Investigating Sudan University English Language Students' Ability To Identify Intonation

Areig Osman Ahmed Mohamed[1] ، Ahmed Abd Elrahman Dona[2]

Sudan University of Science and technology

المستخلص:

هدفت هذه الدراسة إلى معرفة مدى معرفة الطلاب للنغمات المختلفة والمقطع الذي تقع عليه النغمة في تنغيم اللغة الإنجليزية. بالإضافة إلى ذلك سعت الدراسة لمعرفة إذا ما 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 تحديد النغمات المختلفة عند الإستماع إليها، و ما إذا كان باستطاعتهم تحديد 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 لاختبار قبلي لتحديد مستوياتهم قبل أن يدرسوا التنغيم وبعد التدريس جلسوا لاختبار بعدي. احتوى الاختبار على 30 فقرة من كلمات وجمل، مقسمة على ثلاثة أسئلة. وعندما حللت النتائج إحصائياً أوضحت النتائج أن مستوى الطلاب قد تحسن فيما يخص الثلاث أسئلة وذلك عند النظر إلى متوسط الطلاب في الاختبارين القبلي والبعدي فقد وجد أن المتوسط في الاختبار القبلي هو(9.8) وفي البعدي هو (15.4). ولوحظ أن مستوى الطلاب تحسن بصورة ملحوظة على مستوى الجملة أكثر من المستويين الآخريين وكان ذلك واضحا من الانحراف المعياري فقد كان في الاختبار القبلي (1.9) وفي البعدي (1.7) وهذا يوضح التحسن في المستوى، وهذا يثبت حقيقة أن الطلاب اجتهدوا لربط معاني النغمات المختلفة بالجمل أكثر من الإستماع إليها فقط

ABSTRACT :

This study aims at knowing the degree of students' knowledge concerning different tones and the tonic syllable in the intonation of English language. Moreover, it seeks to find out if this knowledge could be improved through teaching students these different tones and

the tonic syllable. The objectives of this study are to determine to what extent students can identify various tones when hearing them, and if they can identify the tonic syllable. It also tries to show whether there is any statistical significant differences before studying intonation and after studying it. To achieve this aim the researcher selected a sample of 92 third year students, 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 was found that the mean of the pre-test is 9.8 while the mean of the post is 15.4. It was also observed that the students had improved more in the level of sentences. This was obvious from the standard deviation in the 'Pre' it is (1.9) and in the post it is (1.7) That indicated improvement. This revealed the fact that the students strived to understand the meaning of the different tones more than just listening to them.

Keywords: Tonality, tonicity, tone and pitch.

INTERODUVTION :

Language is important in human life. Its activities are very complex, particularly when it is studied as a foreign language. It has been described as a 'system of systems' these systems are: phonology, lexis, morphology, syntax, cohesion, and semantics.This study aimed at knowing the degree of students understanding of intonation; concerning the different tones and the tonic syllable, and whether teaching intonation of these students could help them better identify different tones when hearing them.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 understand various tones when hearing them. This is also Because intonation in any language serves many functions, therefore if the foreign language speaker doesn't know

different tones implied in English language this may lead to tremendous misunderstanding.The objectives of this paper are: To find out to what extent students (before studying intonation and after studying intonation) can distinguish various tones when hearing them? To find out whether the students can: a) Identify different tones on the level of words. b) Identify different tones on the level of sentences. c) Identify tonic syllable. "Languages use pitch variation contrastively for the expression of discoursal meaning and for making phrases."[1] This pitch variation which is the music of speech is called Intonation. It is part of phonology. Every language has its own music that distinguishes it from other languages. 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] "In recent years, the intonational aspects of speech have become an important area

of study in phonetics, phonology, and speech."[3]To go over the characteristics of intonation it is very important to comprehend certain terms like tonality, tonicity tone and pitch. Tonality refers to the division of speech into its separate individual 'tone groups' or intonation units. Each intonation unit contains a single unit of information and represents the speaker's perception and management of the whole message.[4] Tonicity refers to the assignment and realization of the most prominent word in an intonation unit indicating the focus of information. The system of tone, the contrasting pitch movements in each unit of intonation, is associated with the expression of different speech functions and the status of information[5]. Another definition of tonicity is: "the placement of the nuclear syllable. It is unpredictable and can vary according to the context and speaker intention."[6] Tone refers to significant (i.e. meaningful, contrastive, phonemic) contrasts between words signaled by pitch differences. Tone may be lexical, as in Mandarin Chinese or grammatical tone, or as in many

