

## **Responding to Digital Technology Integration in School Libraries: Opportunities, Challenges and Prospects to School Librarians in Nigeria**

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### **Abstract**

*This paper provided insights into technology integration and opportunities to school librarians. The concept of school librarians' experience with technology integration and use was also discussed. The paper also provided information on school librarians' use of digital technologies in school libraries, as well as school librarians' attitudes toward technology integration. Highlights into challenges, prospects, and strategies to responding to technology integration in school libraries were also discussed. The basic aim of this paper is that, school librarians should as a matter of urgency respond to digital technology integration into their school libraries for efficient service deliveries. They should keep abreast the impact of these modern technologies on their parents' institutions' needs, and their work environment, they should realize the impact of digital technologies on information access and delivery and recognize them as tools that they can and must use to meet the information requirements of users. School librarians must bear in mind that digital/modern technology is not only a technology but also it manages with the library objectives with the adoption, school libraries can face the new and modern information techniques. Librarians must have the knowledge, skills and tools in handling digital information and that will be the key success factor in enabling the school libraries to perform their role as information support system for the schools in which they are attached.*

**Keywords:** *Digital Technology, Integration, School Libraries, School Librarians, Opportunities and Challenges, Nigeria*

### **Introduction**

School libraries could be understood as those libraries attached or found in the pre-tertiary institutions such as nursery, primary and secondary schools with the mission of contributing to the intellectual development of pupils and students (Agbo, 2015). School library is the part of school where collection of books, periodicals, magazines, newspapers, films, computers, filmstrip, videotapes, recording of all types are kept for use specifically by the pupils, students and teachers. School libraries are established to provide information resources, which communicate experiences and ideas from one person to another and make them easily and freely available to all users through some service-oriented efforts. It is equally available to all members of the school regardless of race, nationality, age, gender, religion, language, disability and educational attainment. School libraries deliver its services with the aid of different forms of information resources, and these resources are utilised in order to provide good learning environment for students and teachers so as to be able to achieve educational goals (Arua and Chinaka, 2011).

School libraries are attached purposely to their parents' institutions in order to meet the objectives of those institutions by providing them with the relevant information resources that can support the teaching, learning and research process. For school libraries to perform these roles smoothly, effectively, efficiently and in accordance with users' needs within and outside the buildings, they have to respond to the integration, and make modern technologies readily available and properly utilised. However, the need for school librarians to respond to the provision, integration, and use technologies for information service delivery to their users is fundamental. It is fundamental because school libraries are regarded as the heart of their

parents' institutions, and they are also recognised as the medium through which schools in which they are attached can achieve their set objectives.

However, modern technologies that could be integrated and used by the school librarians for efficient service delivery will therefore consist of computers, CD-ROMs, Internet, all technologies encompassing medium for recording information such as magnetic disk, tape, optical disks (CD/DVD) flash and paper record, technology for the broadcasting, information, radio, television and technology for communicating through voice and sound or image microphone camera, loudspeaker, telephone to cellular phones. It also includes a wide variety of computing hardware, desktop computers, laptops, storage devices (Omekwu, 2007).

Gama (2008) stated that, the significance of modern technologies in Nigerian school libraries cannot be over emphasised. However, the integration and application of the these modern technologies can be said to be low as a results of certain underlying factors and deficiencies confronting the school librarians, when compared with what is happening in developed countries of the world, amongst which are poor funding, power outage/failure, the high cost of connectivity, lack of skilled manpower, lack of ICT skills, interconnectivity problem, obsolete equipment, and others.

However, the importance of technology integration in various aspects of library activities and services in school libraries can be understood. But conscious efforts needed to be done by the parents' institutions to provide the right technologies in order to harness these benefits. School libraries in Nigeria should do everything possible to provide modern technologies for the benefits of their users. There is need therefore to provide information on responding to digital technology integration in school libraries: opportunities, challenges and prospects to school librarians in Nigeria.

