Investigating Sudan University English language Students' Ability to Produce Different Intonation Aspects

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ABSTRACT :

This study aimed at knowing the extent of Sudan University English language students' ability to produce different tones and tonic syllables in the intonation of English language. Moreover, it seeks to find out if this knowledge could be improved through teaching students different tones and tonic syllables. The objectives of this study are to determine to what extent students can produce various tones, and if they can apply the tonic syllable correctly. Also it aimed at showing whether there are any statistical significant differences before studying intonation and after studying it. To achieve this aim the researcher selected a sample of 92 third year English language students, from the English Department, College of Languages at Sudan University of Science and Technology to be the target of the study. Then a pre-test was conducted to determine the students' standard before studying intonation then a post-test was also conducted. The test was composed of 30 items of words and sentences, divided into three questions. When statistically analyzed, the results showed that students' performance has improved regarding the three questions; it has been found that the mean of the pre-test is (18.4) while the mean of the post is (30.4). But it is also observed that they have improved more in the level of tonic syllable. This is obvious from the standard deviation in the 'Pre' it is (3.2) and in the post it is (1.1) and that indicates improvement. This reveals the fact that the students acquired new knowledge in understanding the idea of content words and structure words and strived to apply this knowledge while speaking.

Keywords : *Prosodic features, tone language, accentual languages, stress/intonation language*

المستخلص:

هدفت هذه الدراسة إلى معرفة مدى مقدرة الطلاب على نطق النغمات المختلفة والمقطع الذي تقع عليه النغمة عند تنغيمهم للغة الإنجليزية. بالإضافة إلى ذلك سعت الدراسة لمعرفة ما إذا كانت هذه المعرفة يكمن تطويرها من خلال تدريس هؤلاء الطلاب النغمات المختلفة والمقطع الذي تقع فيه النغمة. أهداف هذه الدراسة تحديد إلى أي مدى يستطيع الطلاب نطق النغمات المختلفة بصورة صحيحة، و ما إذا كان باستطاعتهم إبراز المقطع الذي تقع عليه النغمة. بالإضافة إلى ما إذا كان هنالك دلالة إحصائية تدل على تحسن الطلاب قبل وبعد تدريس التنغيم في اللغة الإنجليزية وللوصول لذلك الهدف اختار الباحث عينه قدرها 92 طالبا من طلاب السنة الثالثة، لغة انجليزية في كلية اللغات بجامعة السودان للعلوم والتكنولوجيا. جلس الطلاب لإختبار قبلي لتحديد مستوياتهم قبل أن يدرسوا التنغيم وبعد

التدريس جلسوا لاختبار بعدي. احتوى الاختبار على 30 فقرة من كلمات وجمل، مقسمة على ثلاثة أسئلة. وبعد تحليل النتائج إحصائياً أوضحت النتائج أن مستوى الطلاب قد تحسن فيما يخص الثلاث أسئلة وذلك عند النظر إلى متوسط الطلاب في الإختبارين القبلي والبعدي فقد وجد أن المتوسط في الاختبار القبلي هو(18.4) وفي البعدي هو (30.4). ولوحظ أن مستوى الطلاب تحسن بصورة ملحوظة على مستوى المقطع الذي تقع عليه النغمة أكثر من المستويين الآخريين وكان ذلك واضحاً من الإنحراف المعياري فقد كان في الاختبار القبلي(3.2) وفي البعدي (1.1) وهذا يوضح التحسن في المستوى، وهذا يثبت حقيقة أن الطلاب استطاعوا معرفة الفرق بين الكلمات التي لها محتوى والكلمات التي تساعد على تركيب الجملة فقط كما اجتهد الطلاب لتطبيق هذه المعرفة عندما يقولون الجمل.

INTRODUCTION :

Intonation is an essential part of communication in any language. Inappropriate use of intonation by non-native speakers does cause problems in speech which may lead to misunderstanding and cause communication breakdown. Native speakers do not face any problem toning sentences, but intonation is a problematic area for non-native speakers which needs more research to be done in it. So the problem of the research is to determine how much the third year student of English language applies his knowledge of intonation while speaking; compared to non-native speakers of English who do not have an idea of intonation. This study hypnotized that the person who has an idea about intonation and its functions is supposed to be much better in toning sentences than the one who has not. But even this educated person makes mistakes when toning sentences. The researcher observed this among his students of fourth year. Even though they are well informed about intonation, they do not apply all the tones correctly. In this research the researcher intends to determine to what extent the person who has an idea about intonation makes

mistakes; compared with those who have no idea about intonation. The significance of this study stems up from the importance of English language itself as a global language. Thus, it is important for the foreign language speaker to tone English language correctly. Because intonation in any language serves many functions, so if the foreign language speaker doesn't know how to apply it, in addition to what to understand from different tones, this may lead to tremendous misunderstanding. This is clear in the following statement:

"Intonation, the systematic patterning of prosodic features, is of course also a problem area-whereas native speakers have no difficulty using the system communicatively, they find it very difficult to introspect about the significance of the choices they make, and even to produce citation forms reliably and correctly"[1]Intonation is not only the rhythm of a language but it has many other functions. A non-native speaker usually does not make clear distinctions in intonation to reflect these functions. It is an essential part of pronunciation. 'It is the movement of the level of the voice, i.e. the tune of a

sentence or a group of words. We use intonation to express emotion and attitude, to emphasise or make less important particular things we are saying, and to signal to others the functions of what we are saying, e.g. to show we are starting or stopping speaking, or whether we are asking a question or making a statement.[2] Intonation has different aspects i.e. pitch change and pause signal thought groups and the beginning and end of a massage, while pitch range signal the speaker's involvement.[3] The variation of pitch plays an important role in languages by adding meaning to words or sentences. The type of meaning that pitch movement conveys varies among languages. This variation leads us to call some languages tone languages and other stress languages where intonation plays a big role in it.There are some languages which are considered as a tone language, where the meaning of a word depends on the tone used when pronouncing the word. A language is a 'tone language' if the pitch of the word can change the meaning of the word. Not just a slight change in meaning, but an obvious change, i.e. its core meaning. In Cantonese, for example, the syllable [yau] can be said with one of six different pitches, and has six different meanings. In longer words, it matters *where* the tones go. In other languages, the only thing that matters is that the lexical tone of a word appears somewhere in that word, but its exact location may change depending on the morphology of the complex word, and the surrounding phonological context.[4] Rogerson[5] explained the concept of tone language by saying that changing

the pitch level (e.g. high, mid, low) or contour (falling or rising) on a particular word can change the meaning. Each word or morpheme has its tone and in supra-segmental analysis the main phonological unit would be the syllable. This is called a tone language. This scholar gave examples from the Mandarin Chinese that "'ma' with a high level tone means 'mother' while 'ma' with a low rising tone is 'hemp' and 'ma' with a low falling tone is 'scold'."The earliest distinction within the group of tone languages is between those that just have level tones, which require the syllable to reach a certain pitch height and those that also have contour tones, which require the syllable to be said with a pitch movement."[6] It is not a clear cut or easy to decide when a language is a tone language and when it is not. Many languages have occasional uses of pitch to change meaning. In American English, if one says 'Uh-huh' with high pitch on the first syllable and low pitch on the second, it means 'No'. If one says it with low on the first syllable and high on the second, it means 'Yes'. Thus these words are close to a minimal pair can only be distinguished by tone. Nevertheless, American English could not be called a tone language, because in the overwhelming majority of tones of pitch does not change the core meaning of a word, so that 'butter' means 'butter' whether it has a high-low or a low-high pattern.[7] Thus English language is not a tone language but it has different intonational patterns which serves different functions in it.Because of all this tone languages are most recently defined much more

