Problem Caused by Speech Rhythm in EFL University Students' Perception of Natural Speech

A Case Study of EFL Students, Batch (38), Faculty of Edu-cation (Hantoub), University of Gezira, Sudan (2019)

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Abstract

Speech rhythm is one of the most important phonological features that characterize natural speech in English. Other such phonological features include assimilation and prosodic stress. The main objective of this study was to investigate the extent to which speech rhythm caused problems of speech perception to EFL university students. The descriptive analytical method was adopted. The sample for the study comprised (40) students and (10) teachers at the Department of English, Faculty of Education (Hantoub), University of Gezira. The students took a diagnostic listening test, whereas the teachers responded to a questionnaire. The data obtained was analyzed manually through frequency and percentage. The main findings of the study were that speech rhythm is among phonological features which contribute most to students' failure to perceive natural speech, and that effective techniques for solving the problem include listening to audio recordings in the language laboratory and more teacher's use of English during classes. Based on these findings, the study recommends that EFL university departments should allocate courses for listening comprehension which focus on such phonological features as speech rhythm, and that EFL university students should dedicate some of their time to listening to English auditory mass media like radio stations and TV channels.

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Introduction

Speech rhythm is a major phonological feature of natural speech in any one of the world languages. The native speakers of any language speak to a particular rhythm that characterizes their own language. However, it is widely assumed among English phonlogists that English speech has a greater extent of rhythmicality than many other languages of the world. Actually, the utmost systematicity or regularity of speech rhythm is found in poetry. Speech rhythm contributes remarkably to the difficulty or easiness exercised by foreign language learners in their attempt to recognize natural speech. Even among the speakers of the same language, it may sometimes be difficult for one listener to understand a speaker who is adopting an unusual speech rhythm, like when that speaker is speaking too fast or too slow.

1.1. Definition of speech rhythm

The word *rhythm* generally denotes regular repeated pattern of movement. As a term in English phonology, however, the word has a more specific meaning. O'connor (1998:95) recounts that speech rhythm is the amount of time that the moderate native speaker spends in saying each unit of the sentence. A unit of the sentence consists of one stressed syllable and one or more unstressed syllables before or after it. The unstressed syllables before the stressed one are intentionally said very quickly, but the stressed one takes its normal length. In the following examples, the stressed syllables are written in bold type. In spite of the varying lengths of the examples, the moderate native speaker would spend approximately the same amount of time in saying each of them because there is only one stressed syllable in each:

Yes.
I agree.
It's cold.
She's at home.
I shall complain.
They were at work.

If there are unstressed syllables after the stressed one, they should share the stressed one the amount of time a single stressed syllable would take. In the sentence '*Both of them* '*came* '*back*, for example, the three syllables *both of them* are said in the same amount of time as the one syllable *came* or *back*.

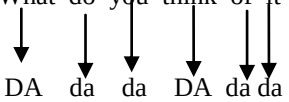
Dhamija (2017:155) gives an interesting definition of speech rhythm where he likens language to drawing, embroidery, and music. In drawing and embroidery, according to him, rhythm means the even spacing of a particular design. In music, it means the equal intervals of time at which a certain beat is repeated. In language, it means the periodic recurrence of specific patterns of sound in a sentence or text.

Kenworthy (1990:10) also compares speech rhythm to music. He claims that like music, English speech has a beat. The syllables in the sentence are similar to the bars of music. In each group of syllables, one is strong (i.e. stressed) and the others are weak (i.e. unstressed). Each syllable constitutes one beat in the sentence. In the following sentence, the speech rhythm is symbolized musically:

There isn't any salt on the table.

The following sentence has a more musical waltz rhythm:

What do you think of it ?



In the diagrams above, 'DA' represents a strong syllable while 'da' represents a weak syllable. English, according to this author, has a characteristic rhythm. There must be an alternation of strong and weak syllables. The strong syllables occur on a regular beat as demonstrated by the following examples. The strong syllables in the examples are marked with a stroke immediately before them. It is easy for the listener as well as the speaker to notice that the strong syllables occur at regular intervals in time:

I'm 'twenty-'one to'morrow.

