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Review Paper

Effects of Language Laboratory on Students Performance in Spoken English

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The purpose of this study was to verify the efficacy of the Language Laboratory in the teaching and learning of some phonemes of English language perceived as difficult. Based on the result of sixty four (64) students from the Federal College of Education Yola, a t-test statistics revealed a significant relationship between the use of the laboratory and performance. In view of the significant relationship established, the paper posited that progress in speech articulation, especially in Nigeria where English is taught, learned and spoken as a second language and where some sounds of English do not exist in the speaker's First Language (L1), is predicated on the ability of the teachers and learners to make effective use of the language Laboratory. In conclusion, the educational implications of the findings were discussed.

Key words: Language, Laboratory, Teaching, Methodology.

INTRODUCTION

The need to teach the correct pronunciation of English words in Nigerian schools has been the focal point of many research papers (Malgwi 2000, kamai and Jedede 2004, Lucas 2006). A good number of these papers have attributed the poor performance of students in the articulation of English sounds to a number of factors. For instance, Agu and Kwache (2003) posit that some sounds like the vowels: /ʌ/, /ə/, /ɜ:/ and the consonants: /θ/, /ð/ and so forth do not exist in many Nigerian languages. Thus words like 'mother', 'ago', 'work', 'think' 'father' and so on are often mispronounced. Apart from that, a good number of the teachers who teach the courses are not the real models they ought to be. It is an axiomatic statement that a man cannot give what he does not have. A good number of these teachers did not learn through any gadgets themselves. Things are really changing. In good colleges, language departments with modern language laboratories, make use of tape recorders with gadgets which provide the students the sounds that are required for mutual intelligibility between an educated African speaker of English and a native speaker. This paper is therefore poised to establish the extent to which these laboratories facilitate the teaching and learning of those phonemes that pose much problems to the students.

Research Problem

Most researches before now had dwelt more on the position of the teacher and the learners in the teaching and learning of oral English. Unfortunately not much has been done on the place of language laboratory as a major instructional material in the study of sounds of English Language. This study, therefore, investigates the efficacy of the language laboratory as a major contributor to the students' correct pronunciation of English sounds.

Research Hypothesis

In line with the focus of the study, a null hypothesis was formulated to be tested at 0.05 alpha. The hypothesis states that there is no statistically significant difference in achievement of learners exposed to oral English through the language laboratory and those who are not.

Review of Literature

In most of the languages of Africa there is a broad correspondence between the way words are pronounced and the way they are spelt (Ellis and Tomlinson 1980). This is not the case with English however. A few examples from English will support the above claim that the spelling of some words of English have no relationship whatsoever with their pronunciations. The table below speaks for itself.

Table1: Disparity between some letters and their pronunciations

Words	Specific Letter	Phonetic Transcription
Ago	A	/ə/
Age	A	/ei/
Hat	A	/æ/
Cart	A	/a:/

The above table shows that each of the words: ago, age hat and cart contains the letter 'a'. The interesting thing though is that the letter is pronounced differently in each word as shown in the phonemic transcription column. Again, it is a common linguistic phenomenon in English for some words to contain letters which do not represent any sound actually pronounced. The following table represents this phenomenon.

Table 2: Silent letters in the pronunciation of some English words

Words	Phonetic Transcription	Letters not represented by any sound
Enough	/inʌf/	GH
Crumb	/krʌm/	B
Depot	/depəʊ/	T
Allow	/əlaʊ/	W
Crate	/kreit/	A

The above table shows clearly that some words of English origin have silent sounds. This has a great implication for the classroom teacher because the pupil would like to pronounce the words just as they are spelt. Apart from this, there are other words that have sounds which are not represented by some letters whatsoever. We may just cite two examples: asked (the final sound is /t/ not /d/); Lieutenant (contains the sound /f/). The implication, therefore, is that when studying the sound systems of English, it is necessary to distinguish between letters (i.e. the written form) and sounds (the spoken form). Because of the lack of close correspondence between the sounds of speech and letters of the alphabet, it is necessary to have a special system of symbols to refer to sounds. This system is called phonetic transcript (Ellis and Tomlinson 1980). It is important to note that for one to situate the major differences in the speech patterns of two different languages or the effect of one language on the other phonologically, one has to carry out a contrastive analysis. A contrastive analysis of the sound systems of two languages, according to Ellis and Tomlinson (1980), involves a detailed description of the phonemes of both languages, of how these phonemes are distributed (i.e. what position they can have in a word) and how they combine together in connected speech. Contrastive studies help the teacher to predict the pronunciation difficulties of his pupils. As already noted above, the pupils may experience difficulty:

1. With sounds which do not occur in their mother tongue. They will tend to substitute a similar sound from their mother tongue, i.e. a sound articulated in a similar but different way.
2. With sounds which have a different distribution to those in their mother tongue, e.g. if a pupil is used to using a particular sound only in the initial position in a word, he may have difficulty in pronouncing the same sound when it occurs in the final position.

