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Perception of English Consonant Clusters by Ethiopian EFL Learners Speaking Amharic as First Language

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ABSTRACT

The study examined the perception of Amharic speaking Ethiopian learners of English while they listen to English words with consonant cluster. Five English as a Foreign Language (EFL) learners speaking Amharic as first language participated in the study by completing a forced dictation task in which audio recorded speeches of target words by English native speakers were presented for transcription. Both quantitative and qualitative methods of data analysis were employed before findings were drawn. The result showed that most of the transcriptions the learners provided in response to the stimuli they heard were found to be semantically different with the original ones. The study verified that the learners experience perception problems of consonant clusters of all kinds at all positions both at word and phrase levels. The problem however is more acute when the clusters are composed of those sounds like interdental fricatives which are lacking in the learners mother tongue. On the other hand, three and above consonant clusters particularly when presented across words in connected speeches are found to be critical for the learners to correctly perceive and therefore to comprehend. Based on the findings, recommendations are forwarded to make learners familiar to English consonant clusters so that learners will improve comprehension abilities.

Keywords: Amharic speakers, Consonant cluster, Ethiopian EFL learners, Perception, Pronunciation teaching.

INTRODUCTION

Speech is normally produced in a continuous, connected stream of sounds, except when we pause. Roach (2001) notes that it is very rare in normal speech to find cases where a speaker makes a single segment in isolation with no sound preceding or following it. Phonetics tends to look on speech as a sequence of segments as discrete and independent of each other and such description is not enough as 'in every language we find that segments have a strong effect on other segments which are close to them' (Roach, 2001). Such description is generally meant for phonological processes and connected speeches. Something which is important in the description of phonological process is the way sounds combine. When this happens between consonants, it is called 'consonant cluster' to denote two or more consonants in sequence.

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As Roach (2001) explains, such occurrence is usually studied in the context of syllable structure. In other words, by describing the forms which syllables may take in a particular language, it is possible to describe the possible combinations of consonant clusters. The way sounds combine together in speech varies from language to language. In many of the world's languages, however, every consonant must be followed by a vowel, giving a syllable form that we can label as 'CV' (consonant + vowel), and the only other possible syllable is 'V' (a vowel on its own) (Jenkins, 2000). This syllable pattern is referred to as 'universal' to indicate that it exists in the majority of the world's languages (Jenkins, 2000).

Yet phonological studies of different languages show that each language has 'quite firm restrictions on what is and what is not a real syllable of the language' (Roach, 2001). It is very important to note that the choice of which consonants and vowels can occur in syllables is an important aspect of the phonology of each language and the learning of these rules must

essentially be part of the learning of a second or foreign language pronunciation (Roach, 2001).

Studies mostly recognize such differences between the learners' mother tongue and the target language is a source of difficult pronunciation both at production and at perceptual level. Anegagregn (2016) and Italo (1988), for example, demonstrate that Ethiopian learners of English speaking 'Amharic' and 'Oromipha' as their first language encounter acute difficulty in perceiving those segmental sounds of English which are not found in the learners' respective mother tongues. However, differences between learners' mother tongue in the Ethiopian context is not only at phonetic level but also at phonological level including syllable rules. Ethiopia is a multi lingual country where learners of English comprise several language groups. This study however is delimited to one language speaking group speaking Amharic as first language. Presumably, future researches in Ethiopian EFL context will address other language groups.

Phonological contrast between English and Amharic shows that English allows a wider variety of syllable types than that of Amharic in that the syllable types that Amharic allows is restricted to one consonant at word initial position and two consonant clusters at word final positions while English allows up to three consonant cluster at word initial positions and five consonant clusters at word final positions (Anegagregn, 2014).

This study identifies and discovers the magnitude of perceptual problems that Amharic speaking EFL learners in Ethiopia encounter because of the difference between Amharic and English on their syllable types, and particularly on their consonant clusters. The main objective of this study is therefore to assess aural familiarity of Amharic speaking EFL learners in distinguishing and recognizing English consonant clusters in their listening.
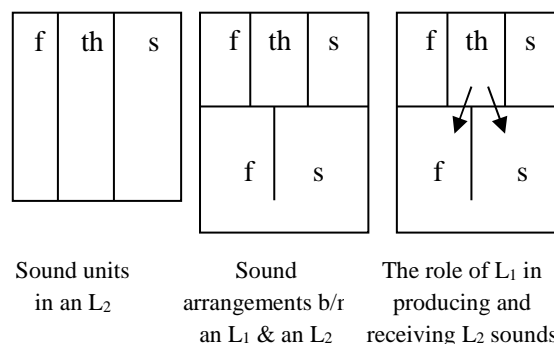
To this end, the research question this study attempts to seek answer for is: "To what extent do Amharic Speaking EFL learners distinguish or recognize English consonant clusters and which are problematic in their actual perceptions?"

