



EFFECTS OF HOURS OF SUPERVISED LIBRARY USE ON STUDENTS' PERFORMANCE IN SENIOR SECONDARY SCHOOLS IN IMO STATE, NIGERIA

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Abstract

Purpose: In this study, the researchers examined the effects of hours of supervised library use on students' performance in senior secondary schools in Imo State.

Design/Methodology/Approach: The study was carried out using quasi-experimental design which involved pre-test, treatment and post-test of non-equivalent group method. Two objectives and two hypotheses were formulated for the study. The population of the study was 94,963 Senior Secondary School Students (SS1-SS3) from 275 public secondary schools in Imo State. The sample size for the study comprised of 127 senior school II students drawn from three senior public secondary schools in Imo State. Purposive and cluster sampling techniques were used. Two instruments were used for collecting data for the study. The instruments were: English Language Achievement Test (ELAT) and Mathematics Achievement Test (MAT). The reliabilities of the instruments were established using Kuder Richardson formula 20 (KR-20) which yielded reliability coefficients of 0.73 and 0.71 for ELAT and MAT respectively. Research questions were answered using mean and standard deviation while Analysis of Covariance (ANCOVA) was used to test the hypotheses at 0.05 level of significance.

Findings: It was found among others that more hours of supervised library use had significant positive effect on students' achievement in English Language and Mathematics.

Implications: Based on the findings, it was recommended among others that since hours of supervised library use have been found to enhance the quality of achievement in English Language and Mathematics, teachers should encourage students to make use of library resources. By so doing, the achievement of students in these subjects could be enhanced.

Originality/Value: This work has not been published before. In general, the study revealed that hours of supervised library use are effective in producing high academic achievement in English Language and Mathematics. This would suggest then that hours of supervised library use in English Language and Mathematics teaching will enhance student's achievement, attitude and interest. The implication of these findings was that students will learn better; develop more interest in their learning better when hours of supervised library use are employed as the study approaches in school.

Keywords: Library, Education, English, Mathematics Supervision, Library Hours, Achievement

Introduction

Education is the systematic development or training of the mind, capabilities or character through instruction. It varies in its forms, philosophy, content and methods as there are different societies in the world. In Nigeria, education is an instrument 'per excellence' for effecting national development (Federal Republic of Nigeria, FRN, 2013). It is further added that education be it primary, secondary or

tertiary shall continue to be highly rated in the national development plans because it is the most important instrument of social mobility and that fundamental change in the intellectual and social outlook of any society has to be preceded by educational revolution.

Secondary education is the education children receive after primary education and before the tertiary education. The broad goals of secondary education are to prepare the individual for useful living within the society and higher

education (FRN, 2013). It is an investment as well as an instrument that can be used to achieve a more rapid economic, social, political, technological, scientific and cultural development in the country. Due to the importance of secondary education, there seems to be a lot of controversies and concern all over the world as to the view that its standard is falling. One of the most amenable tools for measuring such standard has been students' performance in external examinations.

At the senior secondary school level, subjects are grouped into different areas such as, English Language, Mathematics, Economics, Biology, Chemistry, Physics, among others. The vital role of the study of these subjects in the economic, industrial and public life of the learners and the general humanity cannot be over stressed (Ibe & Ukpai, 2013; Akanbi & Kolawole, 2014). In recent times, observations on students' academic performance in general, and English Language and Mathematics, in particular over the years in the results of Senior Secondary Certificate Examination (SSCE) conducted by West African Examination Council (WAEC) indicated that a very few number of students perform well in these subjects' examination compared with other subjects (WAEC Chief Examiners' Reports of 2015; Akanbi & Kolawole, 2014). Result of West African Senior School Certificate Examination (WASSCE) revealed that in 2010/2011, 2011/2012 and 2012/2013 respectively only 49%, 38.5% and 35.66% of the candidates that sat for the examinations scored A₁-C₆ in Mathematics for the years mentioned. The situation was worse in 2009/2010 where only 28.59% of the total population recorded A₁-C₆ in Biology (Ministry of Education, Imo State). Parents and government are in total agreement that their huge investment on education is not yielding the desired dividend and that despite their huge investment on education, students' performances still remain poor. Teachers also complain of students' low performance at both internal and external examinations. Many factors have been attributed to this poor performance, but to the researcher, the most

glaring is inadequate use of library for good study practices.