3. With making the necessary modification in the articulation of sounds as they occur in connected speech, e.g. in isolation 'for' has no /r/ but in connected speech /r/ is articulated when the following word begins with vowel. Say the following phrase rapidly: 'for example'

The above points have also been expressed in a similar way by Wilkins (1982) who posits that the important point in pronunciation is not whether a sound can be produced adequately in isolation, but how well it is formed in the phonological contexts in which it occurs in the target language. This position is premised on the fact that a sound may not be intrinsically difficult for a learner, but if it occurs in an unfamiliar context, he may find it as hard to produce correctly as he would if it were a totally novel sound to him. The particular combinations of sounds that are found in a language may also cause problems. Initial and final consonant clusters can be especially difficult for learners whose own languages do not possess them. A good example is the case of the consonant /θ/ and its voiced counterpart /ð/. Onuigbo (1996) posits that this consonant is pronounced with the tip of the tongue in a light contact with the incisors while the airstreams pass through the mouth. The vocal cords do not vibrate (i.e. for the /θ/ sound) as this process takes place so that the consonant is a voiceless dental fricative. This dental fricative does not exist in most Nigerian languages. Learners of English in Nigeria therefore, find it difficult to pronounce /θ/ properly. Where words like "thin" and "pith" occur in a sentence, many learners tend to pronounce them as "tin" and "pit" respectively. This is a serious error which should be avoided if one must communicate effectively with other users of the language. The only spelling for this consonant is "th". This is one major area where the language laboratory will be of immense benefit. Some teachers of phonology are guilty of the aforementioned problem. There is yet another problem area. This is the area of consonant clusters. The majority of learners in Nigeria are

likely to have difficulty with the complex consonant clusters which occur in English. According to Onuigbo (1996), a learner will pronounce a word like 'pit' with relative ease but the same learner may experience some difficulty in pronouncing 'spit' or 'split'. The difficulty results from the cluster of two or three consonants in the word without an intervening vowel. But this is the contending issue because in many of the Nigerian languages, this cluster does not exist. Consequently, a good student of English language must strive to pronounce his words in such a way as to engender mutual intelligibility with people from other parts of the globe. Such learner or learners must pronounce such words that begin with two or three consonants without dropping any of the consonants or inserting a vowel between clusters.

One important point that we must not fail to highlight here is that the existence of a cluster is only established when a word is pronounced properly. In other words, it is not just enough to say that a word has consonant clusters without first pronouncing such a word appropriately. In this paper we will strive to provide just few examples of words with clearly marked consonant clusters at the initial position as already enunciated by Onuigbo (1996).

The above tables (1-5) indicate some areas of difficulty in terms of the pronunciations both vowels and consonants. One other major area that proves very difficult is the distinction between stress and intonation. Whereas English is stress timed, most African languages are syllable timed. Thus, instead of using intonation for what it is meant for, we use it for other purposes. Both Wilkins (1982) and Onuigbo (1996) believe that a good lesson based on the use of the necessary gadgets will make the learners grasp the actual functions of intonation. Onuigbo (1996:95) puts it directly when he writes:

The rise and fall in the pitch of voice is important in spoken English not only because it indicates whether a sentence is a statement, command, question or exclamation but because it conveys the attitude of the speaker towards the listener or to what is being discussed. In other words, intonation has both grammatical and attitudinal functions in English.

What this implies therefore is that a student of African extraction who is studying English will have to do so within a first language (L1) milieu.

The Language Laboratory

Language acquisition depends heavily on interactions with native speakers, and native speakers are hard to come by. Regardless of the method of instruction or how well intentioned teachers are, without native speakers to interact with, instruction often falls back on practices that are useless in real life. In addition, interactions always occur in a larger cultural context, and students need access to this context. During

interactions, the physical and social contexts provide important cues that are integral parts of the process of communicating. Even when the native speakers are available, bringing the target environment into the classroom is difficult (Schank 1998). Another very important fact is that individual instruction and feedback are very scarce. To be motivated to learn, students have to work on problems that are relevant to them. Instead, classroom instruction forces every student to participate in uninteresting group dialogues; because they must wait their turn to interact with the teacher, students have limited individualized feedback. When instruction does not address the specific needs of a student, the student will likely look out the window and mechanically repeat whatever he or she has to say. In contrast, interacting one-on-one forces people to exchange information, express feelings, and perform social transactions. Unless students address personal needs by engaging in interactions that are meaningful to them, the information conveyed is irrelevant. Unfortunately, in the typical classroom, teachers cannot give each student sufficient individual attention.

Owing to the above shortcomings, Schank (1998) posits that ideally, students should learn by living in the target environment, interacting with native speakers, being immersed in the target culture, and receiving intense individual instruction and feedback. But this is not possible; however, an alternative solution is to bring those experiences to the student. This is what early language laboratories tried to do, by using instructional materials such as tape recorders, audiovisual materials, and/or videotapes. One may still argue that this is not very ideal in view of the fact it does not provide the student with all the native-speaker-like interactions which the second language learner requires. Valid as this position may be, we still contend that tertiary institutions especially those that specialise in the training of teachers should endeavour to make use of the laboratories as the result of the findings of this study tended to suggest.