REVIEW OF RELATED LITERATURE

The general assumption is that perception is an important component of pronunciation which is strongly influenced by the listener's expectations about the speaker's voice and what the speaker is saying. Roach (2002) explains in relation to the motor theory that the general belief among researchers that in speech perception the brain

makes use of knowledge about how speech sounds are made. For example, it is claimed that "we hear very sharply defined differences between /b /, /d/ and /g/, since each of these is produced by fundamentally different articulatory movements" Roach (2002:P.51).

From similar vantage point, O'Connor (1980) provides similar kind of theoretical assumption in his attempt to explain most of the mental processes involved in understanding speech. The role of first language (L_1) speech habit on pronunciation learning can be described in relation to the L_1 phonological transfer in the production and reception performances of second language (SL) or foreign language (FL) learners as demonstrated by O'Connor (1980) in the Figure 1 where the already established system of pronunciation governs how one articulate or perceive a foreign sound in learning a new language.

Sound units in an L_2 Sound arrangements b/r an L_1 & an L_2 The role of L_1 in producing and receiving L_2 sounds

Figure 1: Sound arrangements and transfer between languages (O'Connor, 1980)

According to O'Connor (1980), sounds are produced and received in relation to the nearest sound unit/feature available in the speakers' mother tongue (O'Connor (1980:2-3). The learning of new pronunciation, therefore, requires relearning movements of the vocal tract, or building a new set of arrangements by establishing new ways of using our speech organs, new ways of hearing by breaking the ones so strongly built by L_1 habits (Gimson, 1975; O'Connor, 1980; Stern, 1992; Jenkins, 2000). To this effect, sustainable pronunciation training is required with special focus on the difficulty items and problematic areas presented by the L_2 sound system.

Like that of production, it is clear that discovering more about perception can be very important in the general study of pronunciation along with its learning and teaching. It is with this basic belief that several researches are conducted to learn about what it is that a learner perceive when listening to a sound or a combination of sounds in an L_2. While the area has been brought to life by researchers in ESL/EFL contexts around the world, there seems

to be no attention given by researchers and teachers on learners' perception abilities and related difficulties in the Ethiopian teaching of English as a foreign language.

Almost all studies of perception in pronunciation use native speaker recording as audio stimuli. This practice is supported by Roach (2002) in his general notes that 'many of the assumptions that a listener makes about a speaker are invalid when the speaker is not a native speaker of the language'. For this purpose, like all previous studies on the area, the present study uses native speaker stimuli recording as its audio stimuli.

METHODOLOGY

Five learners of English speaking Amharic as their first language were purposely selected as participants of this study. All these five participants are university students with an average age of 20. Two of them are females while the rest three are males. Native speaker recordings from sources such as O'Connor (1980), Roach (1991) were used for the dictation materials. Then, which words the learners were able to recognize were identified based on correct matches between learners' transcriptions and that of the original stimuli (which are used in this study as point of reference). The script of the audio material presented to the learners for transcription includes scraped, grudged, clothes, scripts, thrones, loud cry, act stupidly, next spring, he thinks straight.

These nine items were selected purposely because they demonstrate the phonological pattern of English with respect to consonant cluster. The audio and the text version of these words are available on famous pronunciation textbooks such as O'Connor (1980), and Roach (1983). Target words listed above comprise consonant cluster at different levels and word positions. For instance,

such words as 'clothes', 'thrones', and 'grudged' represent two consonant clusters, while 'scraped' and 'scripts' represent three consonant clusters both at word initial and final positions. Consonant clusters in English may also occur in-between words as depicted in target words from the list above such as 'loud cry' and 'act stupidly', etc.

Words and phrases containing consonant cluster were selected first from the text and their audio versions were digitally cut out, and then arranged and organized as speech excerpts in the required order and sequence using sound editing software. Separate worksheet was given to the learners where they provided their responses (i.e. transcriptions) and all the responses from the five participants were collected at the end of the dictation task.

