3.2	Agreed
6.	Kuloster	Instead of Cluster	30	47	2	13	92	3.1	Agreed
7.	Kulob	Instead of Club	33	68	3	1	105	3.5	Agreed
8.	Bulok	Instead of Block	47	30	12	6	92	3.1	Agreed
9.	Kuros	Instead of Cross	70	32	4	0	106	3.5	Agreed
10.	Burok	Instead of Broke	60	51	2	2	105	3.5	Agreed
11.	Sikkistin	Instead of Siksteen	50	61	2	3	106	3.5	Agreed
12.	Purobulem	Instead of Problem	38	52	2	4	96	3.2	Agreed
13.	Puoposal	Instead of Proposal	37	40	8	7	92	3.1	Agreed
14.	Transkiraib	Instead of Transcribe	69	35	2	0	106	3.5	Agreed
15.	Konkulozon	Instead of Conclusion	26	51	13	2	92	3.1	Agreed
16.	Stoopid	Instead of Stupid	28	54	10	0	92	3.1	Agreed
17.	Ton	Instead of Tune	36	54	6	0	96	3.2	Agreed
18.	Kulob	Instead of Closed	59	30	8	0	97	3.2	Agreed
19.	Stoodents	Instead of Students	32	47	13	0	92	3.1	Agreed
20.	Gurowing	Instead of Growing	32	45	12	1	90	3.0	Agreed
21.	Aks	Instead of Ask	73	31	2	0	106	3.5	Agreed
22.	Inkuludin	Instead of Including	44	51	8	2	105	3.5	Agreed
23.	Sukop	Instead of Scope	34	55	0	6	95	3.2	Agreed
24.	Sekatare	Instead of Secretary	72	33	2	0	107	3.6	Agreed
25.	Espert	Instead of Expert	34	56	0	6	96	3.2	Agreed
26.	Contriboot	Instead of Contribute	22	54	16	0	92	3.1	Agreed
27.	Purocess	Instead of Process	74	30	2	1	107	3.6	Agreed
28.	Takus	Instead of Task	4	12	20	15	51	1.7	Disagreed
29.	Purunciation	Instead of Pronunciation	70	34	0	2	106	3.5	Agreed

30.	Puroperly	Instead of Properly	40	56	0	0	96	3.2	Agreed
31.	Pulommbber	Instead of Plumber	10	8	26	6	51	1.7	Disagreed

Source: Researcher's computation 2024.

The computed results of some of the Mispronounced consonant clusters as it's distorts words meaning to the Bura speakers of English language, on table 4.2 reveals the thirty (30) responses of the respondents as follows: all the responses from questions 1-27, 29 and 30 were of the views that yes they actually distort the meaning of words in English but only items 28 and 31 were of different views. This shows that mispronounced wordings are of greater in number that has impact to English language speakers.

Discussion of Findings

The study identifies significant phonological challenges faced by Bura speakers of English, particularly in pronouncing consonant clusters. These challenges align with previous research on language transfer, where the first language (L1) influences second language (L2) production. Bura speakers often mispronounce English consonant clusters by inserting vowels between consonants (epenthesis), a common strategy when L1 phonological rules differ from L2 rules. For instance, /bl/ is pronounced as /mb/ and /br/ as /msh/. Additionally, certain consonant sounds are substituted, such as /kr/ being pronounced as /nk/. These phonological patterns reflect the simpler syllable structure of Bura, which lacks complex consonant clusters.

The study also highlights the impact of these mispronunciations on communication, potentially causing misunderstandings. The research emphasizes the role of language transfer, with Bura speakers applying L1 phonotactic patterns to English. The findings suggest that these challenges extend across various consonant clusters, requiring targeted teaching strategies to improve pronunciation and intelligibility. Ultimately, the study contributes to

understanding how phonological constraints from the first language affect second language acquisition, offering insights for more effective language instruction (Ukam & Kadiri, 2024).

Summary

The paper explores the challenges faced by Bura speakers of English as a second language, particularly concerning the pronunciation of consonant clusters in English. Consonant clusters, which involve adjacent consonants at the beginning or end of words, are common in English but often absent in many Nigerian languages, including Bura. This linguistic discrepancy creates significant pronunciation difficulties for Bura speakers, especially in words with initial or final consonant clusters. It highlights how the mispronunciation of these clusters leads to errors like vowel insertion (epenthesis), a phenomenon where Bura speakers insert vowels between consonants, which affects the clarity and comprehension of English words. For example, "school" may be pronounced as "sukul" by Bura speakers.

The study also investigates how these pronunciation issues are influenced by the first language (L1) of the speakers and the transfer of phonological features from Bura to English. It reviews existing literature on consonant clusters and language transfer, citing studies that discuss similar issues in other languages, such as Indonesian and Slovak. The research specifically focuses on Bura speakers in Nigeria and uses a descriptive survey methodology, gathering data from lecturers at the College of Education Waka-Biu. The findings reveal that Bura speakers frequently mispronounce consonant clusters, leading to distorted meanings in English communication. The study also provides statistical analysis of these errors, showing which

consonant clusters are most commonly mispronounced.

The study aims to identify the specific consonant clusters mispronounced by Bura speakers and analyze how these mispronunciations affect communication. It also investigates the role of phonotactic constraints and language transfer in the production and perception of English consonant clusters by Bura speakers. The ultimate goal is to better understand the challenges Bura speakers face in learning English pronunciation and to propose strategies for improving their language skills.

Recommendations based on the objectives

1. Targeted Pronunciation Intervention for

Mispronounced Consonant Clusters: The findings of the study indicate that certain consonant clusters are frequently mispronounced by Bura speakers of English. It is recommended that pronunciation interventions be developed to address these specific clusters. Teachers and speech therapists should focus on these clusters through repetitive drills, phonetic exercises, and auditory discrimination tasks to improve accuracy in their production. Additionally, integrating technology such as speech recognition tools could be beneficial in providing real-time feedback for learners, thus reinforcing correct pronunciation and helping to minimize errors.

2. Addressing Phonological Transfer from

Bura to English: The study also revealed that the mispronunciation of consonant clusters is influenced by the phonological structure of the Bura language. It is recommended that English language instruction for Bura speakers incorporate an understanding of these phonological differences. Teachers should emphasize the contrastive aspects between Bura and English phonology, particularly focusing on

consonant clusters. By raising awareness of these differences and offering strategies to overcome them, Bura speakers can better adjust their speech patterns, leading to improved communication and a reduction in the distortion of meaning caused by mispronunciations.

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