

## Pronunciation Problems of Words' Stress Placement in English by Saudi Students at Albaha University, Saudi Arabia. A case Study at Almandag.

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### ABSTRACT

This study attempts to investigate into the problems of correct words stress placement in English. Words that can be both nouns and verbs in a group of Saudi university students, in Almandag, at Albaha University. The researcher used the Descriptive Statistical Method and two tools to analyse the data, which were collected by two means: recorded and written tests. The data were then analysed by using 'Praat soft wave' to measure the acoustic properties of English words for the recorded test and SPSS for the written test. The study arrived at the following results: Students ignored the rules of words stress placement. they did not have sufficient practice in stress placement; and the curriculum in previous educational stages had not provided them with information on correct stress placement. The recommendations of this study are that students need to study the rules of words' stress to distinguish between verbs and nouns. They need to know that the stress of verbs and nouns is different, so must be pronounced differently. Finally, students need more practice in correct words stress placement in daily conversations and in the classroom.

**Key words:** L1: First Language, L2: Second Language, EFL: English Foreign Learners, WS: Word Stress, BSP: British Standard Pronunciation.

### INTRODUCTION

Stressing words correctly when speaking the English language is essential in conveying the correct message to listeners. When a speaker places the stress in a word incorrectly, the message to listeners will not be accurate. In general terms, stress refers to the music of the English language when the speaker speaks. In the last decade, the study of stress patterns has become widespread, following a previous growth in interest in the intonational concepts of speech, which are now an important area of study in phonology, phonetics and speech sounds. In order to speak English fluently, students need to know the rules of stress placement perfectly; when they place the word's stress correctly they distinguish the word's part of speech accurately. English speakers give stress to certain part of a word verb or noun, while other words are spoken quickly. In contrast, in French, Finnish, Polish and Italian, each syllable is stressed, but with different length. In English, certain rules govern the placement of the stress in a word, such as that the stress in nouns and adjectives generally falls at the first syllable of the word, but in verbs falls on the second syllable. The research problem of this study focuses on one of the difficulties faced by Saudi students, specifically placing the correct stress on words when communicating orally. Students do not give due attention to stress placement when speaking, and this study aims to investigate the reasons behind this problem,

by examining the problems in stress placement experienced by university students in the English department in Almandag and their possible causes and solutions. The aims of this study are thus as follows: (1) to enable the students to use correct stress patterns and to concentrate on using these in their daily communication; (2) to show how correct word stress conveys a message accurately to listeners. (3) to understand the reasons behind this problem and propose solutions.

### Questions of the Study

In this study the researcher tries to answer the following questions:

- 1) Do students place the words' stress correctly during their communication?
- 2) Do they differentiate stress placement between verbs and nouns?
- 3) What are the reasons behind the difficulties which students experience in using correct stress placement?

### Hypotheses of the Study

In this study the following hypotheses have been formed:

- 1) Students use words' stress correctly.
- 2) Students know the correct syllables to stress in both verbs and nouns.

- 3) There are specific reasons for the difficulties experienced in stress placement in English.

### Limitation of the Study

This study is limited to a number of students of English language at the English department of the Faculty of Sciences and Arts in Almandag, Albaha University. This study took place in the second semester of the 2018–2019 academic year.

### Significance of the Study

The researcher focuses on the problems of words stress placement in spoken English for a number of Saudi students from the Faculty of Sciences and Arts at Albaha University. The researcher hopes this study will help students to know their mistakes and to concentrate on correct stress placement while they are speaking. Further, this study may enable students to practise speaking English correctly both in the college and outside. Finally, the researcher attempts to identify the reasons behind these problems.

## LITERATURE REVIEW

Stress is a way of force or a degree of how speakers pronounce a syllable or a word. It depends on where the speaker makes more energy to identify the main verb, noun, adjective, adverb, negative including negative helping verb. According to Ladefoged (1993), 'a speaker stresses a syllable by extra contraction of muscles of the ribs cage, and by extra activity of the laryngeal muscle, and perhaps also by increasing the muscular activity involved in the articulatory movements'. Munawar and Malik (2011) added, 'Stress is the degree of force with which a syllable or word is uttered. Stress is crucial in English pronunciation. It can be called grammatical devise in spoken English. In English, a part of the meaning of a word depends on its stress; it (stress) serves to mark the function of words in spoken English'. Moreover, Alkhuli (2002) wrote 'Stress requires more energy accompanying the stresses syllable. This stress is taken by the vowel, i.e. the syllable nucleus; thus, consonants take no stress. Every syllable in the word takes a suitable degree of stress'.

In English, we indicate stress on the first syllable in the word, showing primary stress by a sign above the word /' and secondary by one below /./. Words stressed include nouns, main verbs, adjectives and adverbs, while determiners, prepositions, pronouns, conjunctions and modal verbs tend to be unstressed.

In English, and many other languages, not all syllables are pronounced with the same force or strength: one part of the word is longer in duration, higher in pitch and louder in volume, and we call this the stressed or accentuated syllable.

