
IMPACT OF INSTRUCTIONAL MATERIALS ON STUDENTS' ACADEMIC PERFORMANCE: AN APPRAISAL OF GENDER'S ATTITUDE TO LEARNING ENGLISH LANGUAGE IN SENIOR SECONDARY SCHOOLS IN KATSINA METROPOLIS

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Abstract

This paper examined the impact of instructional materials on students' academic performance and gender attitude towards learning English language in senior secondary schools in Katsina metropolis. The population of the study comprised of SS II students of senior secondary schools of Katsina metropolis. Two schools were selected for the study through simple random sampling. One hundred and seventy three (173) students were selected as the sample of the study. Quasi-experimental research design was used in the study. Hypotheses were tested using t-test for independent samples with the SPSS v.20.0 at the 0.05 significance level. The findings revealed that students taught using instructional materials performed better than those taught without the materials. Also, the study shows that, there is gender difference in the academic performance of students as female students performed better than male students taught with instructional materials. It was concluded that, instructional materials have significant impact on students' academic performance in English language. It was also discovered that, male students developed positive attitude towards learning with instructional materials. It was recommended that teachers of English language should be teaching at all levels with instructional materials; government should provide instructional materials to schools.

Keywords: *Instructional Materials, Academic Performance, Gender.*

Introduction

English language is one of the core subjects in Nigerian schools right from pre-primary, primary and secondary schools. A mastery of written and spoken English is highly desirable, yet its teaching and learning is beset by a myriad of problems at senior secondary schools' level. In the analysis of the senior secondary schools' certificate results in English language, it was discovered that between 2011 and 2014, the failure was between 60.95% - 83.69% (Yusuf, 2016). With this poor performance of students in English language in Nigeria, educators, parents, and employers are

worried and concerned. More so, failure in English language is considered as a great failure because it is one of the subjects in which credit required for admission into Nigerian universities. This value attached to English language made government of Nigeria to make it compulsory in our secondary schools.

However, Abdullahi and Ado (2015) are of the view that, academic achievement has become an index of students' future in this highly competitive world. It has been one of the most important goals of the educational process. Concerns about academic performance with respect to male and female have generated a considerable

interest in the field of educational testing over the years. Also, studies have shown that, there is difference in the academic achievement of boys and girls, difference in the academic achievement of the two genders are likely to contribute disparities in the allocation of cognitive roles in the world of work (Oppong-Sekyere et al., 2013; Karthigeyan & Nirmala, 2012).

Gender is a social construct involving differences between male and female; that is, the societal role assignment on the male and female sexes (Nwobia, 2007). Gender is a complex social construct based upon biological sex but it is not the same as sex. According to Nwobia (2007), Gender refers to the social attributes and opportunities associated with being male and female and the relationships between women and men and girls and boys, as well as the relations between women and those between men. These attributes, opportunities and relationships are socially constructed and are learned through socialization processes. They are context/time-specific and changeable. Gender determines what is expected, allowed and valued in a woman or a man in a given context.

In most societies, there are differences and inequalities between women and men in responsibilities assigned, activities undertaken, access to and control over resources, as well as decision-making opportunities. Gender is a determining factor for the level of performance and proficiency of an individual in certain areas. Chukwuma (2004) was of the opinion that, special ability and gender have a lot to do with great performance of students. Mussen et al (2004), agreed with the above discovery, where they said that, boys are supposed to be naturally better than girls in subjects that requires special reasoning such as geometry, physics, chemistry, mathematics etc., while girls, on the others hand, are expected to

excel at foreign language, such as English and French etc.

The term instructional material has different names which include: instructional resources, instructional media, teaching aids, teaching apparatus and teaching materials (Abdullahi, 1997). Azikiwe (2003) explained that, instructional resources include all forms of information that are used to promote, encourage and enhance teaching and learning activities with regards to education. Instructional resources, according to Ajelabi (2000), are teaching-learning resources that constitute an integral component of classroom instructions which are utilized in dealing out educational information to the learner. He further noted that, it makes the lesson real, concrete and effective as learners are motivated to learn at their own pace, rate and convenience. According to him, our perception and understanding of our environment vary as; 75% of all information perceived is absorbed by the eye, 15% is absorbed by the ear, 10% is equally distributed among the remaining senses- touch, smell and taste.

