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RETOOLING AND RESKILLING FOR SCHOOL LIBRARIES IN THE 4TH INDUSTRIAL REVOLUTION ERA: IMPLICATIONS FOR SCHOOL LIBRARY MEDIA SPECIALISTS

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Abstract
The world has witnessed three different revolutions in the past and currently witnessing the 4th revolution. Revolution simply means drastic changes in the way things are done. The 4th Industrial Revolution (4thIR) is known as knowledge society which built upon the digital revolution. It is a combination of technologies that cover the lines between the physical, digital, and biological domains. It has brought a wave to human endeavours, the changes brought are enormous in the way people communicate, interact and behave which is referred to as the 'new normal'. As a result, all human systems have adjusted and adapted to the new normal, in particular, the educational system has been highly transformed and it has affected libraries, the heartbeat of any educational institution. Thus, school libraries collections, environments, and services have been transformed and it calls for reskilling of School Library Media Specialists (SLMSs) who are the managers of school libraries. On this note, this paper discusses the emerging technologies for school libraries in the 4th Industrial revolution, new roles of SLMSs and the skills required of the School Library Media Specialists to function in the 4th IR era. Recommendations are proffered based on the reality of the new normal.

Keywords*: 4th industrial revolution, school libraries, school library media specialists, school library media specialists' roles, new skills for school library media specialists.*

Introduction
Human race has witnessed three major industrial revolutions (IRs) in the past, and currently we are in the 4th Industrial Revolution (4thIR). The 1st IR was "Agricultural Society" around 1760 to 1840 that is, 18th to 19th Centuries. It was characterized with mechanical production of steam engine, iron and textile industries. The 2nd IR was "Industrial Society" it was prior to the First World War in the late 19th Century and into the early 20th Century, characterized with steel, oil and electricity. Electric power was used for mass production and invention of telephone, light bulb, phonograph and internal combustion engine. Subsequently, the world witnessed the 3rd industrial revolution, the "Information Society" with technological advancement from analog electronic and mechanical devices to the digital technology. The 3rd IR was an era of production of mainframe computers in the 1960s, personal computers in the 1970s and 1980s, the Internet, information and communication technologies in the 1990s (Ahmat and Hanipah, 2018).

The 4th IR built on the 3rd IR and it was coined by Klaus Schwab, a German engineer and economist. The 4th revolution is "Knowledge Society" with knowledge products such as smart connected devices, mobile technologies, cloud, cyber, robots and mass customization products. Schwab (2016) defines 4th revolution as a combination of technologies that conceal the lines between the physical, digital, and biological domains. In accordance with Schwab's definition of

4th IR, the revolution is driven by physical, digital and biological environment. The physical drivers are autonomous vehicles, 3D printing, advanced robotics and new materials. The digital driver is the Internet of Things (IoT), this is the relationship between things (products, services, places, etc) and people. This is made possible by connected technologies and various platforms. Lastly, the biological innovations that brought ease of genetic sequencing and ability to customize organism by writing DNA.

All these industrial revolutions have brought changes to libraries. In the 1960s to 1990s technology impacted library services by the provision of the following; Machine Readable Caloguing (MARC), Online Public Access Catalogue (OPAC), electronic resources, CD-ROMs, and full text databases in the libraries (Ahmat and Hanipah, 2018). In the 2000s, advancement in technology brought in the use of the Internet which ushered in multimedia resources in the library. Thus, libraries have experienced transformations in its environment, collection, services and skills required to man the libraries of this age. Consequently, upon the changes brought by the 4th industrial revolution to the school libraries, this paper aims to discuss the emerging technologies for school libraries in the 4th Industrial Revolution, the school library media specialists role in the 4th Industrial Revolution and the skills required for School Library Media Specialists in the 4th IR era.

Objectives of the study
The main objective of the study is to examine the influence of 4th industrial revolution on school library in this era. The specific objectives are to:
1. identify emerging technologies for school library in the 4th industrial revolution
2. examine new roles of school library media specialists in the 4th industrial revolution
3. ascertain skills required for school library media specialists in the 4th industrial revolution

Emerging technologies for school libraries in the 4th Industrial Revolution
The advancement of technologies in the 4th industrial revolution presents many platforms for school libraries to meet the needs of its clientele. School libraries are established to support the implementation of curriculum in nursery, primary and secondary levels of education. To accomplish this, school libraries select relevant information resources to meet the various information needs of the pupils, students and teachers. It organizes such information resources, teaches pupils, students and teachers on how to use the information resources (information literacy), enables access to information resources and promotes reading culture. Advanced technologies in the 4th industrial revolution now presents various digital platforms for school libraries to organize its collection, presents its collection and access information resources. Some of the emerging technologies in the school libraries are discussed below.

