
Influence of School Environment and Technology Application on Quality of Teaching and Learning Library and Information Science in South-South Nigeria.

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ABSTRACT

The study was carried out to determine the influence of school environment and technology application on quality of teaching and learning Library and Information Science in South-south Nigeria. Two research questions were answered and two hypotheses were tested at 0.05 level of significance. The population for study was 64 Library and Information Science Lecturers from four public universities in South-South Nigeria. Due to manageable size of the population, the entire 64 lecturers were involved as respondents for the study, hence, there was no sampling. The instrument for data collection was 25-item structured questionnaire titled: "School Environment and Technology Application in Library and Information Science Questionnaire (SETALISQ). The instrument was face-validated by three experts while the reliability of the instrument was ascertained using Cronbach's Alpha reliability technique which yielded a reliability coefficient of 0.87. Due to close monitoring of the data collection process, all the 64 copies of the questionnaire administered were completely responded to and retrieved representing 100% rate of return. Data collated were analysed using mean and standard deviation for answering the research questions while t-test statistics was used for testing the null hypotheses at 0.05 level of significance. The study identified 10 influences of school environment and 15 influences of technology application on quality of teaching and learning Library and Information Science in universities in South-South Nigeria. The study therefore recommend adequate provision of necessary technological gargets, instructional facilities and comfortable learning environment by the Government and school management for effective instructional delivery in LIS in universities and other tertiary institutions in south-south and Nigeria in particular.

Keywords: Library and Information Science, School Environment, Technology, Teaching and Learning.

INTRODUCTION

A nation that wishes to attain and sustain meaningful development through education at tertiary institution level must ensure quality teaching and learning of library and information science (LIS) with robust curriculum. Library and Information Science (LIS), according to Akwang (2017) is an interdisciplinary or multidisciplinary academic discipline primarily designed to prepare students for careers in information professions. Abdulrahman (2016) described LIS as a programme designed to assist students in the development of a wide range of technical skills in both library and media services that can lead to or enhance employment in the library field. In his

own view, Akwang (2017) observed that library and information science education is designed to produce information professionals who are able to provide quality leadership and adapt to technological change in an information based environment.

Considering the significance of LIS in contemporary education system, Abdulrahman and Habila (2017) considered LIS as a discipline as well as indispensable in this competitive era of knowledge and information management, and the technological advancement in the area of ICT has made significant changes in the profession towards achieving the desired objective and to meet up with the modern trends of effective information services delivery. Cossette (2009) submitted that LIS encompasses information and knowledge creation, communication, identification, selection, acquisition, organization and description, storage and retrieval, preservation, analysis, interpretation, evaluation, dissemination and management. LIS programme in tertiary institution is meant to provide students with opportunity to develop the right attitudes associated with progressive information services and management through quality teaching and learning.

The relationship between teaching and learning is what and how teachers teach and how and what learners learn (Newsam, 2009). Teaching is an organised method of giving information to somebody so as to change his/her belief and idea about something or events. Ryon (2009) defined teaching as a systematic presentation of facts ideas, skills and techniques to students or learners. Newsam (2009) further stated that the purpose of teaching is to ensure that thoughts are acquired through a prescribed body of knowledge and set of values for practice by the learners through learning process. Learning, on the other hand, is the process of acquiring knowledge or developing the ability to perform new behaviour (Mazur, 2010). Effectiveness in teaching and learning of school subjects has long been a subject of controversy and concern. This is because, learning is the outcome of teaching and so the learners must be able to acquire new knowledge when taught and use this knowledge to further their personal and societal development. Teaching and learning are greatly influenced by many factors such as school environment and the application of technology for instructional delivery.