The rules for stress placement on English words state: one syllable, one stress and the stress always falls on a vowel; consonants are never stressed. In contrast, in two-syllable words there is a tendency to stress the first syllable in a noun and the second syllable in a verb, e.g. *conflict* /'kɒn.flɪkt/ (N) and /kən'flɪkt/ (V); and *present* /'prez. ə nt/ (N) and prɪ'z-

ent/(V). Adjectives follow the same rules as nouns, with the stress on the first syllable as in *dirty* /'dɜːti/ and *heavy* /'hevi/, although adjectives or nouns ending in 'ion' and 'ity' are stressed on the third syllable, e.g. *majority* /mə'dʒɔːrɪti/ and *inferiority* /ɪn.fɪərɪ'ɔːrɪti/. Moreover, stress falls on the ante-penultimate syllable (i.e. that third from the end) in words ending in -cy, -ty, -phy and -gy, such as *democracy*, *dependability*, *photography*, *geology* and words ending in -al, such as *critical* and *geological*. Compound nouns are stressed on their first part, e.g. *blackbird*, *greenhouse*, and compound adjectives on the second part, e.g., *bad-tempered*, *old-fashioned*. Compound verbs are also stressed on the second part, e.g. *understood*, *overflow*. Words stressed on the penultimate syllable (i.e. second from end) include those ending in -ic, e.g. *graphic*, *geologic*, and those ending in -sion and -tion, such as *television*, *revelation*.

English has free stress, which means the stress can be found on the first, second, third, fourth, or even fifth syllables. For example, *table*, *dictation*, *politician*, *export* carry the primary stress on the first, second, third, and final syllables respectively. In contrast, in languages such as French, Finnish and Polish, the stress is fixed in certain places: French usually puts the stress on the last syllable of the word; Finnish, on the first, and Polish on the penultimate syllable.

Phonologically, when a speaker stresses a word or a syllable, many physical actions occur: the organs of speech are more active; the vocal cords move with more strength; the lips change position and become more active; the lungs push the air more forcefully, and the tongue moves more precisely and accurately. If the syllable is unstressed, the resultant actions are the opposite of those mentioned above.

Stress in the English language is not fixed, so it can change depending on the form of the word and number of syllables. While in both *nation* and *national*, the primary stress has remained on the first syllable, in *nationality* the stress has shifted from the first syllable, as in *nation*, to the third syllable.

## METHODOLOGY

In this study, the researcher used the Statistic Analytic Method and the data were collected by two means: recorded and written tests. The data were analysed by Praat and SPSS programs.

### Sample

The sample consists of over fifteen university students who study English language as their major specialisation. They were randomly selected from the English department, Faculty of Sciences and Arts, level five, at Albaha University in Saudi Arabia. Their ages range between 20 and 22 years old. All the students speak Arabic as L1.

### Tools

The researcher used two tools to collect students' data. The first is a recorded test in which students are asked to pronounce sets of verbs and nouns with the correct stress (see

Appendix 1), and these are compared to a native speaker's pronunciation in British Standard Pronunciation (BST). The second tool is a written test, designed on a sheet, to support Praat's results (see Appendix 2).

**Procedures**

The students were asked to demonstrate correct stress placement in different words in a recorded test. They were then asked to show the stress placement in the same words on a written exam sheet. The researcher compared the students' results in the recorded test with those of a native speaker, using Praat, and analysed the same results with SPSS. The written test was also analysed using SPSS.

**Data Analysis of the Study**

The data were collected in January and February 2019 from 20 students at the English department, Faculty of Sciences and Arts in Almandag. The researcher used the Descriptive Statistical Method, a method that analyses, describes and organises collective data in different graphs, tables, and charts. The data was analysed by the Praat program, which is the main tool used to analyse students' recorded tests acoustically. The second tool is a written test analysed by SPSS to support Praat's results.

The researcher measured the duration of stressed syllables spoken by the native speaker (see Table 1 below). Then five students' results were randomly chosen to show the duration of their stressed syllables. Results from two students were selected for discussion in Table 2. For the remaining students' results, see Appendix 3.

Results were randomly selected from two out of five students. The remaining results can be seen in Appendix 3.

In comparing these sets of results, we found that many students did not follow the rules correctly or were not close to the syllable durations of the native speaker. For example, first student in comparing the results for the verb record: stress duration of first and second syllables are 0.365, 0.694 for the native speaker and 0.162, 0.292 for the first student. Corresponding results for the noun record are 0.404, 0.385 for the native speaker and 0.138, 0.357 for the first student; for the verb reject we see 0.271, 0.580 for the native speaker, compared with 0.243, 0.239 for the first student; for the noun reject 0.265, 0.246 for the native speaker and 0.214, 0.240 for the first student. The native speaker's duration for the verb present.3.00, 0.314 and 0.285, 0.277 for the noun. The student's verb durations 0.335, 0.288 and 0.219, 0.214 for the noun. Also, the verb record the native speaker's duration in the two syllables 0.236 and 0.420. The noun duration in the two syllable are 0.395 and 0.296 for the native. lastly, the verb suspect the native speaker's duration 0.352, 0.465 and 0.373, 0.282 for the noun for the native. The first student duration's result was 0.455 and 0.411 for the verb also, 0.349, 0.644 for the noun.

