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Why school libraries remain underdeveloped in Nigeria, and the way forward

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ABSTRACT

Applying the lens of constructivism and inquiry-based learning, this study investigated why libraries remain underdeveloped in Nigerian schools, and the way forward. The study was motivated by the importance accorded to school libraries, being one of the most important educational services that could be used to achieve good standard education in Nigeria. The methodological approach adopted for this study was mixed methods. The study's population comprised "school librarians", principals, and science teachers in public senior secondary schools as well as major stakeholders in education connected with the provision, management and utilization of library resources for teaching science subjects. The instruments of data collection were questionnaires, interviews, and observation. Quantitative data were analysed using the SPSS, while qualitative data were transcribed and analysed thematically. The state of school libraries was poor and the resource most frequently available in school libraries for teaching science was textbooks. Besides, the findings revealed that the majority of the library staff did not possess a librarianship qualification, and the majority of teachers adopted a teacher-centred approach. The study underscores the continued regarding textbooks as part of library resources for science, and offers some recommendations that could position school libraries for realising the government's vision of economic growth.

Keywords: *School Libraries, Inquiry-based approaches, School Librarians, Science Teachers, Science Subjects, Secondary Schools.*

INTRODUCTION

Prominent international organisations such as the International Federation of Library Associations (IFLA) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) have acknowledged the importance of libraries in schools, especially in developing countries such as Nigeria. In 1999, a School Library Manifesto was published the IFLA/UNESCO, which stated that: the school library is essential to every long-term strategy for literacy, education, information provision and economic, social and cultural development. It has been established that, when school librarians and teachers collaborate, students achieve higher levels of literacy, reading, learning, problem-solving and information and communication technology (ICT) skills. The UNESCO recognizes the importance of libraries to science development, and this made it to partner with Nature Education and Roche to develop the World Library of Science, a free online resource for science learning discovery (UNESCO, 2005; UNESCO Science Education, n. d.; UNESCO World Library of Science, n. d.). This is to inspire inquisitiveness in science, facilitate collaboration and foster scientific enquiry. Inspiringly, in the mist of this development, Africa has been selected as its priority area. These inform why government of Nigeria places emphasis on science to achieve its economic growth (Economic Transformation Blueprint, 2009). In Nigeria, secondary school education is the link between primary and tertiary education, and serves as the foundational basis of science education.

Problem Statement

The Nigeria National Policy on Education (NNPE) (2013, p. 38) recognises the important role of the school library in science curriculum implementation. The reason it (NNPE) states that proprietors of schools should make available well equipped libraries in all their schools in agreement with the laid down standards. Secondary school education serves as a crucial link between basic education and the world of work on the one hand, and further education and training on the other. Secondary school education serves as the bedrock and foundation to equip students to effectively live in the modern age of science and technology (Nigeria Universal Basic Education

Commission, 2010). If the government's vision is to adopt science to achieve its economic growth, then there is need to investigate the efficacy of libraries in science curriculum implementation in secondary schools. Very little is known about why the state of school libraries in Nigeria has not been generating public outcry in the face of their poor condition. It is against this background that the study investigates why the school libraries remain underdeveloped, specifically, in Ekiti State, Nigeria, and the way forward. In achieving the purpose of the study, the gap in research will be addressed with the following objectives:

- To investigate the state of school libraries in the state.
- To find out the teaching methods adopted by teachers in teaching science subjects in public secondary schools in Ekiti State, Nigeria.

REVIEWED OF RELATED LITERATURE

A review of related literature from impact of school libraries on academic achievement, condition of school libraries in Africa, particularly Nigeria to methodology of teaching and learning science in Nigerian schools is conducted.

Impact of school libraries on academic achievement

International studies have indisputably provided evidence to support the positive impact of school libraries on learners' performance. For example, in North Carolina (Burgin & Bracy, 2003), Illinois (Lance, Hamilton-Pennell & Rodney, 2005), and New York (Small, Snyder & Parker, 2009). All the findings showed a statistically positive and significant relationship between school library services and student academic achievement. More recently, a study conducted by Lance and Hofschire (2012) on change in school librarian staffing associated with change in the Colorado Student Assessment Programme (CSAP) reading performance (from 2005 to 2011) revealed that students at schools with a professional librarian managing the library programme achieved higher scores in the CSAP reading scores and higher improvements in those scores over time than students at schools with library programmes being managed by non-professional librarians. This shows that having somebody managing the school library is not enough but a fulltime professional librarian is what can actually impact positively students' academic performance. All things being equal, in most of the international studies, researchers concluded that, students' performance increases when

a school library is stocked, staffed and fully-funded (Friend & Cook, 2010; Small, Snyder & Parker, 2009).