The school library is a learning centre. It is a place where students get access to all kinds of reading materials, cultural and knowledge building activities. It is also a place where students engage in deep thinking and lively learning discussions (Saka, 2010). Library is one of the school infrastructural facilities; and an essential factor in teaching-learning process. It forms one of the most important educational services. The chief purpose of a school library is to make available to the student, at his easy convenience, books, non-books and other reproduced materials which are of interest and value to him but which are not provided or assigned to him as basic or supplementary textbooks. The importance of library has been demonstrated by the government when she expressed in the National Policy on Education (FRN, 2013) that every State Ministry needs to provide funds for the establishment of libraries in all her educational institutions and to train librarians and library assistants.

The users of school libraries are made up of students, teachers/staff, researchers and other members of the school community who may not have any skill or knowledge on how to use the library to improve performance. Without adequate library supervision, it may be difficult for the users to identify, locate, access, or find related and relevant information in the library. This is done by library in the provision of services either with the traditional strategies and or in combination with the application of modern supervisory approaches to enable readers to have ease of access via network using computers and other tools. To ensure proper use of the library resources, its supervision could be timed by hours of use for the students. The timing can vary from library to library.

Appropriate hours of supervised library use is defined by Madukoma, Onuoha, Omeluzor and Ogbuiyi (2013) as number of supervision time engaged in study or learning practices by students with little or no guidance by the librarians in the course of learning new knowledge using library resources. They further stated that hours of supervised library use was

introduced in academic institutions to ensure that students have the intellectual ability and skill to access and retrieve information as well as construct a framework for learning and research purposes. In this study, it is seen as how many hours dedicated in the use of school library resources by the students which is aimed at positively impacting the students' level of knowledge in subject content.

Students' academic performance in this context, is the extent to which students especially those at the secondary schools have achieved their educational goals with the aids of audio visual resources made available to them in the school library. This study is specifically on the secondary school students' cognitive performance in English Language and Mathematics. The study was specifically carried out in public senior secondary schools in Owerri Education Zone I of Imo State. Hours of supervised library use were categorized into three groups: Four (4) Hours (FH), Two (2) Hours (TH) and Non-Supervised (NS) group. Senior secondary school class two students (SS2) were involved in the study.

Statement of the Problem

Over the years, the achievements of students in English Language and Mathematics in Nigerian senior secondary schools have been below average. WAEC Chief Examiners' Reports of 2015 depict poor achievement of students in English Language and Mathematics. This, in addition to research findings, could be attributed to teachers' use of inappropriate teaching strategies, poor use of library and its resources and inadequate teaching materials. Of all the causes of under achievement of students in English Language and Mathematics, inadequate hours of supervised library use appear to have received a major condemnation. However, no library can afford to close its doors to users' expectation especially in this day and age when information has gone beyond leaps and bounds. It is pertinent therefore that, students require a quiet place to study especially during the examination periods where the hours spent in the library will be a great opportunity to focus on their studies. In addition, prior and during examinations, libraries are too congested due to rush hour preparation

by students. Upon the objectives of establishing school library, literature has shown low usage of school library among students in public senior secondary schools. This has given rise to concern among librarians. Could this be as a result of lack of professional librarian to teach students on how to use library or lack of library orientation? This study posed as a question is: what are the effects of hours of supervised library use on students' performance in senior secondary schools in Imo State? This study will try to provide answer to the above question.