African languages. However, as with stress, there may also be non-pitch aspects of tone. Lexical tones are often related to durational, phonatory and vowel quality distinctions as well as frequency distinctions[7]. Another definition of tone is: "The pitch pattern that begins on this nuclear syllable and continues through the rest of the thought group is called the nuclear tone."[8] The system of tone, the contrasting pitch movements in each unit of intonation, is associated to the expression of different speech functions and the status of information.[9]"Pitch refers to our perception of how 'high' or 'low' the voice sounds based on the 'fundamental frequency' (speed of vibration) of the vocal folds: the higher the frequency the higher the perceived pitch and vice versa."[10] Scholars went further to explain the significance of the pitch by stating: "To be linguistically significant, pitch variations have to be under speaker's control and not for instance on physiological differences, for instance differences in physical size or activity can result in differences in a speaker's pitch."[11]The pitch of the human voice is continuously variable. Nevertheless, phonologists often assert that any language uses only a small set of different patterns to control intonation _variation in pitch, whose primary acoustic correlate is fundamental frequency or $f0\_$. Intonation in English, for example, is said to behave this way. Similar claims have been made for numerous other languages.[12]Many scholars have recognized the relationship between intonation form and function from very early times. Pike[13] mentioned the communicative importance of intonation by stating that "we often react more violently to the intonational meanings than to the lexical ones; if a man's tone of voice belies his words, we immediately assume that the intonation more faithfully reflects his true linguistic intentions."

Method: Subjects

The population of the study is the third year students at Sudan University of Science and Technology. The total number of the students who sat for pre-

and post receptive tests of intonation is 92 students.

Material:

The researcher conducted a pre-test to determine the standard of the students before they were taught intonation. After teaching them intonation a post-test was conducted to find out the newly acquired standard of the students, i.e. the degree of the progress they achieved after studying intonation. The test was composed of 30 items which students have to listen to and determine the right tone they hear. The first 10 items were words the students were asked to identify the different tones, the second 10 items were sentences the students were asked to identify the different tones, the last ten items were sentences the students were asked to identify the tonic syllable. 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 30 to determine the scores of the

students and how much they achieved in each test. Paired samples test is used to analyze the students' 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.[14]

Table (1) **Reliability Statistics**

N of Items	Cronbach's Alpha Based on Standardized Items
2	0.437

The correlation of each specific item with the sum/total of the other items in the scale is 0.437 this mean that the test is reliable. The validity is 0.6, which mean the degree of the test validity is good. Concerning the face validity; five scholars were consulted, concerning the intonation perceptive test and their comments were taken under consideration.

Result and discussion:

To check that Assumptions and Conditions are fulfilled the researcher used One-Sample Kolmogorov-Table (2)

Smirnov Test the normality of distribution.

One-Sample Kolmogorov-Smirnov Test

		total pre-test	total post-test
N		92	92
Normal Parame	Mean	9.8370	15.4130
	Std. Devia	2.63233	4.39568
Most Extreme Differences	Absolute	.136	.153
	Positive	.136	.153
	Negative	-.101	-.121
Kolmogorov-Smirnov Z		1.301	1.471
Asymp. Sig. (2-tailed)		.068	.026

a.Test distribution is Normal.
b.Calculated from data.

From the above table, the significant value .026 implies that the test indicated that total post- test is normally distributed. (The null hypothesis which is: "Students cannot distinguish various tones when hearing them. a. Cannot identify different tones on the level of words. b. Cannot identify different tones on the level of sentences. c. Cannot identify tonic syllable", that the distributions are normal cannot be rejected.) If significance is less than 0.05, then the test is significant at 95% of confidence, this is the standard criterion used. "In simpler terms:" normality permits the drawing of reliable conclusion from statistical estimates. Total pre- test is not normally distributed. Visually, a normal distribution is bell-shaped the left half is a mirror image of the right half.
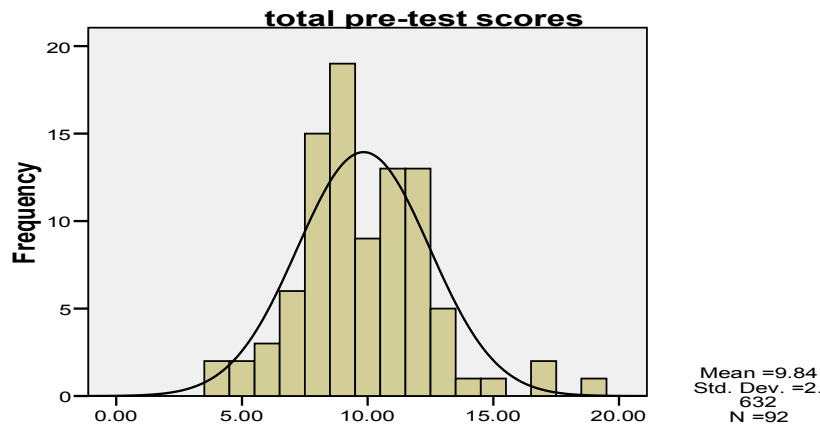
Graph (1)Scores of the students in the Pre- test as a total from 30 On the lower-right corner, the chart provides Size. (The other statistics: like the Median, mode, range, skewness, and kurtosis) are usually more visually identifiable from a histogram.The mode is the highest bar those who scored 9 are 19, the median has half the area (under the shaded bars) to its left, all are less than the '15' score, and the skewness and kurtosis are measures of attributes that are easily identifiable.The heights of the bars give the most important statistics: Standard Deviation, Mean, and Sample