Concerning the second student in comparing the results for the verb record: stress duration of first and second word's syllables are 0.365 and 0.694 for the native speaker

**Table 1.** Duration of stressed syllables by the native speaker

	Syllable 1 verb	Syllable 2 verb	Syllable 1 noun	Syllable 2 noun
Record	0.365201	0.694451	0.404884	0.385972
Reject	0.271495	0.580267	0.26599	0.246326
Present	0.3005	0.314346	0.285279	0.27775
Proceed	0.236275	0.42022	0.395573	0.296312
Suspect	0.352283	0.465014	0.373439	0.282418

**Table 2.** Duration of stressed syllables by students

	Student No (1)			
	Syllable 1 verb	Syllable 2 verb	Syllable 1 noun	Syllable 2 noun
Record	0.16261	0.292912	0.138318	0.357836
Reject	0.243912	0.239778	0.214178	0.24095
Present	0.335168	0.288478	0.219089	0.214521
Proceed	0.209962	0.465431	0.267259	0.454294
Suspect	0.455877	0.411647	0.349352	0.644809
	Student No (2)			
	Syllable 1 verb	Syllable 2 verb	Syllable 1 noun	Syllable 2 noun
Record	0.257565	0.394839	0.299978	0.430053
Reject	0.511365	0.242682	0.22151	0.225411
Present	0.315119	0.264032	0.192491	0.238353
Proceed	0.155246	0.289505	0.198575	0.271154
Suspect	0.292351	0.240673	0.345199	0.368689

and 0.257 and 0.394 for the second student. Corresponding results for the noun record are 0.404 and 0.358 for the native speaker and 0.299 and 0.430 for the second student. For the verb reject we see 0.271, 0.580 for the native speaker, compared with 0.511, 0.242 for the second student; for the noun reject 0.265, 0.246 for the native speaker and 0.221, 0.225 for the second student. The native result for the verb present 0.300 and 0.314 and 0.285, 0.277 for the noun. The second student's verb durations 0.315, 0.264 and 0.192, 0.238 for the noun. Also, the verb proceed the native speaker's duration in the two syllables 0.236 and 0.420. The noun duration in the two syllable are 0.395 and 0.296. The second students' duration 0.155, 0.289 for the verb and 0.198, 0.217 for the noun. Lastly, the verb suspect the native speaker's duration 0.352, 0.465 and 0.373, 0.282 for the noun. The second student duration's result was 0.292, 0.240 for the verb also, 0.345, 0.368 for the noun.

We can therefore say that Saudi students did not place the stress correctly especially in the nouns. In the verbs, either the answers were completely wrong or not close enough to the native speaker stress length.

The two graphs below show stressed syllable durations for the native speaker (Figure 1) and Saudi students (Figure 2), acoustically analysed by the Praat program.

The two graphs above compare the duration of stressed syllables spoken by a native speaker and Saudi students,

