

# 6

## ADOPTING WEB 2.0 TECHNOLOGY FOR EFFECTIVE SCHOOL LIBRARY SERVICE DELIVERY IN COVID 19 ERA: ISSUES, CHALLENGES AND STRATEGIES

Ify Evangel OBIM<sup>1</sup>; Ozioma ENEASATO<sup>2</sup> & Victor WAGWU<sup>3</sup>

Department of Library and Information Science, University of Nigeria, Nsukka<sup>1</sup>; Nnamdi Azikiwe Library, University of Nigeria, Nsukka<sup>2</sup>; Dame Patience Good-Luck Jonathan Automated Library, Ignatius Ajuru University of Education, Rumuolumeni, Port Harcourt<sup>3</sup>  
[ify.obim@unn.edu.ng](mailto:ify.obim@unn.edu.ng)<sup>1</sup>; [oziuma.ewulum@unn.edu.ng](mailto:oziuma.ewulum@unn.edu.ng)<sup>2</sup>; [victor.wagwu@iaue.edu.ng](mailto:victor.wagwu@iaue.edu.ng)

### Abstract

**Purpose:** The purpose of the paper was to advocate for the adoption of web 2.0 technology for effective school library service delivery in COVID 19 era with special focus and emphasis on the conceptual overviews, web 2.0 technology available for school library service delivery in COVID 19 era, challenges associated with the adoption of web 2.0 technology as well as strategies to enhance the adoption of web 2.0 technology for effective school library service delivery in COVID 19 era.

**Design/Methodology/Approach:** The study used a conceptual method in which the authors created a conceptual framework to understand the phrases "school libraries," "web 2.0 technologies," and "school librarians." Also covered in related literature was the birth of School Library 2.0: Using Web 2.0 technology to deliver effective school library services in the COVID-19 era. Peer-reviewed national and international journals, such as Library Review, International Journal of Information Technology and Library Science, and many others were looked for. Additional resources for the review came from the Researchgate website.

**Findings:** The paper among other things highlighted the potentials of web 2.0 technologies and how these features perfectly fit in by filling the gap that COVID-19 pandemic created between the school students and school library resources and services. The paper also innovatively discussed how to adopt and use these web 2.0 technologies such as Facebook, WhatsApp, Blog, Youtube, Edmodo, Google Classroom, Library Thing, Wiki, Google Form, Skype and Video Conferencing for effective school library service delivery in COVID 19 era. Finally, challenges as well as strategies to enhance adoption of web 2.0 technology for effective school library service delivery in COVID 19 era were discussed with much support from empirical literature around the world.

**Implication:** Suggested solutions to challenges associated with adopting Web 2.0 Technology for effective school library service delivery in COVID 19 era include school management formulating a policy mandating school librarians to adopt Web 2.0 Technology for school library service delivery, Provision of adequate telecommunication infrastructures in schools to attract the students to use Web 2.0 Technology among others.

**Originality/Value:** It was recommended that school librarians should follow the strategies discussed in this paper to successfully deliver effective school library service in a pandemic era.

**Keywords:** COVID 19; Web 2.0 Technology; School Libraries; School Librarian; School Librarian 2.0

**Paper type:** Conceptual

### Introduction

The place of school libraries in the overall education of both primary and secondary school children cannot be over emphasized. School libraries provide information resources and services to both teachers and students. In a

country like Nigeria, there is problem of economic downturn which has made most parents to hardly pay their children school fees to say a least of buying reading materials for them. School libraries serve as the only and best way of having access to quality books and other

reading and study resources for students. According to Shonhe (2019), school library is considered as the hub of information for both students and teachers. It plays an indispensable role in the ability of the students to achieve the maximum desired level of literacy. As such, school libraries should be adequately equipped for effective services delivery and to support teaching-learning process in schools.