the relative frequencies of the scores of variable (pre-test). Compare the bars (as a group) with the normal curve (drawn as 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 in this graph. This indicates that the students' standard before being taught intonation was quite low. (Refer to appendix (1) table)
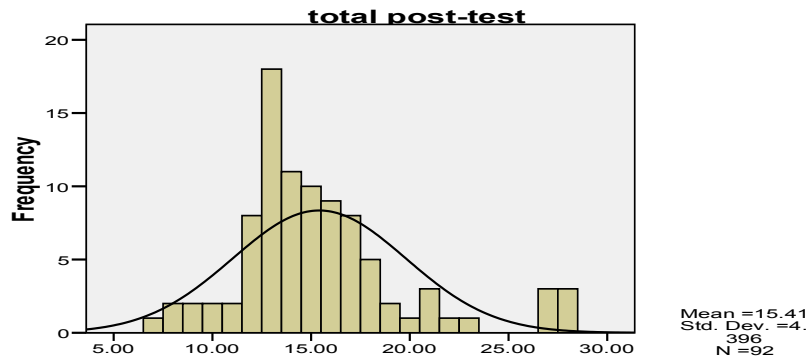
Scores of the students in the Post- test as a total from 30

Graph (2)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 more or less normally but with a slightly heavier distribution around the lower half. To the relevant normal curves, lower scores are observed more often than higher scores for intonation total post- test. But there was an 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 students a paired sample test was used for interpretation the output:

Table (3)

Paired Samples Statistics

	level of words		level of sentence		level of tonic syllable		total	
	pre-test	post-test	pre-test	post-test	pre-test	post-test	pre-test	post-test
Mean	2.6739	4.0217	4.0326	7.0217	3.1304	4.4130	9.8370	15.4130
N	92	92	92	92	92	92	92	92
Std. Deviation	1.54143	2.31563	1.87201	1.65070	1.71110	2.06569	2.63233	4.39568
Std. Error Mean	.16071	.24142	.19517	.17210	.17839	.21536	.27444	.45828

Interpretation of the output:

The first table shows, Paired Sample Statistics, shows the Mean for the total intonation pre-test (9.84) and the total intonation post -test (15.41), this reflects that the students' performance in the tests improved a lot. The means

of the three levels: level of words intonation pre-test (2.67) and the intonation post -test (4.02), level of sentences intonation pre-test (4.03) and the intonation post -test (7.02) and level of tonic syllable intonation pre-test (3.13) and the intonation post -test (4.41) consecutively. These means reflect that students' performance has improved regarding the three questions but they have improved more in the level of sentences, as this is more obvious from the standard in the 'Pre' it is (1.9) and in the post it is (1.7) which is less and that indicates

improvement.Chapman[15] on his study agree with this result he stated that "Both students and teachers were in agreement over the difficulty of identifying subtle differences in tones". Regarding the level of sentence the improvement could be referred to student understanding of the uses of the tones themselves concerning certain structure. Thus they were not just listening to the different tones they were applying their new knowledge concerning tones and sentence.

