

## UTILIZATION OF SOCIAL MEDIA TOOLS BY LIBRARIANS FOR E-LEARNING DURING LOCKDOWN PERIOD

**CHIVUZO, CYPRAINMARY CHUKWUDEBELU**  
Department of Library and Information Science  
Federal College of Education (Technical), Umunze, Anambra state  
[ccyprainc@gmail.com](mailto:ccyprainc@gmail.com)

**EJEABUKWA, MARY CHIMEZIE**  
Federal College of Education (Technical), Umunze, Anambra state  
[lily.delight@yahoo.com](mailto:lily.delight@yahoo.com)

**UDENSI, FRIDAY IHEKA**  
Department of Library and Information Science  
Federal Polytechnic Nekede Owerri, Imo State  
[unclefriday1@gmail.com](mailto:unclefriday1@gmail.com)

### ABSTRACT

*With the report of the outbreak of Corona Virus in December in 2019, various countries have placed lockdown on major sectors of the economy, the educational sector inclusive. This lockdown was seen as part governments' effort in battling the pandemic and curtail the spread of Covid-19. However, this has affected learning and academic activities of schools and as well exposed the deficiencies of most educational institutions in providing online educational services and e-learning plans to their students. Fortunately, this lockdown has placed an opportunity for librarians who are academic staff in tertiary institutions to implement the use of social media tools such as Facebook, Whatsapp, Twitter, Instagram, YouTube, Pinterest, Podcasts, Flickr and blogs, Instant Messaging (IM), Rich Site Summary (RSS), Library thing, Ning, Zoom, GoogleMeet etc. for e-learning. Therefore, this paper discusses social media tools for e-learning; e-resources that can be utilized for e-learning during lockdown period; utilization of social media tools by librarians for e-learning during lockdown period; challenges of librarians in utilizing social media for e-learning during lockdown period; and prospect for effective utilization of social media for e-learning by librarians during lockdown period. The paper concluded that social media tools in this lockdown period have served as a reliable platform for e-learning and information sharing. Recommendations were that the librarian needs to be provided with further training on awareness, knowledge, and interaction with social media tools and e-learning resources as tools for teaching and learning*

**Keywords:** Utilization, Librarian, Social media tools, e-learning, Lockdown period

### Introduction

Since its origin as an epidemic in China in December 2019 (Zhu, Zhang, Wang, Li, Yang, and Song (2020), Covid 19 has affected many economies, business and activities. The whole world is fighting to alleviate themselves from the health effects of this unique and dangerous virus, COVID -19. It has spread across china, Italy, Spain, Iran and other countries. As part of the government effort in battling the pandemic and its spreading, social distancing, self-quarantine, isolation, and lockdown have become major and acceptable approaches to curtail spread of Covid-19 Pandemic (Agim, 2021). The governments of most countries have ordered total lockdown in all major sectors of their economy such as aviation, trading, religious organization, and most especially, the educational sector – its schools. This lockdown has prompted

everyone mostly students to stay at their homes due to the danger of this virus on human life. This situation has activated the call for online education and electronic learning (e-learning)

E-learning is seen as a digital method of learning rather than face to face contacts. E-learning has the ability to offer and share materials in all kinds of formats as e-mails, slideshows, videos, PDFs, and word documents (Raheem & Khan, 2020). It is also enabled when conducting webinars (live online class), communication with teachers via message and chat forum. Education through e-learning can be considered an abridged learning process which is an alternative to classroom or physical contact. With a view of this lockdown, e-learning is being provided through connected networks such as social media

The term 'social media' as used synonymously with terms such as social networks, and web-based tools are interactive product in a virtual environment which has emerged due to enormous development of Web 2.0 technology. It has become an integral part of everyday life of average internet users (Voss and Kumar, 2013), regardless of what devices they use to access the internet. Examples of social media tools include the Facebook, MySpace, Twitter, Youtube, Blogs, Wikis, LinkedIn, WhatsApp, Flickr, Orkut among others. In a bid to maintain the lockdown and curtail the spread of the covid 19 virus, these social media tools are currently applied in education and learning to quicken information access by her wide range of users. According to Hamade (2013) the popularity and usage of these social media, especially among students and young populations, has rapidly increased over the past few years. This has given room for its utilization for various e-learning activities.