I'm 'seventy-'seven to'morrow.

Although the second sentence has more syllables, both the two sentences have the same rhythm and they both take the same amount of time to say. The reason is that the speaker squeezes the unstressed syllables in between the stressed ones so that the regular rhythm of the stressed ones is not spoilt. That means the time for saying an English sentence is determined by the number of the stressed syllables in that sentence.

1.2. Rhythm and stress

Although these two features of natural speech are very related, there exists between them an important distinction. It is that while stress is a matter of extra muscular effort exerted in saying a particular syllable in a word or particular word in a sentence, rhythm is a matter of time spent in saying a phrase or sentence. However, this time is governed by the number of the stressed syllables in the sentence. Lass (1984:248), for example, maintains that English is a stress-timed language where the time intervals between the stressed syllables in the sentence are roughly equal. The following example illustrates this:

'Mary's younger 'brother

wanted 'fifty chocolate 'peanuts.

The example also illustrates that it is the sentence stress, not the word stress which more influences the rhythm of the sentence; although the words *younger*, *wanted*, and *chocolate* have their own stresses when said in isolation, they lose stress in this sentence as a result of the inherent rhythm of English connected speech. Richards et al (1985:275) divide the following sentence into three sound units and comment on it:

'Alison didn't /'finish her/ 'essay.

They say that each of the three sound units would take the same time to say although the number of syllables is different. The reason, according to them, is that the stressed syllables recur regularly in time, not according to the number of syllables. In the same way, Roach (2005:134) notes that in the English sentence, stressed syllables tend to occur at regular intervals of time regardless of the existence or non-existence of unstressed syllables between them, e.g:

(1) 'John 'likes 'eggs.

(2) 'John is 'cooking an 'egg.

The two sentences, according to him, take nearly the same time to say although the second is longer by three unstressed syllables.

In respect of the relationship between rhythm and stress, there still remain two differing viewpoints. However, there is evidence that both opinions are reasonable. The first viewpoint is expressed by Kenworthy (1990:30) that speech rhythm is a product of word stress where important items in the sentence occur on a strong beat and unimportant items occur on a weak beat. This is true in the sense that important words for the meaning of the sentence like nouns, full verbs, and adjectives are normally stressed, while unimportant words like articles, prepositions, and pronouns are normally not stressed, e.g. '*Put it on the* '*table*. The second viewpoint is presented by Dhamija (2017:156) that in the English language, the rhythm of the sentence actually governs the stress of that sentence. According to him, an examination of the rhythm of the sentence *You 'ought to 'know the 'place by 'now* can prove this. The phrase 'ought to' constitutes a modal verb. Although modal verbs are grammatical words that are usually not stressed in connected speech, 'ought to' is stressed in this sentence. The only reason for this is to ensure the regularity of the rhythm of the sentence, which proves that rhythm is a very important feature of connected speech in English.

1.3. Rhythmical unit

O'connor (1998:98) points out that within the English sentence, each stressed syllable alone or followed by unstressed syllables is called a 'stress group'. In the sentence *Both of them /came/ back,* there are three stress groups; each stress group must be said in the same time as the other stress groups in the sentence. To practice

saying the stress groups in the sentence, it is helpful that the speaker beats the rhythm on a table with a pen or finger, one beat for each stressed syllable.

The sentence *She is 'reading*, contains only one stress group: *reading*. The unstressed syllables *she is* are not part of this stress group because they come before the stressed syllable. However, they combine with the stress group *reading* to form what is called a *rhythmical unit* or simply *a rhythm unit*. Hence, a rhythmical unit means one stressed syllable surrounded by unstressed syllables. The following sentences are divided into rhythmical units:

(1) I'm 'going / 'home/ today.

(2) He's 'going / 'home/ for 'Christmas.