Purpose of the Study

The general purpose of the study was to ascertain the effects of hours of supervised library use on students' performance in senior secondary schools in Imo State. Specifically, the study sought to:-

1. ascertain the effects of four hours supervised library use, two hours supervised library use and non-supervised library use on students' mean achievement scores in English Language.
2. ascertain the effects of four hours supervised library use, two hours supervised library use and non-supervised library use on students' mean achievement scores in Mathematics.

Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance.

Ho₁: The achievement mean scores of students that had four hours supervised library use, two hours supervised library use and non-supervised library use at pre-test and post-test in English Language is not significantly different.

Ho₂: The achievement mean scores of students that had four hours supervised library use, two hours supervised library use and non-supervised library use at pre-test and post-test in Mathematics is not significantly different.

Literature Review

School library usage provides students the necessary learning support and equips them with essential skills they need to succeed academically. Through research, technology, and information problem solving, school library excites students about the learning process and stimulate their curiosity. Many authors have stressed the value of use of library programmes in their libraries. There is clear evidence that students produce higher academic performance due to their use of school library. Esse (2014) and Ullah and Ameen (2014) submit that hours of supervised library use aid the library users to become independent learners in utilizing library resources.

Furthermore, some libraries in Nigeria according to Unuabo and Oseghale (2018) have started providing extended hour of library service in recent years, although their findings revealed that shift work had made it difficult for staff on extended hours 'duty to attend social events, take care of family issues and they also face difficulties in getting home after their working hours. Darch cited in Saka(2010)reported that extended hours of library services may be a novel idea in Nigeria but they are not new in many parts of the world. For instance, the representatives of Student Government at The University of Texas at Austin spent their summer vacation working with the administration at the University of Texas Libraries to make good on a campaign promise, the student body president and his vice with support from Student Government staff secured funding for 24-hour service at the Perry-Castaneda Library (PCL) in a pilot period for 2012-13 academic year. The office of the Provost and Student Services Budget Committee, augmented by pledge from Libraries Director were able to meet the financial requirements of extended hours at branches of the library at PCL. The modes of operation of extended hours commenced a week proceeding the mid-term examination period and continued through the end of in al exams during both the fall 2012 and spring 2013 semesters (Texas news letter, 2012). The above can be replicated in secondary school libraries in Nigeria.

In a related manner, some African universities have extended library hours. For instance, in

Ghana there are institutions with visiting students during extended hours (Lawoe,2005). Also, the University of Cape Town has extended its library hour services.

Extended hour is now a common practice in international academic libraries, hence academic libraries in the developing countries are also trying to trail the blaze in offering this service to its communities (Adeyemi, Ojo & Adekunjo,2013). Commenting on the role of adequate supervision of library use, Madukoma, Onuoha, Omeluzor and Ogbuiyi (2013) report that adequate supervised use of library and orientation was introduced in academic institutions to ensure that students have the intellectual ability and skill to access and retrieve information as well as construct a frame work for learning. The impact of adequate library supervision goes beyond the number of years that students spent in institutions. It has a life-long impact on library users and enables them to acquire library skill to be able to identify access, retrieve and use library materials with ease. Bhatti (2010) commended that effective use of library links naturally to active learning techniques and life-long learning. Active learning as a method of educating students that allows them to participate in class, takes them beyond the role of passive listener and note taker and to take some direction and initiative with the aid of library orientation. Supervision in the use of library plays the most crucial role to enhance quantitative and qualitative use of libraries to library users. The term supervision as used in this research work includes not only how to locate information but also direction and instruction on the use of library tools, explanation of library policies and introduction to library resources and services to students. Bleidt (2011) opines that library use improves student performance, retention and graduation rate with the aid of adequate supervision of library use. Oakleaf (2011) adds that libraries also support students' achievement to augment and support their Grade Point Average (GPA) and professional/educational test score.

