

**ASSESSMENT OF THE AVAILALBILITY, READINESS, INTEREST AND
UTILIZATON OF DIGITAL LITERACY FOR SECONDARY SCHOOL
STUDENTS IN MINNA METROPOLIS**

BY

MADAKI, Yusuf Nenman

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ABSTRACT

This study assessed availability, readiness, interest and utilization of digital literacy for secondary school students in Minna metropolis. The design was made along the lines of a descriptive survey while the study population comprised all the secondary schools in Minna Metropolis, Niger State. The sample consisted of two (2) randomly selected secondary schools and one hundred and forty-six (146) students drawn randomly from the study population. The instrument used to collect data for the study was a questionnaire titled "Questionnaire on the availability, readiness, interest and utilization of digital literacy" (QARIUDL)" while the data collected was analyzed using mean, standard deviation and percentage. The findings showed that digital literacy is available to secondary school students and they displayed readiness and interest for digital literacy but digital literacy was unutilized. The study recommended among others that, Government and school administrator should make adequate provision for digital literacy in secondary schools.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the study

The word 'literate' refers to be 'literary' or 'well-educated, learning' (UNESCO, 2006). "literacy" (UNESCO, 2006; Area, Gutiérrez & Vidal, 2012) is an evolving notion based on the understanding of conventional (print) literacy and related literary acts. It has also been referring to text reading and writing through traditional (print) literacy since the late 19th century (Belshaw, 2011; UNESCO, 2006). This definition is being broadened to encompass new technology – especially computer and communications technologies - mediated practices (Belshaw, 2011).

The educational environment is rapidly changing (Kress, 2003). The Internet has a multiplier impact by allowing new technologies to be disseminated and generated with educational, social and cultural consequences. For example, the combination of sound and moving pictures, spoken and written languages and 3D objects with modern digital technology. Each of these digital gadgets is utilized in learning contexts with particular opportunities, applications and restrictions. New technologies of information and communication thus demand new literacies (Leu et al., 2007). Digital literacy is essential in education because it facilitates the passing and understanding between instructors and students of ideas and knowledge. In order to participate and profit, students and instructors must be digitally educated, capable of enjoying and participating in a global society. The capacity to use modern information technology and media to deal with the ever-changing flow of the world's

networks of images, text, and audio-visual materials (European Information Society Thematic Portal, 2007)

The corona-virus outbreak (Covid-19) affected and forced every industry, including education, to shut down all university activities by 2020. However, in Nigeria nations and certain educational institutes have been permitted, without much influence, to conduct their educational activities with a strong understanding and use of digital tools. The research aims to leverage digital resources/tools through the utilization of cases study from numerous schools in Minna Metropolis, Niger State, and to make them available in Nigeria.

There are numerous problems affecting Nigeria's education system, including striking academic staff, bad infrastructure, low school funding and insufficient staff training, but we will focus on how Nigeria may contribute to the growth of the educational sector for this study in digital literacy. Digital literature represents a person's ability to search, analyze, use, exchange and generate data utilizing IT and the Internet. As a result of recent advancements in ICT, individual methods of learning have altered (ICT). In the learning process, both at home and in class, ICT has become increasingly essential (Meyers 2013, Argentin, 2014). In particular, the Internet has provided an almost endless number of sources of knowledge. As a result, digital information is more crucial in learning processes as the capacity to access, identify, extract, analyze, organize and display (Argentin, 2014).

Digital literacy refers to a range of abilities that in an increasingly digital environment everyone need to succeed. The influence on the teaching and learning

process has now become considerable. The employment of digital resources as education aids for the instruction of pupils is increasingly anticipated by educators.

Shannon (2017) states that digital literacy refers to a number of abilities which are needed for full involvement in an educated society in the 21st century. Examples of devices for communication, expression, cooperation and advocacy are smartphones, tablets, Laptops and desktop PCs. Digital technology helps teachers to extend curriculums in classrooms of the 21st century and improve pedagogical methods.

1.2 Statement of The Problem

Individually, as ICT continues to transform the planet, educational activities are no exception. In the age of information, communication and technology this applied in particular. Most students lack modern resources such as laptops, social media and mobile devices for instruction and teaching. Due of the difficulty of using digital resources, pupils were left in the classroom and left behind. According to Abbas et al. (2019), digital literacy enhances the academic performance of pupils since it allows them to get involved in a digital society. This study therefore relies on its credibility as a means of measuring the availability and preparation of digital literacy, as well as its interest and usage. Digital literacy, according to Tinio (2002), has the potential to increase the relevance and quality of education in poor nations and digital literacy has undoubtedly changed education, learning and research in the field of education. The researcher will study on this basis the availability, the availability, the readiness and the use of these resources.

1.3 Aim and Objectives of the Study

The goal of the study is to determine the availability, readiness, interest, and use of digital literacy in a few secondary schools in Minna, Niger State. The study aims to accomplish the following goals in particular:

1. To determine the level of digital literacy among secondary school students in secondary schools.
2. To find out the students' digital literacy readiness in secondary schools
3. To determine secondary school students' interest in digital literacy.
4. To determine how digital literacy is used in secondary schools.

1.4 Research questions

1. Do secondary school students have access to digital literacy?
2. To what extent are secondary school students prepared to become digitally literate?
3. How interested are secondary school students in becoming digitally literate?
4. Is digital literacy taught in Minna Metropolis secondary schools?

1.5 Significance of the study

The outcomes of this study initiative will help students, teachers, school administrators and all levels of government.

The results of this study will help students to build digital competences and to enhance their literacy in the use of computer technology.

The outcomes of this study will help the instructor to improve his use of digital computers.

This research will help school administrators understand the significance of digital literacy and its influence on the learning of students and on university achievement.

This research will also assist the government, as it will educate them on the need of providing digital literacy to schools and making it widely available to students.

1.6 Scope of the Study

Digital literacy has been studied among high school students in Minna, Metropolis, Niger State, for availability, availability, preparedness, and use. This research will focus on the availability, readiness, interest and utilization of digital literacy among high school pupils. Digital literacy is the independent variable, the dependent variable is availability, preparedness, interest and usage. The study will be four (4) weeks long.

1.7 Operational Definition of terms

ASSESSING: is the process of determining, estimating, or judging the worth of something.