But how can a sentence be divided into rhythmical units ? The following rules cited by O'connor (1998:99) answer this question:

(1) Any unstressed syllables at the beginning of a sentence must go together with the following stress group. The sentence *I was in 'London*, consists of only one rhythm unit. This unit consists of one stressed syllable followed by one and preceded by three unstressed syllables.

(2) If the unstressed syllable is part of the same word as the stressed syllable, it must belong to the same rhythm unit, e.g:

Cheaper / fares.

Cheap / affairs.

(3) If the unstressed syllable is grammatically connected to the stressed word, it must belong to the same rhythm unit, e.g:

(a) Give it / to John.

(b) Take them / for a walk.

(c) How / did you manage / to be there / in time?

(4) If it is uncertain to refer the unstressed syllable to which unit, it must be put after a stress, not before it. This happens when the unstressed syllable has bidirectional grammatical relationships. The word *than* in the following sentence exemplifies this:

He's older than / me.

1.4. Extent of rhythmicality

Linguists have different views concerning the rhythmicality of the English language. Kenworthy (1990:30) states that although the most steady rhythm in English is found in poetry, all English natural speech is rhythmical. Roach (2005: 135) recounts the view that the rhythm of the English sentence is composed of feet like a line of poetry. Each foot is composed of one stressed syllable plus all the unstressed syllables following it. The following sentence has six feet:

'Jack / 'walked / 'down the/ 'path

to the/ 'end of the ca/ 'nal.

This notion of foot is similar to the notion of stress group explained above although it compares English speech with poetry. However, Roach (2005:137) himself has some reservation about such an idea. He believes that the evidence for the existence of a completely stress-timed rhythm in any language in the world is not strong. When a speaker is hesitant or nervous, for example, it will not be expected that he speaks rhythmically. In the same line, Crystal, quoted in Roach (2005: 146) rejects the idea of an inherent rhythmical pattern in the English language. He approves only of a subjective impression of rhythmicality in English. The intervals of time between stressed syllables, as he believes, are not necessarily equal all the time.

1.5. Maintenance of rhythm

It is argued in the website http://en.wikipedia.org that native speakers of English intentionally shorten unstressed syllables in the sentence so as to keep the steady tempo of the stressed syllables in that sentence. Jones (1967:125) confirms that rhythm often affects the length of sounds in the English sentence; various shortenings happen in the unconscious attempt of the speaker to make all the stress bars in the sentence equal in length. For example, the/ɔ:/ of the word *cause* which is very long when the word is said in isolation gets far shorter in the sentence *The cause was never discovered*, sounding just as /kɒz/. According to Dhamija (2017:156), when the number of unstressed syllables is the same between the stressed syllables of the English sentence, the speaker has no difficulty in maintaining the stress-timed rhythm of that sentence. This happens, for example, when there is only one unstressed syllable each between any two stressed syllables in the sentence as in *I 'did my 'best to 'keep the 'law*. But when the number of unstressed syllables is not the same between the stressed syllables of the sentence, it would not be easy to maintain the rhythm. In such a case, the speaker has a duty to achieve some degree of approximation to stress-timed rhythm. The sentence '*Do you 'know that they are in 'trouble*? may illustrate the last case. In this sentence, there is only one unstressed syllable between the first and second stressed syllables and a whole of four unstressed syllables between the second and third stressed syllables. The speaker has to say all these four syllables in nearly the same amount of time as the other single unstressed syllable 'you' in order to attain some degree of regularity of rhythm. In fact, this is facilitated by the use of such phonological features as weak forms and short forms.

