

School Library Support and Inquiry Based Approach as Determinants of Science Subject Content Delivery in Private School in Ekiti State, Nigeria

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Abstract

This study investigate the school library support and inquiry based approach as determinants of science subject content delivery in private schools in Ekiti State, Nigeria. The importance of this study is centred on significance attached to science being an apparatus adopted for actualising national growth and development in Nigeria. The study adopted the survey research design and the use of purposive sampling technnique. The sample size for the study was 72. Questionnaire was the instruments used for data collection. The findings from the study revealed that inquiry based approach has a significant influence on content delivery of science subjects in private schools in Ekiti State, Nigeria, and that the higher the level of inquiry based approach adopted, the more effective the content delivery for science subjects. Similarly, the findings revealed that school library support has a significant influence on content delivery of science subjects in private schools in the state. Recommendations that could position school libraries for effective service delivery were offered by the study.

Keywords: *Inquiry-based Approach, Science Teachers, School libraries, Science Subjects, Secondary Schools, Ekiti State, Nigeria*

Introduction

Content is one of the most challenging and important aspects of developing subjects among courses offered in academic institutions. Content is the heart of developing any course, so the method of presenting the content influenced student academic performance, success and satisfaction. The best way to deliver content varies from course to course, but there are best practices that can be used to ensure students' success which include learning the content required to deliver instruction (Adeyegbe, Oke, & Tijani 2018). According to Akingbade (2013), the role of science content in guiding teaching and learning cannot be over emphasised in secondary schools. It ensures uniformity in the content students are exposed to as well as makes students become relevant and functional to the society after undergoing its contents. Content is the ground which learners and teachers cover in order to attain the goals of education. It is also defined as the set of courses offered in an educational institution, and which constitute an area of specialisation (Anderson & Elloumi 2020).

The content is therefore expected to develop the learners cognitive, affective and psychomotor domains to enable them have desirable adaptations for functionality in

the society. Science content was developed in order to prepare students to acquire; adequate laboratory and field skills in science subjects; meaningful and relevant knowledge in science subjects; ability to apply scientific knowledge for application in everyday life issues, community health, technology and agriculture; as well as reasonable and functional scientific attitude (Annie, Stoker & Mildred 2018). Delivery of subject content in classrooms cannot be effective and impactful without considering the process of impacting knowledge. The indicators for measuring science content delivery in this study are content knowledge, the pedagogical knowledge, the pedagogical content knowledge, the technological content knowledge and the technological pedagogical knowledge (Fakeye 2020).

According to Ibrahim (2018), the school library could be described as the school's physical and digital learning space where inquiry, research, reading, thinking, imagination, and creativity are crucial to students' information-to- knowledge journey and to their personal, cultural and social growth. This physical and digital space is known by numerous terms such as; documentation and information centre; school media centre, library learning commons and library resource centre. However, school library is the term generally applied and used for the facilities and functions. School library provides information and ideas that are necessary to the success of our educational achievements in the 21st century society. The school library has an obligation to offer learning services, books and resources that enable entire members of the school community to become critical thinkers and effective users of information in all formats and media, with links to the wider library and information networks. (Cirfat, Zumuyil, and Ezema 2018). Therefore, available resources in the library both physical and online, library personnel and library services will be used in assessing this study.

In the word of Orheruata, Abubakar and Aminu (2017), inquiry-based approach (IBA) is primarily a pedagogical method, which requires learners to experience the process of knowledge creation and/or acquisition and was developed in 1960s as an answer to traditional methods of instructional based learning led by the teachers in the classroom. This means, students learn from the situations in the world (families, friends, media and libraries) around them to construct knowledge via their interaction or exposure. Consequently, the knowledge base of students is enriched and expanded as their social and communication skills are improved by making a classroom environment that underscores collaboration and exchange of ideas (Udin, & Uwaifo 2015).

Planning the content to be delivered to students will allow teachers to outline the content of the subject to be taught while the process focuses on how students make sense of the content delivered to them by their teacher in the classroom. Students require time to reflect on and digest the learning activities before moving on to the next segment of their subject. Creating subject matter and content to teach students is also a necessary aspect of developing subject content, and another way to engage

students in learning. Also, sharing is impacting information or knowledge within the curriculum of a subject to students and this is referred to as sharing of content to students. Retrieving contents that the students has been taught is also compulsory which should be done together by evaluating the students so as to know if what they are taught has been retained by them and found impactful. Based on this, the study intends to investigate how school library support and inquiry based approach serve as determinants for science subject content delivery in private schools in Ekiti State, Nigeria.

