

**ENHANCING ENGLISH LANGUAGE LEARNING THROUGH COMPUTER-  
ASSISTED INSTRUCTION: THE IMPACT OF STRESS-PATTERN TEACHING  
ON EDUCATIONAL TRANSFORMATION**

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**Abstract**

*This study investigated the effects of Computer Assisted Language Teaching English Stress-Pattern on the Performance of seniorsecondaryschool students in North-West Zone, Nigeria. The study has one research objective, research question and null hypothesis. The study adopted quasi experimental design. A random sampling technique was used to draw two schools out of the schools in Kaduna state. The schools were randomly assigned to experimental and control groups. Students in the intact classes constituted the sample of 59 used for the study. The experimental group (30) students were taught and assessed using computer assisted language teaching while the control group (29) students were taught and assessed conventional classroom teaching method. Data were collected using the Supra-segmental Phonemic Performance Test (SPPT). Research question is analysed using mean and standard deviation, while the null hypothesis was tested using independent sample T-test at 0.05 level of significance. The findings from the study revealed that there is significance difference in the mean academics' performance scores of the students taught using Computer Assisted Language Teaching in English Stress pattern and those taught with Conventional Classroom teaching method. Based on the findings from the study recommended that CALT should be*

*integrated in classroom for teaching stress. CALT can facilitate collaborative learning among students, through offline forums, discussion/tutorial, using videos.*

**Keywords:** Technology and Innovation, Computer-Assisted-Language-Teaching, English Stress-pattern.

### **Introduction**

The ability to speak a foreign language is becoming increasingly important in today's globalized world. However, learning a new language can be challenging, especially when it comes to mastering pronunciation. Fortunately, there have been significant advances in technology that can aid language learners in this area. One such technology is Computer-Assisted Language Teaching of Stress. This innovative approach to language teaching uses computer software to help learners improve their pronunciation of supra-segmental features such as stress and intonation. This revolutionary technique is changing the way language is taught and learned with this modest technology, as it will help language learners become more confident and proficient speakers.

### **Concept of Computer Assisted Language Teaching**

Various experts have defined Computer Assisted Language Teaching from different educational perspectives based on its relevance to pedagogy. According to Chimezie (1998), CALT is a teaching process directly involving the computer in the presentation of instruction in an interactive mode to provide and control the individualized learning environment for each individual student. In addition, Audu & Agbo (2010) define CALT as an interactive instructional technique, whereby a computer is used to present the instructional material and monitor the learning that takes place. CALT uses a combination of text, graphics, sound and video in the learning process through interaction and guidance of computer to achieve certain instructional goals.

According to Levy & Stockwell (2006) define CALT as the use of computers to aid in the teaching and learning of language. This present study agrees with the definition as describe by the author, though it is very accurate, straightforward and implies that computers are simply tools to support language learning. It also emphasises the use of computers as tools to aid in language teaching and learning, but it does not however provide detailed explanation or specifics on how these tools are being employed in language teaching and learning in the classroom situation.

### Concept of Stress Pattern of English Language

Various definitions have been offered by various scholars on what regards to meaning of the word “stress” as a linguistic feature (Gimson, 1980, Roach. 2010, O’Connor, 2013). What is not included in them is that “stress” in this sense does not cover the psycho-medical relations. As a linguistic feature, it concerns the prominence given a syllable of an utterance relative to the other syllables in the utterance. This prominence may be marked by higher intensity (loudness), increased fundamental frequency (pitch) length, etc. occasioned by some organs of speech. Specifically, this research presents a few definitions or qualifications of stress from some experts in the study. Christophersen (2015: 153) says:

*...a certain syllable...uttered with great energy...air is ejected from the lungs with more effort and the other speech organs perform their actions with more vigour...the total effect is that the stressed syllable seems louder than the others.(pg. 153)*

Erick Fudge (2014: 1) claims that:

*Stress means essentially that one phonological element is singled out within another, longer, phonological element. Sentence-stress involves the picking out of one word or phrase within the sentence; this word or phrase is usually given special emphasis of some kind in pronunciation, (Pg. 1).*

Knowles (2013: 96), while referring to stress as accent, proffers that accent refers to prominence given to a syllable by means of a change of pitch. It concentrates on the increased physical effort which is needed to emphasise a syllable. The resulting peak of loudness is perceived as a rhythmical beat. we could assume that accented syllables are accompanied by an increase of loudness. But, Akere (2015:20) defines stress as “the degree of breath force used in the articulation of successive syllables in a word or in an utterance”. Jolayemi (2016: 97-98) says stress is the exertion or force occasioned by the larynx, the vocal folds and other speech organs culminating into prominence on a specific syllable among other contiguous ones (if more than one).

In view of the above definitions, it could be deduced that stress on a syllable is perceived as differences in loudness which then makes certain syllables more prominent in loudness and intensity than others.

### **Purpose of the Study**

This study is concerned with the Influence of Computer Assisted Language Teaching on teaching stress pattern performance of senior secondary school students II in North-West Zone, Nigeria. Thus study the meant to find out the difference between the performances of students taught English Stress Pattern using Computer Assisted Language Teaching and those taught without the CALT.

**Research Question:** What is the difference between the performance of students taught English stress pattern using Computer Assisted Language Teaching and those taught without the CALT?

**Research Hypothesis:** There is no significant difference between the performance of students taught English stress pattern using Computer-Assisted Language Teaching CALT and those taught without the CALT.