AVAILABILITY: Capable of being used to achieve a goal, having sufficient power, force, or efficacy to accomplish the goal, available, effective.

READINESS: The state of being ready to act or use something right away.

INTEREST: Intellectual curiosity, as well as a lot of attention and worry from someone or something.

UTILIZATION: To put to use; to find a practical use for.

DIGITAL LITERACY: refers to a person's capacity to find, assess, and clearly transmit information on a variety of digital platforms using typing and other media.

METROPOLIS: A large, busy city, especially as the main city in an area or country or as distinguished from surrounding rural area.

CHAPTER TWO

2.0

LITERATURE REVIEW

2.1 Introduction

This chapter gives an overview of the literature studied by the researchers before putting the inquiry into perspective. The study focused its research on a number of secondary schools in Minna Niger, on the availability, preparedness, interest and usage of Digital Literacy. It is divided into four sections: a conceptual framework, theoretical framework, empirical research and a summary of literature reviews.

2.1 Conceptual Framework

2.1.1 Teaching and learning

Teaching is a sequence of activities outside the classroom designed to encourage internal learning. The student is not part of the teaching (instruction). Learners are in charge of their own education. Unless you are driven, you cannot motivate others. There is no obvious motivation, yet it is behaviour. Is it a goal or a habit to learn? Learning is both a motivation and a conduct, but only the behavior is apparent; learning is internal and performance outward. Metamorphosis: learning transforms into new abilities, understands scientific law, or alters one's attitude. Learning is a transformation. Just as our look varies over age, so does the transformation not just happen by chance or naturally. Learning is a somewhat long-term transformation which is typically intended. When we take a course, read a book or read a discussion paper, we started learning. Additional times, such as experiences, can be learned before planning. Generally, we want to recall and understand why something happened when we learn anything so that the next time we may perform better.

Teaching is usually referred to as teaching for information or skills to others. Sharing experiences or information, like a lecture, are examples of knowledge sharing. Teaching is both an art and a science. It stresses the innovative and artistic abilities of the instructor to create a valuable atmosphere for kids to study as an art. It is a science that offers a clear overview of the logical, mechanical or procedural steps to be taken in order to attain the goal effectively. The topic of education varies from educators to teachers. "Teaching is an intimate encounter between a maturer person and a less mature, aimed at advancing the education of the latter." Morrison (1934) and Dewey expressed this notion of teaching quantitatively (1934). "Teaching teaches in the manner sales purchase." "Teaching involves organizing and manipulating a scenario, in which a person wants to conquer and learn how to overcome gaps or obstacles," John Brubacher noted (1939). Teaching is "a sequence of acts designed to promote learning," says B.O. Smith. "Teaching is a type of interpersonal influence to change another person's behavioral potential," Gage said (1963). Teaching is the agent-based system, an aim in mind, and contains two sets (class, student characteristics, physical facilities, etc.) over which the actor has no influence (class size, pupil characteristics, physical facilities, etc.) and those over which the officer is controlled (such as techniques and strategies of teaching).

2.1.2 ICT in Education

I.C.T is the "Information and Communication Technology" acronym. It refers to technology based on telecommunications that provides access to information. It is similar to IT, but is more focused on communication technologies. Examples of this are the Internet, wireless networks, mobile telephones and other means of communication. This indicates that we have greater chances of integrating I.C.T in teacher education programs

and improving the quality of teachers to efficiently educate. According to the United Nations Education Scientific and Cultural Organization "I.C.T should be a field of science, technology and engineering, and management method for information management, application, and interaction with social, economic and cultural problems" (UNESCO). The teacher is the most essential element in our society in the sphere of education. In all areas, he strives more to enhance our society's standard. Experienced instructors may transform pupils into good social workers, politicians, poets, philosophers, and others. Professors can communicate friendly with pupils. The fast progress of technology has brought about creative changes in the way we live and in society. In order to close the technological gap between today and the future in teaching and education in today's society, ICTs are causing rapid change, and teacher education institutions seek to restructure their educational programs and school facilities to recognize that new technology affects the business and daily life. They affect every area of existence. Schools are increasingly influenced. Since ICT technologies give more opportunity for both students and instructors to adjust learning and education to the requirements of their individuals, society is pressing schools to respond adequately to this technical innovation.

The incorporation of ICT has recently steadily substituted for conventional education. Faced with the engagement in the classroom, the interactive communication is replaced by standard whiteboards or blackboards. In lieu of internet alternatives, Books and printed resources are being phased away. Technology is believed to be able to shed light on our education system from the Dark Ages. This is because information and communication technology can give some advantages in schools. But we must first surmount big barriers to obtain such advantages. These obstacles may vary from school to school, from place to

place and from nation to country. In general, the increasing countries think that the main criteria for creating rich nations are technical availability, talent and management. We generally think in industrialized nations, as a result of their strong technology access, abilities and management, that they are well-administered. As a consequence, many developing nations can see how advanced countries use technology and learn how it is used.

In the classroom, ICT may be a major contributor. By incorporating technology into their studies, students may become active learners. You will grasp what knowledge you need, why you need it and how to get it. Active learning enables students to choosing if a certain information is necessary and if they already know it or not, according to Bransford, Brown and Cocking (cited in the Huffker report, 2003, 357). This active learning involves autonomous learning. If students have access to the Internet at school, they will be less dependent on their instructors. You may find knowledge on the internet, find what you need, replicate it and then seek for more. When students use this learning method, they become self-managed in the learning process. As stated by Jarold and Sue (1992), self-managed learning makes it possible for pupils to be self-motivated, self-managed and quickly adaptable to quick change in information. Using a blog, for instance, allows instructors and students to remain updated on current events and discussions in education or in other areas. As a consequence, we do not have to wait to hear about what happens in our education sector with the current release of printed educational books or periodicals. Dynamic and collaborative learning can also be supported by ICT. When we utilize the Internet, where we're demographically and who our teachers are, our learning does not limit to the school hours. At all times and from any place we can access the Internet. E-learning

allows students to acquire knowledge faster from all walks of time, according to Uhomoibhi (2006). Technology also helps us to overcome demographic obstacles. Rural students can gain information from urban regions and share know-how in the same area or even from different countries with other students or professors. In addition to dynamic learning, ICT offers the opportunity to engage in collaborative learning and in training of learning communities to all school staff, including the directors, administrators, teachers, IT coordinators and students. We can achieve what we cannot alone, as Modiel (2000) said, by working together.

