

Phonological Analysis of Errors in the Realization of Consonant Cluster System Encountered by Koro Ashe ESL Learners

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Abstract

This paper analyzes phonological errors in the realization of English consonant clusters system by Koro Ashe ESL learners with the hope of improving their spoken aspect of English. The population of this study consists of Eighty (80) Koro Ashe ESL learners of English in Nasarawa State University Keffi Nigeria. Out of this population, fifty (50) were randomly selected to carry out the investigation. The instrument used in collecting data for this investigation was Oral Production Test (OPT), a pronunciation test that assessed participants' CCs pronunciations. The theoretical framework used in this paper was Error Analysis Theory (EA). The instrument employed to analyze the data was simple percentage. The result of the findings showed that most Koro Ashe learners of English do encounter CCs pronunciation difficulties in both the onset and coda positions. However, most errors occurred in the coda position, especially, the three to four CCs patterns (-CCC -CCCC) and the CCs with the dental fricative/stop either at the onset or the final position. It was also discovered that, the subjects used strategies such as epenthesis, deletion, substitution, or some combination thereof to simplify their CCs realization. It was recommended that, while teaching consonant clusters to Koro Ashe learners of English emphasis should be on three to four CCs patterns (-CCC -CCCC) and CCs with the dental fricative/stop either at the onset or the final positions. Also, the spoken aspect of English should be taught earlier in kindergarten or primary school to eliminate the challenges that mostly affect adult learners of English.

Keywords: Phonology, Error, Error Analysis, Consonant Cluster, English, Koro Ashe.

Introduction

This paper undertakes a phonological analysis of errors in the realization of English consonant clusters (CCs) system by Koro Ashe learners of English with a view of helping the study populace to improve in their spoken English. The Koro Ashe traced its origin from the then defunct Kwararafa of the Benue -Congo sub linguistic group and are predominantly located in Karu and Kagarko Local Government Areas of Nasarawa and Kaduna States, Nigeria (Igube 2005). According to the 2006 population census, the estimated population of Koro Ashe in both Karu and Kagarko Local Government Areas in Kaduna and Nasarawa States was 143,832. Jatau (2023) cited in Blench (2009) identifies the two standard varieties of Koro Ashe; they are Koro Ashe *Itorn* /itōr/ and the Koro Ashe *Icheck* /intʃek/. Below is the glossary that distinguishes the two varieties:

Koro Ashe Itorn /itōr/ and the Koro Ashe Icheck /intʃek/ dialects

Icheck /intʃek/ Dialect	Itorn /itōr/ Dialect	Gloss
Feng /fɛŋ/ L	Hweng /hweŋ/ L	To know
Izē /izē/ L-H	izhē /izhē/ L-H	Foolishness
Isa /isa/ L-L	Isha /ifa/ L-L	Jealousy

English language on the other hand, a Germanic language that was first spoken in the early Medieval England, is now a global lingua Franca, named after the Angles, one of the Germanic tribes from England. English is the third most spread language in the world after standard Chinese and Spanish (Jatau 2023). English is an official language in Nigeria used as a medium of communication in the domains of government, the law, the media, international commerce, record keeping, and educational system. English also serves as a unifying factor, a lingua franca, a mark of elitism, a license for the acquisition of profitable and prestigious jobs and admissions into most tertiary institutions Nigeria. In fact, one would say that English language has come to stay in Nigeria and it has been favored over our indigenous languages (Jatau, 1bid)

Despite the importance and prestige accorded to English language in Nigeria, Koro Ashe learners of English do have pronunciation difficulties largely attributed to the negative transfer of the features of L₁ (Koro Ashe) to the target language (English). Sometimes the phenomenon of negative transfer may result to hearing odd expressions, unintelligible speeches and misinterpretations of message being communicated (Jatau, 1bid). For instance, most Koro Ashe learners and speakers of English do have problem in realizing correctly three to four CCs patterns (-CCC –CCCC) and CCs with the dental fricative/stop either at the onset or the final positions. For instance, in realizing the word 'months' /mʌnθs/, one of the CCs (dental fricative) /θ/ is deleted to be realized as /monts/. Likewise, pronouncing the word 'Swifts' /swifts/, one of the CCs /t/ is deleted to be realized as /swifs/. In realizing the word 'thanked' /θæŋkt/, one of the CCs /k/ was elided and /t/ is substituted for /d/ to realize as θæŋd/. Most of these errors from the above examples is caused by negative interference L₁ (Koro Ashe) to the target language.

Every language has its unique syllable structure and it is regarded as the basic unit in speech. The difference between the syllable structure of English and Koro Ashe contributes to the challenge the Koro Ashe learners have with regard to the realization of CCs. Jatau (2012) reveals that Koro Ashe have simple syllable structures that is made up of: v, c, v –v, cv, v –cv, v –cv –cv –cv and v -cvc respectively as it shown in the data above. However, English has both simple and complex syllable structures that is made up of: v [ai], cv [nəu], cvc [bæn], ccvc [freʃ], ccv [skai], ccvvn [strɪŋ], cvcc [θæŋk, cvccc [tempt] and cvcccc [temptʃ]. The consonant cluster which is a common feature of English syllables is grossly absent in Koro Ashe. This poses a great challenge to the study populace. This paper aims to undertake phonological analysis of errors in the realization of English CCs system of Koro Ashe learners of English.