1.6. Types of rhythm

Crystal (1990:289) classifies world languages into two types in terms of speech rhythm: stress-timed languages and syllable-timed languages. In stress-timed languages like English, the stressed syllables of the sentence are heard at equal intervals of time regardless of the number of unstressed syllables coming between

them. In syllable-timed languages like French, all the syllables in the sentence, whether stressed or not, occur at nearly equal intervals of time. An interesting comparison is drawn by Kenworthy (1990: 126) between stress-timed languages and syllable-timed languages. He comments that while stress-timed speech is as smooth as moving through an escalator, syllable-timed speech is as rough as moving up a stairway. Nolasco and Arthur (1996:69) remark that if English is spoken in a syllable-timed way spending the same time at every syllable, the speaker would sound monotonous. That means, learners of English with native syllable-timed languages will have difficulty in trying to perceive the rhythm of native English speech; many unstressed syllables may pass unnoticed for them. Bowen and Marks (1996:52) observe that one problem for foreign speakers of English is that they often give full value to unstressed syllables which are so frequent in English. This, according to them, will help to spoil the rhythm of their speech and consequently hinder their perception of native English speech.

Arabic, as Kenworthy (1990:124) puts it, is a stress-timed language like English, but there is difference in the force of pronunciation of stressed and unstressed syllables in the two languages. In English language, unstressed syllables are pronounced so weakly that they may disappear altogether. In Arabic language, on the other hand, there is only very little difference in the force of pronunciation of stressed and unstressed syllables; unstressed syllables are said nearly as clearly as stressed syllables. It is for this reason that many Arab learners of English can have problems when trying to produce or perceive English speech rhythm. The number of stressed syllables in the Arabic sentence is usually far greater than that in the English sentence. It is very common in the Arabic sentence that a grammatical word like pronoun or preposition is stressed. So the Arabic ear is accustomed to a slower speech rhythm than that of the English language. Roach (2005:138) also makes an important point that may address the problems encountered by many Arab students when dealing with English speech rhythm. He explains that English rhythm is a matter of strong and weak syllables rather than a matter of stressed and unstressed syllables, and that many of the other stress-timed languages of the world do not have weak syllables to the same extent as English does. Students of English from such language backgrounds, as he sees, are supposed to exercise a lot of difficulty in trying to learn English rhythm. In fact, Arab students of English belong to this category since Arabic language is one of the stress-timed languages that do not have weak syllables to the same extent as English does.

1.7. Problem of the study

Within the 17 year period of his work as a teacher of English phonetics and phonology at university level, the researcher has observed that many students fail to understand connected-speech English, mainly for phonological reasons. When the same oral text is given in written form to the same students, they would have no serious difficulty in understanding it. The students would also have no serious problem if the words of the text are separated and spoken word by word. One of the phonological features that have exacerbated the problem and inspired this study is speech rhythm. In listening to a native English speaker, the students feel that it is too difficult for them to perceive those parts of the sentence spoken with a faster rhythm. Consequently, they fail to understand the meaning of that sentence.

1.8. Objectives of the study

1. To find out how much EFL university students perceive of natural speech on the phonological level.
2. To investigate the extent to which speech rhythm causes problems of speech perception to EFL university students.
3. To point out certain techniques that can help in solving the problem.

1.8. Significance of the study

This study is expected to be very useful to teachers of English phonology at Sudanese universities. It provides them with a phonological interpretation of the problem faced by their students in their attempt to understand natural-speech English. Being allocated to speech rhythm, the study highlights one of the main phonological issues that are known not to receive deserved attention by many teachers. Such teachers are supposed to benefit by the techniques pointed out by the study for solving the problem. It is also hoped that the study will inspire university administrations to contribute to the solution to the problem through such policies as providing necessary educational technology and brining native speakers of English to help in training students in listening comprehension.

2. Methods and materials

2.1. Method of the study

The descriptive analytical method was adopted in carrying out this study. The study design used was cross-sectional.

2.2. Method of sampling

There were two populations and two samples for this study. The first population were fourth-year undergraduate students of English, Batch (38), Faculty of Education (Hantoub), University of Gezira. The size of this population, who were all females, was (93) students. Their ages ranged between (20) and (23). Being in their final year of university education, this population were supposed to have reached an

advanced level of lexical as well as grammatical knowledge of English language that would enable them to understand with comfort an intermediate-level non-specialized native listening text. From this population, the researcher randomly selected a sample of (40) students through fish-bowl-draw method. The students had to draw lots to decide who would join the sample. They had to pick folded pieces of paper that contained either a tick or cross. The sample was made up of those pickers of ticked paper slips.