Statement of the Problem

Science subject content delivery has been difficult by teachers of private schools in Ekiti State, Nigeria due to lack of learning resources provision to support subject content delivery. The school library is important in the provision of resources to support teaching and learning in schools, hence the lack of well-equipped library and information inquiry centres in private schools constitutes a major impediments to science subject content delivery in Nigerian schools. Secondary school education is the crucial link between basic education and the world of work, and tertiary education, as it serves as the foundation to equip students to effectively live in the modern age of science and technology. Since the government has always emphasised science as a mechanism to achieve economic growth, then there is a need to investigate the efficacy of school library and inquiry based approach for science subject teaching and learning in schools. Not much is known about school library support and inquiry based approach as determinants for science subject content delivery in private schools in Ekiti State, Nigeria. Therefore, it is against this background that the study intends to investigate school library support and inquiry based approach as determinants for science subject teaching and learning in private schools in Ekiti State, Nigeria.

Objectives of the Study

The aim of this study is to investigate school library support and inquiry based approach as determinants of science subject content delivery in private schools in Ekiti State, Nigeria. The specific objectives are to:

1. identify the level of science subject content delivery in private schools in Ekiti State;
2. ascertain the school library support available to science teachers in private schools in Ekiti state;
3. examine the inquiry- based method of teaching adopted by private school teachers in Ekiti State.

Research Questions

The following research questions were answered:

1. What is the level of science subject content delivery in private schools in Ekiti State, Nigeria?

2. What is the level of school library support available to science teachers in private schools in Ekiti State, Nigeria?
3. What are the inquiry based teaching methods adopted by private school teachers in Ekiti State, Nigeria?

Literature Review

Teaching (content delivery) is an interactive process, primarily involving classroom talk which takes place between teacher and pupil and occurs during certain definable activities (Gutman & Akerman 2018). Teaching is a scientific process, and its major components are content, communication and feedback (Hansen & Mastekaasa 2016). The teaching strategy has a positive effect on student learning since it is always possible to modify, improve and develop. The new teaching-learning activities, and hence the flexibility is in-built into the system; and “The terminal behaviour of the learner in terms of learning structures can be established by appropriate teaching environments (Hijazi & Naqvi 2019). In the word of Hirsch (2019), Teaching is a set of events, outside the learners which are designed to support internal process of learning. Teaching (Instruction) is outside the learner and learning is internal to learners. You cannot motivate others if you are not self-motivated because motives are not seen, but, behaviours are seen. Is learning a motive or behaviour? Learning is both a motive and behavior but only behavior is seen, learning is internal, performance is external (Mgbor & Anyanjanor 2019).

Generally, the role of teacher can be categorised into: traditional Role (Teacher Centered) and Modern Role (Student Centered). There has been a change from the traditional role to the modern role in the present context. The learning increases when the teacher builds on the previous experience of the student. However, individual’s learning differs, and each individual learns at his or her own pace. Identifying the slow learners and individual attention of the teacher may be required. Thus, effective learning is to a great extent based on experiences. Direct experiences are student centered and participation in problem solving. While in indirect experience, the contents are carefully designed and organised by teacher (Mgbor 2020). Objectives are intended learning outcomes written down before the process of instruction. General objectives - Statement of instructional intent - Student ability in general terms. Specific objective statement of instructional intent-student ability in terms of specific and observable, Usefulness of objectives, Elements of objectives, Terminal behavior Condition, and Criterion / Criteria (Israel 2020).

Kurashkina (2017) stated that school library is a learning laboratory where technology, information and inquiry come together in dynamic ways that reverberate with 21st century learners. All over the world school libraries exist as learning environments that provide both physical and digital spaces, access to resources, activities and services that inspire and support students and teachers as well as community learning (Dodge, 2017). Students are expected to use the school library resources and services anytime. Therefore, the school library provides teachers and

students access to various sources of information that support curriculum implementation and exposes learners (students) to diverse ideas, opinions and experiences that could inculcate the habit of reading for information and recreation. It also provides reliable information services to the youth, especially on health, careers, family related issues, violence and crime, finance and other cultural and socio-political economic matters (Earthman 2014).