broadly than before: following Hyman[8], "a language with tone is one in which an indication of pitch enters into the lexical realisation of at least some morphemes", regardless of the density of lexically contrastive tones on words; lexical tonal marking, after all, has been noted to be of gradient nature.The "Accentual languages typically have a lexical contrast between tone and no tone, with each morpheme having a maximum of one tone or tonal complex whose location must be lexically specified, and even morphologically complex words often allowing only one tone to surface."[9] But the differences between tone languages and stress languages are not that obvious it could be said the "so-called accentual languages are just a subclass of tone languages."[10]. In stress languages pitch does not stay constant for words. Instead, what is held constant is that in each word one of the two syllables which is more prominent than the other, and attracts the intonational pitch, whether it is the statement's high fall, or the incredulous response's extra low-rise. Stress languages have one other common property, the stressed syllable does not usually have to be identified in the lexicon, but is generally picked by a counting algorithm that starts from one end of the word, and selects, for example, the second-to-last syllable, or the first syllable, as the stressed one. Other factors, such as syllable size and morphological structure, may also affect stress placement, but in the typical stress language it is not lexically marked.[11] English then is what is termed a stress language, not a tone language, but intonation plays a great role in it.Rogerson went further by calling English intonation language instead of stress language he said: "Intonation languages like English, tones are only found on small number of prominent syllables in connected speech. They do not, generally, change the lexical meaning of a word, but can affect the interpretation of an utterance in terms of the speaker's intended meaning."[12] However some scholars have rejected this view of grouping the languages as tone, stress or accentual languages. Lim said "the traditional view of English as a stress/intonation language needs revising. As is increasingly recognized, distinguishing between so-called stress languages, accent(ual) languages and tone languages is in fact not clear-cut."[13] When trying to define intonation "No definition is completely satisfactory, but any attempt at a definition must recognise that the **pitch** of the voice plays the most important part. Only in very unusual situations do we speak with a fixed, unvarying pitch, and when we speak normally the pitch of our voice is constantly changing."[14] Another definition of intonation is: "**intonation** is another important part of pronunciation. It is the movement of the level of the voice, i.e. the tune of a sentence or a group of words. We use intonation to express emotion and attitudes, to emphasise or make less important particular things we are saying, and to signal to others the function of what we are saying, e.g. to show we are stopping to speaking, or whether we are asking a question or making a statement "[15]

Intonation differs from language to language and from dialect to dialect; Alego states that "the most important difference between British and American is the tune of the language, that is, the intonation that accompanies sentences."[16]

Method: Subjects

The population of the study is the third year students at Sudan University of Science and Technology with total of 92 students sat to pre- and post receptive tests of intonation.

Material:

The researcher has conducted a pre-test to determine the standard of the students before learning intonation, after teaching intonation to the group a post- test has been conducted to find out the newly acquired standard of the students, i.e. the degree of the progress they have achieved after studying intonation. The test is composed of 30 items which students have to produce with the right tone. The first 10 items were words the students were asked to produce them using different indicated tones, the second 10 items were sentences the students were asked to produce them using the appropriate tones, the last ten items were sentences the students were asked to determine the tonic syllable and produce the sentences putting the tonic syllables in their right places. After a period of thirteen weeks the students sat to the same test after being taught intonation. Their intonation knowledge, as data, has been collected through results of marking the pre and post tests. Each test has been marked out of 40 to determine the scores of the students and how much they achieved in the two tests.

Paired samples test is used to analyze the student scores in intonation pre- and post -tests.

Validity and Reliability:

For internal consistency reliability, for multiple item scales of this test, the researcher has computed the most commonly used type of internal consistency reliability, Cronbach's coefficient alpha.[17]

Table (1)Reliability Statistics

N of Items	Cronbach's Alpha Based on Standardized Items
2	0.40

The reliability coefficient is 0.4 this mean that the test is reliable.
The validity is the squire root of the reliability which is the squire root of 0.40 which is which is 0.63 which mean the degree of the test validity is good. Concerning the face validity; five scholars were consulted, concerning the intonation productive tests and their comments were taken under consideration.

Result and discussion:

To check that Assumptions and Conditions are fulfilled the researcher used One-Sample Kolmogorov-Smirnov Test the normality of distribution.

Table (2)

One-Sample Kolmogorov-Smirnov Test

		total pre test	total post
N		92	92
Normal Parameters[a,b]	Mean	18.5000	30.4022
	Std. Deviation	4.91801	2.56802
Most Extreme Differences	Absolute	.079	.114
	Positive	.064	.059
	Negative	-.079	-.114
Kolmogorov-Smirnov Z		.758	1.091
Asymp. Sig. (2-tailed)		.613	.185

a. Test distribution is Normal.

b. Calculated from data.

From the above table, the significance value .185 implies that the test indicated that total post- test is normally distributed. (The null hypothesis which is: Students mis-tone words and sentences, thus they cannot produce them correctly. a) Cannot produce different tones on the level of words. b) Cannot produce different tones on the level of sentences. c) Cannot produce tonic syllable, that the distributions are normal cannot be rejected.) Visually, a normal distribution is bell-shaped the left half is a mirror image of the right half.