The utilization of social media tools for e-learning in this lockdown period has provided various information professionals and educationist with an edge to use social media tools for delivering learning instructions and resources to students and other library users. In this view, many educationists in different countries have started using social media tools for e-learning activities on the students in this lockdown period (Agim, Obiekwe & Eneh, 2020). Similarly, other information professionals in tertiary institutions have during this lockdown period conducted e-learning (webinar lectures) through the aid of social media tools such as Facebook, Twitter and the rest. It is expected of librarians who serve as academic staff in tertiary institutions and its libraries to follow suit in delivery webinars and e-learning activities through the social media tools. In this view, this paper will dwell on the utilization of social media tools for e-learning during a lockdown situation by librarians

### **Social Media**

Social media is an umbrella term applied to a group of online and electronic tools that include blogs, social networking sites, and video-sharing sites. social media is a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user generated content" (Kaplan and Haenlein, 2010). Kaplan and Haenlein also stated that social media include "...collaborative projects, blogs, content communities, social networking sites (SNS), virtual game worlds, and virtual social worlds". Social media network sites are online platforms through which individuals, groups and organizations create presence and share information through texts, photos, music videos etc (Ladan, Haruna & Madu, 2020). Mostafa (2015) defines social media as "...the usage of Web-based tools that link people and enable them to share information, videos, pictures, and so on". Social media are networked information services, designed to support in depth social interaction, community formation, collaborative opportunities and collaborative work (Bruns & Bahnisch cited in Chhiato, 2018). Swaminathan, Harish & Cherian (2013) divided social media into blogs, networking sites (e.g. Facebook, LinkedIn and Twitter) and community websites (e.g. Wikipedia and YouTube). Lim, Agostinho, Harper and Chicharo (2014) also grouped them further "...into seven categories: text-based, media sharing, social networking, mobile-based applications, virtual world and games, synchronous communications and conferencing applications and mash-ups".

### **E-learning**

E-learning which has been used synonymously with online learning, open learning, web-based learning, computer-mediated learning, internet-based learning, blended learning, m-learning is seen as an innovative ways of learning that works with connected networks. E-Learning can be defined as the use of computer and internet technologies to deliver a broad array of solution to enable learning and improve performance (Ghirardini, 2011). E-learning is seen as the delivery of learning instructions through the use of computer devices or social networks. E-learning is defined as “learning experiences in synchronous or asynchronous environments using different devices (e.g., mobile phones, laptops, etc.) with internet access. In these environments, students can be anywhere (independent) to learn and interact with instructors and other students” (Singh & Thurman, 2019).

E-learning is a system of computer based learning; web- based learning, virtual education opportunities and digital collaboration to facilitate learning instructions (Raheem & Khan, 2020). Raheem and Khan also defined e-learning as a self-paced or instructor-led that include image, media in the form of text, animation, and streaming video and audio. E-learning facilitates the sharing of learning materials in all kinds of formats as e-mails, slideshows, videos, PDFs, and word documents through connected systems. E-learning is the transfer of learning content which are provided via internet, audio or video tape, CDROM, and satellite TV. E-learning is defined as the ability to use a computer connected to a network that offers the possibility to learn from anywhere, anytime, in any rhythm, with any means (Cojocariu, Lazar, Nedeff & Lazar, 2014). E-learning can be termed as a tool that can make the teaching-learning process more student-centered, more innovative, and even more flexible.

### **Social media tools for e-learning**

Social media tools such as Facebook, Whatsapp, Twitter, Instagram, YouTube, Pinterest, Podcasts, Flickr and blogs, Instant Messaging (IM), Rich Site Summary (RSS), Zoom, GoogleMeet, Library thing, Ning, etc. as a web-based channel of information dissemination and learning is rapidly permeating all aspects of education. These social media tools are rapidly becoming the most preferred means of establishing educational, social/professional networks among librarians, while it is also being used to progress e-learning and communicate with students and other remote users particularly in the academic community. In the educational sector, particularly in universities, and colleges, social media tools have serves as the platform for e-learning. This is mostly suited for individuals to interact, disseminate, and share information among themselves (Sahu, 2013). Librarians and other academic staff in tertiary institution are now realizing the potentials of social media such as Facebook, Twitter, YouTube, LinkedIn, Skype, and Google+, and are making efforts to integrate them into an e-learning tool.