Statement of the Problem

Koro Ashe learners of English do have pronunciation difficulties in the realization of consonant cluster of English largely attributed to the negative transfer of the features of L1 (Koro Ashe) to the target language (English) and couple with the difference that exists between the syllable structure of English and Koro Ashe. Jatau (2012) reveals that Koro Ashe have simple syllable structures that is made up of: v [ai] 'take', v-v [æi] 'house', cv [ba] 'come', v -cv [igum] "tilapia fish", v -cv -cv [ebana] 'sweet' and v -cvc [igan] 'giant' respectively. However, English has both simple and complex syllable structures that is made up of: v [ai], cv [nəu], cvc [bæn], ccvc [freʃ], ccv [skai], cccvn [striŋ], cvcc [θæŋk], cvccc [tempt] and cvcccc [tempt]. This difference of syllabic structures poses realization challenge to the study populace. For instance, most Koro Ashe learners and speakers of English do have problem in realizing correctly three to four CCs patterns (-CCC-CCCC) and CCs with the dental fricative/stop either at the onset or the final positions. In realizing the word 'months' /mʌnθs/, one of the CCs (dental fricative) /θ/ is deleted to be realized as /monts/. For the word 'Swifts' /swifts/, one of the CCs /t/ is deleted to be realized as /swifs/. Also, in realizing the word 'thanked' /θæŋkt/, one of the CCs /k/ was elided and /t/ is substituted for /d/ to realize as θæŋd/.

Also, the English complex syllable structures that is made up of two, three or four clusters as in ccvc [freʃ], ccv [skai], cccvn [striŋ], cvcc [θæŋk], cvccc [tempt] and cvcccc [tempt] pose great challenge to the study populace which leads mispronunciation challenge that resulted to odd expressions, unintelligible speeches and misinterpretations of message being communicated (Jatau, 2012). It is in consonant to these challenges that the researcher examines the pronunciation errors in the realization of English CCs system of Koro Ashe learners of English with the view of helping the study populace to improve in their spoken English.

Objectives of the Study

The objectives of this paper are to:

1. Identify the areas of pronunciation difficulty with regard to the realization of English consonant clusters among Koro Ashe learners of English.
2. Examine the cause(s) of the difficulty with regard to the realization of English consonant clusters among Koro Ashe learners of English.
3. Proffer solutions with regard to the problem identified.

Research Questions

1. What are the areas of pronunciation difficulty with regard to the realization of English consonant clusters among Koro Ashe learners of English?
2. What are the causes of the difficulty with regard to the realization of English consonant clusters among Koro Ashe learners of English?
3. What are some of the solutions regarding the realization of English consonant clusters among Koro Ashe learners of English?

Significance of the Study

This study is significant in the sense that:

1. The study will help to unveil the areas of pronunciation difficulty with regard to the realization of English consonant clusters thereby helping Koro Ashe ESL teachers for improve pedagogy
2. It provides Koro Ashe learners with a kind of feedback on their pronunciation proficiency weaknesses for better performance in spoken English and remedial teaching.
3. The study will be of curriculum designers and textbooks writers to come up with suitable teaching materials for the study populace

Literature Review

The following are reviews of concepts related to the topic of the paper.

Phonology

There are several definitions of the terms 'phonology' as we have many linguists and phoneticians. Some of the definitions were comprehensive enough, while others are not. First among the definitions is the one given by Cruttenden, who defines phonology as a branch of language study that concerns with how sounds function in a systematic way in a particular language (2001). This definition is comprehensive as it talks about functionality of sounds in a particular language. Haggins et al define Phonology as the investigation of how sounds and meanings are connected (2015). This definition is not comprehensive enough to account for how sounds and meanings are connected in a given language. Denham sees phonology as the study of the sound system and processes we use to discover the unconscious system underlying our speech (2010). The definition by Denham is incomplete because he could not link the definition to a particular language. Jatau (2012) defines phonology as the study of the features of speech sounds in a given language. From the definitions above, phonology studies sound system of a particular language.

Consonant Cluster

Consonant cluster which is also called "*consonant blend*" has been defined variously by scholars; first among them, is the definition by Uzuanyi (2010), who sees consonant cluster as a sequence two, or more consonant sounds in a syllable or word without an intervening vowel. Richards and Schmidt (2002) define consonant clusters as a sequence of two or more consonant at the beginning, medial and end of a syllable. Consonant clusters are instances of two, three, or four consonants pronounced in succession without a vowel sound in-between. (Olufunmilayo, 2017). He maintains that researches on various languages of the world have proved that some languages have consonant clusters while others do not have. Scholars such as Cruttenden (2001), Richards and Schmidt (2002), Olufunmilayo, (2017) and Jatau (2021) all concord that, most Nigerians and Koro Ashe inclusive do have problems realizing, and perceiving consonant clusters of English whose mother tongues have

different syllabic structures and couples to the ways sounds are distributed in English and in Nigerians languages.

Commenting on the problem, Richards and Schmidt (2002) posit that, consonant cluster reduction is common in language learning, when the target language permits sequences of consonants that do not occur in the learner's native language. Thus, English final clusters of three or four consonants are often simplified by dropping a middle consonant. For example, the word "facts" /fæktz/ which ends with the clusters /-kts/ is pronounced as /fæks/, thus, the medial consonant /-t/ is being dropped to simplify its production. Supporting the above claim, Stewart and Nathan (ibid) maintain that, most Nigerians and other L2 speakers of English do insert a vowel in between the consonants or delete one of the consonants to make the pronunciation easier. The researcher adds that the most problematic consonant clusters that pose problem in terms of realization to most Nigerians speakers of English, is the dental fricative /θ/ as found in words like "fifths" /fifθs/ and "sixths" /siksθs/ respectively. What most Nigerians and other L2 speakers of English do is to delete the dental fricative /θ/ to simplify their productions. However, in words such as "split" /split/, and "screw" /skru:/, the vowel /i/ and /u/ are inserted to make their production easier.