Environmental factor in teaching and learning refer to the facilities that are available to facilitate students learning outcome such as the books, audio-visual, software and hardware of educational technology, size of classroom, sitting position and arrangement, availability of tables, chairs, chalkboards, library facilities, shelves on which instruments for practical are arranged (Odeh, Oguche & Ivagher, 2015). The Federal Republic of Nigeria (FRN, 2013) in National Policy on Education stipulated that the school environment especially the physical environment should be made conducive to facilitate the learning process. The policy further recommended that classroom should be well constructed and spacious and all types of physical facilities such as instructional materials, library, laboratory, playing ground, toilets and staff rooms should be provided for effective teaching and learning process. Torupere (2016) argued that good modern physical facilities in school add significantly to the promotion of academic performance. In addition, the size of classrooms, play-grounds and availability of material resources relative to the number of students in a school could also affect learning. Mudassir, Norsuhaily and Ado (2015) noted that a proper and adequate environment is very much necessary for a fruitful learning because favourable school environment provides the necessary stimulus for learning experiences.

Byoung-Suk and Christopher (2012) therefore reported that school environment is of paramount importance in shaping and reshaping intellectual ability of learners. Mudassir, Norsuhaily and Ado (2015) also added that, supportive and favourable school environment enriched with enough learning facilities, and favourable climate makes students more comfortable, more concentrated on their academic activities that resulted in high academic performance. Students spend most of their time in school, and this school environment is exerting influence on the quality of teaching they receive through curricular, teaching technique and the technologies available in school for instructional delivery.

The application of technology in education generally means technology-based teaching and learning process that closely relates to the utilization of learning technologies in schools. Due to the fact that students are familiar with technology and they will learn better within technology-based environment, the issue of ICT integration in schools, specifically in the classroom is vital. This is because, Jamieson-Procter, et al (2013) stated that the use of technology in education contributes a lot in the pedagogical aspects in which the application of ICT will lead to effective learning with the help and supports from ICT elements and components. Jorge et al., (2003) observed that technology application in teaching provides the help and complementary supports for both teachers and students where it involves effective learning with the help of the computers to serve the purpose of learning aids. Young (2003) stated that the need for technology application and integration in education is crucial, because with the help of technology, teaching and learning is not only happening in the school environment, but also can happen even if teachers and students are physically in distance. However, ICT integration is not a one-step learning process, but it is a continual process of learning that provides proactive teaching-learning environment. Ghavifekr and Rosdy (2015) was of the opinion that technology application for teaching will assist teachers to meet the global requirement to replace traditional teaching methods with a technology-based teaching and learning tools and facilities.

A technology-based teaching and learning offers various interesting ways which includes educational videos, stimulation, storage of data, the usage of databases, mind-mapping, guided discovery, online teaching, the use of various ICT gadgets and appliances that will make the learning process more fulfilling and meaningful (Finger and Trinidad, 2002). The increasing globalization driven technology has made it imperative for Nigeria as an emerging market to irreversibly consider the utilization and promotion of technologies as best practices in education to facilitate her rapid growth and development. Thus, to achieve the objectives of library and information science, efforts must be made to foster quality teaching and learning of library and information science in Nigerian schools through improved school environment and application of relevant technologies for instructional delivery. This is because, many interactions characterize school learning and unless adequate spaces are provided for such interactions, learning could be hampered (Cross, Baker & Stiles, 2006). The school physical facilities and available technologies in most public universities in Nigeria and South-south Nigeria have not been in good shape.

In some cases, students sit on the ground to receive lessons, also many of the classrooms, laboratories, libraries, playing grounds are in a terrible state of despair (Ahmed, 2003), there is gross inadequacy of technologies for instructional delivery, thereby making teaching and learning environment uncomfortable due to lack of basic facilities. Ijaduola (2008) pointed out that with

poor physical working condition and technological deficit for teaching, there are usually mental fatigue, truancy, frustration, discomfort, poor interactive experience, and low concentration of students which consequently reduces quality of teaching and learning. Hence, to promote quality teaching and learning of library and information science, it was assumed that school environment and application of technology play significant roles. It is based on this background that this study was carried out to ascertain the influence of school environment and technology application on quality of teaching and learning Library and Information Science (LIS) in universities in South-South Nigeria.