The key features of collaborative learning that we want to achieve using information communication technology are interactivity and communication. Rodrigues states, "Efficient learning takes place when children are involved in a learning assignment interactively" (2002). It is more than memorisation that IT-assisted learning is. It allows students to take part, get involved, respect, and enjoy technology in their own learning processes. The use of technology to promote collaborative learning, according to Rodrigues (2002), results in interaction between man and machine as well as humans. For example, students can contact teachers or other machine-mediated students in a web-based learning environment.

ICT is capable of bringing us to meta cognition. We may learn how to learn instead of to acquire a certain skill by integrating ICT in our learning, like Monteith (2002). This allows us to see that it is not more difficult to acquire new technologies and new information than to learn old abilities. This knowledge is very important since many people fear the learning of new technologies because it is more complex and harder to grasp anything new (new technology). Often in fact, it is easier to understand and function many new technologies

than the old. By incorporating ICT in our learning, the previous misconception may be corrected. The two main parts of meta-cognitive learning are in Paris and Winograd (cité in Phelps, Graham and Kerr, 2004, page 50). These are self-assessment and autogestion. After self-assessment, students may reflect on and analyze their own skills and growth. The students may plan, select, and utilize learning techniques with self-management that they like to learn.

Children may be made more informed through technology. The ICT (ict can enable students to enhance their literacy and scanning, Adonis (2006, p. 16) points out. For example, Microsoft Word may help children learn how to write. You may learn new words on the computer with appreciation and excitement and it may assist you to enhance your ability to talk and hear. This is because children may work with parents/adults, instructors and peers. Those young people need the opportunity to hear and articulate what others have to say. In addition, children can enhance their reading abilities by reading internet stories. This means that ICT plays a key part in the process of creating and improving literacy for youngsters.

Increased motivation and involvement in learning are not only supported by ICM's usage to enhance the learners' cognitive growth. The three advantages of utilizing the storyboard software Kar2ouche to encourage student learning on Macbeth character were identified by Davie and Birmingham (2002, pp.19-20). These three types of advantages are cognitive, motivational and interactional. Cognitive, without being instructed by their teachers the kids can tell what happened in the narrative. They like and enjoy their learning process motivationally so that learning isn't painful and tedious. They can work with their professors and peers interactionally.

2.1.3 Concept of Digital Literacy

Digital literacy definitions have been introduced through their library systems in elementary, secondary and postsecondary universities. Most universities employ a definition of digital literacy focusing on research capabilities, including the presentation of a topic, the finding, evaluation, synthesization or incorporation of a product into it (American Association of School Librarians, 1998). Digital literacy enables the students to think critically and use digital technologies in their academic, professional and personal life to enhance their search for information in the 2011 Hunter College Information Literacy Statement. Digitally informed individuals can identify, discover and evaluate information requirements using a range of media and technology in order to use it in an efficient manner. Digitally-educated students are able to master the abilities that they have gained in school and use them as citizens, professionals and a continuous education throughout their life. While the College deals with the bridge of technology usage in schools, in the workplace, and in the home, this is another another example. Library leaders in the definition of digital literacy in schools have always taken the lead because their surroundings are in the transition between printed and digital text. Regrettably, the fundamental framework for research skills does not provide the complete range of abilities that a student can achieve full success in a digital world. The following are definitions of digital literacy which contain not just crucial research skills ability, but also visual and media literacy ideas, non-linear thinking and collaborative/socio-emotional abilities. The American Library Association 2011 argues that literacy information is a set of skills that need people to identify when information needs to be provided and to be able to seek, analyze and use the information they need efficiently. In the modern context of fast

technological development and the proliferation of information resources, information literacy is becoming more crucial. Furthermore, information is provided in many mediums like graphics, audio and text, which present consumers with additional hurdles to evaluate and understand.

The incorporation, in assessing and comprehending, of graphical, auditory, and textual components that provide new problems in terms of new abilities, which are required to take account of the definition of informational literacy. Urbana-University Champaign's Library adopts a wide-ranging definition of digital literacy that is digital literacy;

- a) The ability to find, evaluate, use and create information using digital technology, communication tools and networks;
- b) The ability to understand and use information from a wide variety of sources on the use of computers; and
- c) The ability of a person to perform tasks effectively in a digital context.

Literacy involves reading and interpreting media, reproducing pictures and data through digital modification and evaluating and applying information obtained from digital settings (University of Illinois, 2011).

The concept of the University of Illinois also extends beyond information finding, collection and synthesis. In the third bulletin, images, reproduction, and digital manipulation as a component of digital literacy are mentioned. In this larger view the PC is a graphical user interface which frequently provides information, instructions and information that has to be decoded not only by text, but also by graphics and symbols. You

may argue that you must also be visually literate to be technologically informed (Jones & Flannigan, 2006). We must begin to recognize that digital media is cultural forms which are closely linked with other visual and audiovisual media (Buckingham, 2007). Computers and digital media continue to be used not just with a high focus on visual literacy, but also on media literacy, in view of the skills required for digital literacy. Current framework for media literacy can serve as a solid basis for developing a framework for digital literacy. "the capacity to access, interpret and produce communication in a range of situations" is defined in the United Kingdom Office of Communications (Ofcom 2006). (p.7). The literacy of the media as defined by Ofcom (2006) and extended by Buckingham (2007) outlines some of the difficulties to be addressed in the implementation of the World Wide Web framework in order to provide a framework for digital literacy.

For Buckingham (2007), it is far more than just 'accessing' or using the digital media as instruments to learn by means of education. Rather, this means developing a far broader, critical understanding of the media, which, along with their social, economic and cultural implications, addresses the textual characteristics of the media. (p.49) Eshet-Alkalai (2004) developed a 5-skilled holistic conceptual model for digital literacy to respond to these study findings. This framework, which was extended to include six competencies in 2009, is an excellent method to start creation of evaluation tools to improve study and understand the fundamental competencies that constitute successful digital literacy. The framework of Eshet-Alkalai and Chajut (2009) comprises:

- The capacity to efficiently interact with digital settings, such as user interfaces using graphical communication, is photo-visual literacy.