Each transcription response participants provided for each item was examined for correct transcription. Transcription responses were compared with the original stimuli and coded for a) Exact Word Match (EWM); b) Word substitution with both pronunciation and semantic similarity (P with S for short); c) Word substitution with similar pronunciation but without semantic similarity (P without S for short); and d) Novel words (with no pronunciation and semantic similarity (N for short). In this study, semantically different word substitutions of either with similar or different pronunciation were the major concern throughout the coding and the analysis. In other words, transcriptions would be taken as 'incorrect' only when transcriptions demonstrated different semantic category.

RESULTS AND DISCUSSIONS

As presented in Table 1 below, 9 items having different sequence and number of clusters were presented. 5 word stimuli had clusters at initial and

Table 1: Learners' Transcriptions for the stimuli they heard

Stimuli presented	Transcription responses as perceived by participants				
	s1	s2	s3	s4	s5
scraped	skrept	scriped	screbed	script	script
grudged	graged	grajed	gradged	graged	graged
clothes	klote	cleth	clause	clavert	clouth
Scripts	skerept	script	screpts	script	script
Thrones	strength	cloth	strenth	stronth	stronth
loud cry	luge crive	lab cry	wild cray	lag cray	lake---que
act stupidly	at dipidlly	unstopedly	act stupedlly	as stupidly	act stedpadly
next spring	net spring	next brain	next spring	nexsbrine	next brain
he thinks straight	physics skreon	he thinks straght	he think strent/g/e	heating/he is fast	isthing strain

word final positions while the rest four contained 3 to 6 clusters in-between words. Forty-Five word transcription responses were collected for these stimuli, and each was compared with the original orthographic and phonemic transcriptions to see if any deviances occurred both at the words and at the clusters in them respectively.

As presented in Table 2 below, the data shows that 33 responses (73%) had different meaning with the original stimulus, ranging from 4 (44%) to 8 (88%) per individual listener, with a mean total error of 7 out of 9 stimuli presented to each participant.

The result of the data at word level, as presented on Table 2 below, shows that no response was exactly matching the stimuli; six of them however, were regarded as correct word transcriptions as they had similar pronunciation and meaning. The majority of responses (i.e. 19 transcriptions out of 25 word

stimulus *'thrones'* /θraunz/ where consonant cluster /θr-/ was heard initially, all the five transcription responses collected from the learners replaced it by another cluster members like /st-/, /cl-/, and /str-/ as in responses such as *'stength'*, *'cloth'*, *'stronth'*. However, the other two consonant initial clusters included in the stimuli such as /kl-/ and final cluster /-nz/ appearing with /-ðz/ and /θr-/ respectively were correctly recognized. Probably, the samples made no errors with these two consonant clusters either at initial or final position unless /θ/ and /ð/ were members of the cluster. In other words, the presence of interdental fricatives as cluster members in the word stimuli the learners heard in this study compounded their problem of appropriate recognitions.

Responses for the three cluster word stimuli like *'script'* and *'scripts'* showed that initial /skr-/ in

Table 2: Transcription scores for cluster stimuli

Participant ID	At word level (N = 25)				Across words (N = 20)				Total Error	
	EWM	P with S	P without S	N	EWM	P with S	P without S	N	Fr.	%
S1	-	-	4	1	1	-	1	2	8	88
S2	-	3	1	1	1	-	2	-	4	44
S3	-	2	3	-	2	-	1	1	5	55
S4	-	1	3	1	1	-	3	-	7	77
S5	-	-	4	1	-	1	2	1	8	88
Total	0	6	15	4	5	1	10	4	33	73

Notes: 'EWM' refers to words with exact word match; 'P with S' refers to substitution of words both with phonetic and semantic similarity; 'P without S' refers to word substitutions that have phonetic differences but with semantic similarity; while 'N' refers to novel word substitutions

stimuli - 76%) comprised transcriptions of words having similar pronunciations but with semantic differences. Transcription responses which are found to be semantically different with the original stimuli received changes on the part of the learners' perceptions as for example 'scripts' was transcribed as 'skerept' which probably reveals the learners' unfamiliarity to both initial and final consonant clusters.