Pointing at the cause(s) of the problem with regard to consonant clusters production, Jatau (2012) associates the cause of the problem to the differences between the syllabic structures of most of the L1 (Nigerians languages), the ways sounds are distributed in English, the absence consonant clusters in most of our Nigerian languages and differences in the phonotactics system of English and those of L1 (Koro Ashe).

Error

The term 'error', has been defined variously by different linguist and scholars. Among them, we have the definition given by Corder (1967) defines errors as a form of in learners' language that is inaccurate, and it is different from the form used by the competent speakers of the language. Brown (2000) defines linguistics errors as "a noticeable deviation from the adult grammar of native speaker, reflecting the interlanguage competence of the learners". It is important to note that these definitions above seem to stress that, error is the systematic deviations arising from the incomplete learning or reflecting the interlanguage competence of learners. The occurrence of errors doesn't only indicate that the learner has not learned something yet, but it gives the teacher the idea of whether the teaching methods applied were not effective or they need to be changed.

Attempts have been made by linguists, error analysts and scholars to differentiate between "errors and mistakes" among them we have view of Corder (1967) maintains that mistakes are of no significance to the process of language learning, but error has. Chomsky (1967) maintains that errors are thought as indication of an incomplete learning and that the speaker or hearer has not yet accumulated satisfied language which can enable them to avoid linguistics misuse. Relating 'competence' and 'performance' Chomsky (ibid) asserts that, the competence of speaker is judge by the means of errors that concern in the amount

of linguistic data he or she has been exposed to. 'Performance' on the other hand is the actual use of language, and does not represent the language knowledge of the speaker.

Brown (2000) posits that, errors result from the learners' lack of proper grammatical knowledge, while mistakes are seen as failure to utilize a known system correctly. Brown calls these mistakes "performance errors" and mistakes are inevitable to both native and second language learners. Jatau (2012) cited in Selinker (1972) sees errors part of learner's inter-language, and the learner does not generally consider them as errors. They are errors only from the prospective of teachers and others who are aware of those learners have departed from a language norm.

Corder was the first to point out and discuss the importance of errors learners make in the course of their learning second language (L2). Soon after the analysis of the learner's errors took a prominent place in Applied Linguistics. Corder cited in Brown (2000) maintains that, learners' errors are significant because they provide the researcher evidence of how language is learned or acquired, what strategies the learner is employing in the discovery of language.

Empirical Studies

Various studies were done by Nigerians on consonant cluster production by L2 learn with difficulties faced by Nigerian L2 learners of English as done by Nigerians; among them was the study made by Eman & Anwar (2021) carried out a study on the pronunciation difficulty of selected English consonant clusters (CCs) encountered by Saudi EFL learners. The sample consisted of 134 female Saudi EFL students in their freshman year in the English Department at Najran University. Two instruments were used: a pronunciation test that assessed participants' CC pronunciations in the onset and coda positions and a questionnaire that explored participants' attitudes towards their CC pronunciations. This study provides detailed data on the participants' pronunciation difficulties using Optimality Theory (OT). The results showed that the participants encountered CC pronunciation difficulties in both the onset and coda positions. Participants used different strategies to simplify their CC pronunciations: epenthesis, deletion, substitution, or some combination thereof.

Olufunmilayo (2017) examines patterns of consonant cluster production of English words by selected Undergraduate Yoruba English Bilinguals (UYEB). It also identifies phonological processes such as deletion and epenthesis in respondents' pronunciation and compared subjects' renditions with standard British English which is the target in English as a second language (ESL) in Nigeria. These were done with a view to assessing the implications of their renditions for communication in English as a Second Language (ESL) environment. Sixty undergraduate students were purposively selected from the three levels of higher institutions of learning; College of Education, Polytechnic and University. The respondents were required to read aloud 50 dictionary-sourced consonant-clustered English words and a passage containing a large number of these words for collaborative validation. In addition to that, there was a questionnaire drawn to elicit information from participants on their

personal data. The data of this study was transcribed and analyzed using WASP version 1.5 and theoretical insights were drawn from Optimality Theory (OT) of Prince and Smolensky. The findings reveal that Undergraduate Yoruba English Bilinguals (UYEB) did not realize native-like clusters. There were varieties in their cluster rendition. The research concludes that not all L1-L2 transfer are negative transfer, Also the difficulty encountered by respondents was a result of markedness in most cases which was accounted for using (Optimality Theory) OT.

Ikima (2012) in a study on the Tiv speakers of the English language as a second language reveals how the Tiv deal with complex syllables margins in their second language pronunciation with emphasis on pronunciation of complex English syllables. It accounted for errors that emanated from pronunciation of English syllables that contain consonant clusters. In the study, he discovered that Universal markedness of consonant clusters is a significant factor that motivates Tiv bilingual to simplify complex syllable margins in their English pronunciation. Using Optimality Theory, (OT), he accounted for the errors of syllable pronunciation of the Tiv/English Bilinguals. This study exposed that Tiv/English bilingual's use epenthesis to simplify syllable, which reflect the simple nature of the Tiv phonotactic syllable structure. The study only examined cluster at the intra-syllabic level leaving out the inter-syllabic clusters.

Ishaya & Yakubu (2014) in an investigation on pronunciation problems among Jukun (Wapan) speakers of English provides information on why these problems possibly occur and the specific English phonemes that Wapan speakers of English find difficult to pronounce or articulate. The study revealed that, pronunciation problems among the people are traceable to L1 transfer but in spite of this "we cannot generalize because even among the people, ranging from the very highly educated to those with limited education we find a very great range of usage". Another area of pronunciation difficulty among Wapan speakers of English is consonant clusters

From the foregoing empirical studies, one can deduce that studies on consonant clusters realization in Nigerian context are few, most especially Koro Ashe. It is in consonance of this gap that the paper is meant to fill.