In Nigeria, the government realised the significance of school libraries in achieving quality education, and makes a statement in the Nigeria National Policy on Education (NNPE) (2013, p. 38) which states that all proprietors of schools shall provide functional libraries in all their educational institutions in accordance with the established standard. However, in Nigeria, as in other African countries, the dissenting opinions that the education standard has fallen has seriously brought about arguments of what could be responsible for the decline (Owate & Iroha, 2013). Various factors responsible for this decline in education standards have been debated by researchers and scholars. Nevertheless, at the centre of these arguments, school libraries have not been seriously recognised by researchers and scholars as one of the significant and viable educational vehicles for national development. Based on the importance of the library as highlighted by the NNPE, it is surprising that secondary schools are still being established without a functional library (Owate & Iroha, 2013). Good standard education cannot be achieved in isolation from school libraries (NNPE, 2013). In spite of efficacy of school library in education development, many of the school libraries in Nigerian public schools remain underdeveloped that the major resources relevant for implementation of science subjects is textbook. This could be attributed to either the teaching approach (traditional) adopted and/or nature of science curriculum that does not require diverse sources of information to implement.

Condition of school libraries in Africa, particularly Nigeria

The state of school libraries in African countries is not much different from one another as their conditions are, on the whole, appalling. In a study carried out by Shonhe (2019) on the challenges of school libraries in developing countries such as Ghana, Sri Lanka, Nigeria, Malawi, and South Africa. Nearly all the studies reviewed decried irrelevant library collections and poor staffing, as the problem of school libraries. In Nigeria, the situation of school libraries is abysmal. Scholars have conducted several studies on the conditions of Nigerian school libraries. Many of the scholars (Adetoro, 2005; Adebamowo, 2011; Ajegbomogun & Salaam, 2011; Eghosa, 2011; Uzuegbu & Ibiyemi, 2013) who described the condition of school libraries as pitiful, also lamented the state of facilities in school libraries as inadequate, and that the resources are unsystematically organized.

However, it is glaring that school libraries in Nigeria have not been well funded, which has resulted to their poor state.

Methodology of teaching and learning science in Nigeria

Teaching methodology (Zuofa and Olori, 2015, p. 1133) is an integral part of a school system and a proper instrument needed for students to question, select, analyse and synthesise information resources until they are able to discern paths to new understandings and knowledge construction for the purpose of achieving their educational goals or objectives. Several scholars (Aina and Langenhoven 2015, p. 6; Alade and Ogbo 2014; Arubayi 2015; Ikitde and Edet 2013; Moyinoluwa 2014) have conducted studies on teaching methods appropriate for teaching science subjects in Nigeria. They all emphasised the efficacy of an inquiry-based learning approach to teaching and learning science as it improves intellectual engagement and nurtures deep understanding through the development of its practical application and research-based disposition towards teaching and learning. The studies recommended a change of teaching method from the lecture/discussion methods to guided (inquiry) discovery. Traditional teaching methods as noted by Al-rawi (2013, p. 100) is not effective as they used to be due to the current advancement and evolving landscape in ICT.

In a study to compare teaching methods employed and reports of teachers' classroom practices, Kalu-Uche, Alamina and Ovute (2015, 50) observed that teachers were actually using more transmission than constructivist approaches in the classroom. This is confirmed by Achuonye (2015) who revealed that the lecture method of teaching is still predominant at all levels in most schools, and that ignorance is a major challenge to effective application of innovative strategies such as self-directed learning and higher cognitive skills, required for the 21st century education. In achieving inquiry based approaches in schools, several researchers (Achuonye 2015; Adediran, Orukotan and Adeyanju 2015, p. 146; Oyelekan, Igbokwe and Olorundare 2017, p. 49) have offered recommendations. Among the recommendations are: 1, inclusion of teachers in curriculum planning and implementation; 2, science teachers availing themselves of opportunities embedded in these innovative teaching strategies to improve their students' achievement; 3, consistent refresher training for teachers in schools in order to enlighten and motivate them to integrate innovative teaching strategies into their teaching methods.