### **Statement of the Problem**

It is an indisputable fact that school libraries still remain important tools for educational growth in schools in Nigeria, especially, in this information age, where there is information growth and explosion. The world is fast becoming a global village, provision and use of school library information resources and services in school libraries become essential especially with the introduction and use of modern technology. Several factors, however, tend to limit the services which are rendered by school libraries in Nigeria by the school librarians with the integration of modern technologies. Deficiencies in the use of modern technology by the school librarians could be attributed to lack of adequate, reliable, current, relevant and related information resources especially those in the digital formats to form the basis of learning coupled with the possibility of under utilisation of the few resources that are available.

Literature and personal observations have shown that there is a fall in the standard of school libraries in Nigeria. This fallen standard of school libraries is majorly attributed to poor library resources and services especially in the aspects of technology deployment and integration in school libraries, as well as patronage of these libraries. School Librarians must therefore respond to technology integration into the school libraries towards satisfying their users totally if they must remain relevant. From the foregoing, it is evident that users of the school libraries could only be served better if school librarians have a good expertise on modern technologies use and accepted them into their libraries. To this end, this study will be carried out to provide information on responding to digital technology integration in school libraries: opportunities, challenges and prospects to school librarians in Nigeria.

## **Literature Review**

### **Technology integration and opportunities to school librarians**

Technology integration in school libraries means implementation of modern equipment and tools in providing services and resources to the users by the school librarians. The purpose of integration is generally to familiarise users with the use and working of computers and other electronic medium. In the course of integration, pupils, students, as well as their teachers are taught to use different information resources in electronic form and how technologies could be used to solve problems regarding information. Technology integration in school libraries is also a help to users (pupils, students, teachers, even researchers from outside) to use these digital/modern technologies to enhance qualities and quantity of information (Deshmukh, 2010).

As information technology has become integral part in most school libraries and a vital part of pupils', students', and teachers' learning and engagement, school librarians have increasingly important roles to play in using, facilitating, and embedding technology use within the school libraries to meet the needs of these categories of users (Mardis and Everhart, 2014). School librarians should be valuable resources for teaching and using at all levels (Bush and Jones, 2010). It is the school librarians who can play critical roles by focusing student experiences on authentic learning, information literacy through the integration and use of digital technology as a resource and medium for learning (American Association of School Librarians [AASL], 2009). Technology integration moves technology use from a resource to an invaluable skill woven into the fabric of the curriculum. As part of opportunities, school librarians could integrate by infusing information literacy skills into many different learning experiences for their users (Loertscher, 2006).

In addition, school librarians can provide curriculum assistance, instructional support for students, and guidance in using new information technologies (Department of Education, 2018). Exploring the many open resources available electronically and then sharing and training teachers, students, and administrators on how to utilise these resources in the classroom is an excellent way for school librarians to take the lead in promoting and using such digital resources within their schools.

As part of their efforts in the integration and opportunities to school librarians, Elbasri (2018) acknowledged that school librarians can also use their acquired training to address the negative issues that technology may bring to their schools. There is the obvious need to learn to wade through the "truths" online that information literacy addresses, as well as the fact that technology is not just for fun and communication, but a tool to be used for learning— and that for technology to be truly educational and useful, it should be used purposefully. Simply having technology without a strong educational purpose integrated into the curriculum does not itself lead to better outcomes. Knowing if and when technology should be used to meet an educational need is one aspect of technological leadership that school librarians can be a part of, if they understand the pedagogy and benefits as well as the drawbacks to its use.

Opportunities of technology integration to school libraries could include;

1. Provision of new media, new modes of storing and communicating information.
2. Technology integration could bring many services to school libraries to speed up the activities of the school librarians.
3. Integration of technologies could help to remove barrier of communication, distance and time. The advances in technology will continue to improve the effectiveness of school libraries.
4. Integration could help to transfer data to communication network like internet anywhere.