Social media tools mostly MySpace, Facebook, Twitter, LinkedIn, Delicious, Flickr, Blogs, Wikis, Youtube, Podcasts, Academia.edu and Hi5 has enabled librarians and other academic staff in tertiary institutions to provide e-learning to their students. The availability of these social media tools has allowed librarians to adopt a new role by placing themselves into a social realm with users (Ezeani & Igwesi, 2012). A study by Atuloma and Onuoha (2011) revealed that Facebook is the most commonly available site used by academics. Blogs and wikis are ideal sources for e-learning and to disseminate news and information. Blogs in academic libraries for instance are tools to reach out to students. Coyle and Vaughn (2008) in their survey found out that blogs were overwhelmingly used. Twitter is a real-time communication platform. It allows users to create an account, post and receive messages to a network of contacts, as opposed to send bulk email messages (Musibau, Enyinnaya, Edward, Wantrudis & Nojeem, 2011). There are libraries which use Twitter to connect themselves with important information sources (Milstein, 2009). These social media tools help establish a cordial e-learning relationship with learners while attracting them to acquiring relevant social media skills.

Social media tools has increased the e-learning activities as librarians and other academic staff in tertiary institutions use most especially Facebook and Twitter to connect, communicate as well as collaborate with students in an innovative way. Ezeani and Igwesi (2012) add that social media tools sites are two way transparent communications that encourage a feedback mechanism; connecting people with shared interest. Social media tools are not only being available for promoting e-learning programs but they are also used for

enhancing learning skills among students. To enhance e-learning form academic staff in tertiary institutions available platforms such as meebo and twitter has been developed for students to use and to ask questions in “real time and this is assisting in promoting learning.

Due to the outbreak of Covid 19 and the imposition of lockdown, tertiary institutions have started considering the relevance of social media in educational service delivery. This they can achieve by providing necessary support that will improve the usage of social media tools for e-learning. This can enhance a quick and fast online communication which afforded librarians and other academic staff in tertiary institutions to be in tandem with their students in this lockdown period. From the various studies conducted in both the developed and developing nations of the world, it is apparent that social media are being used as platform of information delivery (Harinarayana & Kaju, cited in Otulugbu, 2019). Therefore, the availability of social media tools in tertiary institutions act as e-learning resource while supporting collaboration between students and teaching staff.

### **E-resources that can be utilized for e-learning during lockdown period**

In view of the current lockdown situation, there have been various responses from world health organizations and other institutions to build an online resource that will facilitate e-learning and education. With the closure of schools and educational centers, learning had been suspended in some countries. This had prompted initial response by the World Bank’s Edtech team for education systems (“coping phase”) to school closings due to the COVID-19 pandemic. There had also been large-scale, national efforts to utilize technology in support of remote learning, distance education and online learning during the COVID-19 pandemic are emerging and evolving quickly. In this view, various attempts were made to curate useful resources and publish related documents collected and prepared by the World Bank’s edtech team in support of national dialogues with policymakers around the world. This was provided to allow other librarians and other institutions to use and redistribute the e-resources either through connected systems or social media tools to enable accessibility of learning materials for education

The e-resources provided for e-learning by the World Bank’s (2020) Edtech team for education systems are:

- EdTech Knowledge Pack on Remote Learning response to COVID-19 – these are knowledge packs resources developed by the World Bank’s EdTech team to serve as short, practical guides on individual topics within education technology. This Knowledge Pack focuses on remote learning in response to COVID-19 with a focus on K-12 (primary and secondary education) in low resource environments.
- Education TV Knowledge Pack
- Guidance Note: Remote Learning & COVID-19 – this is a short 3-page guidance note offers principles to maximize countries’ effectiveness in designing and executing remote learning.
- Rapid response reference note: Remote Learning and COVID-19 – this is a 12-page rapid response reference note prepared to help brief policymakers on some general rules of thumb of potential relevance when very quickly exploring and rolling out the use of remote learning, distance education and online learning at scale.
- Remote Learning, Distance Education and Online Learning During the COVID-19 Pandemic: A Resource List - This is a selection of resources and platforms that has been curated to facilitate the rapid identification of helpful technological solutions that could be used to support remote learning. The resource list is regularly curated and organized by the World Bank’s Edtech team.
- Rapid Response Guidance Note: Educational Television & COVID-19 – this is a resource that includes the five things to do, and five things to consider when rolling out educational TV programmes while schools are closed as a result of COVID-19 lockdown period.