From the reviewed literature, one can deduce school library is not strongly considered as a major factor required for teaching and learning science and that teachers adopted majorly teacher centred approach in teaching science subjects. This could be attributed to the fact that many of the Nigerian schools have poor buildings, overcrowded lecture halls and lack of standard school libraries (Alumode & Onuma, 2016), which make inquiry based approach unsuitable to adopt in schools. As asserted by Jonassen (1995), the constructivist learning environment has effects on the secondary school condition.

THEORETICAL FRAMEWORK

Applying the lens of constructivism and inquiry-based learning, this study investigated why libraries remain underdeveloped in Nigerian schools, and the way forward. There are very few studies in the Nigerian literature on why school libraries remain underdeveloped particularly in Nigerian public schools. Motivated by this gap in the research, and the worldwide trend of discovery learning and the inquiry movement in education, the researchers explored the intersection of the teaching methods and condition of school libraries. Informed by the convergence of guided inquiry (Kuhlthau, Maniotes and Caspari 2007), information inquiry (Callison and Preddy 2006) and various information literacy models (for example, Alberta Learning 2004), the study investigates why school libraries, in spite of their efficacy to science education as established in developed world, remain underdeveloped in Nigerian schools, a missing link (perhaps) a lack of inquiry approaches in teaching science. Inquiry based approach is a teaching and learning process that combines inquiry strategies to seek answers to questions, raise new questions and further questions the content from a wide array of information resources accessed. Specifically, the study inquired about the quality of school library resources and personnel as well as teaching methods adopted by teachers for teaching science subjects.

RESEARCH METHODOLOGY

The approach adopted for this study was a mixed-methods. A mixed methods combined elements of quantitative and qualitative approaches for the purposes of breadth and depth of understanding and corroboration. The study site for the research was Ekiti State, one of Nigeria's 36 states. Ekiti

State comprises 16 Local Government Areas which is politically divided into three senatorial districts – north, central and south (Ekiti Yellow Pages 2005). The population of this study comprises school librarians, science teachers and school principals in 187 public senior secondary schools in Ekiti State, as well as the major stakeholders in education associated with provision, management and utilization of school libraries such as: the Director of Planning, Research and Statistics, Ekiti State Teaching Service Commission (PR&S TESCOM), and Area Education Officers (AEOs) of the three selected local government areas. Twenty seven schools offerings science subjects were randomly selected to represent the three senatorial districts in the state, that is, nine schools from each of the district. Five participants (one school librarian and four science teachers teaching mathematics, physics, chemistry and biology) were purposively selected (because they teach science subjects in senior classes) to respond to a questionnaire. They were from each of 27 schools from three selected local governments (Ado, Ikere and Ido/Osi) which represent the three senatorial districts of the state. In addition, all 27 principals, the director of PR&S TESCOM and each of the AEOs in the three selected local governments were also purposively selected for the interviews because they were responsible for the management of secondary school education. The total sample size for the study was 166 participants. Further, observation (of all the 27 school library resources) was employed to elicit information for the study

DISCUSSION OF FINDINGS

The research findings and discussion are presented in this section. Discussion of findings in any research is vital because the usefulness and utility of research findings lie in the proper interpretation of results. The research findings are presented and discussed under the headings: educational qualifications and experience of school librarians and quality of science library resources.

Educational qualifications and experience of school librarians

As revealed in Table 1, three (11.1%) of "school librarians" had a Diploma in Librarianship while the majority 12 (44.5%) had other qualifications such as B.Sc. /HND, followed by 10 (37%) who did not possess more than a Senior School Certificate Examination (SSCE) while those who claimed to possess a Master's degree were 2 (7.4%) and no respondent had a Bachelor's degree in Library and Information Science (B.L.I.S.). The majority of the school librarians (40.7%) had

working experience between 10-14 years. Those with less than 10 years of working experience were 29.6%, while another 29.6% had more than 15 years of working experience. However, qualified school librarians, are required to "provide the platform for developing information literacy, which includes a collection of well-organized materials within the school, internet resources, community resources in public libraries, and contacts to different subject experts" (Kuhlthau, Maniotes & Caspari, 2007, p. 17).