5. Technology integration in school libraries could help provide enormous search speed and facilities (Jain, 2010).

### **School librarians' experience with technology integration and use**

School librarians undoubtedly come into some experience using digital technology and an understanding that technology will be a part of their job once they are in a school library. The ability to use digital technology to achieve student learning goals is another skill entirely. As Brinkerhoff (2006) opined, while school librarians may have been taught lesson planning skills and models for infusing technology into library activities, they may not have been taught how to effectively integrate digital technology into instruction. (Franklin and Bolick, 2007) maintained that preparing future school librarians for this role is an important factor that has been associated with the school librarians for using technology in the discharge of duties. Lawless and Pellegrino (2007) noted that school librarians might be able to accept and integrate digital technology into their routines better if majority of their tasks focused more on information technology skills and innovative techniques for using technology in the school libraries. It was further stressed that school librarians could have the ability to become technology leaders and bring their knowledge of technology integration to students in the schools. An excellent, well rounded pre-service programme can help school librarians go into their school libraries with a solid set of skills and knowledge on how to implement these skills. Hughes (2005) stressed that if school librarians are to integrate digital technology effectively, they must have technology-supported pedagogical knowledge and skills upon which to draw when planning for technology integration in their teaching of students on how to maximally utilise the resources and services in the school libraries.

As Branch-Mueller and de Groot (2011) found, when technology tools are taught in a supportive environment, school librarians embrace their potential use and tend to adopt them. With rapid technological change, including interactive and participatory technologies, school librarians must move into leadership roles to best serve students with the use of these modern/digital technologies (Everhart, Mardis and Johnston, 2011).

### **School Librarians' Use of Digital Technology in School Libraries**

Empirically, a study by Everhart, Mardis and Johnston (2011) found that school librarians felt confident in using and integrating technology with their students. However, the same study found that only 61% had full or substantial involvement in information dissemination about the use of technology in the school, 53% were disseminating information about technology advances, and only 35% stated that they were either fully or substantially involved in advocating for technology use in their school. It was further found in the study that while the level of confidence is reassuring, the fact that schools are not utilising the school librarians as a technology resource is unfortunate when the school librarians are willing and capable of being an important and integral part of the integration of technology into the curriculum. This lack of inclusion of school librarians in the technology use in schools makes it difficult for school librarians to collaborate effectively with teachers in an effort to integrate digital technology more fully into their routine' discharge especially for the benefit of students' learning.

Again, Dotson and Jones (2011) surveyed 149 school librarian graduates of a school in the southeast United States over a five-year period they found that less than 30% of respondents stated that they served on media and technology advisory boards or committees which would be a key indicator of a technology leader since these boards are so vital to current educational practices. These findings would seem to show the importance of developing coursework and training for future school librarians and keeping school librarians as a vital and integral part of their schools and districts. Reigeluth (2003) acknowledged that faculty who prepare pre-service

school librarians to use and integrate digital technology are preparing the school librarian for best practices in their schools. Hew and Brush (2007) justified that if digital technology is to enhance the library activities, it must be aligned with the schools' curriculum, it cannot simply be added on or used as an afterthought.

### **School Librarians' Attitudes Toward Technology Integration**

Again, schools can help to instill attitudes and beliefs about the importance of technology integration in school librarians. It is a school librarian's perceptions of information technologies and their attitudes towards digital technology use that have direct effects on a school librarian's acceptance of technologies in duties discharge (Teo, 2009). It is of the belief that when school librarians are exposed to new information technologies, their attitudes and beliefs about the technologies can change for the positive. Research by Swain (2006) has shown a positive relationship between having stronger confidence or self-efficacy and how much school librarians use modern/digital technology in the school libraries. In a survey of school librarians by Pasternak (2007), it was found that school librarians wanted to learn how to incorporate technology into instructions during their programmes, partly because they did not feel that they would be comfortable in experimenting once on the job. Other responsibilities and time constraints as well as fear of using something unfamiliar might be a deterrent to experimentation once in a school by the school librarians.