According to above authors, it can be said that instructional materials are objects or pictures that aid the communication of knowledge, facts, ideas, and information to the learners in teaching and learning process. It complements the verbal communication and also makes unknown communication more vivid.

National Teachers Institute (2006:1) classifies instructional materials as follows:

1. High/Low technology
2. Sense Stimulants
3. Projected/Non-projected materials
4. Printed/Non-print materials

Adediwura and Taiwo (2007) in Dahiru (2011) defined academic achievement as individuals' potentials in terms of intelligence combined with other sociological factors. Also, he submitted that, academic achievement is what is measured

regarding skills or knowledge developed through specific instruction or training with emphasis on how well instructional objectives have been attained. This means that, the measurement of performance represents all abilities that can be evaluated on the basis of observing the individual as he performs the task involved. Spinath (2012) defined academic achievement as outcomes that indicate the extent to which a person has accomplished specific goals that constituted the focus of activity in instructional environment, especially in school, college, and university. Therefore, academic achievement depends on the specific objective of a given programme and also the level of the programme or school a student attends.

Attitude can be seen as a favourable or unfavourable evaluative reaction towards something or someone, exhibited in ones' beliefs, feelings, or intended behaviour (Myers, 2001). It is a social orientation, an underlying inclination to respond to something either favourably or unfavourably. Western (2004) described attitude as not only a feeling, cognition, or a form of behaviour, instead, attitude combined all the three components in an integrated effect-cognition-behaviour system. This entails that if any component of attitudes changes, it influences the entire attitude structure as a whole. An attitude is a process of individual consciousness which determines real or possible activity of the individual in the social world. According to Aggarwal (2009), one of the chief objectives of education is the development of desirable attitude in the students. It is, therefore, obvious that the teacher must understand the various dimensions of an attitude. It is also to be kept in view that, teachers are required to develop several attitudes in the students' attitude towards studies, attitudes towards self, attitudes towards colleagues, attitude towards certain ideas etc.

Academic achievement is regarded as a criterion to judge ones' capability and potentiality in educational system. According to Abdullahi and Abdu (2015), it occupies a very important place in the learning process. Academic achievement denotes the knowledge attained and skills developed in the school subject, usually designated by test scores (Karthigeyan & Nirmala, 2012). Lent, Brown and Hackett (2000) considered academic achievement as a key mechanism through which adolescents learn about their talents, abilities and competences which are important part of developing career aspirations. Interest in gender related differences in academic performance has been stimulated by concerns about the failure of female students to achieve their academic potential. Even though, the literacy is more in boys than girls; it has been observed that girls are securing better ranks than boys in almost all the academic examinations. Adegoke (2005) contended that, gender is the behavioural, cultural or psychological traits typically associated with one sex-femininity, muscularity. Blog (2004) indicated factors responsible for the disparity in English achievement to genetic rather than personality traits. But, Davis and Rimm (2004) attributed the disparity to both internal and external factors. The external factors include sexism and lack of resources. The internal is that, women remain primary responsible for childcare and this compelled them to achieve less than their actual potential.

However, the effect of instructional materials on gender was also made clear that in most cases, female students perform better than male students in English language and other fields of study. Females also develop higher interest in learning than their male counterparts.

Objectives of the Study

The general aim of the study is to determine the impact of instructional resources on students' academic achievement and gender attitudes to English language learning in senior secondary schools in Katsina metropolis. The objectives of this study are:

1. To determine the impact of instructional resources on students' academic achievement in English language in senior secondary schools in Katsina metropolis.
2. To determine gender difference in academic achievement in English language when senior secondary school students are taught using instructional resources.
3. To determine gender difference in the attitude of students towards learning with instructional materials.

Hypotheses

The following null hypotheses were tested at 5% level of significance:

- Ho1.** There is no significant difference in the academic performance of SS 2 students taught English language using instructional materials and their counterparts taught without instructional materials.
- Ho2.** There is no significant difference in the academic performance of SS 2 male and female students taught English language with instructional materials.
- Ho3.** There is no significant difference in the attitude of SS 2 male and female students exposed to instructional materials.