"Consonant clusters are treated as integral part in the study on pronunciation. There is the need to go into comprehensive research on consonant clusters production in Nigeria as one of the factors informing the advocated Nigerian English.

Theoretical Framework

Error Analysis (EA):

Error Analysis, a branch of applied linguistics developed by Pit Corder in 1960s to refer to the analysis of errors made by second and foreign language learners. It is process to observe, analyze and classify the deviation of the rules of the language. Crystal (2001), defines EA as a technique for identifying, classifying, systematically interpreting the unacceptable forms produce by someone learning the foreign language. Corder (ibid) defines EA as a method use to document the errors that appear in learner's language,

determine whether those errors that are systematic, and if (possible) explain what causes them. Richards, et al (ibid), define EA as an activity to reveal errors committed by students both in writing and in speaking. They maintain that, Error Analysis studies errors made by L2 and the foreign language learners. Brown (2000) sees EA as the processes to observe, analyze, and classify the deviations of the rules of the L2 and then to reveal the systems operated by the learner.

EA is done to find out the level of language proficiency the learner has reached, obtain information about common difficulties in language learning and finding out how people learn a language. The two types of errors are interlingual errors and intralingual errors. The former deals with negative influence of L1 and the linguistics difference between the L1 and the target language (English), while the later has to do with the misuse of a particular rule of the target language and due to faulty learning of the L2. Steps in Error Analysis include; collection of errors, identification of errors, description of Errors.

Error Analysis developed as a branch of Applied Linguistic in the 1960s and set out to demonstrate that many learners were not due to the learner's mother tongue, but reflected Universal learning strategies. Speaking concerning the emergence of EA, Richards et al (ibid) assert that EA was developed as a branch of linguistic in the 1960's and it came to light to argue that mother tongue (L1) was not the main and the only source of errors committed by learners. According to this source, EA helps to identify the strategies used in both teaching and learning, identify the causes of the learner's errors, investigating the motives behind committing such errors, and the attempt to eradicate them, obtain information on common difficulties in language learning, as it will serve as an aid to teaching or in the preparation of the teaching materials. Errors committed by L2 foreign language learners are inevitable in language learning. Though making an error, and hearing the correct form from the teacher, it will help the learners to develop their skills. So, errors and their analyses are important for both the learners and the teachers.

Thus, Ali (2011) sees EA as the examination of those errors committed by students in both spoken and written medium, i.e., it focuses on the errors learners make in attempt to communicate using the target language (English). Richards and Schmidt (2002) define EA as a technique for identifying and systematically interpreting the unacceptable forms of a language in the production data of someone learning the foreign or second language. Such systematic analyses of errors eventually provide useful insight about the system operating in the learner's mind and reveals the learner's knowledge about the grammatical system of the target language. In order to identifying what is exactly lacking in the learner's competence, EA brings the problem areas to the attention of the teachers, syllabus designers, and textbooks writers and suggest remedial action to overcome such errors. Richards and Schmidt (ibid) also define EA as the study and analysis of the errors made by second language learners. According to them, EA may be carried out in order to:

- a. Identify strategies which learners use in language learning.
- b. Identify the causes of learners' errors.

- c. Obtain information on common difficulties in language learning, as an aid to teaching or in the preparation of teaching materials.

Corder (1967) cited in Ali (2011) asserts that, the study of errors is part of the investigation of the process of language learning. In this respect, it resembles the methodology of the study of acquisition of the mother tongue. EA provides us with the picture of the linguistic development of the learners and give out indication as the learning process. However, the attempt made to put the error into context has always gone hand in hand with both language learning and the language acquisition processes. Errors are signals that indicate an actual learning process taking place and that the learner has not yet mastered structured the language.

The major causes of errors coined by EA approach are Interlingua error which is an error caused by the learners' linguistic background and native language interference and intra-lingual error is caused by the learners' misuse some of target language rules. According to Dulay et al (1982) assert that) errors take place when the learners change the surface structure in a particularly systematic manner. Thus, the error no matter what form and type it refers to the damage at the level of the target language production.

Talking about the inter-lingual error (also called interference), Richards et-al (ibid) assert that the inter-lingual error is caused by the interference of the native language (L1) whereby the learners tend to use their linguistic knowledge of L1 on some linguistic features of the target language (L2). They simply define inter-lingual error as an error that takes place due to a particular rule of the target language. It is quite the opposite of inter-lingual error; it puts the L2 into focus, while the target language in this perspective is taught as an error cause. Richards et al (ibid) consider it as one which results from "faulty" or "partial" learning of the target language.

They further classify intra lingual error into: overgeneralizations (a situation the L2 learner, apply the rule in cases where it doesn't apply); Simplification (they are resulting from learner's simpler linguistic forms than those of the L2; developmental error (in somehow part of overgeneralization, e.g. "come-comed"); Induce errors (also called transfer of training errors) caused by misleading teaching examples, teachers, sometimes unconditional explain a rule without highlighting the expectation. Error of avoidance; it occurs when the learners fail to apply certain L2 rules just because they are thought to too difficult, e.g. 'through' /θru/ is pronounced /tru:/; this the error of overproduction this mostly happen to beginners.