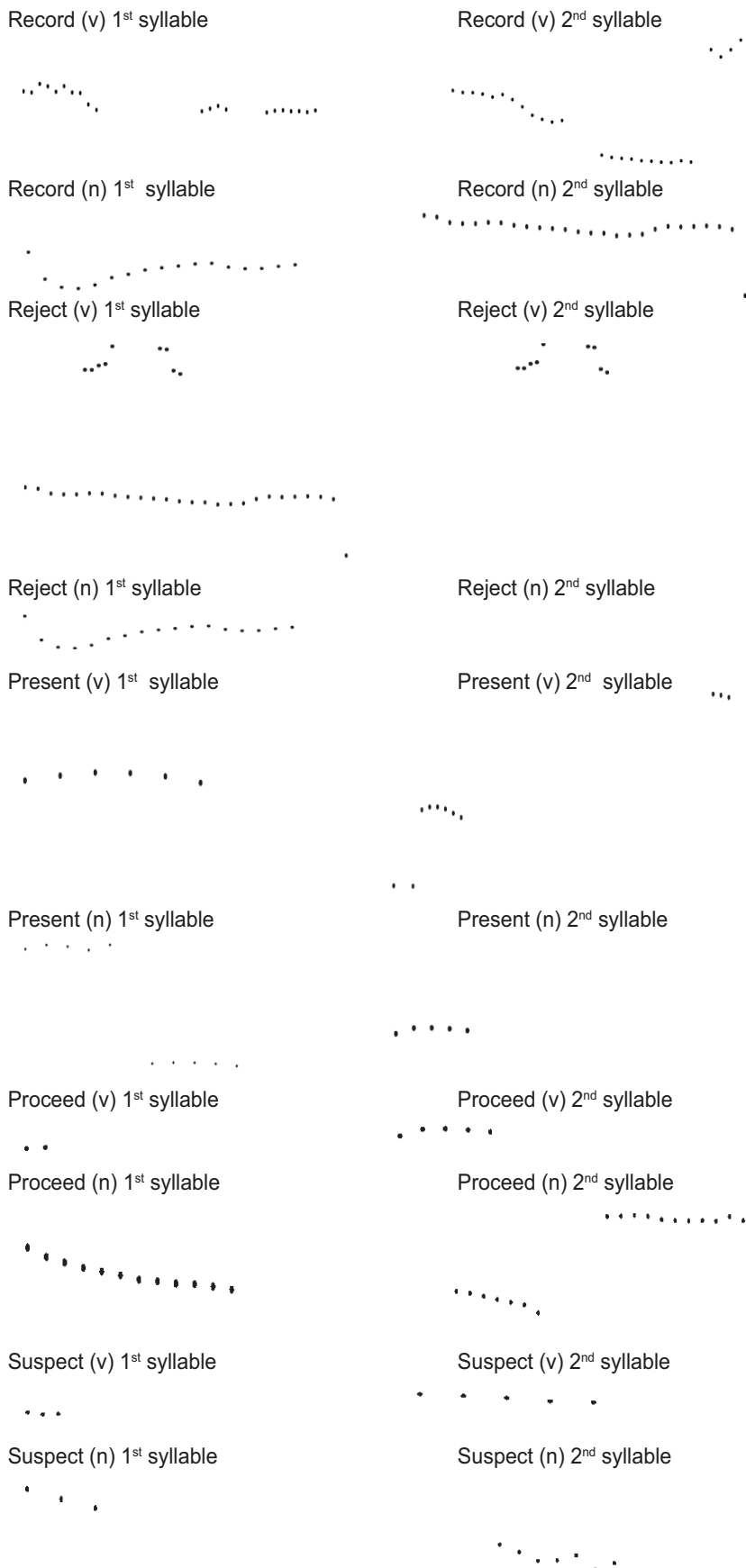


Figure 1. Native speaker's stressed syllable acoustics analysed by Praat.

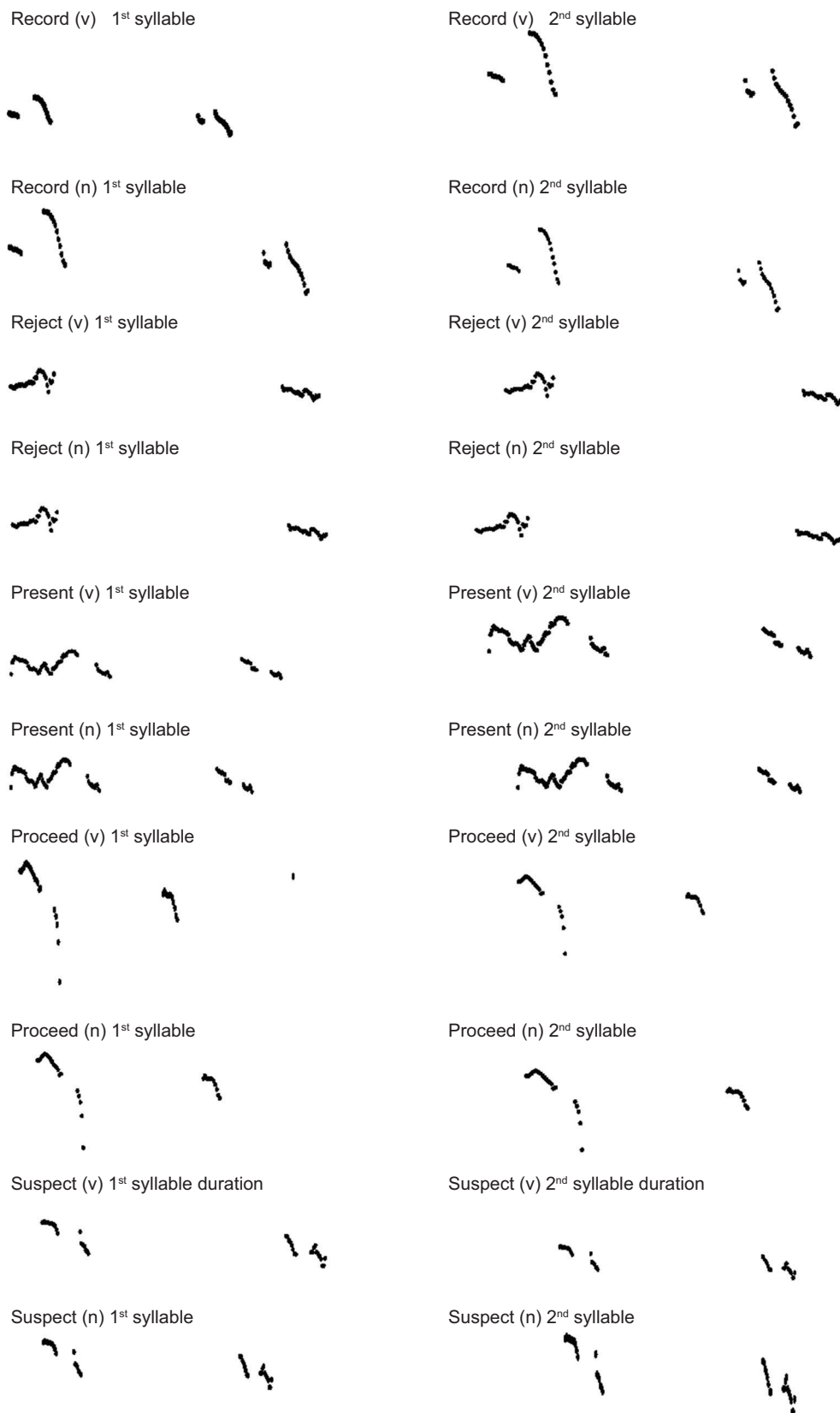


Figure 2. Saudi students' stressed syllable acoustics analysed by Praat.

and acoustically analysed by Praat. All the students failed to demonstrate the correct stress placement in selected words according to the British Syllable Duration (BSD).

They failed to differentiate between the stress placement in verbs and nouns. The rule said; the stress falls on the second syllable in verbs, and on the first in nouns

The below results were analysed by SPSS to confirm the previous Praat's results. Figure 3 shows stressed syllable duration in verbs by Saudi students, analysed by SPSS and Figure 4 shows stressed syllable duration in verbs by native speakers.