On the influence of library use on academic performance of students, Ajala, Adesoji, Adigun and Ogunmodede's (2014) finding revealed that the major reason why students visit the library

during extended hours was to do serious studies which have hitherto brought positive impact on students' academic performances. Similarly, the result of Konlan and Yebowaa (2017) showed that students who use the library have a higher Cumulative Grade Point Average (CGPA) and higher academic performance than non-library users. The finding revealed that students' use of the library is statistically significant to students' CGPA. In a related study, Manuwa, Agboola and Aduku (2018) established that library orientation enables the library to sensitize the newly admitted students and create adequate awareness about the available resources and services of the library to meet and satisfy the needs of the users. Likewise, library orientation that is well organized will create confidence in the users and therefore encourage them to use the library effectively. Furthermore, they established that the effect of library orientation goes beyond the classroom and orientation but rather making the users to engage themselves and have the ability to identify, access, retrieve and use library information resources effectively to their advantage.

Library orientation is an effective means of educating the users and creating awareness of available information resources in the library. Also, Umar, Fugu and Aliyu's (2018) study revealed that there was moderate positive relationship between school libraries and students' academic performance. In another finding, Chukwueke, Onuoha and Nnadozie (2018) revealed positive effects of library services on the well-being of the students' academic performance and educational development.

Students' academic performance could be termed as scholarly related progress of students which is the outcome of all learning experiences that students have in a programme of education whose purpose is to attain goals and related specific objectives. It is commonly measured using classroom exercise, assignment and continuous assessment as well as internal and external examination (Ezenwosu & Nworgu, 2013; Jimoh, 2014). Academic performance can be used to indicate students' level of success in

a particular task previously exposed to and it can also be used as index for determining students' ability to effectively undertake another task.

Research Methodology

The researchers adopted a quasi-experimental research design for this study; specifically, pre-test, treatment and post-test of non-equivalent group method were involved. In this study, the groups of students were pre-tested, later treated (supervised) and lastly post-tested. The population of the study was 94,963. Senior Secondary School Students (SS1-SS3) from 275 public secondary schools in Imo State (Source: Secondary Education Management Board (SEMB) Statistics Section; 2017/2018 session). The sample size for the study comprised 127 senior secondary school II students drawn from three senior public secondary schools in Imo State that are co-educational. Purposive and cluster sampling techniques were used. This study used two instruments which were in multiple choice forms. The instruments were titled; English Language Achievement Test (ELAT) and Mathematics Achievement Test (MAT) which were drawn from a selected unit of English Language and Mathematics curriculum. Precisely, 20 questions each were drawn from the English Language and 20 questions from Mathematics units respectively totaling 40 items. The tests were used for pre-test, and were reshuffled for the post-test. The ELAT and MAT score yielded Kuder-Richardson reliability coefficient/index of 0.73 and 0.71 respectively which confirmed the internal consistency reliability nature of the instruments. The research questions were answered using mean scores and standard deviation, while the hypotheses were tested at 0.05 level of significance using Analysis of Covariance (ANCOVA).

Data Analyses and Presentation

RQ₁: What are the achievement mean scores of students that had four hours supervised library use, two hours supervised library use and non-supervised library use at pre-test and post-test in English Language?

Table 1: Achievement Mean Scores of Students that had Four Hours Supervised Library Use, Two Hours Supervised Library Use and Unsupervised Library Use at Pre-Test and Post-Test in English Language

Test: English Achievement	Pre-Test			Post-Test	
	N	\bar{X}	S	\bar{X}	S
FH	41	8.85	1.558	15.85	1.682
TH	44	8.61	1.573	14.73	1.546
NS	42	8.93	1.786	11.86	1.829

Sample Size (n), Mean (\bar{X}), and Standard Deviation (S)

Table 1, shows the results for the achievement mean scores of students that had four hours supervised library use, two hours supervised library use and non-supervised library use at pre-test and post-test in English Language. It was indicated in the table that students who had four hours supervised library use recorded pre-test and post-test mean scores of 8.85 and 15.85, respectively. Those that had two hours supervised library use recorded pre-test and post-test mean scores of 8.61 and 14.73, respectively. On the other hand the students that had non-supervised library use recorded pre-test and post-test mean scores of 8.93 and 11.86, respectively. It was also seen that there is a far distance between the standard deviations and the mean scores of the groups showing that

there is homogeneity of scores in the distribution. The gap in the mean scores of the FH and TH groups at pre-test and post-test indicates that students who had four and two hours supervised library use had high mean achievement scores in English Language more than those students that had non-supervised library use. This shows that more hours of supervised library use had a positive effect on students' achievement in English Language.