Everhart and Dresang (2006), justified that giving school librarians a chance to experiment with digital technology use and help them to feel comfortable doing so might help school librarians feel much better about trying out new information technologies once in the school library. The rapid changes in technology will make this type of experimentation vital for school librarians to keep instruction relevant, the authors concluded. The more exposure to digital technology that school librarians have, the more that their beliefs about the value they place on it (Russell, Bebell, O'Dwyer, and O'Connor, 2003). Russell et al., submitted that it is not just about the technology integration itself, but also about the attitudes, beliefs, and comfort level of the school librarians in using technology in the school libraries. It becomes imperative for school to prepare librarians for what they will need to do with digital technology once in their first school. Preparing school librarians involves not just explicit teaching, but modeling of digital technology use by students and teachers as well. Smith (2015) concluded that, innovative programmes and follow up are needed to help school librarians become more confident and willing to share their skills in their schools to help facilitate change, and opportunities that come with technology integration in school libraries; that such programmes and follow up are likely to produce future school librarians with higher comfort levels and expertise in using student-centered educational technology skills that will be beneficial to students in their future schools.

### **Challenges to School Librarians**

The challenges of technology integration in Nigerian school libraries are enormous. Emmanuel and Alfred (2008) in their study on the challenges of managing information and communication technologies for education noted that while new technologies have added value to library services by presenting new modes of collecting, storing, retrieving and providing information, they have also brought new challenges and aggravated some of the challenges that had faced libraries before. The challenges relate to acquisition of ICTs, preservation of electronic information resources, maintenance and security issues, training of users, and general lack of awareness and commitment among library stakeholders.

Among challenges to school librarians in the integration of technology in school libraries according to Walmiki and Ramakrishnegowda (2009), could include lack of sufficient hardware, software facilities and inadequate internet nodes and bandwidth. Others may include

inadequate ICT skills training which could have arisen from both lack of ICT literacy and the fact that many schools failed to integrate ICTs into their curricula which can adversely affect the performance of library staff. Other barriers or constraints as enumerated by Ashcroft and Watts (2005) include shortage of technology literate staff in libraries, the lack of skilled human resources to install and manage computer networks, and poor funding to develop ICT skills in existing staff.

Constraints such as power outage/failure, the high cost of connectivity, lack of ICT skills, interconnectivity problem and obsolete equipment were found by Adeleke and Olorunsola (2010) to be the integration of technology devices into school libraries. Others include equipment failure, and regulatory restriction of communication technologies, expensive or unreliable technologies and low content; and that most of these challenges are to be overcome by both the school librarians who are the information providers before they can satisfy the information needs of their users on a daily basis.

Afolabi and Abidoye (2011) noted that the current downturn in the Nigerian economy has affected the educational sector and libraries are no exceptions. Lots of equipment and manpower are needed for successful automation of library services, and that libraries in Nigeria are under-funded. The Library Development Fund is no more a reality as libraries have to depend on the support which they can give from the limited resources and despite the fact that ICT is applicable to library services, high cost of ICT equipment could not make it to be widely utilised by most libraries.

In addition, most school libraries in Nigeria lack conducive environments for keeping and effective functioning of technology equipment. Besides, most of the equipment are poorly managed by most libraries. Also, the cost of maintaining technology related equipment could be very high. Further, many school library personnel staff could shy away from technology systems for the fear of damaging or deleting important information while keying-in. This slows down the automation processing.