In support of the foregoing e-resources that support e-learning for students and other learners, many partner organizations are rapidly trying to curate and make available related information, as well as share guidance and documentation that they themselves are generating, including the EdTech Hub, UNESCO, mEducation Alliance, Learning Keeps Going (U.S. consortium), INEE (Inter-Agency

Network for Education in Emergencies), Commonwealth of Learning, and many others (World Bank, 2020). These edtech & covid-19 resources from partner institutions are created to facilitate e-learning so as to cover the gap in learning.

### **Utilization of social media tools by librarians for e-learning during lockdown period**

With the current issues surrounding the deadly and infectious disease, Corona Virus also known as Covid-19, the lockdown restriction placed has deeply affected many parts of the world (Agim, 2021). Schools and colleges that are supposed to be providing regular learning classes for its students population have been forced to shut down temporarily. There is a fear that the whole ongoing semester or even more in the coming future will be lost. Various schools, colleges, and universities have discontinued in-person teaching (Shivangi, 2020). It is uncertain to get back to normal teaching anytime soon. As social distancing is preminent at this stage, this will have negative effects on learning opportunities. Information professional and educational units are struggling to find options to deal with this challenging situation. These circumstances make one realize that strategic planning is an urgent need for academic institutions (Rieley, 2020). This has provided a challenge for librarians most especially who are in the educational setting to utilize social media tools to process e-learning activities on their students, faculty, academic staff, communities, societies, and the nation as a whole.

As a result of the development of social media tools and applications for e-learning, librarians are supposed to apply Facebook and other social networks in providing e-learning activities that will aid new learning pedagogy for effective engagement and learning without physical contact. Librarians can use e-learning methods to reach learners in rural and remote areas. Utilization of Twitter or Facebook to teach a group of people is considered to be a relatively cheaper mode of education in terms of the lower cost of transportation, accommodation, and the overall cost of institution-based learning. Since rapid developments in technology have made distance education easy (McBrien, Cheng & Jones, 2009), librarians' can use these social media tools for e-learning which provides easy accessibility where a learner can schedule or plan their time for completion of courses available online. The librarians' adoption of these e-learning methodologies gives rise to blended learning and flipped classrooms; and this type of learning environment can increase the learning potential of the students. This will provide the students an opportunity to learn at their own pace, anytime and anywhere, thereby developing new skills in the process leading to life-long learning.

With most countries directing all its tertiary institutions to start online classes due to the COVID-19 lockdown (Tahir, 2020), librarians has recognizes the increasing importance of e-learning in this dynamic world. Social media application has enabled librarians to adopt a new system of instructional delivery (e-learning) as a panacea in the time of crisis. In a similar report by Tahir (2020), most universities have implemented virtual/online classes for students by using various free software like Zoom, Google Meet and Facebook Live. During the COVID-19 lockdown in Pakistan, the Institute of Pharmaceutical Science (IPS), University of Veterinary and Animal Science adopted the use of Google Meet and Facebook Live sessions which were conducted by creating private groups for the students from the same semester. It is observed that Facebook Live appears to be a very user- friendly and a convenient online learning method for the teachers and students because it does not require any special skills or settings. Discussion sessions conducted at the Facebook Live assisted in clarifying students' concepts and any additional queries regarding the lecture. Librarians in this institution also adopted and applied these social media tools for e-learning for the students

Relatedly in this lockdown period, librarians can utilized social media tools for e-learning by organizing e-learning lecture series. This was experienced in Nigeria at the just concluded maiden webinar series of the Nigerian Library Association held from 18<sup>th</sup> to 19<sup>th</sup> August, 2020 titled 'emerging roles of librarians during and post COVID-19 era'. It had librarians and students participating and sharing ideas on how librarians can engage their students and clients through the use of Zoom/ GoogleMeet, and Group Discussion using Facebook Live (NLA, 2020). Zoom/ GoogleMeet application in the e-learning series have recorded lectures which were shared at a WhatsApp group to aid revision. Therefore, if librarians shared recorded video at WhatsApp group & additional explanation and as well issue online assignments and presentation /exams, it will enhance the student's e-learning skills and make room for an effective interaction with the librarians during this lockdown period which abhors face-to-face teaching session.