Table 1: Background information of the school librarians

N=27

Background information	Frequency	Percentage
Highest educational qualification:		
Senior Secondary Certificate Examination (SSCE)	10	37.0
Diploma in Librarianship	3	11.1
Masters	2	7.4
Others: e.g. BSc/Higher National Diploma (HND)	12	44.5
Years of working experience:		
Less than 10 years	8	29.6
10-14 years	11	40.7
15 years and above	8	29.6

Quality of science library resources

Twenty two (81.5%) "school librarians" rated the level of provision of library resources as adequate for implementation of the science curriculum. The majority of science teachers (as shown in Table 2) indicated that the available library resources were adequate in terms of quality. As observed by the researchers, most of the library resources were textbooks. Other possible resources such as DVDs/CD-ROMs, non-fiction science, newspapers, magazines, television, video games, internet facilities and e-books were either inadequate or unavailable. It is worrisome to observe that the "librarians" were not critical of their libraries. The majority of science teachers still surprisingly rated their libraries that consisted mainly of textbooks, as good. It appears that the science teachers and "librarians" may not have a sound idea of ideal school library resources as espoused by IFLA's School Library Guidelines. This may not be unconnected with the fact that virtually all the "librarians" in the schools were not qualified and may not know what constitutes an ideal school library.

Table 2: Quality of science library resources N = 103

Rating of science resources in term of quality	Adequate (%)	Fairly adequate (%)	Not adequate (%)	Not available (%)
Textbooks	61.4	30.7	4.0	4.0
Dictionaries	35.2	26.4	8.8	29.7
Wall Charts	34.8	23.9	9.8	31.5
Charts & Pictorials	28.9	28.9	5.6	36.7
Real Object/Sample	28.4	17.0	9.1	45.5
Pictures	28.1	30.3	5.6	36.0
Reference books	26.4	37.4	12.1	24.2
Flip charts	25.8	23.6	10.1	40.4
Internet facilities	15.6	15.6	14.4	54.4
Documentaries	12.4	20.2	12.4	55.1
Encyclopaedias	12.4	32.6	16.9	38.2
Microscopic slides	12.4	19.1	15.7	52.8
Television	11.5	13.8	16.1	58.6
Year books	11.2	12.4	22.5	53.9
CD-ROM/DVD-ROM	10.1	16.9	13.5	59.6
Nonfiction science books	10.1	28.1	19.1	42.7
Magazines	10.0	22.2	15.6	52.2
Computer games	9.0	15.7	15.7	59.6
Newspapers	9.0	16.9	19.1	55.1
Journals	7.8	20.0	17.8	54.4
Article topics collections (e.g. newspapers and magazine cuttings)	6.7	10.1	25.8	57.3

One Area Education Officer (AEO#3) said it is regularly recommended to the Ministry of Education, Ado-Ekiti, that every student in all public schools be provided laptops to enable them to google, send and receive information online. With this, students would be able to browse and read ahead and beyond their textbooks. According to school principals (SP#7 and SP#14), Ekiti State Government had just supplied schools with various textbooks which were kept in the school libraries for use. This indicates that school principals still see textbooks as an important part of library resources, whereas textbooks are better positioned as classroom necessities; every student is expected to have a textbook for each subject they are taught (UNESCO Science Education n.

d.). In more developed countries such as the United States (American Library Association (ALA) 2010, 4) and even a developing country like South Africa (South Africa, Department of Basic Education 2012, 37), textbooks are not a library but a classroom resource. In addition to textbooks, students need access to library resources in multiple formats to support reading for information and lifelong learning (ALA 2010, 4).

The researchers observed that there was no functioning internet in any of the schools at the time of visitation. This prompted a further probe on how students were expected to go online for their assignments. It appears students were expected to access information online via their personal phones or parents' phones as the case may be. It is presumptuous for public schools to expect parents/students to purchase their own data for accessing the internet. In Nigeria, many parents who are either poor or low earning put their children into public schools, while the affluent put theirs into private schools, which they believe are better equipped for teaching and learning.

Ekiti State has only one functional public library (Ekiti State Library Board), which is grossly inadequate to cater for people of the state and its resources are insufficient as it has not been seriously funded since its creation in 1996 (Zaid 2011, 170). Even the lofty idea of the Nigerian Educational Research and Development Council's (NERDC) *Teachers' Aid*, a digital library of curriculum based teaching resources expected to provide web-based access to a database of teaching resources where the teacher can search for, locate, download, and comment on resources to aid the teaching and learning process (NERDC 2012-2017), has neither been subscribed to by the Ekiti State Ministry of Education, Science & Technology nor any of the 27 schools visited by the researcher not to mention individual teachers. The state of the Ekiti's public library may have influenced the respondents' perceptions that their school libraries are satisfactory.