Figure 3 above shows the duration of stressed syllables of five Saudi students in recorded tests, selected after analysis by SPSS. They show five randomly selected verbs: present, proceed, record, reject and suspect, with the first syllable duration shown by a straight line (—) and the second syllable by dots (-----). The result show that the first syllable (the straight line) is higher than the second syllable (the dotted line), in opposition to the rule stating that the stress in verbs must be on the second syllable. In this graph, the dotted line should be higher the straight line and all Saudi students therefore failed to demonstrate the correct stress in the chosen verbs.

In comparison, Figure 4 shows the duration of stressed syllables by the native speaker, again with the straight line denoting the duration of the first syllable, and the dotted line denoting the second syllable's duration. These results conform with the rule that the stress falls on the second syllable in verbs.

Figures 5 and 6 below show the same words as nouns, spoken by Saudi students in Figure 5 and the native speaker in Figure 6, in both cases analysed by SPSS.

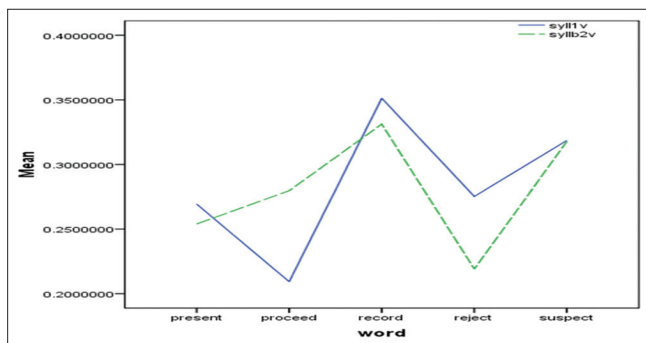
Figure 5 above shows students' spoken syllable duration in nouns: the straight line represents the first syllable, and is lower than the dotted line, representing the second syllable, in contradiction to the rule for nouns that the stress on

the first syllable must be higher than on the second. Thus, we see that the students did not demonstrate correct stress placement in the above words.

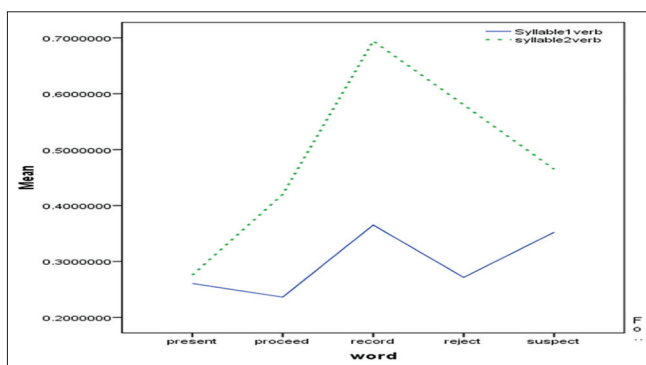
Figure 6 above shows native speaker stress on nouns: the straight line shows the first syllable which is higher, and the dotted line showing the second syllable is lower which is correct according to the rule stating that the stress must be on the first syllable. Comparison with the students' results in Figure 5 demonstrates further that all the students' results were incorrect.

**Written Test Analyses by (SPSS) Program**

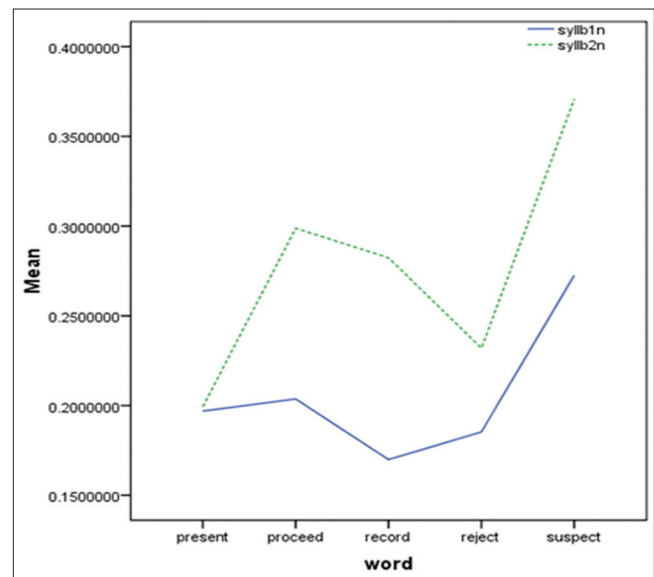
The second tool was written test of 20 words, randomly selected for the test, and marked out of 100, with 5 marks for each word. The results were analysed by SPSS to support Praat's results. Table 3 below shows students' verb marks out of 100 marks and Figure 7 shows the same results analysed by SPSS.



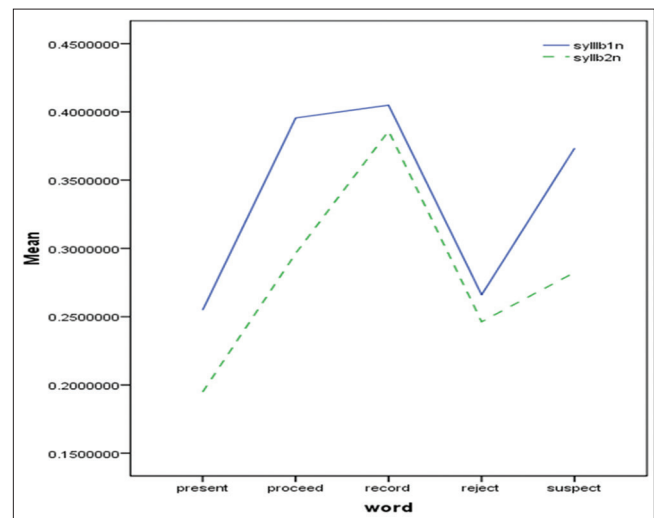
**Figure 3.** Stressed syllable duration in verbs by Saudi students, analysed by SPSS.