School library is any library or educational information media centers attached to primary or secondary schools. It is that part of primary or secondary school where a collection of books, periodicals, magazines, newspapers, films and filmstrips, video-tapes, recordings of all types, slides, computers, study kits, educational games, and other information-bearing resources are housed for use by teachers and pupils or students for teaching-learning process, recreational activities, personal pleasure, and so on. According to Library Research Service (2014) a school library is “a dedicated facility located in and administered by the school that provides at least the following: an organized, circulating, collection of printed and/or audio-visual and/or computer based resources, or a combination thereof; paid staff; an established schedule during which services of the staff are available to students and faculty; instruction on using library materials to support classroom standards and improve student research and literacy skills.” Additionally, Shonhe (2019) stated that school library is a place where sustaining literacy, self-education and lifelong learning is inculcated and nurtured in children, pupils and students. Some functions of school libraries are: provision of reading and other study resources to both students and their teachers; providing conducive reading environment for reading and studying; initiate and promote programmes that will help the students to cultivate and nurture good reading habits, charge and discharge books for students to use at home; and so on.

Typical school libraries in most schools in Nigeria are housed in one room with book shelves, reading table and chairs and even the school

librarian’s desk. Thus, practicing most COVID 19 protocols and guidelines like social distancing will be difficult if not impossible, and consequently might either lead to restrictions in using school libraries resources and services among the children or exposing them to the risk of contracting COVID 19 from the school library. It is important for school children to have access to books and other resources in their school libraries during pandemics. However, there has been a lot of concerns about how to make school libraries and books available to children and young people whilst minimizing the risks of spreading Covid-19 (Chartered Institute of Library and Information Professionals and School Library Association, 2020). One way of reducing the risk of exposing school children to the risk of contracting COVID-19 and at the same time providing effective school library service delivery to many students who might have lost interest in reading as a result of prolonged lockdown necessitated by pandemics is the adoption of web 2.0 technology. Web 2.0 technologies are those technologies that enable web users to interact online by not only reading what is online but also add to the web contents, edit, post or even comment on about web contents and so on. According to Habib (2016) Web 2.0 offers new service models, methods, and technologies that can be adapted to improve library services. Driving access to information using web 2.0 tools is all about driving users to the web platform; making them aware of new tools which offer faster and reliable services in information seeking, and indeed, web 2.0 offers variety of technologies which aid in information acquisition such as: wikis, blogs, RSS (Really Simple Syndication), web personalization, photo sharing (Flickr), social networking software (facebook, whatsapp, twitter, etc.), open source software and many others. The most applicable web 2.0 technology for library services is the social networking tools-where librarians can interact with their users to study their needs and give a feedback. (Ezeaniand Eke, 2018). Thus, the applications of web 2.0 tools to school library services gave birth to school Library 2.0 which is the only saviour to effective and continuous school library service delivery in COVID-19 era so

as to save the school children from being exposed to the risk of contracting the virus.

School Library 2.0 is simply the adoption and application of interactive web 2.0 technologies such as social networking sites, blogs, wiki, etc. for effective school library service delivery. It is no news that technologies have revolutionized library service, also majority of students in secondary schools or their parents as well as elder siblings in Nigeria have smart phones which are most times used for playing video games, watching movies, listening to music, chatting on social media sites and so on. These smart phones can be put into more productive use educationally when the school librarian creates a social media account or page for the school library, where information resources and services are delivered to students. The school librarian can also use electronic information to serve the students, since he/she have technical skills and competences in information selection, acquisition as well as dissemination for effective service delivery. Any school librarian that applied web 2.0 technologies for school library service delivery is referred to as *School Librarian 2.0*.

School librarians in COVID-19 era have an indispensable and special role. Considering the restriction in physical contact, they can adopt and apply web 2.0 technologies to serve as pedagogical information experts. They can effectively deploy web 2.0 technologies to provide library resources and services to school students. Those without smart phones can use their parents' or elder siblings' smart phone to engage the school librarian for information on any subject of interest. The web presence of the school library using web 2.0 technologies like social networking sites, blogs, wiki, social learning platforms like Google classroom, Edmodo, etc. is capable of helping the school librarian to meet the information needs of school students from the comfort of their homes via necessary technological devices, skills among others.

From the foregoing, the paper seeks to discuss web 2.0 technologies, illustrate how web 2.0 technologies can be adopted for effective school

library service delivery in Nigeria, identify the possible challenges associated with the adoption of web 2.0 technologies for effective school library service delivery in Nigeria, and finally suggest some workable strategies to enhance the web 2.0 technologies for effective school library service delivery in Nigeria.