Teaching approaches adopted by teachers

As a way of investigating into the teaching approaches adopted by teachers, questionnaire, interviews and observation were deployed to elicit information. In the questionnaire responses, the majority of teachers indicated that they used student centred approaches in teaching, which was contrary to the researchers' observations during the administration of questionnaires in schools where teaching was passive and knowledge was passed from teacher to students. This prompted

the researchers to embark on a follow up questionnaire in which detailed explanations of each teaching method (teacher-centred, student-centred, and inquiry-based approaches) were supplied so that the teachers could more accurately decide on the teaching method/s they adopted. In the follow up questionnaire, the majority of teachers (see Table 3) indicated that they used a teacher-centred approach. This implies that teachers in this current study did not have clear knowledge of different teaching methods. This is confirmed in a comparative study of science teachers' reports of their classroom practices with their pedagogical practices in Rivers State, Nigeria, where the science teachers claimed they used various transmission and constructivist motivated approaches in classroom instruction but in actual fact they were using more of a transmission approach in classroom instruction (Kalu-Uche, Alamina and Ovute 2015). It should be noted that the constructivist learning environment has effects on the secondary school condition (Jonassen, 1995), school library inclusive.

Table 3: Teaching approach

N = 63

Teaching Approaches	**Frequency**	**Percentage (%)**
Teacher centred	34	54.0
Student centred	24	38.1
Inquiry-based learning (Guided)	5	7.9
Total	**63**	**100**

However, a teacher centred approach may not seriously propel students to seek information resources beyond textbooks as there would not be opportunity to engage students with diverse and conflicting sources of information. Through inquiry based approaches, students develop competencies through a process of inquiry and discovery. Students would collaborate to create new knowledge while also learning how to think critically and creatively, and how to make discoveries—through inquiry, reflection, exploration, experimentation, and trial and error (Friesen & Scott, 2013, p. 2). In an era of focus on learner centred approaches, the 21st century school library should be playing a pivotal role. Therefore, the inquiry-based approaches as a teaching methodology, should be an integral part of school systems since students taught with the inquiry-based approaches develop ability to think critically and creatively which result in positive academic performance (Montiel-Overall & Grimes, 2013; Omenyo, 2016).

IMPLICATIONS OF THIS RESEARCH

Theoretically, this study is worthwhile in providing a platform for school principals, teachers and education stakeholders as well as curriculum developers in Nigeria to engage in and determine appropriate pedagogical methods of implementing inquiry-based learning. This is imperative given that government has adopted science in actualising its economic growth and the opportunity science offers by productively positioning the country in the wake of Fourth Industrial Revolution (Industry 4.0). Besides, secondary school education serves as the foundation to equip students to effectively live in the digital age of science and technology and for more knowledge in tertiary institutions and world of work. In addition, this study would empower school librarians and teachers in Nigeria to reconsider library orientation and traditional approaches to teaching and instead lay more emphasis on constructivist approaches.

CONCLUSIONS AND RECOMMENDATIONS

The aim of this study is to investigate why school libraries remain underdeveloped in Nigerian schools. In view of the findings, it is concluded that the condition of many of the school libraries in the state is abysmal, while majority of "school librarians" were not qualified as they did not possess more than ordinary certificate. Further, majority of science teachers in Ekiti State were still using teacher centred approach and this may be as a result of Nigerian 2007 science curriculum that does not require diverse sources of information to implement. This teaching approach and the nature of curriculum do not improve student's problem-solving abilities and investigative potentials. Therefore, school libraries may not necessarily be required by teachers to discharge their teaching duty (teacher centered), and because of this, the authority concerned may not see reason to develop the school libraries.

Based on the findings and conclusion, it is, therefore, recommended that all concerned stakeholders (Ministry of Education, Science & Technology, school principals, AEOs) should advocate for the adoption of inquiry based learning for science in schools. Also, government should provide an enabling environment that will encourage the adoption of inquiry based learning for science in schools. Such environment should include a well-equipped library managed by qualified personnel as well as updating of Nigerian Curriculum in a way that will deemphasise teacher centred approach in schools.

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