- Reproduction literacy means the capacity, through replicating and altering digital text, images and audio works, to produce real and meaningful writing and art.
- The literacy industry is the capacity to build knowledge through non-linear knowledge navigation, such as the Internet and other hypermedia settings.
- The capacity to take essential information and to identify incorrect and biased information is information literacy. The capacity to interact successfully online communication channels, such as discussion forums and chats, is social and emotional literacy.
- The capacity to analyze and assess huge amounts of information in real-time, for instance in computers and chat rooms, is real-time thinking talent.

Eshet-Alkalai (2004) has restricted its definition for photovoltaic literacy and should be broadened to encompass a series of skills that can help an individual to locate, understand, assess, use and produce pictures and visual media successfully. This wide definition covers the function played by pictures in the transmission of information in the digital age and the necessity to visually synthesize this information, as indicated above in the definition of copyright. The conclusion of Eshet-Alkalai (2004) is that digital literacy does not consist in using software or using a digital device; it comprises a number of sophisticated cognitive, engine, sociology and emotional abilities. This transforms its framework into a comprehensive instrument that covers three aspects: technology, cognitive and emotional-social ability (Aviram & Eshet-Alkalai, 2006). Eshet-Alkalai (2004) states that technology and procedures refer to the basic computer skills necessary to use modern graphical interfaces to operate technologies. Surfing the Internet is non-linear, pedagogic issues are

addressed by cognition when considering digital literacy, such as understanding, critical reflection and creativity. (p.94) This comprehensive approach of digital literacy acknowledges that the use of technology, in particular Internet, is a matter of reading understanding, not only a technical problem.

Eshet-Alkalai (2004) recommends using this theoretical framework to create accurate, user-driven products as a diagnostic and assessment tool. This theoretical model of a research was obtained in 2002 by Eshet-Alkalai. Three participant groups, including 10 high school students, 10 college students and ten adults, were chosen to explore various facets of digital literacy. The tasks were provided to all participants, who needed to employ various types of digital literacy. Participants were for example instructed to plan a vacation to a distant country using information from the Internet in order to assess branching literacy. The tasks were evaluated by observing and finishing rubrics by observers. Due to the tiny sample and the qualitative methodologies utilized in this group, findings for a broader population are difficult to deduce. These shortcomings can be tackled by additional study utilizing this theoretical model

2.1.4 Digital Literacy Context

It is possible to communicate amongst people across long distances over national and cultural boundaries using the Internet. Consequently, media literacy in the creation of a society is becoming increasingly significant. The ability to understand and use data in a variety of forms acquired from a number of sources using computer equipment is defined as digital literary skills. Digital literacy is more strongly connected, according to Forgo (2013), to technical abilities in access, compile, understand and distribute information.

Digital literacy may be demonstrated in everyday life by the capacity to understand information through the media. Users must properly utilize communication instruments such as cell phones. The capacity to arrange, organize, interpret, assess and analyze digital information is not just about digital literacy, but also about its potential. Digital literacy. Among others, these are the fundamental concepts of the development of digital literacy;

1. Comprehend when the capacity to extract concepts implicitly and openly from the media includes simple understanding.
2. Interdependence which signifies, in a possible, symbolic, ideal and literal sense, how the form of media connects to others.
3. Social factors that mean who is sharing information, to whom it is given, and what media it is provided can not only determine the long-term success of the media itself, but also form an organic ecosystem in which information is collected, information is shared, information stored and the media itself finally transformed.
4. One sort of literacy related to the capacity to grasp and retain the worth of information is to curate discussion about storage of information such as saving material to social networks using the method "save to read after" (Adam-Turner & Burnett, 2018; Haluk Sivrikaya, 2020; Njenga, 2018).

Skills are separated into various key abilities in digital literacy among others Internet search, over-text navigation, content assessment, assembly of knowledge (Alexander et al., 2016; Kim, 2019). The ability to look for information on the Internet and the capacity to do numerous activities online indicates the ability to find information on the Internet. The

know-how about hypertext and hyperlinks, the awareness of the difference between reading textbooks and surfing via the Internet, the understanding of how the web works and the capacity to grasp the features of web sites are all the questions of textual expertise (Anisimova, 2020; Kaeophanuek et al., 2019).

Content Assessment Competence implies the capacity to differentiate viewpoints from information content, the capability to analyze background information on the Internet, the ability to assess a web address by understanding the different fields of each specific institution/ nation (Pieterse et al., 2018).

Controlling or duplicating information obtained and using all kinds of media to prove the truth of information are examples of knowledge assembly skills in the ability to search for information on the internet, to create personal news feeds or by receiving latest news notifications by joining and subscriber to news in a newsgroup. The kids are continually familiar and educated in all of this Digital Literacy competence. Various factors can help to bring digital literacy to this level. Individual skills are very essential (Anisimova, 2020; Delacruz, 2018; Son & Park, 2017). Individual skills are the ability of a person to use and utilise media. Some of the media's capabilities include the capacity to use, create, evaluate and convey messages via the media. In the field of schools, families and communities it is possible to create digital literacy. It is anticipated that anybody can access, comprehend and use digital media, communication tools and networks by means of digital literacy. This enables them to develop and share new knowledge appropriately. In addition, everyone is expected to have an understanding of the basics of computers, the Internet, production programs, and the safety and confidentiality of the application, so that all their daily work

is indissolubly distinctive from the mindset and conduct of a totally effective and efficient digital society (Akbar & Anggaraeni, 2017, Ata & Yıldırım, 2012)

The awareness of universal values, including freedom of speech, privacy, cultural diversity, intellectual rights, copyright, and so on, must be part of digital literacy learning. Digital literacy enables a person to interact with their surroundings successfully and positively. Digital literacy must thus be fostered as part of lifelong learning in families, schools and communities.

2.1.5 Teachers and Instructional Applications of Digital Literacy

There are several different forms of technology to help and improve learning. All video content, digital movies, laptops and handheld devices were used in schools. In the classrooms. Similarly, new technologies like the casting of pods are appearing continuously (Marshall, 2002). Different technologies provide Marshall with different types of contents and serve diverse goals. Word and e-mail processing increases communication skills, database and tablet programs promote the organizing abilities and software modeling supports the comprehension of the notion of science and mathematics. How these technology differs and what qualities make them essential as educational vehicles are crucial to explore (Berker, 1994).