School libraries of this era have multimedia computer laboratory, e-resources, online catalogue, online database, collaboration platforms for learning, robotic circulation system, artificial intelligence, free interactive websites, digital interfaces for printed books and the "Internet of Things" (IoT) (Bowlin, Mattson, Mueller, and Skrdla, 2014). Internet of Things is the relationship between things (products, services, places and others) and People. This is made possible by connected technologies and various platforms (smarter sensors). It is increased connectivity between devices and "everyday things" it means better data tracking and enriched communication between the school libraries and users. IoT is a powerful tool to help pupils and students to learn

when, how, and where to use school library resources, thus, creating a flexible and connected learning environment.

3-D Printers

A 3-D printer is another emerging technology that is being used in school libraries. 3-D printers is one of the latest technologies made accessible at libraries ("Progress in the making," 2014). 3-D printers offer many stimulating applications; it uses ABS (acrylonitrile butadiene styrene) and PLA (polylactic acid) plastic materials. It can be used to create everything from prosthetic limbs, toy figures, automotive parts, art and craft projects and even medical devices. Many libraries in the United State including school libraries are using 3-D printers (Hawley, 2016).

Free Interactive Websites

There are quite numbers of free interactive websites that are being used in the school libraries today. Some of them are briefly discussed below:

Goodreads

It is a site that presents a platform for school library media specialist (SLMS) to use to recommend books to her clientele. The school library media specialist can read books and create shelves and connect with the library users. SLMS would create shelves based on the students' interests and favourites, SLMS's favourites, most popular, and new releases, with this, recommendation of books to read to students will be easy for the SLMS. Goodreads allows SLMS and other users to write reviews and rate books, it also allows students to set up their own account, become friends with the library, browse the library's shelves, create their own shelves, write reviews, and connect with other users through the site. Goodreads is a suitable platform to promote books and reading among primary and secondary school students.

The Khan Academy

The Khan Academy is an online free digital library of educational videos aims at making education free accessible to anyone anywhere. This online resource can be used by school libraries to help students "learn about anything" through short videos. It is a valuable tutoring aid for students to learn easily at home, any concept that is not cleared or that student has forgotten with the playing of a short video on such concept. With thousands of videos ranging from 2-10 minutes in length, The Khan Academy offers a malleable format for students to learn everything, review, and study. Khan Academy is an engaging tool for school library to help learners of the 4th IR to learn at their convenience and access learning anywhere, SLMS can also collate student performance data with this technology (Ash, 2013).

My Friend Robot App

This is a robot application game made from Apple products, it imparts coding for young children. When a robot is picked, children then use basic coding skills, through it to control the robot to do whatever the children wants. With this game, children are taught new skills with fun and it keeps them occupied and curious. This application is appropriate for children in nursery and primary school, thus school libraries in nursery and primary would do well to employing this. SLMSs can apply this fun and interactive game to deliver instructional and basic learning (Bowlin et al, 2014).

Makerspace

A makerspace is a place where students, staff, mentors can work alongside parents to create, solve problem, and develop skills in a hand-on environment that stimulates talents, thinking, and mental rigor. The American Association of School Librarians (AASL) Standards for the 21st Century Learner, categorized the crucial components for life-long learning into four: think, create, grow, and share, thus the four components are the basis for a Makerspace area in the school library. With emerging technologies in the school library, students, teachers, mentors and school library media specialists can research, solve problem, construct and build with cognitive, kinesthetic and social skills as they go through makerspace activities (Hawley, 2016).

These technological innovations in the school libraries have transformed school library environment, policy, collection development, services and roles of school library media specialists (Mississippi Department of Education, 2019). Its collection has been transformed from print, non-print and audio-visual to multimedia and digital convergent resources. School library has changed from what it used to be, it has changed from the quiet 'no noise' place to a lively and interactive place, where its users interact, collaborate and create. Technology has made school library to have many collaborative platforms such as "Makerspace" and "Connected Learning" and it has transformed school library from a place to get stuff to a place to do stuff. School library is no more a repository of materials but a platform for learning and participation. As a result, school library is now both physical and digital learning spaces and thus, it is not compulsory for its users to visit the physical library space before using the library. With all these facilities in place, school libraries have transformed to be attractive and user friendly learning hub, the services have improved, therefore, the roles of school library media specialists have changed greatly. Thus, the next section of this paper will highlight the current roles of school library media specialists in the 4thIR.