Hypothesis 1

Ho₁: The achievement mean scores of students that had four hours supervised library use, two hours supervised library use and non-supervised library use at pre-test and post-test in English Language is not significantly different.

Table 2: ANCOVA F-test Analysis for the Test of Hypothesis 1

Tests of Between-Subjects Effects					
Dependent Variable: Post-Test					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	411.464 ^a	3	137.155	56.996	.000
Intercept	461.599	1	461.599	191.823	.000
Pre-Test	57.007	1	57.007	23.690	.000
Hours of Supervised Library use	365.288	2	182.644	75.900	.000
Error	295.985	123	2.406		
Total	26106.000	127			
Corrected Total	707.449	126			

a. R Squared = .582 (Adjusted R Squared = .571)

Table 2 shows the significant difference in the achievement mean scores of students that had four hours supervised library use, two hours supervised library use and non-supervised library use at pre-test and post-test in English Language. The result on the table indicates that the F-calculated (F-cal) value is high at 75.900. The p-value of 0.000 is less than 0.05 level of significance. Since the p-value is less than 0.05 level of significance, the researcher rejected the null hypothesis thereby accepting

the alternative, concluding that the achievement mean scores of students that had four hours supervised library use, two hours supervised library use and non-supervised library use at pre-test and post-test in English Language is significantly different.

RQ₂: What are the achievement mean scores of students that had four hours supervised library use, two hours supervised library use and non-supervised library use at pre-test and post-test in Mathematics?

Table 3: Achievement Mean Scores of Students that had Four Hours Supervised Library Use, Two Hours Supervised Library Use and Unsupervised Library Use at Pre-Test and Post-Test in Mathematics

Test: Mathematics	Pre-Test			Post-Test	
	n	\bar{X}	S	\bar{X}	S
FH	41	8.05	1.094	15.49	1.583
TH	44	7.95	.914	14.36	1.399
NS	42	8.05	1.147	11.29	1.470

Sample Size (n), Mean (\bar{X}), and Standard Deviation (S)

Table 3 shows the results for the achievement mean scores of students that had four hours supervised library use, two hours supervised library use and non-supervised library use at pre-test and post-test in Mathematics. It was indicated in the table that students who had four hours supervised library use recorded pre-test and post-test mean scores of 8.05 and 15.49, respectively. Those that had two hours supervised library use recorded pre-test and post-test mean scores of 7.95 and 14.36, respectively. On the other hand, the students that had non-supervised library use, recorded pre-test and post-test mean scores of 8.05 and 11.29, respectively. It was also seen that there is a far distance between the standard deviations and the mean scores of the groups showing that

there was homogeneity of scores in the distribution. The gap in the mean scores of the FH and TH groups at pre-test and post-test indicates that students who had four and two hours supervised library use had high mean achievement scores in Mathematics more than those students that had non-supervised library use. This shows that more hours of supervised library use had a positive effect on students' achievement in Mathematics.

Hypothesis 2

Ho₂: The achievement mean scores of students that had four hours supervised library use, two hours supervised library use and non-supervised library use at pre-test and post-test in Mathematics is not significantly different.

