EVALUATION OF THE EFFECT OF ENGLISH LANGUAGE LABORATORY INSTRUCTION ON STUDENTS’ PERFORMANCE IN CONSONANT SOUNDS IN COLLEGES OF EDUCATION IN NIGERIA

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Abstract
The study is a Quasi-experimental research design (pre-test, treatment and post-test). Four federal colleges of education in north-west Nigeria were selected, two as experimental and two as control groups. The experimental group was taught using English language laboratory instruction while, the control group was taught using lecture method. Two thousand and ninety five NCE 1 students constituted the population of the study with one hundred and seventy four students of English double major as the target population. One hundred and seventy four students were the sample of the study. At the initial stage, a pre-test was administered to determine the entry behaviour of the participants. After nine weeks of treatment, a post-test was also administered. Mean and standard deviation were used to answer the research question while, t-test for independent samples was used in testing the hypothesis at 0.05 level of significance. The findings of the study revealed that students taught consonant sounds using English language laboratory instruction performed significantly better than those taught using lecture method. Based on the findings, the study recommended for the use of English language laboratory instruction in teaching consonant sounds in colleges of education in Nigeria.

Keywords: Effects, Laboratory, Instruction, Performance, Consonants.

Introduction
The need for mastery, fluency and the overall positive academic performance of students in colleges of education in Nigeria can never be overstated. Mastery and fluency in speaking is a unique feature expected of all students that study English language in colleges of education or any other educational institution. Most, if not all students in colleges of education in Nigeria are studying English as a second language. This signifies that, they all have their first (native/indigenous) languages. Their native languages tend to interfere consciously or unconsciously in learning the second language (English) Odusesu (2016). It should be noted that, most of these native languages does not have some consonant sounds of English. In other words, some specific consonant sounds (/ð/ /θ/ /ŋ/ /v/ /f/) to highlight just a few, are missing in most of the indigenous languages of Nigeria (Aliyu, 2015, Odusesu, 2016 & Kabir, 2019). Therefore, students tend to substitute those missing consonant sounds with the ones close to them in their first languages. This is why, consonant sound /ð/ as in “this” for example, is substituted with sounds /z/ “zis” and /d/ “dis” depending on the native/indigenous language in Nigeria. It is worthy to note that, one cannot speak fluently without mastery of the correct pronunciation of consonant sounds of English.
The ability to speak fluently and with certain degree of mastery requires a clear cut understanding of the correct pronunciation of consonants sound (Crystal, 2017). Comprehending these consonant sounds especially those that are missing in most indigenous languages in Nigeria, will to a large extent facilitates the smooth flow of expressions. Garba (2015) added that, contrary to the way words are produced and pronounced in most indigenous languages in Nigeria with the sound of each consonant being heard, English consonants does not follow that order. Some English consonants are assimilated in pronunciation of many words (the /k/ in knock /nɒk/, the /h/ in honour, the /l/ in listen) to mention just a few. In English language, the smallest unit of articulated sound does not necessarily mean a combination of consonant and vowel. Hence, it is common to come across words with two or more consonants without a corresponding vowel (style /stɑːl/, crystal /ˈkristl/, classic /ˈklæsɪk/). In addition, while English as an Indo Germanic language has a clear distinction between consonants sound /p/ and /f/, /b/ and /v/ for example; most mother tongues in Nigeria as tonal languages, have no clear distinction between these consonant sounds. This eventually leads to the substitution of one consonant sound in place of the other and vice-versa.

Kabir (2019) submitted that: students who study English language as an area of specialization in the colleges of education should be trained on the skills to identify and pronounce all the consonant sounds of English effectively. They should also be made aware of those missing consonant sounds of English in their own native languages. This will enable them to strike a balance between the language they are studying and their native languages and in the final analysis, can sustain the interference of their native languages in learning the correct consonant sounds of English.

In addition, the urgent need for students at the colleges of education in Nigeria to learn and master English language with certain degree of fluency that will enable and qualify them to teach at the basic education level, implies that, they could not afford to fumble for words and pronounce incorrect consonant sounds altogether. With the growing demand for competent teachers with an excellent communication skills, coupled with the fact that, good communication skill is deemed necessary in an effective instructional process, it has become important to explore all options and all possible academic solution to address this issue (Kabir, 2019).

One of the basic requirements for teaching and learning of English consonant sounds is the provision and use of a well-equipped language laboratory. In the study of English, the equipment and facilities to which students are exposed to during teaching and learning are of paramount importance. This is why, it is largely believed that students with rich background interms of exposure to facilities in the language laboratory, have advanced intellectual development, and hence, perform better in practice and in examination (Amodu, 2012; Hmoud, 2014 & Davies, 2015).