Bussmann (1996) classifies errors according to: modality (errors classify according to level of proficiency in speaking, writing, listening, and reading); levels (errors at the level of pronunciation, grammar, vocabulary and style); level of form (the errors here include; omission, insertion, substitution); errors according to types (these include; systematic errors, errors in competence, occasional errors and the errors in performance); cause level (this include; interference and inter-language); and error according to norm and system.

Corder (ibid) classifies errors according to the basic types: omissive, additive, substitutive or related to word order. Error can be classified by how apparent they are: overt errors are

obvious even out of context and convert errors which are evident only on context. Error may be also classified according to the level of language: phonological error, vocabulary or lexical errors, syntactic errors so on. Finally, they may be assessed according to the degree to which they interfere with communication: global errors which make an utterance difficult to understand, while local error does not.

Brown (2000) asserts that the process of learning the second language is not very different from L₁, and the feedback an L₂ learner gets up on making errors benefits him in developing the second language knowledge. Corder (ibid) posits that, the main achievements of EA consist of change of perspective. Firstly, learners' errors were no longer regarded as "sign of inhabitation" that needed to be eradicated; instead, they were regarded as useful "evidence of learning strategies and perfectly natural aspect of language acquisition. Secondly, it broadens the perspective on the possible causes of errors. Researchers recognized that L₁ is not the only or the most important factor that led to error.

Despite the criticism against EA, the importance of EA to the teachers, researchers, and the learners cannot be overemphasized. EA tells the teacher about the progress the learner made in the process learning the target language and consequently what remain for him to learn. It provides the researcher with evidence of how language is learned or acquired and what strategies or procedures the learner is employing in his discovering of the language. To the learner, errors are devices indicate the learning is taking place or in progress.

Method

Research Design

The research design employed in this paper was descriptive survey approach which help to examine the phonological analysis of errors on the realization of English CCs system by Koro Ashe speakers of English in Nasarawa State University with the hope of helping the study populace to improve in their spoken English.

Population

The population of this study consists of Eighty (80) Koro Ashe ESL learners of English in Nasarawa State University Keffi Nigeria.

Sampling Technique

Out of the population Eighty (80) Koro Ashe ESL learners of English in Nasarawa State University Keffi Nigeria. Fifty (50) were randomly selected to carry out the investigation.

Instrument of Data Collection

The instrument used in collecting data for this investigation was Oral Production Test (OPT), an instrument developed by Educational Testing Service (ETS) was an instrument used in collecting the primary data from the subjects.

Method of Data Collection

In this case, appointments were made with each of the participants to collect their responses. A list of 39 words that have consonant clusters were displayed onscreen or paper for the respondents to pronounce. Each participant was given some times to peruse the word lists. After then, they were asked to pronounce thirty-nine (39) words that have consonant clusters (CCs) while their oral speeches were tape – recorded using audio recording system done in a place devoid of noise and which has the capability of increase the quality of sounds. Although video recording would have been more effective but the researcher believed it could introduce an exhibiting factor in more timid participants and the researcher did not have a hidden camera, therefore the video recording option was discarded and left for future approaches to the subject.

Technique for Data Analysis

In order to ensure effective analysis of the data collected from the field of study, the data collected were played several times, listened, transcribed and tabulated in order to ascertain their errors. Also, the researcher used simple percentage as the technique to analyze and interpret the result of this investigation. The formulae adopted is as follow:

$$\text{Percentage} = \frac{F \times 100}{N - 1}$$

Data Analysis

Table 1: Respondents' Oral Production Tests on Words with CCs

S/N	Words	IPA	Deviation	No of students pass & percentages	No of students fail & percentages
1.	Swifts	/swifts/	/swifs/	10 (20%)	40 (80%)
2.	Intrudes	/intru:dz/	/intru:s/	15 (30%)	75 (70%)
3.	Roughed	/rʌft/	/rofd/	15 (25%)	35 (75%)
4.	Cracks	/kræks/	/kræs/	20 (40%)	30 (60%)
5.	Tests	/t ε:sts/	/t ε:s/	15 (30%)	35 (70%)
6.	Castled	/ka:sld	/ka:stil/	20 (40%)	3 (60%)
7.	Squirt	/skwɜ:t/	skuwɜ:t	40 (80%)	10 (20%)
8.	Symbols	/simblz/	/simbols/	20 (40%)	30 (60%)
9.	Colds	/kəuldz/	/kəuls/	5 (10%)	45 (90%)
10.	Sentenced	/s ε:ntənst/	/sentənsd/	40 (80%)	10 (20%)
11.	Threats	/θr ε:dz/	/tr ε:ts/	15 (25%)	35 (75%)
12.	Months	/mʌnθs/	/monts/	10 (20%)	40 (20%)
13.	Thanked	/θæŋkt/	/θæŋkd/	40 (80%)	10 (20%)

The findings above indicate that, 20% of the respondents were able to pronounce the word 'Swifts' /swifts/ correctly, while the remaining 80% of them could not as one of the CCs /t/ was deleted to realize /swifs/. As for the word 'intrudes' /intru:dz/, 30% of the respondents pronounced the word correctly, while 70% of the respondents could not as one of the CCs /z/ was substituted for /s/ to realize /intru:ds/. For realization of the word 'rough' /rʌft/, 25% of the respondents pronounced the word correctly, while 75% of them could not, as one of the CCs /t/ was substituted for /d/ to realize /rʌfd/. In the realization of the word 'cracks' /kræks/ 40% of the respondents got the pronunciation of the word correctly while the remaining 60% of the respondents could not as one of the CCs /k/ was elided to realize /kræs/.