Meanwhile, many of the errors committed by the learners during their transcriptions occurred on words where /θ/ and /ð/ were members of the cluster in the stimuli. For instance, in all the five responses provided by all participants of this study for the stimulus *'clothes'*/klauðz/ where the final cluster /-ðz/ was presented, the consonant sound /z/ after /ð/ was absent, or replaced by another cluster member like /-st/, /-d/, or /-rt/ as depicted on Table 2 above in responses like *'cloth'*, *'cloud'*, and *'claurt'*. On the other hand, in the case of the

the former was correctly recognized in many of the transcriptions while the last member /-s/ in the later one was absent in all responses for final three consonant clusters. The result in this study demonstrates that three consonant cluster occurring at word final positions were not correctly recognized or transcribed by the Amharic speaking EFL learners. The data shows us that the learners missed the last segment of the cluster as 'script' for 'scripts'. It is not difficult to understand that comprehension would be difficult for the learners when it is compounded by other kinds of misperceptions as 'scripts' was perceived as 'scerept', without the last consonant /-s/ compounded with insertion of vowels /scr-/ and /-pts/ both at initial and final word positions.

On the other hand, 20 responses provided by the learners, in response to the stimuli containing consonant clusters in-between words, showed 14 out of 20 transcriptions semantically different with

the stimuli. These differences resulted from changes made by the listeners at either or both of the words (i.e. the first or the second word in which the clusters occurred). For example, most word changes occurred on '*loud*' /laud/, '*spring*' /spriŋ/, and '*act*' /ækt/ in the stimuli '*loud cry*', '*next spring*' and '*act stupidly*' respectively. These show that such changes made by listeners may not be solely because of the presence of clusters. This is to say that such stimuli also contained other potentially problematic phonemic and phonetic aspects such as /æ/ and /ŋ/, /au/, which are phonemes and diphthongs that constitute strange sounds for Amharic Speaking learners (Anegagregn, 2014). Aspects of connected speech as in 'next spring' may also compounded the learners' difficulty in this regard. Such accompanying features other than consonant cluster might have contributed to the learners' overall perception difficulties demonstrated in this study at least on the word samples presented. For example, in the stimuli 'next *spring*' /nekst spriŋ/, /t/ at the end of the first word and at middle of the cluster might be unheard or may be said very fast because of an elision process of /t/ before /s/ in connected speech (Roach 1991).

CONCLUSIONS

A group of five Amharic native speakers listened to native speaker recordings designed as a dictation material to assess recognition performances for selected words and phrases that presented consonant clusters at different level.

All the samples were required to listen to each item of the dictation and then to write down what they heard word for word. All the responses which were given as orthographic transcription for each item stimulus were compared for correct word for word matches with the original text version of the audio material. Accordingly, scores were given for correct recognition of words containing target phonemes under study.

Word for word comparison between written responses and the original text version of the audio stimuli provided typical examples or data of pronunciation problems Amharic speaking EFL learners encounter during perception of the target language input like. Such problems could arise among other things from target phonemic and phonological features that EFL learners may not be already familiar with for many reasons (Brown and Yule, 1983). In this study, the Amharic speaking EFL learners found words with consonant cluster difficult to recognize. The transcriptions the

learners performed for the audio stimuli they heard revealed that above 73% of times the transcriptions were incorrect.

For the participants of this study, consonant clusters posed a considerable problem particularly when sounds, which are lacking in their first language, are incorporated as a member of the cluster. The study revealed that word stimuli where /θ/and /ð/ were members of the cluster, for instance, as in '*clothes*'/klauðz/, acute confusions occurred among learners.

Meanwhile, the position of the cluster also seem to be contributing to the problem in such a way that when the cluster happens to be occurring between words, more confusions were observed, as it was evident that only one correct transcription was discovered among responses collected for the phrase '*next spring*'.

Because that second language learners' perceptions of speeches are mainly governed by the already established phonological systems, adequate exposures and aural trainings on those sounds and phonological patterns like syllable structures depicted in this study is essential before correct perceptual skills are acquired. Particularly in cases like in Ethiopia where no much exposure to the target language input is available for the learners other than the classroom, attention should be given by the classroom teacher to incorporate in the lessons a way of familiarizing learners to strange phonological processes such as consonant clusters. Meanwhile, in the context of Ethiopia where learners belong to several L_1 speaking groups, future researches should address and document production and perception difficulties of the target language encountered by our learners. Similarly, supporting materials on how EFL teachers can help their students overcome their difficulties should be the central concern. Meanwhile, perceptual training for Ethiopian learners should be one inevitable component of an EFL pronunciation program that should be going hand in hand with production training.

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