Purpose of Study

The main purpose of the study was to determine the influence of school environment and technology application on quality of teaching and learning Library and Information Science in South-South Nigeria. Specifically, the study ascertained the influence of:

- i. School environment on quality of teaching and learning of Library and Information Science in South-South Nigeria.
- ii. Technology application on quality of teaching and learning of Library and Information Science in South-South Nigeria.

Research Questions

In line with the two specific purposes, the answered the following two research questions:

- i. What is the influence of school environment on quality of teaching and learning of Library and Information Science in South-South Nigeria?
- ii. What is the influence of technology application on quality of teaching and learning of Library and Information Science in South-South Nigeria?

Research Hypotheses

The following three null hypotheses were tested at 0.05 level of significance:

- Ho₁:** There is no significant difference in the mean ratings of the responses of male and female lecturers on influence of school environment on quality of teaching and learning of Library and Information Science in South-South Nigeria.
- Ho₂:** There is no significant difference in the mean ratings of the responses of male and female lecturers on influence of technology application on quality of teaching and learning of Library and Information Science in South-South Nigeria.

METHODOLOGY

The study was carried out in South-South Nigeria. South-South Nigeria is made up of six States comprising of Akwa Ibom, Bayelsa, Cross River, Delta, Edo and Rivers States. The design of this study is descriptive survey research design with the use of structured questionnaire for data collection. Purposive sampling was used to select the four public universities that are offering Library and Information Science (LIS) programme across the six South-South States. The four public universities offering LIS programme include: Delta State University, Abraka, University of Uyo, Ambrose Alli University, Ekpoma and University of Calabar. The population of Library and Information Science lecturers from the four Universities was 64. Due to the manageable size of the population, the entire 64 LIS lecturers were involved as respondents for the study; hence,

there was no sampling. The instrument for data collection was a structured 25-item questionnaire titled: "School Environment and Technology Application in Library and Information Science Questionnaire (SETALISQ). The questionnaire was divided into three sections (A, B and C). The section A of the questionnaire was structured to gather data personal information of the respondents (LIS lecturers) while sections B and C were structured in line with the two specific purposes of the study to generate data on (i) influence of school environment on quality teaching and learning of LIS and (ii) influence of technology application on quality teaching and learning of LIS. Sections B and C were further structured into 4-point rating scale with response options of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) with corresponding values of 4, 3, 2 and 1 respectively.

The instrument for data collection was face-validated by three experts in Library and Information Science, Delta State University. All the suggestions of the experts were incorporated into the final copy of the questionnaire that was used for data collection. The reliability of the instrument was carried out by trial testing the final validated copy of the questionnaire to 10 librarians in Nnamdi Azikiwe University, Awka, Anambra State. The data collected from the trial testing were analysed using Cronbach Alpha reliability technique which yielded a reliability coefficient of 0.87. Data for the study were collected by the researcher with the help of three research assistants making four enumerators with one covering each of the universities for data collection for the study. Due to close monitoring of the data collection process, all the 64 copies of the questionnaire administered were completely responded to and retrieved representing 100% rate of return. Data collated were analysed using mean and standard deviation for answering the research questions while t-test statistics was used for testing the null hypotheses at 0.05 level of significance. In taking decision on the research questions, criterion reference point (cut-off point) of 2.50 was used on 4-point rating scale which was computed thus:

$$\frac{4 + 3 + 2 + 1}{4} = \frac{10}{4} = 2.50 \text{ (cut-off point)}$$

Based on the obtained cut-off point value, items with mean value of 2.50 and above was interpreted as "Agreed" while items with mean values less than 2.50 were interpreted as "disagreed". On the null hypotheses tested, the hypothesis of no significant difference was accepted for items whose p-values were greater than 0.05 level of significance while hypothesis of no significant difference was rejected for items whose p-values were less than 0.05 level of significance.