For the pronunciation of the word 'tests' /t ɛ:sts/ 30% of the respondents got the pronunciation of the word correctly while the remaining 70% of the respondents could not, as the CCs /ts/ were deleted to realized /t ɛ:s/. In realizing the word 'castled' /ka:sld/, 40% of the respondents got the pronunciation of the word correctly while the remaining 60% of the respondents could not, as the vowel /u/ was inserted between the CCs /sl/ and one of the CCs /d/ deleted to realize /ka:sul/. For the realization of the word 'squirts' /skwɜ:ts/, 40% of the respondents got the pronunciation of the word correctly while the remaining 60% of the respondents could not, as the vowel /u/ was inserted between the CCs /kw/ to realize /skuwɜ:t/. for the realization of the word 'symbols' /simblz/ 40% of the respondents got the pronunciation of the word correctly while the remaining 60% of the respondents could not, as the vowel /ɔ/ was inserted and one of the CCs /s/ was substituted for /s/ to pronounce /simblos/.

For the realization of the word 'colds' /kəʊldz/ only 10% of the respondents got the pronunciation of the word correctly while the remaining 90% of the respondents could not, as one of the CCs /d/ was deleted to realize /kəʊls/. For the production of the word 'sentenced', /sɛ:ntənst/, 30% of the respondents got the pronunciation of the word correctly while the remaining 70% of the respondents could not, as one of the CCs /d/ was substituted for /t/ to realized /sentənsd/. In pronouncing the word 'threats' /θr ɛ:dz/, 25% of the respondents got the pronunciation of the word correctly while the remaining 75% of the respondents could not, as one of the initial CCs /θ/ was substituted for /t/ to realize tr ɛ:ts/. While pronouncing the word 'months' /mʌnθs/, 20% of the respondents got the pronunciation of the word correctly while the remaining 80% of the respondents could not, as one of the CCs /θ/ was deleted to realize /monts/. Finally, in realizing the word 'thanked' /θæŋkt/, 30% of the respondents got the pronunciation of the word correctly while the remaining 70% of the respondents could not as one of the CCs /k/ was elided to realize θæŋkd/

Table 2: Respondents' Oral Production Tests on Words with CCs

S/N	Words	IPA	Deviation	No of students pass & percentages	No of students fail & percentages
1.	Texts	/t ɛ:sksts/	/t ɛ:sk/	10 (20%)	40 (80%)
2.	Axes	/æks/	/æs/	5 (10%)	45 (90%)
3.	Fifths	/fifθs/	/fits/	15 (25%)	35 (75%)
4.	Thirds	/θɜ:dz/	/ tɜ:ds/	15 (30%)	35 (70%)
5.	Sulks	/sʌlks/	/soks/	20 (40%)	30 (60%)
6.	Births	/b ɜ:θs/	/ b ɜ:s/	20 (40%)	3 (60%)
7.	Paths	/pa:θz/	/ pa:s/	40 (80%)	10 (20%)
8.	Hashed	/hæft/	/ hæfd/	30 (60%)	20 (40%)
9.	Masks	/ma:sk/	/ ma:sk/	5 (10%)	45 (90%)
10.	Exempts	/igz ɛ:mpts/	/igz ɛ:mps/	10 (20%)	40 (80%)
11.	Bequeaths	/bikwiðz/	/bikwits/	15 (25%)	35 (75%)
12.	Tenths	/t ɛ:nθs/	/t ɛ:nts/	10 (20%)	40 (80%)
13.	Chinked	/tʃɪŋkt/	/tʃɪŋd/or /tʃɪŋk./	10 (20%)	40 (80%)

The findings above indicate that, 20% of the respondents were able to pronounce the word 'texts' /t ɛ:sksts/ correctly, while the remaining 80% of them could not as the CCs /ts/ was deleted to realize /tɛ:sk/. As for the word 'axes' /æks/ only 10% of the respondents pronounced the word correctly, while 90% of the respondents could not as one of the CCs /k/ was deleted to realize /æs/. /stj-/. For the word 'fifths' /fifθs/, 25% of the respondents pronounced the word correctly, while 75% of them could not, as the CCs /fθ/ were deleted and the consonant /t/ was inserted to realize /fits/. For the pronunciation of the word 'thirds' /θɜ:dz/ 30% of the respondents got the pronunciation of the word correctly while the remaining 70% of the respondents could not as one of the CCs /z/ was substituted for /s/ to realize /tɜ:ds/.

In realizing the word 'sulks' /sʌlks/, 40% of the respondents got the pronunciation of the word correctly while the remaining 60% of the respondents could not, as one of the CCs /l- / was deleted to realized /soks/. In realizing the word 'births' /b ɜ:θs/, 40% of the respondents got the pronunciation of the word correctly while the remaining 60% of the respondents could not, as one of the CCs /θ/ was substituted for /t/ to realized /b ɜ:ts/. For the word 'paths' /pa:θz/, 40% of the respondents got the pronunciation of the word correctly while the remaining 60% of the respondents could not, as one of the CCs /ð/ was deleted while the other CCs /z/ was substituted for /s/ to realize /pa:s/. The realization of the word 'hashed' / hæft/ 60% of the respondents got the pronunciation of the word correctly while the remaining 40% of the respondents could not, as one of the CCs /t/ was substituted for /d/ to realize /hæfd/.