Hofstein and Naman (2007) and Aleman (2014) further stated that, since learning is change of behaviour and change of behaviour is better observed when practicalized, language laboratory should be made available especially in English language learning in which certain consonant sounds cannot be pronounced correctly as some of these consonant sounds are not replicated/present in the different indigenous mother tongues. English language laboratory instruction owes its existence and utilisation based on the recognition that the spoken form of language is central to effective communication. The
The language laboratory is an audio or audio-visual installation used as an aid in modern English language teaching. Language laboratory can be used in order to implement a technique that belongs to a certain method or combination of different methods. Hence, it is effective in teaching correct pronunciation of consonant sounds of English. Speech is very important in English language teaching and learning and therefore, prospective teachers of English (students at the colleges of education) should be trained in line with mastery and fluency in speaking of which consonant sounds are at the forefront.

With the current rapid explosion of students vying to study English language in colleges of education, there is the need for educators to stress for academic purposes, the effects of English language laboratory instruction on fluency, mastery and the overall academic excellence on consonant sounds. It is on these notes that the interest of this research is based.

Laboratory is an essential component of English language teaching and learning. Consonant sounds of English are however, key components in language mastery and fluency. Language programmes with a communicative goal should focus on quality pronunciation tasks based on authentic materials as well as appropriate audio-visual equipment in the language laboratory. In terms of the authenticity of the content of pronunciation activities, Kilickaya (2014) explains that language learners feel better with authentic materials helping them involve in the real language as long as the teachers provides them with pedagogical support. Instructors may create tasks from short academic discourse, recordings, analyzing and conversations.

In the language laboratory, technology facilitates the teaching-learning process. With regards to consonant sounds of English, most language programmes include recordings, digital data and computer software in their curriculum. Bygate (2015) point out that, since the mid-1970s, language laboratory has been sufficiently cheap and practical to enable the wide spread study of speech whether native speaker speech or learner speech in language classrooms. Besides tape recorders, the audio-visual language laboratory has been highly used in language teaching to make students aware of the characteristics of spoken discourse.

Moreover, language laboratory has played an important role in language teaching for a long time. Its main objective was to help language students improve their aura-oral skills. With the implementation of language laboratory, many language teachers develop new techniques in order to derive all possible advantages of this tool in the field of phonology. Bygate (2015) expands on this and put forward that, when language laboratories gradually come in to existence in the 1950s, they are mainly for pronunciation, grammar and translation practice. During the 1960s, the language laboratories rapidly become one of the most innovative component of language learning ever built.

English language laboratory motivates students to talk freely and loose the shyness when talking in front of their friends. In a nutshell, language laboratory carries along both the introverts and the extroverts students under the same roof, time and space (Joshi, 2008). Attention in the learning process is increased resulting in better comprehension and mastery of the concepts under study. Alexander (2016) asserted that language laboratory develops students listening and communication skills as they hear correct pronunciations from their headphones. Learners will therefore show more enthusiasm and excitement in learning because; they are actively involved in the process. Teacher can interact, correct, address,
encourage, cautioned and look after each student which could not be possible in the regular classroom. In the language laboratory, efficient use of time and learning is much more achieved and advanced than the usual or regular classroom learning. This setup fosters more interactive sessions between students and teacher.

Rivers (2013) lamented that English language laboratory brings a variety of teaching-learning process instead of boring, verbal centered teaching. Students’ progress can also be monitored regularly so that teacher can provide feedback based on individual pace and ability. Students can learn the lesson at their own pace, thus, making them; “classroom and teaching” student centered approach. Wilson (2017) added that, the use of language laboratory has a series of advantages and has expatiated the following uses of language laboratory in teaching English language. For the first time in the history of language teaching, each student will have the opportunity to hear native speech clearly and distinctly. The student may hear this authentic native speech as frequently as they so desire. The taped lesson provides an unchanging and unwearyingly model of native speech for the students to imitate. Student can hear and use the language under study throughout the laboratory session, instead of wasting time waiting for his/her turn in a large group as it is done in the conventional classroom situations. The language laboratory frees the teacher from certain problems of class direction and management enabling him/her to concentrate on the problems of the individual student.

In traditional teaching approaches (lecture) for example, students rarely engage in to any meaningful activity, and if they do, they often don’t comprehend why they are engaged in such tasks and steps. In language laboratories, students clearly understand the motive behind their engagement in activities as they can see, hear, utter, record, play and compare their own input to basically standard units of inputs (Richards, 2011). Also, in language laboratories, teamwork learning format is highly considered at the center of instructional process. The learning activities in the language laboratory are designed in such a way that collaboration between students, teachers and the development of teamwork is greatly enhanced. Teamwork learning in the language laboratory require students to have more imagination, more focus, more planning and to anticipate more challenging but rather learning tasks. In this instructional process, emphasis is placed on active learning and extra skills development in speech (Yang, 2015).