Methodology

The study was quasi-experimental research design to determine the impact of instructional materials on students' academic achievement in English language.

One intact class each from two schools in Katsina metropolis was selected for the study. These form the experimental and control groups of the study. In both of the schools, one class was selected randomly to form the experimental group and the control group of the study. It involved experimental and control groups that consist of both male and female students as the subjects of the study. The experimental group was taught English language with instructional materials, while the control group was taught the same concepts without instructional materials for the duration of six weeks.

The test was administered to the sample after receiving the treatment under the supervision of the researcher as well as the teachers of the classes used. The questionnaire was also distributed to the same students after the test. The data used are the scores from the test after marking by the researcher following the marking scheme provided, and the responses in the questionnaire.

The data collected was analysed using computer SPSS v.20. In this study, descriptive statistics (mean and standard deviation) and inferential statistics (t-test for independent sample) were used to determine the impact of the instructional materials on academic performance of the students and gender attitudes towards learning English language in Senior Secondary Schools in Katsina metropolis. The level of significance was set to be 0.05.

Validity and Reliability of the Instruments

English Language Standardized Achievement Test (ELSAT) and Students Attitudes Questionnaire were used as instruments for data collection. The instruments were validated by two experts in the Department of Education, Umaru Musa Yar'adua University, Katsina.

For the reliability, an intact class was randomly selected from Government Day Senior Secondary School Batagarawa. The selected school was similar to those of the study in terms of the location and status. Similarly, the students that were selected are similar to the subject of the study in terms of age and exposure to instructional resources and learning of English language. And the same senior secondary school English curriculum was being used across the state. Also, teaching facilities and environmental conditions were similar.

The data obtained from the pilot study was subjected to the appropriateness of the instrument in terms of clarity of the items, the approximate time that would be required by the subjects to complete the test items conveniently, the reliability of the instruments, the facility level of the test items, and discriminative power index of the instrument. These students were tested and re-tested to determine the reliability and dependability of the instruments. The tests were carried out within the interval of 10

days. The Pearson product moment correlation coefficient and Cronbach's alpha was used to determine the reliability coefficient of the instruments and the results was 0.809 and 0.748 respectively. The reliability co-efficient was considered adequately okay for the internal consistencies of the instruments as because an instrument is considered reliable if the reliability index is closer to 1.

Presentation of Results

The data collected were analysed using descriptive and inferential statistics. The analysis was based on the research hypotheses as follows:

Ho1. There is no significant difference in the academic performance of SS 2 students taught English language using instructional materials and their counterparts taught without instructional materials.

This hypothesis was tested using independent samples t-test statistics, and the results were summarised in Table 1 below:

Table 1: Differences in Academic Performance between SS 2 Students in Experimental group and those in Control group

| Group | N | Mean | Std. Dev. | df | t-value | P | Decision |
|--------------|----|---------|-----------|-----|---------|------|-------------|
| Experimental | 79 | 70.2278 | 12.20335 | 174 | 8.628 | .000 | Significant |
| Control | 94 | 55.6804 | 10.16688 | | | | |

From Table 1 above, the difference in the academic performance of SS 2 students taught English language using instructional materials and their counterparts taught without instructional materials was ($t = 8.628$, $df = 174$, and $P = .000$). Now since the p-value (.000) is less than the alpha value (.05), the null hypothesis is hereby rejected and the alternate hypothesis was adopted. So, the researcher concluded that, there is a significant difference in the academic performance of SS 2 students taught English language using instructional materials and their counterparts taught

without instructional materials in favour of the experimental groups who were taught English language using instructional materials.

Ho2. There is no significant difference in the academic performance of SS 2 male and female students taught English language with instructional materials.