### **Web 2.0 Technology: An Overview**

O'Reilly Media coined Web 2.0 in 2004, as a generic term for second generation of Web-based services. Web 2.0 technologies are those technologies that enable web users to interact online by not only reading what is online but also add to the web contents, edit, post or even comment on about web contents and so on. Dagiend Kurilovas(2010) defined web 2.0 technology as Web 2.0 technologies which are referred here as the technologies that support information and knowledge sharing. It include Blog, Content rating & tagging, Online Discussion for a, ePortfolios, Facebook, Flickr, YouTube, Second Life, Skype, Instant messaging, Google, Doodle, iTunes/podcast/video repositories, Open content repositories, Social bookmarking, Specific editing tools &/or media libraries, Twitter, Web 2.0 game/3D environment, Wiki, Whatsapp, and so on.

Oberhelman as cited by Baro and Godfrey (2015) defined Web 2.0 technology as web tools that, rather than serve as a forum for authorities to impact information to a passive, receptive audience, actually invite site visitors to comment, collaborate, and edit information, creating a more distributed form of authority in which the boundaries between site creator and visitors are blurred. Wilson, Lin, Longstreet and Sarker (2011) affirm that Web 2.0 refers to the second generation of the Web, wherein interoperable, user-centered web applications and services promote social connectedness, media and information sharing, user-created content, and collaboration among individuals and organizations. The influence of Web 2.0 principles and technologies has fueled an explosion of information and media contents on the Web, and individual and corporate adoption of the

technologies continues to rise. Hossain and Quinn (2012) opine that, Web 2.0 is a set of social, economic, and technology trends that collectively form the basis for the next generation of Internet – a more mature, distinct medium characterized by user participation, openness, and network effect.

The most outstanding features of Web 2.0 technology are collaborative, interactive, user-centered, user-friendly, communicative, web-based, and multimedia, among others. O'Reilly (2005) identified the web as platform, harnessing collective intelligence, and rich user experiences as the basic features of Web 2.0 technology. Musser and O' Reilly as cited by Baro and Godfrey (2015) stated that Web 2.0 technology enables web users to do more than just retrieve information, Web 2.0 enables users to add value to the content they are accessing, It enables users to execute applications straight from their browser, the interfaces is simple and , user friendly. It is user-focused and invites participation, among others.

### **Web 2.0 Technology for Effective School Library Service Delivery in COVID 19 era: The Birth of School Library 2.0**

From our earlier discussion, it is clear that the adoption of Web 2.0 Technology for school library service delivery gave birth to School Library 2.0. Many Web 2.0 Technology and tools are used for effective school library service delivery; however, in this paper, we shall discuss the adoption and application of Facebook, WhatsApp, blog, Youtube, Edmodo, Google classroom, LibraryThing, Wiki, Google form, Skype, internet telephony and video conferencing.

➤ **Facebook:** The school librarian should create face book page for the library and invite the students to like or follow the page, which automatically enables the students to view any information posted on their Facebook page. Students can also send direct message (DM) to the school librarian for personal information need. Students without smart phones should use their parents' phones to like the school library Facebook page. The

school librarian can also use the page to market school library resources and services to students. Readership campaign can also be done through Facebook pages.

- **WhatsApp:** The school librarian should create a WhatsApp account for the school library and paste the Whatsapp number around the school using the notice board, Facebook page etc. The student can ask reference questions through Whatsapp. Also the school librarian should also create Whatsappgroup of all the classes in the school, where information related to each class will be discussed. Whatsapp voice call and video call are less expensive .Electronic resources like e-books, e-literature materials, e-dictionary, etc. can also be sent to the students via Whatsapp.
- **Blog:** The school librarian can use the blog to communicate with the students also by posting information on the blog for students to view and comment, ask questions, etc. Through the school library blog, school time table could be posted, and information literacy programmes can also be delivered to the students. All the school librarian needs to do is to post the links to the blogonline for the students to click.
- **Youtube:** With YouTube, the school librarian can post educational videos for students to learn. The school librarian can also ask subject teachers to make videos about their subjects and post it online through YouTube for the students to view; this will greatly enhance the academic performance of students and increase their interest in reading and study.
- **Edmodo:** Edmodo is a social online learning application launched on the 1<sup>st</sup> of September, 2008 by Nic Borg, Jeff O'Hara, CrystalHutter. School librarians should sign up and create account withEdmodo, and also download the application from Google playstore. The school librarian should also instruct the students to also download the Edmodo app from Google play store and register. The school librarian should then invite the students through their mail addresses or sending the link online for