The technologies currently accessible in classrooms range from easy tool-based programs (such as word processors) to online scientific data repositories. Others are main records, portable computers, TV channels and two-way distance learning lessons. Prensky (2005) says that the mobile phones, which many people are now carrying, may be utilized to study. Each technology is expected to have a particular role in student learning, according to Lei

and Zhao (2006). Installations need to think about what type of technologies are being used in classrooms and for what reasons, rather than trying to define the impact of all technologies as if they had equal. Then two general differences from literature may be noted. Students can study through computers when technology is mostly utilized as instructors and can improve basic skills and knowledge of the learner. In addition, it can learn from computers where technology is utilized to assist build better order thinking, creativity and research abilities, which may be applied to a number of objectives during the learning process and (Reeves, 1998; Ringstaff and Kelley, 2002).

The major type of student learning via computers is defined, according to Murphy et al. (2001), as discrete education software, integrated learning system (ILS), CAI and computer-based education (CBI). These software programs are now the most widely accessible educational technology applications in schools, along with word processing software, and have supported the education sector for over 20 years (Becker, Ravity and Wong, 1999). Murphy et al. (2001) said that teachers not only utilize DES in addition of training, as has previously been the case, but also in order to introduce subjects, give self-study methods and provide opportunities to acquire ideas otherwise unavailable. Two important assumptions regarding computers' learning assistance are also made in the software. Firstly, the capacity of users to engage with the program is defined in a restricted way that promotes education with the product. Second, computers are regarded as a learning medium, rather than as a learning instrument.

2.1.6 Studies on Teachers Uses of Digital

Previous research on the teacher's use of ICTs (Digital) tools found the development of staff as an important element in efficient usage of ICTs in the classroom. McCarney (2004) has submitted a report for teachers on the study of efficient ICT staff development. In order to evaluate the influence of several models of ICT staff development on the teacher and examine the knowledge and skills acquired through employee development: technical; academic/contaminated; pedagogical. A sample of Scottish primary school teachers was questioned. The results showed that the pedagogy of ICT should be considerably more emphasised. All concerned in the education and the professional development of teachers should be of interest. This should be important.

In a research by primary school teachers, Moseley and others (1999 in the United Nations Unesco, 2004) recognized to have made average or higher average improvements from child relative achievement metrics centered on ICT teaching. The most successful instructors were the examples and the counter-examples used and the students participated in the explanation and modeling of the class. The results revealed ICT-favored teachers were likely to have advanced ICT abilities and consider ICT as a major teaching and learning instrument. They especially appreciated student collaboration, investigation and decision-making. A number of significant elements influence the educational techniques of teachers. First, understanding of their own topic affects them. A significant contrast exists between teachers who pick ICT resources to fit in a certain topic and those who choose resources to show the work of students in a novel manner, without direct use of the topic. The research demonstrates that when teachers utilize the topic as well as how

students comprehend the subject in using ICT, it has a more direct influence on their achievements.

Cox et al. (1999) report on the outcomes of a small project that is financed through the MirandaNet project by the Teacher Training Agency and Oracle, and that examines facts that have led to the continued use of ICT by experienced ICT instructors. Evidence was gathered through a literature search, teacher surveys, teacher reports and interviews. The key considerations for these instructors were: making the sessions more fascinating, easier, more fun for them and their kids, more diversifying, motivating and pleasant. Furthermore, more personal elements improved the presentation of materials, enhanced access to personal computers, increased teaching capacity at school, increased teacher reputation, increased efficiency of the teaching staff administration and professional Internet assistance.

In a research on the use of ICT by secondary science instructors carried out in America, Gray and Souter (2004) focuses upon and on the views of teachers in these areas in one element of the use of ICT in secondary subjects. A comparison between the attitudes of science instructors and teachers in other subjects is made. While the replies of biology instructors could be examined, there was little in the research, so an overview of the three disciplines of biology, chemistry and physics is provided. Data analysis has shown that science instructors have been favorable about the usage and confidence of ICT in comparison to other subject teachers. However, the actual degree of use was, on absolute terms, relatively low despite the availability of computer systems was claimed rather high. Furthermore, it was a relatively restricted spectrum of applications, especially word processing, where the degree of use was higher. Moreover, nothing has been recorded in

scientific classrooms on the usage of ICT by pupils. Though the potential of ICT was apparently recognized in science, instructors said that the introduction of ICT did not dramatically change the way teaching was done and that it did not change the interactions between teachers and students. Teachers in science had reasonable confidence in the use of ICT, but thought that much more was required to support them and to make their ICT usage more widely possible in the schoolroom.

The shift to a smart society, which started with the introduction of clever devices, will force new developments in the areas of politics, business, society and culture through the growth of intelligent technologies such as big data, cloud computing and the Internet of Things. Despite these progresses, the difficulties since the start of the information era remain. The emergence of new digital technologies created societal issues owing to the digital gap as well as ease of new services. Digital literacy is a vital skill in the digital age, yet in many sectors of society, enterprise and politics the digital gap may aggravate inequality. But the digital intelligent split might increase socioeconomic disparities in addition to the current PC-based digital divide. How can we tackle the digital inequality issue because digital gadgets may be exploited as a human resource? The motivating elements that function before materials access or digital uses are one of the most significant concerns in digital separation study. The aim of this study is, thus, to assess the impact on use of digital services by motivating variables.

The digital divide has been characterized as the barrier between those without computer and Internet. Until date, most of the information gap research have focused on socioeconomic information gaps, such as age, sex, income, education, and work. However, a digital access strategy is required to gain a deeper understanding of the digital divide.

The digital divide is a complicated subject with different approaches. Digital access is a multi-dimensional notion that signifies different motivating access, access to materials and usage accessibility. Digital access generally comprises of material or physical access relating to internet or information capabilities, expert access, including hardware and software handling, and access to the use, including diverse uses and the use of digital content.

2.2 Theoretical Framework

2.2.1 Technology Acceptance Model

In the recent decade, much emphasis has been paid to accepting or adopting information technology (IT). In order to explain end-user acceptance behavior, several theoretical models have been suggested. Included among them, Davis (1989) has a broad application and experimentally verified technology acceptance model (TAM). Since the beginning of TAM, there have been dozens of empirical investigations. TAM is thought to be more sparing, predictive and resilient compared to its rival models (Venkatesh & Davis, 2000).