Table (4)

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	level of words	92	.122	.246
Pair 2	level of sentences	92	.281	.007
Pair 3	level of tonic syllable	92	.152	.147
Pair 4	Total pre-test & post-test	92	.279	.007

The second table shows, Paired Samples Correlations, which will be used, assess the pre – post reliability of the intonation scores. Note that the r = .279 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 (5)

Paired Samples Test

	Paired Differences							
				95% Confidence Interval of the Difference				Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
level of words	.34783	2.62044	.27320	-1.89050	-.80515	-4.933	91	.000
level of senten	2.98913	2.12000	.22102	-3.42817	-2.55009	-13.524	91	.000
evel of tonic syllabale	.28261	2.47327	.25786	-1.79481	-.77041	-4.974	91	.000
total pre -& tota post -tests	5.57609	4.44807	.46374	-6.49726	-4.65492	-12.024	91	.000

The last table shows, 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 studying intonation. This is because, the effect size is high (difference = mean / standard deviation) (d : -5.58 / 4.45 = -1.25). If we subtracted the mean of the total pre-test from the total post –test (15.41 – 9.84 = 5.57) which means 6 scores to the scale 30 scores. This also proves that students' performance improved by 20%.

CONCLUSION :

It is clear that the students' standard in recognizing different tones has improved -on the level of word- after being taught intonation but many students still have some confusion.Students have acquired new knowledge that structure words are usually de-emphasized when contrasted 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 the post test

they were more inclined to choose the structure words as a tonic syllable.

REFRENCES :

1. Gussenhoven, C. (2004). The Phonology of Tone and Intonation, Cambridge, Cambridge University Press.

2. Mary Spratt, Alan Pulverness, Melanie Williams,(2010), the TKT Teaching Knowledge Test Course. Cambridge, Cambridge University Press. 8th printing.

3. Pisoni, B. David and Remez, E. Robert, 2005, The handbook of speech perception, Blackwell Publishing, oxford.

4. Halliday, M. (1994) *An Introduction to Functional Grammar*. London: Arnold:36.

5. Tench, P. (1996) *The Intonation Systems of English*. London: Cassell.:80-86

6. Rogerson,P. (2011) English Phonology and Pronunciation Teaching. Chennai: Continuum International Publishing Group:180

7. Soltani, M. (2007) Contrastive Analysis of English – Persian Intonation- available at Http://www.isba.ir/e-book/soltani1.pdf. :11

8. Rogerson,P. (2011) English Phonology and Pronunciation Teaching. Chennai: Continuum International Publishing Group:181

9. Halliday, M. (1994) *An Introduction to Functional Grammar*. London: Arnold.:36

10. Rogerson, P. (2011)English Phonology and Pronunciation Teaching, Chennai, Continuum International publishing group :179.

11. Rogerson, P. (2011)English Phonology and Pronunciation Teaching, Chennai, Continuum International publishing group :179.

12. Braun, B. Kochanski, G. Grabe, E. and Rosner, S.(2006) Evidence for attractors in English intonation, Phonetics Laboratory, Oxford, Oxford University Press:406

13. Pike, K.L. 1972 General Characteristics of Intonation. In: *Intonation*, Dwight Bolinger (ed.), pp. 56–82. Penguin Books. :56

14. Nancy, L. Leech,K. Barrett, G.(2005) SPSS for Intermediate Statistics:

Use and Interpretation,2nd ed. New Jersey, Lawrence Erlbaum Associates, Publishers: 63.

15. Chapman, Mark (2007) *Theory and practice of teaching discourse*

intonation ELT Journal Volume 61/1 January 2007; doi:10.1093/elt/ccl039 Oxford University Press : 8

Appendices Appendix (1)Total pre-test scores

Percent	Frequency	Scores	
2.2	2	4.00	
2.2	2	5.00	
3.3	3	6.00	
6.5	6	7.00	
16.3	15	8.00	
20.7	19	9.00	
9.8	9	10.00	
14.1	13	11.00	Valid
14.1	13	12.00	
5.4	5	13.00	
1.1	1	14.00	
1.1	1	15.00	
2.2	2	17.00	
1.1	1	19.00	
100.0	92	Total	

Appedix (2) Total post-test

Percent	Frequency	Scores	
1.1	1	7.00	Valid

2.2	2	8.00
2.2	2	9.00
2.2	2	10.00
2.2	2	11.00
8.7	8	12.00
19.6	18	13.00
12.0	11	14.00
10.9	10	15.00
9.8	9	16.00
8.7	8	17.00
5.4	5	18.00
2.2	2	19.00
1.1	1	20.00
3.3	3	21.00
1.1	1	22.00
1.1	1	23.00
3.3	3	27.00
3.3	3	28.00
100.0	92	Total