**Figure 4.** Stressed syllable duration in verbs by native speaker, analysed by SPSS.



**Figure 5.** Students' stressed syllables in nouns, analysed by SPSS.



**Figure 6.** Native speaker's stressed syllables in nouns, analysed by SPSS.

In all cases, the results show that students failed to demonstrate the correct stress, except for in two verbs: volunteer which averaged 65 marks, and land, which averaged 75 marks out of 100. All other verbs average below 50

marks, which means failed to pass. See the statistical mean in Appendix 4.

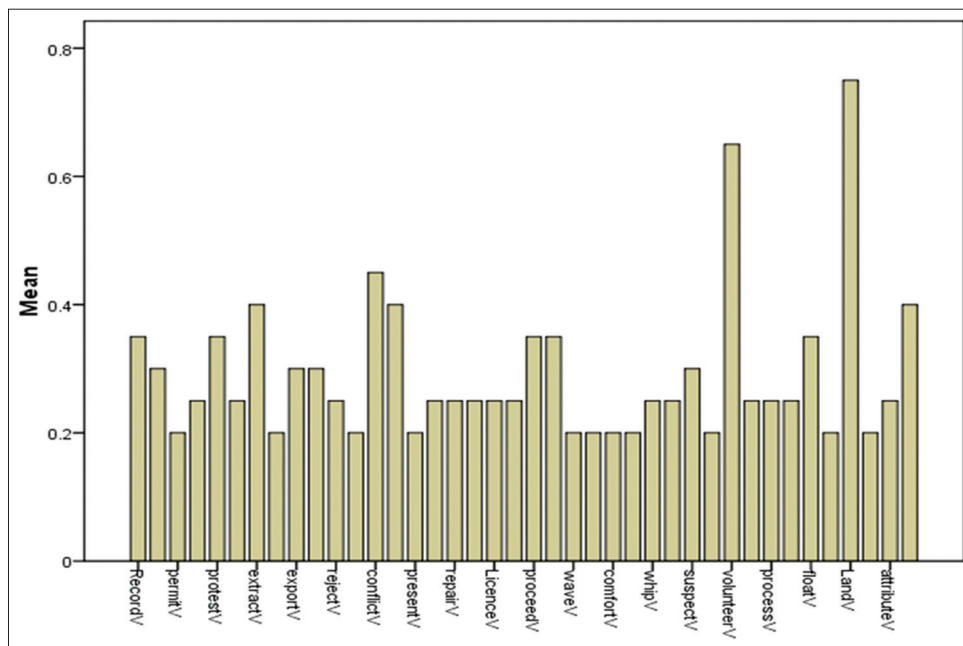
Table 4 below shows the students' results for the same words, presented as nouns. The highest result is 40

**Table 3.** Students' results for written test (verbs) (all students' marks out of 100)

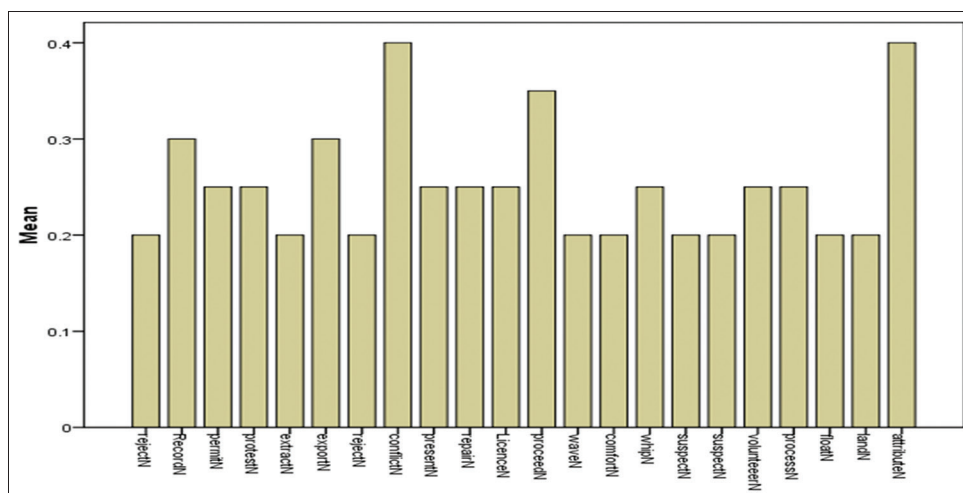
Record	Permit	Protest	Extract	Export	Reject	Conflict	Present	Repair	License
35	20	35	40	30	25	45	20	25	25
Proceed	Wave	Comfort	Whip	Suspect	Volunteer	Process	Float	Land	Attribute
35	20	20	25	30	65	25	35	75	25

**Table 4.** Students' results (marked out of 100) for nouns

Record	Permit	Protest	Extract	Export	Reject	Conflict	Present	Repair	License
30	25	25	20	30	20	40	25	25	25
Proceed	Wave	Comfort	Whip	Suspect	Volunteer	Process	Float	Land	Attribute
35	20	20	25	20	25	25	20	20	40



**Figure 7.** Students' results on selected verbs, analysed by SPSS.



**Figure 8:** Students' noun results analysed by SPSS.

marks, which is less than the students' pass mark which is 50 marks.