In realizing the word 'masks' /ma:sk/ only 10% of the respondents got the pronunciation of the word correctly while the remaining 90% of the respondents could not, as one of the CCs /s/ was deleted to realize /ma:sk/. For the word 'exempts' /igz ε:mpts/, 20% of the respondents got the pronunciation of the word correctly while the remaining 80% of the respondents could not, as one of the CCs /t/ elided to realize /igz ε:mps/. In pronouncing the word 'bequeaths' /bikwiðz /, 25% of the respondents got the pronunciation of the word correctly while the remaining 75% of the respondents could not, as one of the CCs /ðz/ were substituted for /ts/ to realize /bikwits/. In realizing the word 'tenths' /tɛ:nθs/, 10% of the respondents got the pronunciation of the word correctly while the remaining 90% of the respondents could not, as the one of the CCs /θ/ was substituted for /t/ realize /t ε:nts. Finally, in realizing the word 'chinked' /tʃɪŋkt/, 80% of the respondents got the pronunciation of the word correctly while the remaining 20% of the respondents could not as one of the CCs /t/ was substituted with /d/ or sometimes the /t/ is deleted to realize /tʃɪŋd/ or /tʃɪŋk./

Table 3: Respondents' Oral Production Tests on Words with CCs.

S/N	Words	IPA	Deviation	No of students pass & percentages	No of students fail & percentages
1.	Sputum	/spju:təm/	/sputum/	10 (20%)	40 (80%)
2.	Students	/stju:dənt/	/stu:dent/	5 (10%)	45 (90%)
3.	Three	/θri:/	/tiri:/	15 (25%)	35 (75%)
4.	Drastic	/dræstik/	/diræstik	40 (80%)	10 (20%)
5.	Question	/kwɛ:stʃən/	Kwesʃon/	20 (40%)	30 (60%)
6.	Sprout	spraut/	/sparout/	20 (40%)	3 (60%)
7.	Pride	/praid/	/piraid/	40 (80%)	10 (20%)
8.	Blood	/blʌd/	/bilɔd/	20 (40%)	30 (60%)
9.	Dupe	/dju:p/	/dup/	5 (10%)	45 (90%)
10.	Fleet	/fli:t/	Fil:it	40 (80%)	10 (20%)
11.	Excuse	/ikskju:z/	/esku:s/	15 (25%)	35 (75%)
12.	Spring	/sprɪŋ/	/spi:rɪŋ/	40 (80%)	10 (20%)
13.	Scream	/skr:m/	/ski:rim/	40 (80%)	10 (20%)

The findings above indicate that, 20% of the respondents were able to pronounce the word 'Sputum' /spju:təm/ correctly, while the remaining 80% of them could not as the consonant /j/ was deleted from CCs /spj-/ to realize /sputum/. As for the word 'student' /stju:dənt /, 10% of the respondents pronounced the word correctly, while 90% of the respondents could not as one of the CCs /j/ was deleted to realize /stu:dent/. In realizing the word 'three' /θri /, 25% of the respondents pronounced the word correctly, while 75% of them could not, as one of the CCs /θ/ was substituted for /t/ and the vowel /i/ was inserted between the CCs

/tr/ to realize /tiri:/. The word 'drastic' /dræstik/ 80% of the respondents got the pronunciation of the word correctly while the remaining 20% of the respondents could not as the vowel /i/ was inserted between the the CCs /dr-/ to realize /diræstik/.

In pronouncing the word 'question' /kwɛ:stʃən/ 40% of the respondents got the pronunciation of the word correctly while the remaining 60% of the respondents could not, as the CCs /st-/ were deleted to realized /kwɛʃən/. In realizing the word 'sprout' /spraut/, 40% of the respondents got the pronunciation of the word correctly while the remaining 60% of the respondents could not, as the vowel /a/ was inserted between the CCs /pr-/ to realize /sparout/. For the realization of the word 'pride' 40% of the respondents got the pronunciation of the word correctly while the remaining 60% of the respondents could not, as the vowel /i/ was inserted to neutralize the CCs /pr-/ to realize /spiraid/. For the realization of the word 'blood' /blʌd/ 40% of the respondents got the pronunciation of the word correctly while the remaining 60% of the respondents could not, as the vowel /i/ was also wrongly inserted between the CCs /bl-/ to pronounce /bilɔd/.

For the realization of the word 'dupe' /dju:p/ only 10% of the respondents got the pronunciation of the word correctly while the remaining 90% of the respondents could not, as one of the CCs /j/ was deleted to realize /du:p/. for the pronunciation of the word 'fleet' /fli:t/, 80% of the respondents got the pronunciation of the word correctly while the remaining 20% of the respondents could not, as the vowel /i/ was inserted between the CCs /fl-/ to realize /fili:t/. In pronouncing the word 'excuse' /iksju:z/, 25% of the respondents got the pronunciation of the word correctly while the remaining 75% of the respondents could not, as one of the CCs /j/ was omitted to realize /esku:s/. In realizing the word 'spring' /sprɪŋ/, 80% of the respondents got the pronunciation of the word correctly while the remaining 20% of the respondents could not, as the vowel /i/ was inserted between the CCs /pr/ to realize /spi:riŋ/. Finally, in realizing the word 'scream' /skr:m/, 80% of the respondents got the pronunciation of the word correctly while the remaining 20% of the respondents could not as the vowel /i/ was inserted to realize /skiri:m/.

Discussion of the Findings

The findings from the analysis above showed that most Koro Ashe learners of English do delete one or two of the CCs when it comes to the realization of words with consonant clusters. This happens in the realization of three or four CCs at the beginning or end of a word. this deletion is an attempt to simplify its pronunciation as it was demonstrated in words: 'Swifts' /swifts/ where one of the CCs /t/ was deleted to realize /swifs/; the word 'cracks' /kræks/ where one of the CCs /k/ was elided to realize /kræs/, the word 'tests' /tɛ:sts/ where the CCs /ts/ were deleted to realized /tɛ:s/, the word 'colds' /kəʊldz/, where one of the CCs /d/ was deleted to realize /kəʊls/. We also have the word 'months' /mʌnθs/, where one of the CCs /θ/ was deleted to realize /monts/, in realizing the word 'texts' /tɛ:sksts/, the CCs /-ts/ was deleted to realize /tɛ:sk/, for the word 'axes' /æks/, one of the CCs /k/ was deleted to realize /æs/ and in realizing the word 'sulks' /sʌlks/, one of the CCs /l-/ was deleted to realize /soks/.