Notwithstanding the variety of TAM literatures the empirical testing have generated mixed and inconclusive results, which vary greatly with regard to statistical importance, direction or size. While not unusual in social sciences where human behavior is difficult and complex to explain, mixed findings undercut the accuracy of TAM, but also confound efforts to trace the history of user acceptance. The objective of this study is to determine how significant and cumulative validity of TAM reflects the current literature. In specifically, by doing a meta-analysis, we summarize the available TAM results. We want to better understand how TAM applies to various technologies as a whole by combining current empirical data. We

can look at the connections between TAM components using a wider range of individuals than any single study. We hope that the results of this study can be utilized for future TAM testing as a standard.

A meta-analysis on TAM is also important for the practice of IT management in addition to its possible theoretical contributions. IT managers may intervene more effectively to promote more technological acceptance or utilization by knowing the substantial antecedents of user acceptance. IT administration requires prescriptions according to Robey and Markus (1998) and Benbasat and Zmud (1999). In addition to applying the most rigorous technique appropriate to their research aims, IT researchers should also generate research relevant and consumable for practitioners. Academic research may make a contribution to practice in numerous ways. As a successful example, Benbasat and Zmud (1999, p. 9) noted: 'IT research on the basis of theory of reasoned action and its extensions to IT adoption, implementation and usage, such as planned behaviour's theory.' They proposed that once there is a significant amount of literature on a subject, "this literature can be synthesized" (Benbasat and Zmud, 1999, p. 9). Thus, the IS research community should develop cumulative research bodies based on theory and context. It was advocated. This "rigor and relevance" request for research is answered in some sense in the current study.

2.2.2 Cognitivism Learning Theory

Cognitiveism is a study philosophy that studies the process, organization, storage and recovery of information in the mind. It uses the mind like a computer as a data processor. Consequently, cognitivism regards learning rather than seen behavior as internal mental

processes. Learners are actively involved in the manner in which knowledge is processed from this perspective. All aspects may be enhanced, such as knowledge, memory, thinking and problem solving.

2.4 Review of Related Empirical Studies

Kumari et al. (2016) aimed at identifying teachers' digital literacy and ICT use by teachers in secondary schools of Mangaluru Taluk in the teaching-learning process. The study also intended to identify relationships between the two variables, in addition to comparing the digital literacy of professors with the usage of the ICT in educational education in Mangaluru Taluk's urban and rural schools. Two questionnaires were given to in-service teachers of secondary schools teaching Karnataka State Syllabus at many Mangaluru Taluk school. They were the Digital Literacy Inventory and ICT Uses for Teaching-Learning. The results showed that both secondary school teachers' digital literacy and the extent to which ICT instructors utilize in high schools are average. In rural and urban schools, there is no substantial difference in the usage of teachers in digital literacy and ICT. There is also a good link between the usage of teachers in digital literacy and ICT. Findings offer essential information on the current level of teachers' digital literacy and ICT use. In addition, article offers educational implications that help undertake appropriate effort to increase ICT infusion in more inventive methods.

The influence of computer literacy among high school teachers is assessed by Philip (2018) in the state of Rivers. There was a descriptive design for research surveys. In this study 194 teaching staff in the Obio/Akpor LGA state-owned secondary schools of Rivers State were obtained through the proportionately stratified Random Sampling approach. Using the

Cronbach Alpha reliability test, the dependability of the instrument has been determined with a value of 0.84. The data were examined in response to the research questions with frequency counts and basic percentage, average and standard deviations, while the t-test was employed to test hypothesis at an importance level of 0.05. The results of this study suggest that secondary teachers' computer literacy levels were high, their computer literacy expertise was inadequate and the variables identified influenced the computer literacy program in state schools. Based on these findings, we recommend teachers to make use of computer expertise in the teaching and learning process and to provide schools and teachers with computer-literacy centers and ICT centers with regular services, seminars, workshops, and meetings by professional bodies and the state, host communities and PTA, and the government, and incentives should be given to teachers to enhance their knowledge on the use of computer in education through soft loans.

Mohalik (2020) aims to find out the degree and usages of digital literacy among secondary teachers. For this study, a descriptive technique of research has been adopted. The survey was carried out by 170 students randomly selected from Utkal University, Odisha, India teacher education colleges. The tool utilized a self-developed questionnaire based on many elements of digital appliances and applications, such as the ability of trainees to apply digital techniques and applications for apprenticeships and teaching, etc. Frequency and percentage analysis were performed to collected data and therefore results were generated. The study found that most trainees can change the brightness and contrast of the screens, minimize, maximize and move the windows, use search commander for a file and download and install applications, more than 50 percent of the trainees do not know the apprenticeship management system, virtual worlds, podcasts and web design applications,

Give pupils feedback. It is proposed that institutions of teacher education should be provided with digital gadgets and applications for teaching and growth. In order for apprentices to acquire skills to use them for school education, learning and evaluation, teacher educator should encourage and inspire trainees through integrated IC T in regular training activities and in all disciplines.

In the rural area of Kwara State, Nigeria Mabayoje et al (2015), examine the ICT literacy of secondary school pupils. The study used a hybrid investigative strategy combining quantitative and qualitative data collecting strategies. The study results found that high-school pupils in rural areas had poor levels of ICT abilities. While most students who worked as responders have reported to have a computer instructor and to be able to handle computer systems, the survey revealed a lack of practical training ICT capabilities. However, the results of the three focus group discussions at the end of COBES revealed that the desire of students to use ICT was increasing via a one-week COBES programme, and most of them expressed a wish to continue interacting with computer and Internet capabilities. Findings also demonstrated the absence of ICT facilities for education and learning as the primary cause for the low level of ICT capabilities. The report suggested the deployment of ICT projects.

2.5 Summary of literature reviewed

The chapter investigated literature in a few high schools in Minna, Niger State, in order to assess the availability, availability, interest, and use of digital literacy. It is possible to communicate amongst people across long distances over national and cultural boundaries using the Internet. Consequently, media literacy in the creation of a society is becoming

increasingly significant. The ability to understand and use data in a variety of forms acquired from a number of sources using computer equipment is defined as digital literacy skills. The digital divide is characterized as the difference between those who have and who do not have access to computers and the Internet. The majority of knowledge gap research have until recently centered on socioeconomic factors, such as age, sex, income, education and employment. A digital access plan for a complete knowledge of the digital divide is nonetheless needed.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

The methodology for the investigation is described in this chapter. We describe the design of the research, study population, sample and sampling strategy employed for this study. The instrument was discussed for data collection, validity and reliability of the device, data collecting technique and analysis.