### **Methodology**

The participants in this study consisted of 59 Senior Secondary School Students. All of them were from public schools. They took some pronunciation lessons such as phonetics and phonology generally known as oral English. They were all non-native speakers of English and fluent in their mothers language. They participated in this experiment as a regular class activity in an oral English pronunciation class.

The instrument for the study is Supra-segmental Phonemic Performance Test (SPPT) while the design for this study is quasi experimental design. It is a design in which every participant in the study group is measured before the treatment and measured after the treatment. The data of the pretest is compared with that of the post-test to find out if the treatment has significant effect. In this study, experimental and control groups were subjected to pre-test and then treated. The treatment is teaching using Computer Assisted Language Teaching (CALT) for experimental group and the Conventional Teaching Method for control group (CG). Post treatments are administered to the experimental and control groups to examine the effect of the treatment on students' Academic Performance.

### **Results**

The pre-test and post-test mean scores of the students presented. The research question was answered using descriptive statistics while the hypothesis was tested

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with t-test. 0.05 level of significance. The study has one research question as follows:

**Research Question:** What is the difference between the performance of students taught English Stress Pattern using Computer Assisted Language Teaching and those taught without the CALT?

In answering this research question, mean score of students in both experimental and control groups' post -test is analysed using descriptive statistics on difference between the performance of students' stress pattern with Computer Assisted Language Teaching and those taught without the CALT as shown in Table 1.

**Table 1:** Descriptive Statistics of SPP scores for Experimental & Control group of English Stress Pattern.

						95% Confidence			
				Std. Error	Mean	Std. Error	Interval of the		
Treatment	N	Mean	SD	Mean	Difference	Difference	Lower	Upper	
experimental	30	19.07	4.891	.893					
Control	29	10.62	2.678	.497	8.446	1.032	6.380	10.512	
<b>Total</b>	<b>59</b>								

Table 1 illustrates that, after the treatment, experimental group had a mean score of 19.07. The control group scored a mean of 10.66. The table shows a mean difference of 8.4 in favour of experimental group. Therefore, this means that the students taught using Computer Assisted Language Teaching performed better than those that were not exposed to the treatment.

**Hypothesis One:** There is no significant difference between the performance of students taught English stress pattern using Computer Assisted Language Teaching and those taught without the CALT.

In order to test this null hypothesis, independent sample t-test was used to establish if there is a significant difference between the experimental and control group performance on English stress pattern after groups were exposed to treatment. This is shown in Table 2:

**Table 2:** Independent t-test English Stress Pattern of Experimental and Control Group.

treatment	N	Mean	SD	Std. Error Mean	t	df	P	95% Confidence Interval of the Difference	
								Lower	Upper
Experimental	30	19.07	4.891	.893					
Control	29	10.62	2.678	.497	8.186	57	.000	6.380	10.512
<b>Total</b>	<b>59</b>								

Table 2: indicates that the result of the observed  $t = 8.19$ ,  $p = 0.000$  which is less than alpha value of 0.05 chosen by this study.

Therefore, the null hypothesis which stated that there is no significant difference between the performance of students taught English stress pattern using Computer Assisted Language Teaching and those taught without the CALT is hereby rejected. This indicates that there is significant difference between the performance of students taught English stress pattern using Computer Assisted Language Teaching and those taught with conventional method.

### Discussion of Findings

This study finds that significant difference exists between the performance of students taught English stress pattern using Computer Assisted Language Teaching and those taught without the CALT. The finding is in agreement with that of the Conian (2016) who found out that using CALT with accent reduction software is most effective method of teaching English stress pattern while the conventional method of teaching is closely followed. The finding is consistent with Nwike&Chukwudum (2011) who reported that Computer Assisted Language Teaching is one of the products of computer technology and has proven to be very effective method of teaching and delivery. This finding is also similar to the findings of Anyameme, et. al (2012) from the study on the effect of computer assisted packages on the performance of Senior Secondary Students in Mathematics. They reported that students taught using computer assisted package perform better than the control group in retention test.

This finding is also in agreement with that of Chapanit (2015) who reported that CALT improves students' attitude toward teaching supra segmental features of

spoken English through CALT (film) are positively retain at a higher level than their counterpart taught using individualized learning strategy. This is supported by the finding of Usman (2015) who revealed that the use of CALT strategy has a positive effect on both recall and retention of oral fluency and collocation. Bolaji (2012) agrees that CALT provides opportunities for inquiry-based approach to the teaching of phonology and it discourages rote memorization while encouraging conceptual understanding and critical thinking. It also agreed with Mayer (2015) who revealed that CALT tutoring group outperformed those of control group in both learning and retention of English vocabulary.

Similarly, it agrees with Hassakhah (2018) whose finding revealed that the experimental group vocabulary retention statistically improved students' performances than the control group.

### Conclusion

From the findings of this study, it was deduced that the use of Computer Assisted Language Teaching has great influence for teaching and learning of stress pattern on the performance of senior secondary school students II in North-West zones, Nigeria. Though, students taught using Computer Assisted Language Teaching outperformed their counterparts taught using traditional method of teaching.

Students' ability to retain what was learned after certain period of time could be influenced by the nature of instructional video and strategies employed for teaching and learning. Therefore, students taught supra-segmental using Computer Assisted Language Teaching retained the content more with fluency skills than those taught using conventional method.

To this end, it is therefore deduced from this study that Computer Assisted Language Teaching on group-based teaching is more effective than the traditional classroom teaching in improving students' performance on concept of English stress pattern.

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