the students to click. Parents can also be invited to participate and monitor the progress and level of participation of their children. Text, videos, audios, cartoons etc. can be posted on Edmodo platform for students.

- **LibraryThing:** Librarything is a social cataloguing application which the school librarian can use to create a sort of Online Public Access Catalogue (OPAC) for the school. It is free, user friendly and simple to operate. The school librarian should just share the Librarything URL for the students to click and view the catalogue of the school library with ease via necessary devices. Librarything also allows for group discussion among the users. Free electronic resources can also be easily accessed through the account.
- **Google form:** The school librarian can use Google form for reference and information services. The librarian should create a Google form, where the user will input their details like class, email, and the query, then submit the form. The school librarian on the other end will view the form and send the answer(s) to the query to the email provided.
- **Internet telephony:** Internet telephony is the use of internet connectivity to make or receive voice call instead of using airtimewhich consumes data. Making calls with data is less expensive, thus considering the economic situation in the country, the school librarian can use data call to even provide services to the students via required devices.
- **Google Classroom:** The school librarian can create Google classroom and use the online platform to disseminate school library resources to the students. The school librarian should sign up with Google classroom to create an account, after which he can invite the students to join the class. This platform can be used for passing information as well as marketing the school library resources and services.

- **Telegram:** With telegram account, the school librarian can send instant messages to the students, engage in video-telephony as well as voice over internet protocol (IP) with the students. The school librarian can create telegram group for various classes where information specific to the class will be posted. Most importantly, reference and information services could be provided through telegram. Video-telephony using data or even voice over internet protocol (IP) is cheaper than normal call with airtime.
- **Zoom:** Zoom is another web 2.0 technology that is being used for school library services like story hour with children, information literacy classes, questions and answers sessions etc. Parents should be informed so as to provide their children with the technological facilities needed to connect on zoom with the school librarian. Currently the Children Center Library, (CCL) University of Nigeria, Nsukka is using Zoom every Saturday for online story hours with children.

#### **Challenges Associated with Adopting Web 2.0 Technology for Effective School Library Service Delivery in COVID 19 Era**

Many challenges are associated with adopting Web 2.0 Technology for effective school library service delivery in COVID 19 era, the major is lack of fund for the school to acquire the needed technological facilities, subscribe for data for connectivity, employ more qualified librarian, and so on. Other challenges are erratic power supply, technophobia, insufficient ICT skills, lack of Web 2.0 Technology policy in schools, lack of mobile devices, low internet bandwidth, inadequate personnel and so on. Baro and Godfrey (2015) stated that, Librarians lack of skills to use Web 2.0 tools, lack of time to use web 2.0 tools, lack of technological facilities, irregular power supply, some librarians' non-challant attitude towards emerging technologies, lack of policy on emerging technologies, etc. are the challenges associated with adopting Web 2.0 Technology for effective library service delivery. Also, Okonedo, Chimeziri, Azubuike and Adeyoyin (2013) identified not being