Methodology

Population and sample

The total population of the students who offered speech work in the Department of English within the last three academic sessions (2004-2006) exceeded 210. Using the purposive sampling technique, 64 of them were selected for this study. 32 who formed the Experimental group (i.e. the group that was taught using the language laboratory). The control group (also 32 in number) was taught in the classroom by the same teacher. For the purpose of this study the Experimental group is referred to as group1 while the Control group is referred to as group2. Thus the present study took place within the space of three years. Each year a small percentage of those who were taught in the laboratory were randomly selected and tested. The same applies to those who were taught conventionally within the classroom. Thus within the three years the raw scores for this study were obtained.

Instrument

An inferential statistical study was adopted for the study. Accordingly, in a two-group posttest-only experimental study of more than thirty subjects, a Critical Test independent means is used in testing the hypothesis (Ali 1996). The formula for this Critical Ratio is:

$$\frac{X_1 - X_2}{\frac{SD_1 + SD_2}{N_1 + N_2}}$$

Where X1 is the mean score of the Experimental Group and X2 the mean score of the control Group. SD1 is the Standard deviation of the Experimental Group and SD2 the Standard Deviation of the Control Group. The Raw Scores in percentages are as presented in the table below:

Table 5: Raw scores of the sampled students

X1: EXPERIMENTAL GROUP	X2: CONTROL GROUP
72	40
69	36
87	49
65	50
80	36
57	40
77	40
63	36
43	52
17	57
92	80
78	61
76	53
59	42
84	37
77	62
69	36
75	44
83	33
80	37
80	25
59	20
63	50
79	60
44	39
63	61
80	27
80	50
50	51
72	54
76	31
79	12

Procedure

Result of the t-test statistics predicated on the raw scores (in percentages) of the post test of the two groups provided the basis for the interpretation.

Results

Consequent on the null hypothesis that there is no statistically significant difference in the mean scores of students taught oral English using the language laboratory and those taught the same subject in the ordinary classroom devoid of any gadget; a t-test statistics indicated a significant main effect for language laboratory (7.17 > 1.671). The overall result of the test of the significant effect of language laboratory on students' performance in Oral English is summarized in table 6.

Table 6: The overall result of the significant effect of language laboratory on students' performance in Oral English

Variable	Mean	SD	t-Values	P	Df
Group1	69.62	15.06	t-cal=7.17 t-crit=1.671	<0.05	n1+n2-2 32+32-2=62
Group2	43.78	13.76			

Since the calculated t (t-cal) is more than the tabulated or critical (t-crit), the null hypothesis is rejected. Hence there is a significant difference in the mean scores of students who were taught Oral English using the Language Laboratory and those who were taught conventionally in the classroom.

Discussion

Result of the present study indicates that the use of language laboratory is significantly related to proficiency in Oral English. This is in line with the position of Schank (1998) who postulates that language instruction should be concerned with developing communicative competence. This he posits gives the students ability to interact with others in a foreign language. This interaction between students in Nigeria, for instance, and the native speakers even through mechanical gadgets provide our students the experiences with which to perform in real life. It is worthy of note that students know how to speak well before they begin to write well. Writing, of course is the most complicated of the four language skills. This underscores the need for students to master the art of speaking proficiently.

The result also has another important pedagogic implication. In the view of Kamai (2005) an experimental study in language teaching and learning which establishes significant relationship means that progression in the language learning process especially in Nigeria where English is learnt as a second language is predicated on the ability of the learner to explore alternative linguistic environment.

Conclusion

The study examined the relationship between the use of language laboratory and students' performance in Oral English. Based on the result of sixty four (64) students from the Department of English, F.C.E. Yola, a t-test statistics reveals a significant effect in the use of language laboratory. Thus the use of language laboratory as an effective medium that enhances an interactive classroom has been established.

Recommendations

Based on the findings of this study, the following recommendations are made hereby:

1. Teachers should try as much as possible to make use of the language laboratory as a necessary instructional material;
2. Audio and visual materials made by the native speakers of the language should be used in teaching the students so as to give them ample opportunity of 'interacting' with the 'owners' of the language;
3. Teachers in other languages apart from English should also try the language laboratory.

Suggestions for further research

The findings of the study suggest a number of other areas of need that would facilitate language teaching in Nigeria. In the first instance there is the need to carry out the same study in other language areas like French, Arabic and the indigenous Nigerian languages. Secondly, the same study could be replicated on other sister colleges of Education or language teaching institutes so as to establish its generalisability. Finally, since the study was carried out with a single medium laboratory as the one obtained in the college; there is the need to further the study in a multi-media language laboratory which would engender more interactions among the learners and their facilitator.

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