All the students' results were under the pass score of 50 marks. See Graph 8 and the statistical mean of the nouns in Appendix 4.

### DISCUSSION OF THE STUDY

This study was carried out in January and February 2019, with the aim of examining the difficulties of correct stress placement in verbs and nouns in English. Three hypotheses were designed.

The first hypothesis stated that students stress words correctly. According to the data analysed by Praat and SPSS, the majority of the students did not use correct stress placement in selected words.

The second hypothesis stated that students know the correct placement of stress in verbs and nouns. According to the Praat results, the majority of the students failed to show the differences between stress in verbs and nouns stress, and were unaware that in English the stress lies on the second syllable in verbs, and on the first syllable in nouns. All the graphs and tables show that the majority of students failed to show the correct stress placement in the verbs, except *volunteer* which got 65 marks and *land* which got 75 marks out of 100. All students failed to recognise the correct placement of stress in nouns, as shown in the Praat and SPSS program results.

The third hypothesis states that there are specific reasons behind the difficulties of correct stress placement in English. Saudi students speak Arabic as L1, and there are differences between the Arabic and English phonemic systems. Also, the number of phonemes is different (28 in Arabic and 44 in English) and they are not similar in both languages. The researcher found the reasons that there are differences between the L1 and L2 phonemic systems and also the production of speech sounds, and that these reasons lead to this problem.

### FINDINGS OF THE STUDY

The study arrived at the following findings: (1) Students did not use correct stress placement in their conversation. (2) They ignorant of the rule that nouns have a different stress and are pronounced differently from verbs. (3) Students did not check their dictionaries to distinguish between verbs and nouns. (4) Stress placement was not sufficiently practised in conversa-

tion and classrooms. (5) The differences between phonemics systems of L1 and L2 play a significant role in this problem.

### CONCLUSION OF THE STUDY

To conclude, this study took place in January and February 2019, to investigate into the problems of using correct placement of verbs and nouns in English. The main aims of the study were as follows: firstly, to enable the students to stress words correctly in their daily conversation. Most of the students failed to show correct stress placement in their pronunciation of verbs or nouns. The second aim was, through correct pronunciation, to convey the correct message to listeners: using incorrect stress in changes the meaning for listeners, confusing the main message. The researcher discovered that the differences between L1 and L2 in the phonemics system cause these problems. Students had not received sufficient information in their previous education in distinguishing where to place stress.

### RECOMMENDATIONS OF THE STUDY

The recommendations of this study are: (1) students need to revise the rules of word stress to distinguish between verbs and nouns. (2) They need to know that the stress in verbs and nouns differs and that these must be pronounced differently. (3) Students need more practice in correct stress placement in conversations and in the classroom.

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APPENDIX

Appendix 1. Oral recorded test

Test of English words' stress	
Students are asked to show the stress on words: column (A) shows the verbs and column (B) shows the nouns	
A Verbs	B Nouns
1. Record	Record
2. Permit	Permission
3. Protest	Protest
4. Extract	Extract
5. Export	Export
6. Reject	Reject
7. Conflict	Conflict
8. Present	Present
9. Repair	Repair
10. License	License
11. Proceed	Process
12. Wave	Wave
13. Comfort	Comfort
14. Whip	Whip
15. Suspect	Suspect
16. Volunteer	Volunteer
17. Process	Process
18. Float	Float
19. Land	Land
20. Attribute	Attribute

Appendix 2. Written Test Form

Test of English word stress		
Students are asked to show the stress on words, in the first, second, third, and fourth syllable the (A) column shows the verbs and column (B) shows the nouns		
Words	A-Student's answer	B-Student's answer
1. Record	We usually <u>record</u> the lectures.	I have a good <u>record</u> with the police.
2. Permit	These pipes <u>permit</u> the gas go in.	I have <u>permission</u> to write an article.
3. Protest	People often <u>protest</u> against dictatorship.	Two scientists resigned in <u>protest</u> .
4. Extract	She usually <u>extracts</u> <u>examples</u> from Dickens's books.	<u>An extract</u> may be a scene from a historical film.
5. Export	Saudi Arabia <u>exports</u> oil to America.	<u>Exports</u> are increasing this year in China.
6. Reject	I have <u>rejected</u> all the offers except one.	<u>Rejects</u> are sold at half price.
7. Conflict	They often <u>conflict</u> in their business opinions.	<u>Conflict</u> often arises between neighbouring countries.
8. Present	We often <u>present</u> Fatima party.	<u>The present</u> visited us yesterday.
9. Repair	My brothers <u>repair</u> the car sometimes.	The truck was beyond <u>repair</u> .
10. License	Brokers must be <u>licensed</u> to sell health-related insurance.	I pay my vehicle <u>license</u> fees.
11. Proceed	We may not be able to <u>proceed</u> as planned.	The <u>proceeds</u> of the concert will go to charity.
12. Wave	Flags <u>wave</u> in the school yard usually.	<u>Waving</u> is their sign for departure.
13. Comfort	She broke down in tears and her friend tried to <u>comfort</u> her.	I need a room for four to sleep in <u>comfort</u> .
14. Whip	I <u>whipped</u> around the corner yesterday.	The trainer cracked his <u>whip</u> , and the lions sat in a circle.
15. Suspect	She <u>suspected</u> that he might be the killer.	The police have arrested a <u>suspect</u> .
16. Volunteer	They <u>volunteer</u> to take up all their cars usually.	<u>Volunteers</u> join the national guard.
17. Process	Cheese is <u>processed</u> so that it lasts longer.	We have just begun the complicated <u>process</u> of selling the house.
18. Float	She <u>floats</u> gently in the water.	<u>Floating substances</u> cannot sink in water.
19. Land	Planes <u>land</u> at the rate of one every five minutes.	The valley is one of the most beautiful in the <u>land</u> .
20. Attribute	Ali <u>attributes</u> his success to hard work.	This metal has physical <u>attributes</u> .