The second population were teachers at the Department of English, Faculty of Education (Hantoub), University of Gezira, both as full-timers and part-timers. The size of this population was (20) teachers. A sample of (10) teachers was purposively chosen from this population. Two criteria were considered in selecting this sample. The first was work experience, assuming that teachers with longer experience would normally report more useful data on the topic of the study. The second criterion was degree of relevance of the courses taught by the respondents to the topic of the study. Teachers of courses that had a more interactive nature were assumed to be more capable of noticing phonological problems in the speech perception of their students, and as a result would be more beneficial to the present study.

2.3. Methods of data collection

The data for the present study was collected through two tools. The first was a diagnostic listening test given to the sample of students, whereas the second tool was a questionnaire distributed among the sample of teachers.

2.3.1. The diagnostic listening test (see Appendix A)

The purpose of this test was to attain the first two objectives of the study. It centered around speech rhythm. The listening material for the test was retrieved from website www.letthemtalk.fr. It was a single-speaker audio recording in British accent under the title *How to pass a job interview*. A written transcript of the recording (see Appendix B) was prepared by the researcher which manifested that the material was lexically and grammatically below the level of the study population of students. This made it possible to measure only one variable, which was students' ability to perceive native speech rhythm. In other words, factors like knowledge of vocabulary and knowledge of language structure were excluded. All the test questions were of the gap-filling type. This was helpful in two ways. First, it made it possible for the researcher to choose for omission exactly the right words which carried effect of speech rhythm; most of the omitted words were those which the speaker did not stress. Second, it required the listeners to focus on the words rather than only the gist of the text.

2.3.2. The questionnaire (see Appendix C)

The questionnaire for teachers was validated by the jury of four associate professors. It was intended to collect data from experienced university teachers that would be used to help attain the objectives of the study, especially the last one related to possible techniques for solving the problem of the study. The questionnaire comprised ten closed-type questions where the respondents had to choose from three options in their answers to each question: agree / neutral / disagree.

2.4. Methods of data analysis

The data obtained via the diagnostic listening test for students and questionnaire for teachers was analyzed manually. The results of each question in the test or questionnaire were first tabulated in terms of frequency and percentage. Then, each of the tables was followed by statistical analysis and commentary.

3. Results and discussion

3.1. Results of the test

The students' results in the diagnostic listening test are presented in the following table followed by statistical analysis.

Table (1) Students performance in perception of speech rhythm

Score	Frequency	Percentage %
Pass	5	12.5
Failure	35	87.5
Total	40	100

The table reveals that a proportion of only (12.5%) of the students were able to pass the test relating to perception of speech rhythm. An overwhelming majority of the students (87.5%) failed in this test. This result suggests that speech rhythm is one of the most difficult phonological features of natural-speech English for the students. While the students are accustomed to hearing every word in the sentence said with equal prominence, native English speakers will naturally give prominence only to those words which make the speech rhythm of the sentence. The other words are naturally said with a low or very low pitch of the voice. It is around these unstressed words of the sentence that the questions of the test centered.

3.2. Results of the questionnaire

Table (2) Teachers' responses regarding students' general perception of natural-speech English on the phonological level

No	Statement	Agree	Neutral	Disagree
1.	Most EFL university students have phonological problems trying to perceive natural speech.	% 70	% 20	% 10
2.	If the same listening material is transformed into a reading material, the same students will have a better performance.	100	0	0
3.	Most EFL university students will fail to understand their lectures if the teacher keeps using the foreign language throughout.	60	10	30
4.	EFL university students will generally prefer reading written mass media to listening to auditory mass media for phonological reasons.	50	30	20
	Average	70	15	15

It is clear from the table that, on average, more than two thirds of the teachers (70%) agreed that EFL university students were generally weak in their perception of natural-speech English. Only (15%) of the respondents disagreed with the assumption, and another (15%) were neutral.