Before a laboratory session, students may need to study, plan and designed the detailed laboratory steps on the concept under study. At the laboratory session, they need to check the effective correctness of their proposal i.e. re-plans, re-design, revise, record and assimilate altogether. Hence, they could analyze a particular sound and its production phenomena and engages actively in the process of producing the required word or sentence (Richards, 2008).

Students need to be encouraged to participate in the language laboratory activities in order to improve their skills in fluency and academic excellence. This is because, a research study on students’ knowledge application and retention revealed that students usually retain and apply in real life situations and exercise, 10% of what they read, 20% of what they hear, 30% of what they see, 50% of what they see and hear, 70% of what they say, and 90% of what they say while they are doing a task (Mkpa, 2009). Indeed, this revelation is a testimony to the reality of academic achievement learners can get by utilizing
and patronizing language laboratory. In other words, language laboratory will enable students to utilize all senses in learning, a step ahead of any other instructional process in language learning.

Laboratory activities have long been associated with a distinctive center stage role in the English language curriculum. Language educators have stressed that many benefits could be extracted by engaging students in to language laboratory activities. The practical activities in the language laboratory is believed to have been the best avenue for improving students potentialities in mastery that promotes understanding of concepts, application of these concepts in to becoming learning experiences in real life situations and generally understanding what it takes to speak efficiently. In the laboratory, students could engage in activities that will enable them to design, conduct and express speech sounds, formulate and revise explanations and strike a balance between consonants that will in turn enhance their communication skill (Hmoud, 2014 & Navas, 2016).

The establishment of the first generation language laboratory in 1908 has witnessed a major curriculum reform in language learning. Practical activities were used to engage students in to recording, analyzing, interpreting, utilizing, manipulating, reporting and solving problems that has bearing with interference of the first language in learning of the target language. In this effort, (Hmoud, 2014) emphasizes the importance of introducing students to the role and practice of laboratory activities in English language learning and in the context of phonetics and phonology in particular. Sufficient data and research evidences do exist to suggest that utilization of laboratory in language instruction is an effective, efficient and successful instructional component in an attempt to achieve the objectives of teaching and learning English (Umar, 2009; Richard, 2011; Aleman, 2014; Hmoud, 2014; Ewa, 2015 and Mohammed, 2017).

Appropriate laboratory activities are effective in helping students construct and embrace their knowledge, develop logical and inquiry skill as well as pronunciation skills. Language laboratory assists students to develop the cognitive domain as it enhances learning experiences and academic performance; affective domain in form of teamwork and social interaction in learning environment; and the psychomotor domain as in manipulative and observational skills, respectively (John, 2014). In addition, English language laboratory instruction has the potentials of promoting positive attitude to learning consonant sounds and providing students with opportunities to develop speaking skills. It is also seen as a yardstick to addressing the mother tongue influence in learning English as a second language.

Statement of the Problem

It is an open secret that most of English language students at the colleges of education in Nigeria fall short in the ability to fluently express themselves in the language (Wakawa, 2017). You will hardly come across a language student that could stand the test of time in putting his/her logical viewpoints using Standard English with correct pronunciation of sounds and words. This argument is evidently clear both practically and theoretically. In addition, a brief encounter with one of these students will enable you to easily identify his/her native language. This is because; his/her pronunciation of consonant sounds and words will reflect that of his/her mother tongue (Garba, 2015, Odusesu, 2016 and Kabir, 2019).
This study therefore investigated the effectiveness of English language laboratory instruction in enhancing the academic performance of students in consonant sounds of English in colleges of education in Nigeria. Hence, the problem of this study is to determine the level to which English language laboratory instruction enhances students’ performance in consonant sounds of English in colleges of education in Nigeria.

**Objective of the Study**
The study was designed to achieve the following objective:

1. Determine students’ performance in consonant sounds when taught using English language laboratory instruction and those taught using lecture method.

**Research Question**
The study seeks to answer the following question:

1. How effective is the use of English language laboratory instruction on students’ performance against the lecture method in consonant sounds?

**Hypothesis**
The following hypothesis was formulated based on the research question:

1. There is no significant difference in students’ performance in consonant sounds when taught using English language laboratory instruction and those taught using lecture method.