This hypothesis was tested using independent samples t-test statistics, and the result was summarised in Table 2 below:

Table 2: Differences in Academic Performance between SS 2 male and female Students in Experimental group

| Group | N | Mean | Std. Dev. | df | t-value | P | Decision |
|---------|----|---------|-----------|----|---------|------|-------------|
| Males | 47 | 63.4468 | 12.15803 | 77 | - 3.673 | .000 | Significant |
| Females | 32 | 73.1875 | 10.64209 | | | | |

From Table 2 above, the difference in the academic performance of SS 2 male and female students taught English language with instructional materials was ($t = -3.673$, $df = 77$, and $P = .000$). Since the p-value (.000) is less than the alpha value (.05), the null hypothesis is hereby rejected and the alternate hypothesis was adopted. So, the researcher concluded that, there is a significant difference in the academic performance of SS 2 male and female students taught English language with instructional materials in favour of the female students.

Ho3. There is no significant difference in the attitude of SS 2 male and female students exposed to instructional materials.

Although the data collected for attitude was a Likert type, which is considered as ordinal and as suggested by some authorities parametric tests cannot be conducted on this kind of data. However, Norman (2010) and Sullivan and Artino (2013) reviewed this argument and provided evidences that, parametric analyses can be used with ordinal data. They are even more robust to this kind of data than non-parametric tests. Therefore, they strongly recommended the use of parametric tests in analysing data from Likert scales. Based on this position, this hypothesis was tested using independent samples t-test statistics, and the result was summarised in Table 3 below:

Table 3: Differences in Attitude to Learning English Language between SS 2 male and female students in Experimental group

| Group | N | Mean | Std. Dev. | df | t-value | P | Decision |
|---------|----|--------|-----------|----|---------|------|-------------|
| Males | 47 | 74.000 | 12.8600 | 77 | 2.085 | .004 | Significant |
| Females | 32 | 66.70 | 9.4500 | | | | |

From Table 3 above, the difference in the attitude of SS 2 male and female students exposed to instructional materials was ($t = 2.085$, $df = 77$, and $P = .004$). Now since the p-value (.004) is less than the alpha value (.05), the null hypothesis is hereby rejected and the alternate hypothesis was adopted. So, the researcher concluded that, there is a significant difference in the attitude of SS2 male and female students exposed to instructional materials in favour of the male students.

Discussion of Results

The result in table one revealed that, there is significant difference in the academic performance of students taught English language using instructional materials and their counterparts taught without instructional materials. This is in line with the work of Asso (2015) who discovered that, the students taught with instructional resources achieved statistically significantly higher in the physics achievement test than those taught without instructional resources.

The result in table two revealed that, there is significant difference in the academic performance of male and female students taught English language using instructional materials where female students performed better than male students. This is also in line with the work of Oladejo (2011) who found out that female students taught with instructional materials performed significantly better than male students taught with instructional materials.

Result in table three revealed that, there is significant difference in the attitude of male and female students taught English language using instructional materials. Male students developed positive attitude towards learning English language with instructional materials. This is in line with the work of Mussen et al (2004), who agreed with the above discovery, where he said that “boys are supposed to be naturally better than girls in subjects that require special reasoning such as geometry, physics, chemistry, mathematics etc.

Conclusion

From the result discovered above, it has been concluded that; significant difference exists in the academic performance of students taught English language with instructional materials and those taught without instructional materials, the difference is in favour of the students in the experimental group. The same result was discovered in the case of male and female students taught with instructional materials where female students performed significantly higher.

The result also revealed gender difference among those students exposed to instructional materials where male students developed positive attitude towards learning English with the materials, even though, they attended the same class, receive the same instructions with the same instructional materials and at the same

difficulty level using same method of teaching.

Recommendations

The following recommendations were raised base on the findings:

1. Teachers of English language should make it their duty to teach English language at all levels with instructional materials due to the fact that, it enhances their academic performance.
2. Teachers of English language should ensure that male students are fully engaged while teaching and learning with Instructional materials is taking place so as to improve their performance in English language learning.
3. More so, teachers should form the habit of testing their students regularly so as to use the feedback and be able to prepare the students for both internal and external examination in order to achieve a better result.
4. Government should provide relevant instructional resources to the schools so that the teachers could use them at all levels in order to improve the teaching and learning process.
5. Where the materials are not available, the school authorities should motivate the teachers to be able to improvise the materials in collaboration with both the parents and the students.

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