familiar with Web 2.0, restricted opportunity for use, low skills, lack of needed facilities and lack of interest as challenges associated with adopting Web 2.0 Technology for effective library service delivery. According to Makori (2012) the major problem facing libraries in developing and implementing Web 2.0 tools is lack of enough resources including human personnel and capital. Similarly, Baro, Ebiagbe and Godfrey (2013) in a comparative study of the use of Web 2.0 tools by librarians in Nigeria and South Africa mentioned challenges such as power failure, lack of facilities, and lack of skills by librarians in Nigeria. Dike and Umunnakure (2010) stated that lack of sponsorship by institutions is the major hindrance to attending seminars or workshops. According to Kwanya, Stillwel, and Underwood (2012), inadequate ICT infrastructure; unstable bandwidth; lack of technical skills among the librarians and library users to make the best use of the tools; conservative and natural lag in adopting new technologies; ignorance or lack of appreciation of the potential of Web 2.0 tools especially amongst the older users; lack of supportive policies, strategies and plans; perceived low credibility of Web 2.0 content; and inadequate financial resources are the major challenges associated with the use of Web 2.0 technology for library service delivery. Makori (2012) stated that integration of Web 2.0 systems into mainstream library services is hampered by a number of problems including inadequate financial resources, poor information infrastructure, and lack of support and funding. Khan and Bhatti (2012) revealed that in Pakistan, electricity failure is the greatest problem in using social media for marketing library services. Other problems identified include: lack of time, privacy and identity theft, too many social media tools to learn, lack of knowledge, slow speed of Internet, inadequate funds, and inadequate training opportunities.

#### **Strategies to Enhance the Use of Web 2.0 Technology for Effective School Library Service Delivery in COVID 19 Era**

For effective adoption of Web 2.0 Technology for effective school library service delivery in COVID

19 era, adequate funding should be provided by the government for acquiring material and human resources needed. Though most Web 2.0 Technologies are free and accessible, certain mobile devices are required for proper adoption as well as implementation for effective school library service delivery. Internet connectivity should be made available, steady power supply is indispensable, good maintenance culture is imperative. The school management should formulate a policy mandating school librarians to adopt Web 2.0 Technology for school library service delivery. Sourcing for alternative fund from parents, politicians and firms etc. Involving the parents in the process so that they will provide data for their children, and even provide smart phones for their children to use is also a good strategy. Parents can also give their personal phones to their children to use where there is no money to acquire new ones for them. Adequate training and re-training of school librarians is imperative as most students are digital savvy and native who most times understands technologies than digital immigrants.

Provision of adequate telecommunication infrastructures in schools to attract the students to use Web 2.0 Technology are also required, however password should be created for security purpose. Chisenga (2012) suggested that Librarians in Africa should acquire skills that would enable them make use of social media in their work. Baro, Eze, and Nkanu (2013) recommended that such workshops be organized at least twice a year to equip the librarians with skills to overcome challenges of lack of skills to use new technologies. Baro and Godfrey (2015) suggested training and re-training of librarians, libraries should develop the requisite standards, policies and plan concerning adoption and use of emerging technologies, libraries should ensure availability of regular power by investing in generators, solar and other alternative power sources, libraries should invest in uninterrupted Internet access, and libraries should select which Web 2.0 tools to adopt. Ibrahim (2015) in a study stated that, careful planning as well as implementation is highly required. Also, the

ability of librarians, especially in the area of web 2.0 should be enhanced otherwise, they may not be able to cope with the challenges of web revolution. Libraries should embark on improving library users' awareness skills in the use of internet. The open and instantaneous nature of Web2.0 services means that communication can be particularly informal, hence libraries should be prepared for informality, less formality may help to engage potential users and even update the image of librarians' services. Libraries would have to be responsive. These strategies can enhance the use of Web 2.0 Technology for effective school library service delivery.

### Conclusion

Since COVID-19 has put physical restrictions to numbers of students visiting the school libraries as manifested in the directive to practice social distancing as well as other COVID-19 guidelines. It becomes imperative to source for other possible ways to provide effective school library service to students who need these services now than ever because most of the students have stayed for months at home without any access to adequate reading materials at home, due to the COVID 19 lockdown and inadequate reading resources in most Nigerian homes. The potentials that Web 2.0 Technologies offer are highly adequate in meeting the information needs of students in the period of pandemics as well as motivate students to use the school library resources and services. Using the strategies provided by the paper, the school librarian can easily adopt Web 2.0 Technology for effective school library service delivery in this COVID 19 era, and at the same time reduce the risk of exposing the students to the deadly virus.

### References

Baro, E. E., Eze, M. and Nkanu, W. (2013). E-library services: challenges and training needs of librarians in Nigeria, *OCLC*, 29 (2):101-116.