**Appendix 3.** Sample of students syllable duration

<b>Student No (1)</b>				
	<b>Sylla 1 v</b>	<b>Sylla 2 v</b>	<b>Sylla 1 n</b>	<b>Sylla 2 n</b>
Record	0.16261	0.292912	0.138318	0.357836
Reject	0.243912	0.239778	0.214178	0.24095
Present	0.335168	0.288478	0.219089	0.214521
Proceed	0.209962	0.465431	0.267259	0.454294
Suspect	0.455877	0.411647	0.349352	0.644809
<b>Student No (2)</b>				
	<b>Sylla 1 v</b>	<b>Sylla 2 v</b>	<b>Sylla 1 n</b>	<b>Sylla 2 n</b>
Record	0.257565	0.394839	0.299978	0.430053
Reject	0.511365	0.242682	0.22151	0.225411
Present	0.315119	0.264032	0.192491	0.238353
Proceed	0.155246	0.289505	0.198575	0.271154
Suspect	0.292351	0.240673	0.345199	0.368689
<b>Student No (3)</b>				
	<b>Sylla 1 v</b>	<b>Sylla 2 v</b>	<b>Sylla 1 n</b>	<b>Sylla 2 n</b>
Record	0.172908	0.219143	0.124145	0.194338
Reject	0.168395	0.215689	0.14161	0.194132
Present	0.221475	0.218441	0.151133	0.17706
Proceed	0.19264	0.14337	0.193555	0.272166
Suspect	0.338229	0.363338	0.173097	0.248939
<b>Student No (4)</b>				
	<b>Sylla 1 v</b>	<b>Sylla 2 v</b>	<b>Sylla 1 n</b>	<b>Sylla 2 n</b>
Record	0.202976	0.288265	141193	0.228684
Reject	0.234705	0.212866	0.178611	0.191304
Present	0.220663	0.236946	0.22428	0.112008
Proceed	0.289318	0.317977	0.166715	0.245281
Suspect	0.20677	0.332889	0.229546	0.284199
<b>Student No (5)</b>				
	<b>Sylla 1 v</b>	<b>Sylla 2 v</b>	<b>Sylla 1 n</b>	<b>Sylla 2 n</b>
Record	0.96023	0.261034	0.145795	0.200852
Reject	0.217882	0.184469	0.170482	0.308312
Present	0.254265	0.261913	0.197599	0.254842
Proceed	0.199161	0.182368	0.192189	0.250998
Suspect	0.299767	0.240464	0.265649	0.307181
<b>Standard British Syllable Durations</b>				
	<b>Sylla 1 v</b>	<b>Sylla 2 v</b>	<b>Sylla 1 n</b>	<b>Sylla 2 n</b>
Record	0.365201	0.694451	0.404884	0.385972
Reject	0.271495	0.580267	0.26599	0.246326
Present	0.3005	0.314346	0.285279	0.27775
Proceed	0.236275	0.42022	0.395573	0.296312
Suspect	0.352283	0.465014	0.373439	0.282418

**Appendix 4.** Statistics for students' stress on verbs and nouns

STRESS:VERBS STATISTICS																				
RecordV	PermitV	ProtestV	ExtractV	ExportV	RejectV	ConflictV	PresentV	RepairV	LicenceV	ProceedV	WaveV	ComfortV	WhipV	SuspectV	VolunteerV	ProcessV	FloatV	LandV	AttributeV	
20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
.35	.20	.35	.40	.30	.25	.45	.20	.25	.25	.35	.20	.20	.25	.30	.65	.25	.35	.75	.25	.25
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	1.00	.00	.00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0
.681	1.624	.681	.442	.945	1.251	.218	1.624	1.251	1.251	.681	1.624	1.624	1.251	.945	-.681	1.251	.681	-1.251	1.251	1.251
.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512

STRESS:NOUNS STATISTICS																				
RecordN	PermissionM	ProtestN	ExtractN	ExportN	RejectN	ConflictN	PresentN	RepairN	LicenceN	ProceedN	WaveN	ComfortN	WhipN	SuspectN	VolunteerM	ProcessN	FloatN	LandN	AttributeN	
20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Valid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean	.30	.25	.20	.30	.20	.40	.25	.25	.25	.35	.20	.20	.25	.20	.25	.25	.20	.20	.40	.40
Median	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Mode	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skewness	.945	1.251	1.624	1.624	.945	1.624	.442	1.251	1.251	.681	1.624	1.624	1.251	1.624	1.251	1.251	1.624	1.624	.442	.442
Std. Error of Skewness	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512	.512

Note: Kindly note font size had been reduced for appendix 4 due to the alignment issue.