Table 4: ANCOVA F-test Analysis for the Test of Hypothesis 2

Tests of Between-Subjects Effects					
Dependent Variable: Post-Test Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	396.818 ^a	3	132.273	59.946	.000
Intercept	447.625	1	447.625	202.864	.000
Pre-Test	1.595	1	1.595	.723	.397
Hours of Supervised Library use	394.619	2	197.310	89.421	.000
Error	271.402	123	2.207		
Total	24535.000	127			
Corrected Total	668.220	126			

a. R Squared = .594 (Adjusted R Squared = .584)

Table 4 shows the significant difference in the achievement mean scores of students that had four hours supervised library use, two hours supervised library use and non-supervised library use at pre-test and post-test in Mathematics. The result on the table indicates that the F-calculated (F-cal) value is high at 89.421. The p-value of 0.000 is less than 0.05 level of significance. Since the p-value is less than 0.05 level of significance, the researcher

rejected the null hypothesis thereby accepting the alternative, concluding that the achievement mean scores of students that had four hours supervised library use, two hours supervised library use and non-supervised library use at pre-test and post-test in Mathematics is significantly different.

Discussion of Findings

It was revealed in this study that more hours of supervised library use had significant positive effect on students' achievement in English Language. That is to say that, students who had four and two hours supervised library use had high mean achievement scores in English Language more than those students that had non-supervised library use. That is to say that, those students in four and two hours of supervised library use groups significantly scored higher than those in the non-supervised library use group in English Language. Use of school library helps to support the school curriculum by providing up-to-date information to keep teachers and students abreast of new development. The school library compliments the work of the classroom teacher with the ultimate goal of ensuring that each student had equitable access to resources, irrespective of home opportunities or constraints. This finding agreed with Ajala, Adesoji, Adigun and Ogunmodede (2014) finding which revealed that the major reason why students visit the library during extended hours was to do serious studies which have hitherto brought positive impact on students' academic performances. Similarly, Konlan and Yebowaa (2017) results showed that students who use the library have a higher cumulative Grade Point Average (CGPA) and higher academic performance than non-library users. The finding revealed that students' use of the library is statistically significant to students' CGPA. In a related study, Manuwa, Agboola and Aduku (2018) established that library orientation enable the library to sensitize the newly admitted students and create adequate awareness about the available resources and services of the library to meet and satisfy the needs of the users. Likewise, library orientation that is well organized will create confidence in the users and therefore encourage them to use the library effectively. The similarities recorded in this finding could be attributed to power of the hours of supervised library use on students' achievement in English Language.

The study also revealed that more hours of supervised library use had significant positive effect on students' achievement in Mathematics. That is to say that, students who

had four and two hours supervised library use had high mean achievement scores in Mathematics more than those students that had non-supervised library use. Looking at the result, one can state that school library remains the powerhouse of educational institution; any educational institution without a library is as lifeless as motor car without an engine and a body without a soul. This finding was buttressed by Manuwa, Agboola and Aduku (2018) study which established that the effect of library orientation goes beyond the classroom and orientation but rather making the users to engage themselves and have the ability to identify, access, retrieve and use library information resources effectively to their advantage. Library orientation is an effective means of educating the users and creating awareness of available information resources in the library. Also, Umar, Fugu and Aliyu (2018) study revealed that there was moderate positive relationship between school libraries and students' academic performance. In another finding, Chukwueke, Onuoha and Nnadozie (2018) revealed positive effects of library services on the well-being of the students' academic performance and educational development. The similarities recorded among the findings could be attributed to the role of use of supervised library in the improvement of students' achievement.

Conclusion

Based on the findings of this study, it was therefore concluded that hours of supervised library use was effective in the improvement of students' performance/achievement in English Language and Mathematics, and the effect was found to be significant. The effect of hours of supervised library use on the male and female students' achievement in English Language was insignificant but its effect on Mathematics was not significant.

Recommendations

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

1. Since hours of supervised library use have been found to enhance the quality of achievement in English Language and

Mathematics, teachers should encourage students to make use of library resources. By so doing, the achievement of students in the subjects could be enhanced.

2. Enlightenment campaign, workshops and seminars should be organized for teachers and librarians by Education Authorities – Federal and State Ministries of Education, institutes and Colleges of Education to create awareness of the efficacy of hours of supervised library use and then sensitize the adoption of the approach in their various schools.

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Effects of Hours of Supervised Library Use on Students' Performance in Senior Secondary Schools in Imo State, Nigeria

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