Baro, E. E. & Godfrey, V. Z. (2015). Web 2.0, Library 2.0, Librarian 2.0, And The Challenges For Librarians In Africa: A Review Of Current Literature. *International Journal of Information Technology and Library Science*, 4(1): 1-16.

Chisenga, J. (2012). Social media skills and social media strategies important for libraries in Africa. *Paper presented at the twentieth standing conference of Eastern, central and South African library and information associations (SCECSAL)* in Nairobi, Kenya, 4th- 8th June, 2010.

CILIP (Chartered Institute of Library and Information Professionals) and the SLA (School Library Association) (2020) School Libraries – how to make them safe to use. Retrieved from <https://www.cilip.org.uk/news/506793/COVID-19-Guidance-for-School-Libraries.htm>

Dike, C. A. and Ummakure, G.C. (2010). The Role of Academic seminars, conferences and workshops in the professional development of librarians. *The information Technologist*, 7(1):221-228.

Ezeani, C N and Eke, H N (2010) Transformation of Web 2.0 into Lib 2.0 for Driving Access to Knowledge by Academic Libraries in Nigeria. *Being Paper presented at the National Conference and AGM, Held on 18th -23rd July at the Africa Hall of the International Conference Centre, Abuja*

Habib, M. C. (2016). Toward Academic Library 2.0: Development and Application of a Library 2.0 Methodology. *A Master's paper submitted to the faculty of the School of Information and Library Science of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Master of Science in Library Science.*

Hossain, M. M. & Quinn, R. J. (2012). Interactive Features of Web 2.0 Technologies and their Potential Impact in Teaching-Learning Mathematics. Conference paper retrieved from <https://www.researchgate.net/publication/256455281>

Ibrahim, U. (2015). Integration of social media and web 3.0 tools in library operations and services. *A Paper delivered During the National Workshop on Integration of Social Media and Web3.0 Tools in Library Operations Organized by the Librarian Registration Council of Nigeria (LRCN), held on the 19th - 24th April, 2015 at the ICT Center, Kaduna State University, Kaduna.*

Khan, S. A. and Bhatti, R. (2012). Application of social media in marketing of library and information services: A case study from Pakistan. *Webology*, 9 (1): 93-112. Retrieved from

*Adopting Web 2.0 Technology for Effective School Library Service Delivery in Covid 19 Era: Issues, Challenges and Strategies*

<http://www.webology.org/2012/v9n1/a93.html>  
(Accessed 2 September, 2020).

Library Research Service. (2014). What is a school library? Retrieved from lrs.org: <https://www.lrs.org/2014/01/06/school-library/>

Makori, E. O. (2012). Bridging the information gap with the patrons in university libraries in Africa: the case for investments in web 2.0 systems. *Library Review*, 61, (1): 30-40.

Musser, J. and O'Reilly, T. (2007). *Web 2.0 principles and best practices*. Sebastopol: O'ReillyMedia.

O'Reilly, T. (2005). What is Web 2.0: Design patterns and business models for the next generation of software. Retrieved from [www.oreillynet.com/pub/a/oreilly/tim/new/2005/09/30/what-is-web-20.html](http://www.oreillynet.com/pub/a/oreilly/tim/new/2005/09/30/what-is-web-20.html)

Okonedo, S., Azubuike, F. C. & Adeyoyin, S. O. (2013) A Survey of the Awareness and Use of Web 2.0 Technologies by Library and Information Professionals in Selected Libraries in South West Nigeria. *International Journal of Library Science*, 2(4): 61-68.

Shonhe, Liah, "A Consolidation of Challenges Faced by School Libraries in Developing Countries" (2019). *Library Philosophy and Practice (e-journal)*. 2467. Retrieved from <https://digitalcommons.unl.edu/libphilprac/2467>

Wilson, David W.; Lin, Xiaolin; Longstreet, Phil; and Sarker, Saonee, "Web 2.0: A Definition, Literature Review, and Directions for Future Research" (2011). *AMCIS 2011 Proceedings All Submissions*. Paper 368. [http://aisel.aisnet.org/amcis2011\\_submissions/368](http://aisel.aisnet.org/amcis2011_submissions/368)