It is worthy of note that the use of social media and social networking applications such as Zoom, GoogleMeet, Group discussion using Facebook Live, Twitter, Whatsapp, Instagram among others can serve as a useful communication and teaching tool for librarians in developing countries (Obiekwe & Agim, 2021). If the situation persists and lockdown is extending, using social media tools for e-learning activities will be a better option. Librarians' utilization of the social media tools and e-learning applications will sure improve the students to get online skills that will enhance their virtual learning methods and on other end librarians can do comprehensive assessments as well using such platforms

### **Challenges of librarians in utilizing social media for e-learning during lockdown period**

Notwithstanding the huge advantages of social media tools towards e-learning activities, there have been a number of issues that have affected their application and usage for e-learning mostly during this lockdown period. Most librarians lack proper awareness in the use of social media tools for e-learning activities. They are not well knowledgeable about its advantages hence their poor application. Also, there is a low bandwidth which is peculiar to developing countries when using these social media tools for e-learning. Limited Internet services and poor internet connectivity problem, especially for students in remote areas, appear to be the main factor hindering librarians' use of social media tools for e-learning/virtual lectures. Most of the public universities lack a proper virtual education system and there is non-availability of recorded virtual lectures in most universities. There is a lack of proper virtual education set-up with trained librarians and it has proved to be very challenging for students to access recorded/live lectures via e-learning platforms. Most librarians lack the skills in the use of computers facilities and social media tools and this has posed a challenge for the librarian to adopt e-learning methods.

Furthermore, there are difficulties and problems associated with modern technology which ranges from downloading errors, issues with installation of e-learning software, login problems, problems with audio and video connection, and so on. Another major challenge for the librarian in the use of social media tools for e-learning activities is that sometimes student finds e-learning/online teaching to be boring and un-engaging. This is because e-learning activities have so much of time and flexibility that students never find time to do it. Physical contact is always sought for by students who want two-way interaction which is difficult to implement due to this lockdown period and this is a huge issue facing librarians in using social media tools for e-learning.

Another major issue with the use of social media tools for e-learning is that online content is all theoretical and does not let students practice and learn effectively. Mediocre course content is also a major issue. Students feel that lack of community, technical problems, and difficulties in understanding instructional goals are the major barriers for online learning (Song, Singleton, Hill & Koh, 2004) and the librarian will find it hard to use social media tools on the students. These issues are part of the reasons why there is a low-level preparedness among the students concerning the usage of Learning Management Systems (Parkes, Stein & Reading, 2014) and other e-learning lecture programmes

### **Prospect for effective utilization of social media for e-learning by librarians during lockdown period**

As part of efforts to enhance the utilization of social media tools for e-learning by librarians, there is the need to sponsor librarians for new training on social media tools and e-learning processes. This will increase their skills in the use of social media tools for e-learning. There is need to fix the technical difficulties through prerecording video lectures, testing the content, and always keeping Plan B ready so that the teaching-learning process cannot be hampered (Yekini, Adigun, Ojo & Akinwale, 2020). Online courses should be made dynamic, interesting, and interactive so as to motivate and bring out the interest of the students in complying with this novel innovative approach to learn in this lockdown period. Librarians should make the e-learning process to be well structured so that students can easily adapt to this learning environment. Facebook, Whatsapp and Twitter should be well applied in support with various group forums such as zoom, webinar to communicate with students.

Students should be well trained on the use of social media tools for e-learning activities so as to enable students practice and also hone their skills. The quality of the e-learning courses should be improved continuously and librarian must try to give their best in ensuring that the contents are easy to apprehend.

Online programs should be designed in such a way that they are creative, interactive, relevant, student-centered, and group-based (Partlow & Gibbs, 2003). Librarians must spend a lot of time in making effective strategies for giving online instructions. The e-learning instructions should be very effective to facilitate feedback from learners to ask questions, and broaden the learner horizon for the course content. Also, the issue of network should be enhanced and improved so that logging process and connection will not hinder the librarian from reaching the target audience who may find it difficult to connect