Histogram
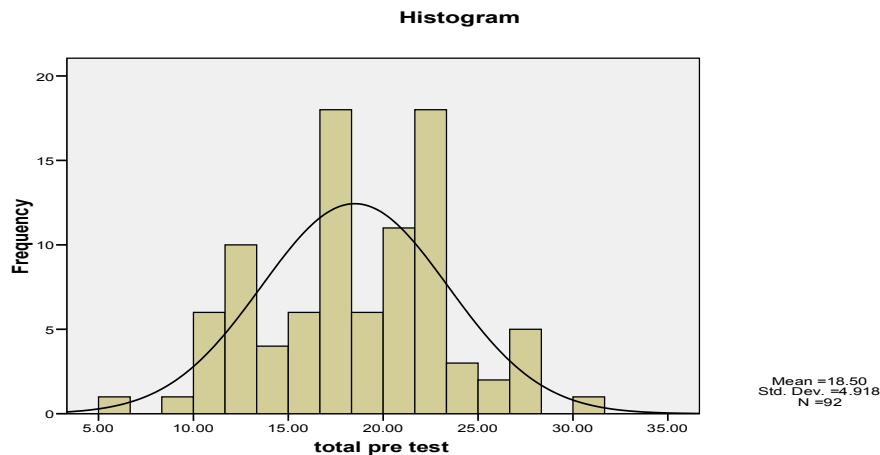
Graph (1)

Scores of the students in the Pre- test as a total from 40 On the lower-right corner, the chart provides the most important statistics: Standard Deviation, Mean, and Sample Size. (The other statistics: like the Median, Mode) are usually more visually identifiable from a histogram.
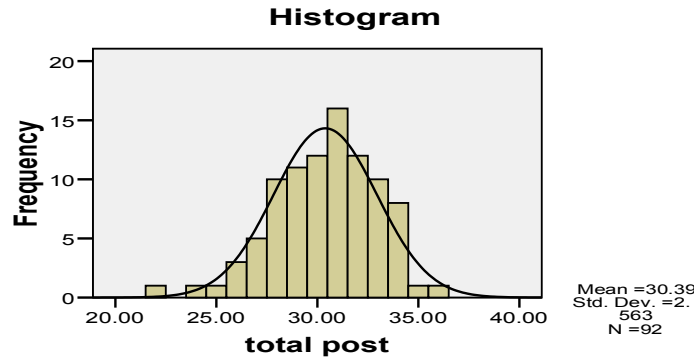
Table (3)

Statistics

total pre test

Mean	Median	Mode	Range	Minimum	Maximum
18.4130	18.5000	18.00	22.00	6.00	28.00

The mode is the highest bar those who scored 18 are 11 students, the median is in the middle to its left are the scores of the students who have got less than the '20' score, they are 52 students.

The heights of the bars give the relative frequencies of the scores of variable (pre-test). Compare the bars (as a group) with the normal curve (drawn as a bell-shaped line curve). Most bars seem to be left heavy relatively to the relevant normal curves, lower scores are observed more often than higher scores for intonation total pre- test. This reflects that the student's standard of intonation before being taught intonation was quite low. (Refer to appendix (1) table)

Histogram

Graph (2)

Scores of the students in the Post- test as a total from 40

Table (4)

Statistics

total post

Mean	Median	Mode	Range	Minimum	Maximum
30.3913	31.0000	31.00	14.00	22.00	36.00

The heights of the bars give the relative frequencies of the scores of variable (post-test). Compare the bars (as a group) with the normal curve (drawn as a bell-shaped line curve). Most bars seem to be distributed normally, higher scores are observed more often than lower scores for intonation total post-test. This proves that there is

improvement compared to the previous graph. (Refer to appendix (2) table) For pre - post Intonation tests that have been done to check the achievement of

the students. A paired sample test was used for interpreting the output:

Table (5)

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
level of words	pre	3.2717	92	1.46087	.15231
	post	4.3804	92	1.23895	.12917
level of sentence	pre	4.9674	92	1.76318	.18382
	post	7.8370	92	1.41637	.14767
level of tonic syllable	pre	10.1739	92	3.17825	.33136
	post	18.1522	92	1.14771	.11966
Total	total pre test	18.4130	92	4.76284	.49656
	total post test	30.3913	92	2.56329	.26724

Paired Sample Statistics, shows the Mean for the total intonation pre-test (18.4) and the total intonation post -test (30.4), this means that the students' performance in the tests has improved a lot. The means of the three levels: level of words intonation pre-test (3.3) and the intonation post -test (4.4), level of sentences intonation pre-test (4.9) and the intonation post -test (7.8) and level of tonic syllable intonation pre-test (10.2) and the intonation post -test (18.2) consecutively. These means reflect that the students' performance has improved regarding the three

questions but they have improved more in the level of tonic syllable, as this is more obvious from the standard in the 'Pre' it is (10.2) and in the post it is (18.2) which indicates that improvement. This reflects that the students understanding of the concept tonic syllable has improved regarding their newly acquired knowledge about that structure words should be de-emphasised while content word should be prominent. Also this could be related to their having better understanding of the different tones and their functions.