3.2 Research Design

A descriptive survey research technique was utilized to obtain responses from respondents via a questionnaire. The researcher was interested in evaluating digital literacy among secondary school students in Minna Metropolis, Niger State, since it was available, ready and interesting, and so the design was considered beneficial. In addition, given the widely diverse characteristics of the respondents, a survey design was determined to be the most efficient means of collecting the required information to establish the facts sought by this study.

3.3 Population of the study

All 6,379 pupils in Minna Metropolis, Niger State, attended this program in high school. SSII computer science students at secondary schools in Minna Metropolis are the target demographic of the study.

3.4 Sample and Sampling Techniques

Two secondary schools in Minna Metropolis randomly selected up a total of 1006 pupils (146 kids). A simple random sample means that everyone in the accessible population has equal opportunities to be picked and the likelihood of a unit being chosen is not changed by the selection of other units from a population that is accessible (the selection is made independently).

Table 3.1 Sample Distribution

S/N	Name of School	Male	Female	Population
1	Ahmadu Bahago Secondary school, Minna.	40	32	72
2	Government Day secondary school, Minna.	44	30	74
Total		84	62	146

3.5 Research Instrument

The data collecting tool was a questionnaire called the "Questionnaire on Digital Literacy Availability, Readiness, Interest and Use" (QARIUDL). The questionnaire aims to evaluate the availability, preparedness, interest and use of digital literacy in various areas. Section A provides the following sections: Section B, C, D, and E, which contain 5 items to provide responses correspondingly to the availability, preparedness, interest and use of digital literacy.

3.6 Validity of the Instrument

The study tool was assessed by experts from the Minna University of Technology, the Minna Department of Science education, Sciences and Technology Schools, face and content (questionnaire). These experts made changes and recommendations before the administration of the instrument.

3.7 Reliability of the Instrument

In order to evaluate their dependability, 20 pupils of the Bosso high school, Minne, who did not belong to the sampling population, were tested using a test test testing technique. For the test of dependability and reliability, Richard Kuderson Formula 20 (KR20) was obtained in the range 0.71, 0.78, 0.81, and 0.75.

3.8 Method of Data Collection

The first permission to attend a sample school was purchased from the department's HOD. The researcher went to the headmaster of the selected schools and explained how the visit was intended and the approval for the experiment was obtained. They were handed to the students and retrieved promptly after they had been filled to avoid losing the research tools.

3.9 Method of Data Analysis

However, average data is analysed for the data analysis. Mean 3.0 and higher responses were regarded favorable while negating below 3.0.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION OF DATA

4.1 Introduction

The aim of the study is an assessment in Minna Metropolis, Niger State on the availability, preparedness, interest and use of digital literacy in selected high schools. In this chapter, the data are examined, the results are presented and the results are discussed. The data has been examined in the Statistical Package for Social Science (SPSS).

4.2 Description of Study Variables

Of the hundred and quarantine-six (146) questionnaires issued, a total of 1006 (146) were collected.

Table 4.1 Gender Distribution of students

Gender	Frequency	Percent
Male	84	57.5
Female	62	42.5
Total	146	100.0

The respondents are categorized according to gender in Table 4.1. The table shows the interviewees by sex. The male interviewed is more than the female participants, the malaise accounts for 57.5% of the sampled population, and the remaining 42.5% of the population for females.

4.3 Response to Research Questions

Research Question One: Is digital literacy available to secondary school students?

Table 4.2 Availability of Digital Literacy

S/N	Items	N	Mean	Std. Deviation	Decision
1	ICT education is present in my school	146	2.40	1.11	Nor Available
2	I have knowledge on Internet connectivity	146	2.66	0.80	Available
3	I am aware of smartphones for learning	146	2.89	0.91	Available
4	We are taught about tablet devices for learning	146	2.82	1.23	Available
5	We taught how to use e-learning platforms in schools	146	2.60	1.23	Available
Grand Mean		146	2.67		Available

Decision mean: 2.50

Table 4.2 shows the mean and the standard deviation of the response from students in the Minna Metropolis State of Niger to digital literacy. The table shows a computed mean score of 2.40 for item one, standard default of 1.11, standard of 0.80, standard deviation of

0.80, standard deviation of 1.91, standard default of 0.91, standard default of 1.23, standard default of 1.24, 2.60, standard deviation of 1.23 for Item 5 and a large mean score of 2.67. This means that high school pupils in Minna Metropolis, Niger State can receive digital literacy.

Research Question Two: What is the readiness of secondary school students to become digital literates?

Table 4.3 Readiness for Digital Literacy

S/N	Items	N	Mean	Std. Deviation	Decision
1	I am ready in learning to use a computer	146	2.40	1.11	Not Ready
2	I am ready to learn how to use a smartphone	146	2.82	1.23	Ready
3	I am ready to learn how to use a tablet	146	2.62	1.22	Ready
4	I am ready to learn how to use social media platforms	146	2.66	0.80	Ready
5	I am ready to learn how to use a e-learning platform	146	2.89	0.91	Ready
Grand Mean		146	2.67		Ready

Decision mean: 2.50

Table 4.3 shows the Mean and Standard Deviation of student's response on the readiness of secondary school students to become digital literates. The table reveals the computed mean score of 2.40 with Standard Deviation of 1.11 for item one, 2.82 with Standard Deviation of 1.23 for item two, 2.62 with Standard Deviation of 1.22 for item three, 2.66 with Standard Deviation of 0.80 for item four, 2.89 with Standard Deviation of 0.91 for item five and a grand mean score of 2.67, this implies that students have shown readiness in becoming digital literates.

Research Question Three: Are secondary school students interested in becoming digital literates?

Table 4.4 Students interest in becoming digital literates

S/N	Items	N	Mean	Std. Deviation	Decision
1	I am interested in learning how to use a computer	146	2.82	1.23	Interested
2	I am interested to learn how to use a smartphone	146	2.60	1.23	Interested
3	I am interested to learn how to use a tablet	146	2.80	0.93	Interested

4	I am interested to learn how to use social media platforms	146	2.40	1.11	Not Interested
5	I am interested to learn how to use a e-learning platform	146	2.67	0.81	Interested
Grand Mean		146	2.65		Interested

Decision mean: 2.50

The mean and default of the response to the student's interest in digital literacy is shown in Table 4.2. The table shows the calculated mean score for item 2.82, standard deviation 1.23, standard deviation 1.23, standard deviation 2.80, standard deviation 0.93, standard defect 3.40, standard defect 1.11 for item 4, standard deviation 2.67 and a standard differences of 1.81, and a large mean score of 2.65. This means that high school pupils are interested in digital literacy.