RESULTS

Research Question One

What is the influence of school environment on quality of teaching and learning of Library and Information Science in South-South Nigeria?

Ho₁: There is no significant difference in the mean ratings of the responses of male and female lecturers on influence of school environment on quality of teaching and learning of Library and Information Science in South-South Nigeria.

The data for answering research question one and testing hypothesis one are presented in table 1 below:

Table 1: Mean Ratings and t-test Statistics of the Responses of Male and Female Lecturers on the Influence of School Environment on Quality of Teaching and Learning of Library and Information Science in South-south Nigeria (n = 64).

SN	Influence of school environment on quality of teaching and learning LIS:	\bar{X}_M	\bar{X}_F	\bar{X}_G	SD	p-value	Remarks	
							RQ	Ho
1	Adequate provision of infrastructures makes students learn with ease thus bringing about good academic achievement in LIS.	3.70	3.72	3.71	0.65	0.16	A	NS
2	Well spaced and ventilated classrooms improved quality of teaching and learning in LIS.	3.68	3.64	3.66	0.50	0.13	A	NS
3	Provision of adequate and new textbooks improves quality of teaching and learning of LIS.	3.61	3.65	3.63	0.51	0.29	A	NS
4	Conducive school environment for extracurricular activities complement teaching & learning of LIS	3.62	3.61	3.61	0.54	0.77	A	NS
5	Attractive school buildings could make learning very stimulating for LIS students.	3.61	3.59	3.60	0.54	0.59	A	NS
6	Well lighted and bright lecture halls and classrooms enhance quality of teaching and learning LIS.	3.43	3.70	3.57	0.59	0.03	A	S*
7	Provision of modern learning gadgets in the classrooms such as projector can improve the quality of teaching and learning of LIS.	3.40	3.43	3.41	0.79	0.55	A	NS
8	Situating lecture halls and classrooms far away from noise and generator house can boost teaching and learning of LIS.	3.52	3.50	3.51	0.80	0.13	A	NS
9	Comfortable sitting arrangement for students can improve effectiveness of teaching & learning LIS.	3.57	3.20	3.39	0.71	0.02	A	S*
10	Comfortable students' accommodation within school premises can boost the quality of teaching and learning of students in LIS.	3.41	3.38	3.40	0.72	0.09	A	NS

Note: \bar{X}_M = Mean of Males; \bar{X}_F = Mean of Females; \bar{X}_G = Grand Mean; A = Agreed; N = Number of Respondents; S* = Significant; NS = Not Significant; Sig. at 0.05.

From the data presented in Table 1, it was revealed that the grand mean ratings of the responses of the respondents on the 10 items in the table ranged from 3.39 to 3.71 which are all

greater than the cut-off point of 2.50 on four point rating scale. This indicates that the 10 identified items in the table are influences of school environment on quality of teaching and learning of Library and Information Science in universities in South-south Nigeria. The standard deviation values of the 10 items ranged from 0.51 to 0.80 which signifies that the responses of the respondents are close to the mean and one another.

The data on t-test statistics in the table showed that the p-values of 8 out of the 10 identified items in the table ranged between 0.09 to 0.77 which are all greater than 0.05 level of significance. This indicates that there are no significant differences in the mean ratings of male and female lecturers on the eight influences of school environment on quality of teaching and learning of Library and Information Science in universities in South-south Nigeria. Therefore, the hypothesis of no significant difference in the mean ratings of male and female lecturers is accepted on the eight items in the table. The p-values of the remaining two items, that is, items 6 and 9 were 0.03 and 0.02 respectively which are less than 0.05 level of significance. This indicated that there were significant differences in the mean ratings of the responses of male and female LIS lecturers on the two influences of school environment on quality of teaching and learning of Library and Information Science in universities in South-south Nigeria. Therefore, the hypothesis of no significant difference in the mean ratings of male and female LIS lecturers is rejected on items 6 and 9 in the table.