**Research Methodology**
The study is a quasi-experimental research design (pre-test, treatment and post-test). Four federal colleges of education were selected and participated in the study with two colleges each as experimental and control groups, respectively. The experimental group was taught using English language laboratory instruction while the control group was taught using lecture method. Two thousand and ninety five NCE I students constituted the research population with one hundred and seventy four students of English double major as the target population. One hundred and seventy four (174) students were purposively selected as samples and participated in the study. At the initial stage, a pre-test was administered to ascertain the entry behavior of the participants. After which, the groups were exposed to the treatment. After nine (9) weeks of treatment, a post test was also administered, and the result was collected and analyzed. Mean and standard deviation were used to answer the research question while, independent samples t-test was used in testing the hypothesis at 0.05 significance level using SPSS 23.1 version.

**Results**

**Research Question:** How effective is the use of English language laboratory instruction on students’ performance against the lecture method in consonant sounds?

To answer this research question, mean and standard deviation of students’ post-test scores in consonant sounds in the experimental and control groups were used.

**Table 1: Mean and Standard Deviation of Students’ Performance Taught Consonant Sounds Using English Language Laboratory Instruction and Lecture Method**
Table 1 revealed that there is a statistical difference in the mean score and standard deviation between the experimental and control groups in consonant sounds. The experimental group has mean score of 9.2414 and the standard deviation of 1.37219 while the control group has mean score of 6.3448 and the standard deviation of 2.05068. A mean difference of 2.89655 was calculated in favour of the experimental group. This finding implies that students taught consonant sounds using English language laboratory instruction performed better than those taught using lecture method.

**Hypothesis:** There is no significant difference in students’ performance in consonant sounds when taught using English language laboratory instruction and those taught using lecture method.

In testing this hypothesis, an independent samples t-test was conducted using students’ post-test scores in consonant sounds in the experimental and control groups.

Table 2: t-Test Analysis of Students’ Performance Taught Consonant Sounds Using English Language Laboratory Instruction and Lecture Method

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>X</th>
<th>SD</th>
<th>Df</th>
<th>t-cal</th>
<th>t-crit</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exp.</td>
<td>87</td>
<td>9.2414</td>
<td>1.37219</td>
<td>172</td>
<td>10.95</td>
<td>2.58</td>
<td>0.000</td>
</tr>
<tr>
<td>Con.</td>
<td>87</td>
<td>6.3448</td>
<td>2.05068</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 displayed the t-test analysis of significant difference in students’ performance taught consonant sounds using English language laboratory instruction and lecture method. Result of the analysis indicated that the P-value= 0.000 is less than the alpha 0.05. The t-calculated 10.95 is greater than the t-critical 2.58 at degree of freedom of 172. The hypothesis which stated that there is no significant difference in students’ performance in consonant sounds when taught using English language laboratory instruction and those taught using lecture method is rejected. The difference is in favour of students’ taught using English language laboratory instruction as revealed in their mean score 9.2414˃6.3448.

**Discussion of Findings**

The findings of the study revealed that there is a significant difference in students’ performance taught consonant sounds using English language laboratory instruction and lecture method. Students taught consonant sounds using English language laboratory instruction performed better than those taught using lecture method. Hofstein and Naman, (2007), Halle, (2015) and Crystal, (2016) have found that English language laboratory instruction is an antidote to pronunciation difficulties in consonant sounds. It solves 95% of problems encountered in learning the correct pronunciation of consonant sounds of English as a result of first language interference. Odusesu (2016) reported that English language laboratory instruction makes individual learner practice effectively and increases the productivity of English language teachers who only needs to focus on students pronunciations and help correct their
mistakes. English language laboratory instruction enhances learning of missing consonant sounds in most of the indigenous languages in Nigeria (Odusesu, 2016 & Kabir, 2019).

Conclusion
The study concluded that mastery of consonant sounds leads to language acquisition. It should therefore be noted that English language laboratory instruction is more effective in enhancing students’ academic performance in consonant sounds than the predominantly used lecture method in colleges of education in Nigeria. Effective utilisation of English language laboratory instruction in teaching consonants sound of English could help addressed the mother tongue interference which impedes mastery, fluency and academic performance of students in colleges of education in Nigeria.

Recommendations
Based on the findings and the conclusion drawn, the following recommendations were made:

1. Government, through the national commission for colleges of education (NCCE) should ensure the use of English language laboratory instruction in teaching consonant sounds as it improves students’ mastery and academic performance than the predominantly used lecture instruction in colleges of education in Nigeria.

2. Language experts and curriculum planners should designed textbooks and other relevant instructional materials to support teaching and learning of consonant sounds of English in the language laboratory.

References