Table (6)

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	question one pre & post	92	.009	.932
Pair 2	question two pre & post	92	.284	.006
Pair 3	questionthree pre & post	92	.201	.055
Pair 4	total pre test & total post	92	.297	.059

Paired Samples Correlations, which will be used, assess the pre – post reliability of the intonation scores. Note that the r = .297 which approximately = .3 , which is medium positive correlation and seems to provide good

support for test reliability, put in mind that the intonation test performance features are affected by timing the test, in addition to the cognitive skills involved.

Table (7)

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
pre - post	-1.10870	1.90694	.19881	-1.50361	-.71378	-5.577	91	.000
pre- post	-2.86957	1.92278	.20046	-3.26776	-2.47137	-14.315	91	.000
pre - post	-7.97826	3.15524	.32896	-8.63169	-7.32483	-24.253	91	.000
total pre - post	-11.97826	4.94359	.51540	-13.00205	-10.95447	-23.240	91	.000

Paired Samples T test. the significance for the comparison of scores for the total intonation pre - post test and the three levels: level of words intonation pre- post test, level of sentences intonation pre- post test and level of tonic syllable intonation pre- post test are all significant P = (0.0000) .
We can tell from the mean in the first table that students have improved after

Conclusion:

It is clear that the students' standard in producing different tones has improved -on the level of word - after being taught intonation but still many students confuse them together.Students have acquired new knowledge that structure words are usually de-emphasized to contrast with the focus words. They learnt the difference between content words and structure words regarding intonation. This knowledge has been reflected in their performance. Thus in

studying intonation. This is because, the effect size is high (difference = mean / standard deviation) (d : -11.9 / 4.9 = -2.4).If we subtract the mean of total pre-test from total post –test (30.4 – 18.4 = 12) we get twelve scores to the scale of forty scores. This also prove that their performance improved by 30 %.

the post test they have an inclination not to emphasis the structure words as a tonic syllable.

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Appendices : Appendix (1)
total pre test

Cumulative Percent	Valid Percent	Percent	Frequency		
1.1	1.1	1.1	1	6	Valid
2.2	1.1	1.1	1	9	
5.4	3.3	3.2	3	10	
8.7	3.3	3.2	3	11	
15.2	6.5	6.5	6	12	
19.6	4.3	4.3	4	13	
23.9	4.3	4.3	4	14	
25.0	1.1	1.1	1	15	
30.4	5.4	5.4	5	16	
38.0	7.6	7.5	7	17	
50.0	12.0	11.8	11	18	
56.5	6.5	6.5	6	19	
64.1	7.6	7.5	7	20	
68.5	4.3	4.3	4	21	
79.3	10.9	10.8	10	22	
88.0	8.7	8.6	8	23	
91.3	3.3	3.2	3	24	
92.4	1.1	1.1	1	25	
93.5	1.1	1.1	1	26	
97.8	4.3	4.3	4	27	
98.9	1.1	1.1	1	28	
100.0	1.1	1.1	1	31.00	
	100.0	98.9	92	Total	
		1.1	1	System	Missing
		100.0	93	Total	

Appendix (2) total post

Cumulative Percent	Valid Percent	Percent	Frequency		
1.1	1.1	1.1	1	22	Valid
2.2	1.1	1.1	1	24	
3.3	1.1	1.1	1	25	
6.5	3.3	3.2	3	26	
12.0	5.4	5.4	5	27	
22.8	10.9	10.8	10	28	
34.8	12.0	11.8	11	29	
47.8	13.0	12.9	12	30	
64.1	16.3	16.1	15	31.00	
78.3	14.1	14.0	13	32.00	
89.1	10.9	10.8	10	33.00	
97.8	8.7	8.6	8	34.00	
98.9	1.1	1.1	1	35.00	
100.0	1.1	1.1	1	36.00	
	100.0	98.9	92	Total	
		1.1	1	System	Missing
		100.0	93	Total	