Research Question Two

What is the influence of technology application on quality of teaching and learning of Library and Information Science in South-South Nigeria?

Ho₂: There is no significant difference in the mean ratings of the responses of male and female lecturers on influence of technology application on quality of teaching and learning of Library and Information Science in South-South Nigeria.

The data for answering research question two and testing hypothesis one are presented in table 2 below:

Table 2: Mean Ratings and t-test Statistics of the Responses of Male and Female Lecturers on the Influence of Technology Application on Quality of Teaching and Learning of Library and Information Science in South-South Nigeria (n = 64).

SN	Influence of technology application on quality of teaching and learning LIS:	\bar{X}_M	\bar{X}_F	\bar{X}_G	SD	p-value	Remarks	
							RQ	Ho
1	The use of appropriate technologies increases the confidence in teaching and learning LIS.	3.59	3.57	3.58	0.92	0.73	A	NS
2	The use of technologies makes teaching and learning of LIS easier for teachers and students	3.56	3.51	3.53	0.87	0.44	A	NS
3	Application of technologies for teaching and learning facilitates access to current research findings in Library and Information Science.	3.52	3.27	3.39	0.93	0.01	A	S*
4	The use of technologies for teaching helps in	3.29	3.15	3.22	0.83	0.46	A	NS

SN	Influence of technology application on quality of teaching and learning LIS:	\bar{X}_M	\bar{X}_F	\bar{X}_G	SD	p-value	Remarks	
							RQ	Ho
	recreational purposes in LIS.							
5	Application of appropriate technologies helps teachers improve teaching with updated materials	3.42	3.40	3.41	0.73	0.71	A	NS
6	Application of appropriate technologies increases overall interest of LIS students.	3.22	3.33	3.27	0.76	0.13	A	NS
7	The use of technologies for teaching and learning help build problem solving skills of LIS students	3.64	3.65	3.64	0.78	0.83	A	NS
8	The use of ICT enables the students' to be more active and engaging in LIS lessons.	3.68	3.60	3.64	0.85	0.16	A	NS
9	The use of technologies for teaching and learning increase overall academic achievement and performance of LIS students.	3.46	3.44	3.45	0.79	0.40	A	NS
10	Technology-based instruction reduces boredom in LIS instruction.	3.18	3.24	3.21	0.72	0.25	A	NS
11	The classroom management is more effective in ICT-based classroom for teaching & learning LIS	3.19	3.49	3.34	0.74	0.03	A	S*
12	Application of technologies enhance LIS students writing of assignments	3.51	3.58	3.54	0.63	0.17	A	NS
13	The use of technologies for teaching improve the quality and competencies of LIS graduates in the world of work on graduates in using ICTs	3.32	3.58	3.45	0.86	0.01	A	S*
14	The use of technologies for teaching increase interaction between the teachers & students of LIS	3.56	3.59	3.57	0.71	0.55	A	NS
15	Application of technologies improves students' retention of learning in LIS.	3.64	3.67	3.65	0.62	0.50	A	NS

Note: \bar{X}_M = Mean of Males; \bar{X}_F = Mean of Females; \bar{X}_G = Grand Mean; A = Agreed; N = Number of Respondents; S* = Significant; NS = Not Significant; Sig. at 0.05.

The data presented in Table 2 showed that the grand mean ratings of the responses of the respondents on the 15 items in the table ranged from 3.21 to 3.65 which are all greater than the cut-off point of 2.50 on four point rating scale. This indicates that the 15 identified items in the table are influences of technology application on quality of teaching and learning of Library and Information Science in universities in South-south Nigeria. The standard deviation values of the

15 items ranged from 0.62 to 0.93 which signifies that the responses of the respondents are close to the mean and one another.