Roles of School Library Media Specialists (SLMSs) in the 4th Industrial Revolution

School librarians are also known as School library media specialists, they are trained information and library science professionals in charge of school libraries. School library media specialists are no longer seen as people who check out and arrange books on the shelf. As the environment, collections and services of school library have transformed, subsequently, the roles of school library media specialists have changed. The roles of School library media specialists have transformed and increased due to the different opportunities emerging technologies are presenting to school libraries of the 4th IR era, SLMSs play the roles of information and technology specialists.

Presently, SLMSs are expected to be information access provider to, organizer of electronic information, passionate communicator who promotes an environment for new ideas, of creativity, and innovation. They are connector of pupils/students to information in varied formats, collaborate with system designers, jointly develop curriculum with teachers and promote reading. Also, SLMSs are instructional partners, learning facilitators, literacy teachers, technology experts, and change agents (Hawley, 2016; Mississippi Department of Education, 2019; Wine, 2016).

School library media specialist, as information specialist, provides leadership and proficiency in selection, acquisition, evaluation, and organization of information in various formats. As a teacher, SLMS empowers pupils to become critical thinkers, fervent readers, adept researchers, and ethical users of information. As a programme administrator, the SLMS collaborates with members of the school community to define policies related to the library programme, manages

and supervises personnel, resources, and facilities ("Sample job Description: School Librarian," 2010). In conclusion, SLMSs role have expanded and it will keep on increasing as technology keeps emerging. On this note, a lot of skills are required and SLMSs need reskilling, hence, the required skills discusses skills required for school library media specialists in the 4th IR.

Skills required for School Library Media Specialists in the 4th IR
Obviously, since there are new roles to perform by school library media specialists, it is expected that there would be new required skills to perform the new roles. Schwab (2016) listed some skills required of any worker to be able to fit in in the 4th industrial revolution. The skills required are cognitive abilities, systems skills, complex problem solving skills, content skills, process skills, social skills, creativity skills, resource management skills, technical skills and physical abilities. In library palace, Ahmat and Hanipah (2018) submitted that professional librarians, need to equip themselves with new skills and knowledge by merging new technical and professional competencies derived from other professions such as data scientist skills, digital content developer's skills among others in order to function in the 4th industrial revolution era. Taking cognizance of the emerging technologies (artificial intelligence, makerspaces, gaming zones and others) in the libraries of the 4th industrial revolution, Decker (2020) opined the need for library personnel to acquire soft skills such as the ability to deal with people, connect with user and a positive flexible attitude to perform in the 4th industrial revolution.

Hawley (2016) submitted that some of the competencies library and information science professionals need to possess in this industrial revolution era are grouped into 10 skills. The first one is technical skills because of the ever emerging technologies, school library media specialist must be able to manipulate media and be ready to continue to learn new technologies as they evolve. Time management skills are also crucial because SLMS needs to attend to every library user's need effectively and efficiently within the time frame possible. Also, communication skills, managerial skills and presentation skills are critical. Other skills are customer service skills, evaluation and assessment skills, policies, procedural issues and standards skills, advocacy skills and life-long learning skill that encompasses all the others (Hawley, 2016).
In summary, SLMS requires new skills to be relevant in the business of school librarianship of the 4th IR, continuous reskilling is therefore paramount for continuous relevancy in this profession.

Conclusion
It is evidently clear that emerging technologies in the 4th industrial revolution have transformed school libraries. Technologies such as, robotic circulation system, 3-D printers, artificial intelligent, free online interactive websites, and collaborative platforms just to mention a few are being used in the school libraries of this era. These technologies have drastically transformed school library collection, environment, services and thus, new roles have emerged for school library media specialists. SLMSs now combine the roles of information and technology specialists, such as, information access provider, organizer of electronic information, passionate communicator, connector of students/teachers to information in diverse format, instructional partner, technology integration leader, curriculum developer and literacy teacher . To this end, school library media specialists need new skills to effectively perform the new roles, such skills include, but not limited to, problem solving skills, content skills, creativity skills, technical skills, time-management skills, and communication skills.

Recommendations
Based on the ever emerging technological tools in the school libraries with its attendant new services and improved roles of school library media specialists in the 4th industrial revolution, the following recommendations are made.

1. The professional body, Nigerian School Library Association should always create awareness of emerging technologies among school library media specialists through training workshops and seminars.
2. The government and proprietors of schools should provide relevant and up to date technological infrastructure to meet best global practices.
3. School library media specialists should be proactive and take advantage of training and workshop opportunities to equip themselves in order to be relevant in school librarianship.
4. The proprietors and relevant government bodies should support school library media specialists by sponsoring them to attend workshops and conferences to be kept abreast of trends and issues in their profession.

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