Table (3) Teachers' responses regarding the extent to which speech rhythm causes problems of speech perception to EFL university students

No	Statement	Agree	Neutral	Disagree
1.	All phonological features of natural speech contribute with different degrees to the problem.	% 90	% 0	% 10
2.	Speech rhythm is among those features which contribute most to the problem.	100	0	0
	Average	95	0	5

The table illustrates that all the respondents (100%) agreed that speech rhythm was among those phonological features which contributed most to students' failure to perceive natural speech.

Table (4) Teachers responses regarding effective techniques for solving the problem

No	Statement	Agree	Neutral	Disagree
1.	Listening comprehension will be one of the most effective techniques for solving the problem.	% 100	% 0	% 0
2.	Dictation and note-taking are also among the most effective techniques for solving the problem.	80	10	10
3.	It will be very useful that the students have perceptual training from video and audio recordings in the language laboratory.	100	0	0
4.	Other useful techniques include phonetic mimicry and more teacher's use of English during classes.	50	40	10
	Average	82.5	12.5	5

As indicated in the table, the majority of the teachers (82.5% on average) agreed to the techniques for solving the problem which were suggested by the study. Only (5%) of them disagreed, and (12.5%) were neutral.

3.3.Discussion of the objectives of the study in relation to the results

3.3.1. The first objective

To find out how much EFL university students perceive of natural speech on the phonological level.

The results of the diagnostic listening test for students displayed in Table (3.1.1) above demonstrate that most EFL university students had phonological problems trying to perceive natural speech. An overwhelming majority of the participants (87.5%) were unable to perceive speech components affected by speech rhythm. In addition, the results of the questionnaire for teachers presented in Table (3.2.1) above reveal that, on average, more than two thirds of the teachers (70%) agreed that EFL university students were generally weak in their perception of natural speech.

3.3.2. The second objective

To investigate the extent to which speech rhythm causes problems of speech perception to EFL university students.

According to Table (3.1.1) above, an overwhelming majority of the students (87.5%) had perceptual problems caused by speech rhythm. In the same way, Table (3.2.2) shows that all the teachers (100%) agreed that speech rhythm was among those phonological features which contributed most to students' failure to perceive natural speech.

3.3.3. The third objective

To point out certain techniques that can help in solving the problem.

This objective is attained through the questionnaire for teachers. The results of the questionnaire presented in Table (3.2.3) above indicate that the teachers (82.5% on average) generally agreed to a number of techniques that could help in solving the problem. Graded descendingly in terms of degree of teachers' agreement as to their effectiveness, the techniques were:

(1) listening comprehension.
(2) listening to audio recordings in the language laboratory.
(3) dictation.
(4) note-taking.
(5) phonetic mimicry.
(6) more teacher's use of English during classes.

4. Conclusions and recommendations

4.1. Conclusions

The main aim of the current study was to investigate the extent to which speech rhythm caused problems of speech perception to EFL university students. The study reached the findings below:

(1) Most EFL university students have phonological problems trying to perceive natural-speech English.
(2) Speech rhythm is among phonological features which contribute most to students' failure to perceive natural speech.
(3) Ranked in terms of their effectiveness, the proposed techniques for solving the problem of speech perception are: listening comprehension, listening to audio recordings in the language laboratory, dictation, note-taking, phonetic mimicry, and more teacher's use of English during classes.

4.2. Recommendations:

Based on the findings stated above, the study recommends the following:

1- EFL university departments should allocate courses for listening comprehension that focus on such phonological features as speech rhythm.
2- Part of the too much time devoted by the curriculum to the reading skill should be allotted to the listening skill.
3- EFL university students are advised to dedicate some of their time to listening to English auditory mass media like radio stations and TV channels.
4- University teachers should increase their use of English during classes and give their students more tasks in note-taking so that they have more practice in listening.
5- A good deal of the phonological perceptual training given to the students should be done in the language laboratory.

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