The data on t-test statistics in the table showed that the p-values of 12 out of the 15 identified items in the table ranged between 0.13 to 0.83 which are all greater than 0.05 level of significance. This suggests that there are no significant differences in the mean ratings of male and female lecturers on the 12 influences of technology application on quality of teaching and learning of Library and Information Science in South-south Nigeria. Hence, the hypothesis of no significant difference in the mean ratings of male and female lecturers is accepted on the 12 items in the table. The p-values of the remaining three items, specifically, items 3, 11 and 13 were 0.01, 0.03 and 0.01 respectively which are less than 0.05 level of significance. This indicated that there were significant differences in the mean ratings of the responses of male and female LIS lecturers on the three influences of technology application on quality of teaching and learning of Library and Information Science in universities in South-south Nigeria. Therefore, the hypothesis of no significant difference in the mean ratings of male and female LIS lecturers is rejected on items 3, 11 and 13 in the table.

DISCUSSION OF RESULTS

This study identified 10 influences of school environment on quality of teaching and learning of Library and Information Science in universities in South-south Nigeria which include: making students learn with ease thus bringing about good academic achievement in LIS, well spaced and ventilated classrooms improved quality of teaching and learning in LIS, adequate and new textbooks improves quality of teaching and learning of LIS, environment for extracurricular activities complement teaching and learning of LIS, well lighted and bright lecture halls and classrooms enhance quality of teaching and learning LIS, modern learning gadgets in the classrooms such as projector can improve the quality of teaching and learning of LIS and comfortable sitting arrangement for students can improve effectiveness of teaching and learning LIS. In affirmation to the findings of this study, Byoung-Suk and Christopher (2012) reported that school environment is of paramount importance in shaping and reshaping intellectual ability of learners. Similarly, Torupere (2016) argued that good modern physical facilities in school add significantly to the promotion of academic performance. In agreement with the findings of this study, Mudassir, Norsuhaily and Ado (2015) equally observed that proper and adequate environment is very much necessary for a fruitful learning because favourable school environment provides the necessary stimulus for learning experiences.

This study identified 15 influences of technology application on quality of teaching and learning of Library and Information Science in universities in South-south Nigeria which include: the use of appropriate technologies increases the confidence in teaching and learning LIS, makes teaching and learning of LIS easier for teachers and students, facilitates access to current research findings in Library and Information Science, helps in recreational purposes in LIS, helps teachers improve teaching with updated materials, helps build problem solving skills of LIS students, enables the students' to be more active and engaging in LIS lessons, technology-based instruction reduces boredom in LIS instruction, classroom management is more effective in ICT-based classroom for teaching and learning LIS, enhance LIS students writing of assignments and

improves students' retention of learning in LIS. Martin (2016) reported that the use of information technology in teaching enhance quick access to e-resources and facilitates the search and retrieval of information for learning. Ghavifekr and Rosdy (2015) substantiated that integration of technologies for teaching and learning has a great effectiveness for both teachers and the students because, teachers' well-equipped preparation with ICT tools and facilities is one the main factors in success of technology-based teaching and learning.

CONCLUSION

The study investigated influence of school environment and technology application on quality of teaching and learning Library and Information Science (LIS) in universities in South-south Nigeria. Based on the findings on the research questions answered and hypotheses tested, the study concluded that suitable school environment and application of technology improve the quality of teaching and learning of Library and Information Science (LIS) in universities in south-south Nigeria. The study also concluded that there are no significant differences in the perceptions of male and female LIS lecturers as regards influence of school environment and technology application on quality of teaching and learning of LIS. Based on the findings and conclusions,

RECOMMENDATIONS

The study therefore recommended that:

1. There should be adequate provision of necessary instructional facilities by the Government and school management for effective instructional delivery in LIS in universities and other tertiary institutions in South-South and Nigeria in particular.
2. There should be improved provision for more classrooms and libraries in the school as stipulated by National Policy on Education for quality teaching and learning of LIS in Nigerian universities.
3. Effort must be made by the school management and government to ensure adequate provision of technological gadgets for quality teaching and learning of LIS and other courses in universities in South-South Nigeria.

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