Research Question four: Is digital literacy been utilized in secondary schools in Minna Metropolis?

Table 4.5 Utilization of Digital Literacy

S/N	Items	N	Mean	Std. Deviation	Decision
1	I make use of a computer in school	146	1.93	0.88	Not Utilized

2	I can make use of smartphone to learn	146	1.81	0.78	Not Utilized
3	I can make use of a tablet	146	2.15	0.72	Not Utilized
4	I can make use of social media platforms	146	2.11	0.76	Not Utilized
5	I can make use of e-learning platforms	146	2.20	0.59	Not Utilized
Grand Mean		146	2.04		Not Utilized

Decision Mean: 2.50

In Table 4.5, The table shows a calculated mean score of 1.93, with a default of 0.8 for item one, 1.81 for item 2, 2.15, with standard deviation of 0.72 for item three, 2.11 for item 4, 2.20 for item five and with a large mean score of 2.04. for item 4, 2.2 for item 4, and a standard deviation of 0.59 for item 5. This means that digital literacy in high schools in Minna Metropolis has not been used.

4.4 Discussion of Findings

The findings show that in secondary schools in Minna Metropolis digital literacy is available with a large mean score of 2.67 indicating that digital literacy is available. This is similar with the findings of Kumari et al. (2016), which showed that the digital literacy level is average.

The results suggest that pupils in Minna Metropolis' secondary schools are ready for digital literacy with an average score of 2.67 that demonstrates their readiness for digital literacy. This is in line with the results of Mabayoje et al. (2015), who showed that students are

ready to adopt digital technology. Findings indicated that secondary school pupils showed interest in digital abilities, as the answers offered a significant average score of 2.65 which indicated that educational materials were available.

Furthermore, the data show that digital literacy is not used in high schools and the high mean score of 2.04 indicates non-use. This is contrary to Kumari et al. (2016) findings which showed that digital literacy in secondary schools is used on average.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the Study

In several of the high-schools in Minna Metropolis, Niger State, the research analyzes accessibility, preparedness, interest and use of digital literacy. The research is nonetheless organized into five segments, where every topic is fully explored.

The first section of the research provides the background for the study, the statement of the problem, the questions of research, the relevance of the study, the scope of the survey, the methodology, study limits and the definition of terms. Such a number of relevant literatures were picked in chapter 2 from a variety of writers to illustrate what various academics have done to educate and learn digital literacy. Chapter Three of the study, based on research technology, utilized the descriptive survey research design and administered questionnaires. A basic random sample technique was used to choose the respondents. The data analysis and interpretation of findings were the focus of Chapter four of the project. The data analysis approach used frequency and percentage. The summary, conclusion and recommendations of the study are provided in this chapter.

5.2 Implications of the Major Findings

The following are the implication of the major findings.

1. The study revealed that digital literacy is available in secondary schools in Minna Metropolis
2. The study revealed that students are ready to become digital literates in secondary schools in Minna Metropolis

3. The study revealed that secondary school students display interest in becoming digital literates
4. The study revealed that there is no adequate utilization of digital literacy in secondary schools in Minna Metropolis

5.3 Recommendations

Following is a list of suggestions based on a critical evaluation of the responses and a review of the prior research.

1. The government and school administrators should establish enough provisions in secondary schools for digital literacy.
2. In secondary schools, there should be a strict adherence to the use of digital technologies for teaching and learning.
3. It is important to note that the current study employs a quantitative research method and collects data solely through a survey questionnaire. As a result, it is suggested that for a more thorough investigation, other instruments such as interviews and class observations be conducted to get a more thorough picture on availability, readiness, interest and utilization of digital literacy in secondary schools.

5.4 Suggestions for Further Research

1. The impact of digital literacy on secondary school students' academic achievement and retention in Physics in the Minna Metropolis
2. Perceptions of digital literacy in Geography teaching and learning among secondary school students in Niger State's Bosso Local Government Area.

3. The impact of digital literacy on students' academic progress and interest in North-Central Nigerian secondary schools, both urban and rural.

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APPENDIX A
QUESTIONNAIRE

SECTION A: BIODATA

Please mark your response with a tick (✓) approximately

Gender: Male Female

SECTION B: Is digital literacy available to secondary school students?

Fully Available (FA), Available (A), Partially Available (PA), Not Available (NA)

S/N	ITEMS	FA	A	PA	NA
1	ICT education is present in my school				
2	I have knowledge on Internet connectivity				
3	I am aware of smartphones for learning				
4	We are taught about tablet devices for learning				
5	We taught how to use e-learning platforms in schools				

SECTION C: What is the readiness of secondary school students to become digital literates?

Fully Ready (FR), Ready (R), Partially Ready (PR), Not Ready (NR)

S/N	ITEMS	FR	R	PR	NR
1	I am ready in learning to use a computer				
2	I am ready to learn how to use a smartphone				
3	I am ready to learn how to use a tablet				
4	I am ready to learn how to use social media platforms				
5	I am ready to learn how to use a e-learning platform				

SECTION D: Are secondary school students interested in becoming digital literates?

Fully Interested (FI), Interested (I), Partially Interested (PI), Not Interested (NI)

S/N	ITEMS	FI	I	PI	NI
1	I am interested in learning how to use a computer				
2	I am interested to learn how to use a smartphone				
3	I am interested to learn how to use a tablet				
4	I am interested to learn how to use social media platforms				
5	I am interested to learn how to use a e-learning platform				

SECTION E: Is digital literacy been utilized in secondary schools in Minna Metropolis?

Fully Utilized (FU), Utilized (U), Partially Utilized (PU), Not Utilized (NU)

S/N	ITEMS	FU	U	PU	NU
1	I make use of a computer in school				
2	I can make use of smartphone to learn				
3	I can make use of a tablet				
4	I can make use of social media platforms				
5	I can make use of e-learning platforms				