Msabila (2016), defined Inquiry-Based Teaching (IBT) as a pedagogy in which the teacher delivers curricula content via inquiry-based activities and students develop an understanding of the content by participating in actual scientific inquiry. It can also be defined as the teaching process that comprises the methods followed by scientists when doing their studies (Mugenda & Mugenda 2019). OCM (2020), reported that In the inquiry-based method, teachers are guiders and not any more providers since students now construct knowledge rather than being receivers. The inquiry-based method allows students to interact with their surroundings and make them able to see the abstract phenomenon in real sense. So, it facilitates a deep understanding of the scientific content rather than rote learning or cramming. This also makes the learned information to be retained longer in memory hence improving performance. Moreover, the method helps the preparation of future scientists because students normally experienced the usual but diverse ways scientists do to explore natural phenomena (Onche2018). Oni (2018), stated that inquiry- based teaching develops among students 21stcentury skills like collaboration, communication, and presentation skills.

A survey carried out by Nwachukwu (2018), showed that science classes should be made more colourful and interesting as opposed to the uninteresting and abstract nature. These will help the students to leave secondary schools with adequate knowledge and applicable skills in physics and that the use of ICT combined with project, experiments and demonstrations was a promising asset to modernising the teaching of physics and making it more attractive. Good result in physics is enhanced by changing teaching methods (Obasi 2015). For instance, in Jordan, Singh (2017) carried out research on the “effect of using the constructivist learning model in teaching science and scientific thinking of 8th grade students”. The findings revealed that there is a significant difference in the effect of the constructivist learning model on the achievement and scientific thinking in favour of the experimental group. The study, therefore, recommends paying more attention to adopting of constructivist learning approach for teaching science courses.

In Orlando, United States, some researchers carried out a study on the implementation of participatory and constructivist learning experiences through best practices in live interactive performance, and affirmed that constructivist and inquiry-based learning approaches greatly influence high academic performance, since it creates room for non-threatening situations which are relevant for academic performance in science (Slavin, 2017). In the study of Davis (2015), it was revealed

that there is a strong positive link between teaching method and subject content delivery. Schools that possess more different teaching methods in learning better than schools that do not have diverse method of teaching. This finding supported the study that private schools performed better than public schools because of the availability and adequacy of teaching and learning resources (Denison & Spreitzer, 2009).

Research Methodology

This study adopted a cross-sectional survey research design using descriptive approach as it attempts to study a subset of population at a point in time. The purposive sampling technique was used to select only science teachers in schools where there are libraries and who make use of the school library services to support their instructional delivery. The sample size for the study was 72 science teachers and questionnaire was the instruments used for data collection.

Presentation of Results

Findings from the study revealed that there is library support for content delivery of science subjects. The study also found that all of the three dimensions of school library support, that is; mentoring support, financial support and technical support were highly available. The dimensions of inquiry based teaching methods examined include communication, evaluation, and demonstration. The study found that all these dimensions were highly practiced by the teachers in Ekiti state.

Conclusion

Science education has been recognised as one of the effective strategies to drive development in developing countries such as Nigeria. However, if science is to be used to solve societal problems and drive development, it must be well taught. The traditional and abstract approach to science content delivery would therefore be a disservice to the students and the nation at large. The adoption of inquiry based method of delivering science content to student as exhibited by teachers in this study is commendable. However, the effect may not be significant enough unless it becomes institutionalised and widespread in Nigerian schools. Also, the study has provided further evidence to support the importance of library support to educations. The study has further shown that that dynamic, self-directed and purposeful learning would only be possible in an environment where the required library support is available. The service of professional librarians have been shown in this study to be indispensable in the modern learning environment.

Recommendations

The researcher considered the findings reported in this study and the following recommendations are made:

1. There is a need for educational authorities to provide a framework for science content delivery in the state so that all students, irrespective of whether they attend public or private schools will have access to quality science education.

2. A functional school library should be a key part of the criteria for registering a private schools. The policy should also be extended to cover public schools.
3. There should be regular capacity development for science teachers in order for them to properly master the inquiry based method for science education.
4. There should be more collaboration between teacher librarians and science teachers to ensure the effective use of available information resources by students in a way that improve their performance in science and science-related subjects.
5. Self-driven learning, supported by a well-resourced library should be encouraged among students.
6. School librarians should create interesting programmes to attract students to use library resources.

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