### **Conclusion**

Social media tools have been so helpful in the dissemination of information and e-learning activities. Social media tools have served as a reliable platform for e-learning and information sharing. With the pronouncement by the government directing schools to switch to e-learning due to COVID-19 pandemic, the inadequacies towards adoption of e-learning in schools has been exposed. Some librarians and their learners are vulnerable due to obstacles that militates against adoption and effective use of social media tools that revolves round non-availability of e-learning resources like e-content, e-library, dedicated e-learning portal, avoidable Bandwidth, and steady power supply. In this regard, librarians are expected to sit up and maximize the benefits of these social media tools for e-learning activities. Librarians cannot be passive in the application of social media tools for e-learning unless they have no intention to fulfil their missions and objectives. Therefore, the utilization social media platform such as Facebook, Whatsapp, Twitter, Instagram, YouTube, Pinterest, Podcasts, Flickr and blogs, Instant Messaging (IM), Rich Site Summary (RSS), Zoom, GoogleMeet, among others can serve as a useful communication and teaching tool for librarians to serve their learners and clients more timely and remotely with reduced stress during this lockdown period. As a result of this, motivation needs to be provided for the librarians to enable the utilized these social media tools for e-learning in this lockdown period

### **Recommendations**

Due to the lockdown period imposed in the educational sector, the following recommendations are provided in a bid to ensure the librarians' utilization of social media tools for e-learning:

- i. There should be proper motivation of librarians by their institution to enable them effectively utilize these social media tools for e-learning lectures
- ii. The librarian and their students or clients needs to be provided with further training on awareness, knowledge, and interaction with social media tools and e-learning resources as tools for teaching and learning
- iii. Libraries need to be skilled in the use of various social media e-learning platforms such as Zoom, GoogleMeet, Library thing, Ning, etc.
- iv. Resources like power supply, bandwidth availability, e-library, and customize e-learning platform needed to explore e-learning resources should be readily available
- v. There should be a quick review of ICT policy to favor educational institutions, students, and librarians towards acquiring relevant ICT skills and infrastructure and making Bandwidth available at avoidable or no cost for public institutions.

### **REFERENCES**

- Agim, E.C. (2021) *Enhancing information literacy for sustainable development in the post Covid 19 era: The roles of librarians*. A paper presented at the Maiden Annual Symposium of the Nigerian Students Association (NISA), Turkey held from 29<sup>th</sup> to 30<sup>th</sup> September, 2021
- Agim, E.C., Obiekwe, O.L, & Eneh, A.E. (2020) The Informative Roles of Librarians to their Patrons in the Covid-19 lockdown. *International Journal of Social Science and Humanities Reviews (IJSSHR)*, 10(2), p.180-186
- Atulomah, B.C. & Onuoha, U.D (2011). Harnessing collective intelligence through online social networks: a study of librarians in private universities in Ogun state, Nigeria. *Ozean Journal of Social Sciences* 4(2), 71 – 83