The findings on the data above also indicate that, most Koro Ashe learners of English do substitute the unfamiliar sound(s) with the familiar ones when come across words that have two, three or four CCs. For instance, in realizing the word 'intrudes' /intru:dz/, one of the CCs /z/ was substituted for /s/ to realize /intru:ds/, in pronouncing the word 'rough' /rʌft/, one of the CCs /t/ was substituted for /d/ to realize /rʌfd/, in pronouncing the word 'sentenced', /sɛ:ntənst/, one of the CCs /d/ was substituted for /t/ to realized /sentənsd/. Likewise in realizing the word 'threats' /θr ɛ:dz/, one of the initial CCs /θ/ was substituted for /t/ to realize tr ɛ:ts/, for the production of the word 'thirds' /θɜ:dz/, one of the CCs /z/ was substituted for /s/ to realize /tɜ:ds/, in pronouncing the word 'births' /b ɜ:θs/, one of the CCs /θ/ was substituted for /t/ to realize /b ɜ:ts/. So also in the realization of the word the word 'bequeaths' /bikwiðz/, two of the CCs /ðz/ were substituted for /ts/ to realize /bikwits/ and in realizing the word 'tenths' /tɛ:nθs/, the CCs /θ/ was substituted for /t/ realize /t ɛ:nts/.

In some circumstances, most Koro Ashe do insert a vowel in between the CCs in order to neutralize the CCs so as to rhyme with the syllable structure of Koro Ashe which is CV, CVC, CVV or V. Examples of insertion in data above is seen in the realization of the word 'squirts' /skwɜ:ts/, in which the vowel /u/ was inserted between the CCs /kw/ to realize /skuwɜ:t. for the word 'drastic' /dræstik/, the vowel /i/ was inserted between the CCs /dr/ to realize /diræstik/ and the pronunciation of the word 'sprout' /spraut/, where the vowel /a/ was inserted between the CCs /pr-/ to realize /sparout/. It is good to note that the deviations in the pronunciation of the words above affect the intelligibility especially when communicating with the native speakers of English.

The findings in the data above, also showed instances in which most Koro Ashe learners of English do delete and substitute or delete as well as insert a vowel in between the CCs as it is seen in the data above. For instance, in realizing the word 'symbols' /simblz/, the vowel /ɔ/ was inserted in between the CCs /bl/ and the consonant /z/ was substituted for /s/ to pronounce /simbols/. In realizing the word 'paths' /pa:ðz/, one of the CCs /ð/ was deleted while the one of the CCs /z/ was substituted for /s/ to realize /pa:s/. In pronouncing the word 'fifths' /fifθs/, the CCs /fθ/ were deleted and the consonant /t/ was inserted to realize /fits/. In the production of the word 'three' /θri/, one of the CCs /θ/ was substituted for /t/ and the vowel /i/ was inserted between the CCs /tr/ to realize /tiri:/. Finally, in the pronunciation of the word 'castled' /ka:sld/, the vowel /u/ was inserted between the CCs /sl/ to neutralize the CCs and one of the CCs /d/ was deleted to realize /ka:sul/. The CCs realization by Koro Ashe learners of English has witnessed series of consonants deletion, vowel insertion, consonants substitution and a combination of both. This has rendered the speech of most Koro Ashe 'substandard', 'unintelligible' and 'un- English'.

Conclusion

The results of analysis of errors made by Koro Ashe speakers of English in realization of consonant clusters (CCs) showed that most Koro Ashe encountered CCs pronunciation difficulties in both the onset and coda positions. However, most errors occurred in the coda position, especially for the three to four CCs patterns (-CCC –CCCC) and the CCs with the

dental fricative/stop. The subjects used different strategies to simplify their CCs realization which include; epenthesis, deletion, substitution, or some combination thereof. It was recommended that, while teaching consonant clusters to Koro Ashe learners of English emphasis should be on three to four CCs patterns (-CCC –CCCC) and CCs with the dental fricative/stop either at the onset or the final positions pose realization challenge to Koro Ashe learners of English has witnessed series of consonants deletion, vowel insertion, consonants substitution and a combination of both. This has rendered the speech of most Koro Ashe 'substandard', 'unintelligible' and 'un- English'. The importance of errors EA as theoretical framework in L2 leaning cannot be overemphasized, as it an indicator that learning is taking place in progress, it informs the teacher about the progress made by the L2 learners and also provides the researcher with evidence of how language is learned or acquired and the strategies the learner employed in discovering the language.

Recommendations

Bases on the outcome and the conclusion of this paper, the researcher recommends that:

- In teaching consonant clusters to Koro Ashe learners of English, ESL teachers should on three to four CCs patterns (-CCC –CCCC) and CCs with the dental fricative/stop.
- Pronunciation of consonant clusters should be taught earlier in nursery or primary schools to Koro Ashe L2 Learners of English to minimize the pronunciation problem that affects adults.
- Experienced and qualified teachers should be employed to handle the effective teaching consonant cluster to Koro Ashe learners and other L2 learners of English.

Suggestion for Further Study

- In carrying out research on phonological analysis of errors in the realization of consonant cluster system, researchers are advised to use different linguistic groups rather than Koro Ashe.

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