### **Prospects to School Librarians**

Searching for, and utilisation of information is assuming a new approach in school libraries whereby users are increasingly becoming conscious of an individualised approach. In this regard, users of school libraries, want a personalised access to information without assistance from school librarians. This approach can easily be made possible and available through the integration of modern technologies in these school libraries. Integration of modern technologies in school libraries could offer faster retrieval of a greater range of requested information resources and services by the users of the school libraries. The implication of this is that the users have the opportunities to search with the use of a more dynamic and varied search tools. However, the possible prospects that could be achieved by the school librarians in the course of integrating modern technology in school libraries would include the following:

1. Provision of a better service at a lesser or no great a cost, and giving added benefit at lesser cost,
2. The provision of the online access (by users and staff) to a library catalogue,
3. The ability to access much more information through online search services,
4. Management of information such as the average cost to new books, number of books on loan to specific groups,
5. Saving present cost and curtails the cost of future expansion,
6. Accurate completion of tasks by the school librarians
7. Time saving in performance of specified tasks at any given intervals,
8. Increase control of library activities that are repetitive in nature,

9. Permitting the acquisition and use of literature on CD-ROM thereby saving the even increasing cost of acquisition to important publications for users (Pupils, school students, teachers, others),
10. Save shelving space for the school libraries as a significant proportion of serials and reference collection can be on CD-ROM,
11. Reducing the incidence of mutilation, defacing of school library materials by the users,
12. Improving the image and efficiency of the libraries and librarians both of which are important in securing the confidence and patronage of users.

### **Strategies for Responding to Technology Integration**

A good number of strategies for responding to technology integration by the school librarians will include the following:

1. An orientation workshops, conferences and seminars should be organized between traditional and ICT skillful librarians for sharing ideas and mutual understanding.
2. On power supply, libraries could make use of photo voltaic as an alternative means of generating power including powering computer systems.
3. There is a need for school libraries to have adequate infrastructures.
4. Another strategy for effective response towards integration of modern technology is that government should enforce compulsory ICT training at all levels of education not only in teaching and learning but also in educational administration and management.
5. Adequate provision of ICT resources in school libraries will lead to maximum utilization of the resources by the user (both students and teachers).
6. Adequate ICT resources could only be made possible through adequate funding of the library.
7. Apart from schools' grants, school libraries should find other means/alternative of sourcing funds for significant progress in deploying modern technology to effective use in school libraries.

If all these strategies will be implemented, adequate technology should be made available in the school libraries which will transcend maximum services delivery by the school librarians.

### **Conclusion**

This paper focused on responding to digital technology integration in school libraries: opportunities, challenges and prospects to school librarians in Nigeria. It dealt extensively with the important themes and variables related to this research such as technology integration and opportunities to school librarians, school librarians experience with technology integration and use, school librarians' use of digital technology in school libraries, school librarians' attitudes toward technology integration, challenges and prospects to school librarians. However, the emergence of modern technology and its application to school library operations have served to blend and expand information services, operations and dissemination of information. School libraries have no other option than to join the global information economy else they will be isolated, because the world is undergoing a global information revolution in which the school libraries cannot afford not to be actors. In conclusion, the importance of information lies in its value as a resource and in its strategic value in decision making and planning. School libraries' ability to respond to, and harness information which is their stock in trade from all facets will add value to decision making and information dissemination to users.

### **Recommendations**

1. School administrators should as a matter of urgency made internet facility available to the school libraries. This will enhance effective and efficiency service delivery.

2. There should be more training, awareness, exposure or workshops on the use of modern technology devices to improve and enrich their services rendered by the school librarians.
3. Government should provide uninterrupted power supply in school libraries owned by them.
4. Efforts should be made to increase the speed of the Internet access and shorten the time it takes to view and download web pages for the users of the school libraries especially students and their teachers.
5. The provision of ICT alone cannot help the increase of library patronage. School librarians also need to gather adequate ICT knowledge to handle technical procedures and to assist users to find information they want quickly and easily.
6. They should provide information to support all key operations such as acquisition, circulation control reference, serials and e-resources management in the library.
7. Moreover, the bandwidth allocated to the school libraries should be increased considerably.

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