- Chhiato L (2018) *Use of social networks for dissemination of information by media professionals in Mizoram*. A dissertation submitted in partial fulfilment of the requirement the Degree of Master of Philosophy In Library and Information Science, Department of Library and Information Science (School of Economics, Management and Information Science) Mizoram University
- Cojocariu, V.-M., Lazar, I., Nedeff, V., & Lazar, G. (2014). SWOT analysis of e-learning educational services from the perspective of their beneficiaries. *Procedia-Social and Behavioral Sciences*, 116, 1999–2003
- Coyle, C., & Vaughn, H. (2008). Social networking: Communication revolution or evolution? *Bell Labs Technical Journal*, 13(2), 13-18.
- Ezeani, C. G., & Igwesi, U. (2012). Using social media for dynamic library service delivery: The Nigeria experience. *Library Philosophy and Practice*, Paper 814. Available at <http://digitalcommons.unl.edu/libphilprac/>
- Ghirardini, B. (2011). *E-learning methodologies: A guide for designing and developing e-learning courses*. Food and Agriculture Organization of the United Nations
- Hamade, S.N. (2013), “Perception and use of social networking sites among university students”, *Library Review*, 62, 6/7, pp. 388–397.
- Kaplan, A.M. & Haenlein, M. (2010), “Users of the world, unite! The challenges and opportunities of Social Media”, *Business Horizons*, 53, 1, pp. 59–68.
- Ladan, A., Haruna, B. & Madu, A.U. (2020) COVID-19 Pandemic and Social Media News in Nigeria: The Role of Libraries and Library Associations in Information Dissemination. *International Journal of Innovation and Research in Educational Sciences*, 7, 2, p.125-133
- Lim, J.S.Y., Agostinho, S., Harper, B. & Chicharo, J. (2014), “The engagement of social media technologies by undergraduate informatics students for academic purpose in Malaysia”, *Journal of Information, Communication and Ethics in Society*, 12, 3, pp. 177–194.
- McBrien, J. L., Cheng, R., & Jones, P. (2009). Virtual spaces: Employing a synchronous online classroom to facilitate student engagement in online learning. *The International Review of Research in Open and Distributed Learning*, 10(3), 1–17
- Mostafa, R.B. (2015), “Engaging Students via Social Media: Is It Worth the Effort?”, *Journal of Marketing Education*, 37, 3, pp. 144–159.
- Musibau M.A. A, Enyinnaya, E. S, Edward, D.E., Wantrudis, M. C & Nojeem, L.A (2011). The implications of social networking sites in education in Nigeria. *Interdisciplinary Journal of Contemporary Research in Business* 3.7, p 93-101
- Nigerian Library Association (2020) *Emerging roles of librarians during and post COVID-19 era*. Maiden webinar series held from 18<sup>th</sup> to 19<sup>th</sup> August, 2020
- Obiekwe, O.L, & Agim, E.C., (2021) Enhancing Information Literacy during the Covid 19 Pandemic: The roles of Librarian. *International Journal of Library and Information Technology (IJLIT)*, 1 (1), 53-65
- Otulugbu, D. (2019) Library Users’ Attitudes toward Social Media Applications for Dissemination of Information in Selected Nigerian University Libraries. *Library Philosophy and Practice (e-journal)*. 2495. <https://digitalcommons.unl.edu/libphilprac/2495>
- Parkes, M., Stein, S., & Reading, C. (2014). Student preparedness for university e-learning environments. *The Internet and Higher Education*, 25, 1–10. <https://doi.org/10.1016/j.iheduc.2014.10.002>
- Partlow, K. M., & Gibbs, W. J. (2003). Indicators of constructivist principles in internet-based courses. *Journal of Computing in Higher Education*, 14(2), 68–97.
- Raheem, B.R & Khan, M.A (2020). The role of e-learning in covid-19 crisis. *International Journal of Creative Research Thoughts (IJCRT)* 8, (3): 3135-3138
- Rieley, J. B. (2020). Corona Virus and its impact on higher education. *Research Gate*
- Sahu, M. K. (2013). Information dissemination through using social networking site among library professional in the engineering colleges of Odisha: A survey. *International Journal of Digital of Library Services*, 3(1), 45–95



- Shivangi, D (2020) Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*. <https://doi.org/10.1177/0047239520934018>
- Singh, V., & Thurman, A. (2019). How many ways can we define online learning? A systematic literature review of definitions of online learning (1988-2018). *American Journal of Distance Education*, 33(4), 289–306.
- Song, L., Singleton, E. S., Hill, J. R., & Koh, M. H. (2004). Improving online learning: Student perceptions of useful and challenging characteristics. *The Internet and Higher Education*, 7(1), 59–70.
- Swaminathan, T.N., Harish, A. & Cherian, B. (2013), “Effect of Social Media Outreach Engagement in Institutions of Higher Learning in India”, *Asia-Pacific Journal of Management Research and Innovation*, 9, 4, pp. 349–357.
- Tahir M.K (2020) Use of social media and WhatsApp to conduct teaching activities during the COVID-19 lockdown in Pakistan. *International Journal of Pharmacy Practice*. doi: 10.1111/ijpp.12659
- Voss, K.A. & Kumar, A. (2013), “The value of social media: are universities successfully engaging their audience?”, *Journal of Applied Research in Higher Education*, 5, 2 pp. 156–172.
- World Bank (2020) *Edtech team for Covid 19*. <https://www.worldbank.org/en/topic/edutech/brief/edtech-covid-19>
- Yekini N.A., Adigun J. O, Ojo O. & Akinwale A. K, (2020); Assessment of Adoption of E-Learning and M-Learning during Covid-19 Lockdown in Nigeria . *Int Aca J Edu Lte.1* (1) 28-34
- Zhu N, Zhang D, Wang W, Li X, Yang B, & Song J, (2020) A novel coronavirus from patients with pneumonia in China, 2019. *N Engl J Med*, 382:727–733. <https://doi.org/10.1056/NEJMoa2001017>