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THE INFLUENCE OF DIGITAL LITERACY SKILL ON ACADEMIC PERFORMANCE: THE MODERATING ROLE OF SCHOOL ENVIRONMENT

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ABSTRACT

The level of unemployment, underemployment, poverty and their re-occurring negative consequences have hitherto necessitated high critique on formal education for lacking its relevance and informal education for being unable to promote the much- needed development, scientific and technological breakthrough at all levels. As such, the main purpose of this study therefore, was to investigate the influence of digital literacy skills and senior secondary school student's academic development in Imo State. The paper revealed that digital literacy skills influences academic development of senior secondary school students. The implication of the paper is that the introduction of digital technologies or any other computer-based information technology in schools is not intended to substitute a teacher, but to provide the teachers with a powerful tool that can greatly enhance communication by delivering a multi-sensory experience. It was recommended among others that; computer Assisted Instruction should be implemented in more public schools in Imo State, so that students can be self-dependent and the Government should allot more funds to provide adequate number of computer and its related infrastructure for the schools to enable student become digitally inclined.

Keywords: Digital Literacy Skills, Academic Performance, School Environment

INTRODUCTION

Teaching and learning like every human enterprise is dynamic. One of the changes that have affected human race is the introduction of Information and Communication Technology (ICT). The level of acceleration of ICT in our education and work systems is very alarming. This situation calls for urgent need to inculcate the new digital literacy skill in senior secondary education in Nigeria and Imo State in particular. The integration of digital literacy skills in senior secondary becomes very necessary now that poverty and unemployment are ravaging the entire nation especially the youth age bracket. The rising rate of poverty and unemployment and its consequences among youth have continued to cause major concern to government all over the world and Nigeria inclusive. Much so that new technology usage in teaching and learning have become prominent discourse in many quarters in Nigeria to the effect that virtually all the workshops and conferences have in it sub theme issues concerning or relating to technologies usage in teaching and learning. Underpinning the acquisition of digital literacy skills on the secondary students' academic development is very interesting and this is the reason most government including Imo State have spent huge sum of money yearly to procure and equip secondary education. Unfortunately, it is observed that there is low level of utilization of these computer instructional technologies in the teaching and learning at the senior secondary school level of education. This is very worrisome owing to the fact that secondary education is a preparatory stage in education milieu. Could this low level of utilization be attributed to lack of interest or lack of competency on the side of the teachers? Nwite (2016), Onojaife (2020) declared that why most graduates of OTM lack employment skills could be linked to failure of teachers' poor instructional delivery.

There is a thoughtful attempt to reduce unemployment in Nigeria and Imo State in particular. Some researchers have raised serious concern on the digital skills backwardness of Nigeria secondary education system and how they wallow in technology deprivation, fear and intimidation occasioned by lack of supporting infrastructure, insufficient skilled manpower, fear of the unknown,

and others (Oduyemi, 2009). These factors significantly limit the study of computer and related ICT skills in the Senior Secondary Schools in Imo State. Thus, for every senior secondary school student, ICTs illiteracy constitutes a serious threat to their academic performance.
The failure to provide the necessary computer/ICT facilities for students and educators' use hinder not only effective and efficient lecture delivery but the students' chances of being technologically competent after graduation. As such, the consequences of not addressing the inequality of the digital literacy among students in secondary schools in the study area, defeats the essence or basic aim of secondary education in this 21st century. This is because, digital literacy have the potential to accelerate, enrich, and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow's workers, as well as strengthen teaching and helping schools change, hence, this study on digital literacy skills and senior secondary school students' academic development in Imo State was considered imperative.

Aims and Objectives of the study
The aim of the paper was to examine the impact of digital literacy skills and senior secondary school students' academic development.

Significance of the Study
The findings of this paper will be significant to teachers, students, information professionals, educational administrators, the society, and future researchers in the following aspect: The teachers will benefit by appreciating the importance of digital literacy on students academic development and thereby be motivated to acquire training for better delivery of digital literacy to impact students with the knowledge for the real world. The findings of the study would facilitate teaching and learning; it will provide teachers with feedback on assessment of the academic development of students as a basis for improvement in their instructional practice in order to enhance the development of students. The findings of the paper will also be beneficial to students, as it will enhance teacher-student contact with digital technologies, as such foster a better educational experience for the student. It will also decrease workload for the students as they can upload their teachers' materials and access and study it themselves even when at home. The students will have more benefits in access to learning materials through by their knowledge of digital technologies; as such, students will gain access to information that will increase their knowledge, inquiry and depth of investigation in their studies.

Diffusion of Innovation Theory
The study is anchored on Diffusion of Innovation theory, the theory of diffusion and innovation was propounded by Rogers (1962). The Diffusion of Innovation (DOI) theory identifies the conditions which enhance or impede the rate of adoption of an innovation. The theory explains the process of social change caused by the adoption of an innovation. Obviously the media and interpersonal contacts with school environment and teachers influence the decisions of students on the adoption of innovations. Diffusion of Innovations, Rogers first proposed significant and universal factors that help explain how social change occurs. His observations and propositions on the diffusion of ideas and products have undergone multiple iterations and expansions as DOI theory has evolved and grown. Rogers, defined Diffusion of Innovation as "the process by which an innovation is communicated through certain channels over time among the members of a social system. The functional value and applicability of DOI theory to many disciplines are documented by its use in empirical research over the past several decades.
The diffusion of innovation theory is often associated with pedagogic approaches that promote active learning or motivation. Innovation is something new and unique which implies that secondary school students will be willing and interested to embrace new ideas such motivating as ICT in learning. Sustaining motivation to learn is strongly dependent on the students' confidence in his or her potential for learning. The innovation in DOI theory refers to "an idea, practice, or object that is perceived as new. In the context of this study innovations may include, for example,

anything from a new form of technology, to educational policy, to emerging practices. Certain attributes of innovations relate to the likelihood and rate of their adoption. Secondary schools students are more likely to adopt an innovation that: is perceived as having some relative advantage over current practice; is compatible with existing values and needs; is not too complex; can be tested for a limited time before adoption, and has observable results and outcomes. When an innovation offers some flexibility, such as allowing the user to modify or adapt it to fit his or her needs, the likelihood of adoption increases.

As a framework for examining the process of change, DOI theory incorporates four overarching components that characterize the spread of ideas that are perceived as new: (a) the innovation itself, (b) the communication channels used for education and outreach, (c) the time involved in adoption of an idea, and (d) the social system being introduced to the innovation. Within these four elements of the framework, there are growing numbers of sub theories and concepts as DOI theory is applied and continues to evolve. Each main component is highlighted as a backdrop for considering the diffusion of UD in postsecondary instruction.

Concept of Digital Literacy Skills

Educational institutions are taking advantage of advances in digital technology to engage their students with various teaching and learning modes. Digital technology has become an integrate part of education and is changing the ways today's students learn (Marcus, Weinelt, & Goutrobe, 2015). Digital literacy skill has become popular among educational institutions. Offili (2017) posited that students use digital technology for such learning activities as reading and sending email, assessing learning management systems, reading e-journals or e-books, doing online quizzes, participating in discussion forums, and so on.

Digital literacy is the set of competencies required for full participation in a knowledge society. It includes knowledge, skills, and behaviors involving the effective use of digital devices such as smart phones, tablets, laptops and desktop PCs for purposes of communication, expression, collaboration, and advocacy. Digital literacy skill is the ability for an individual to use computer and its technologies efficiently. Digital literacy skill is considered as the knowledge and ability to utilize computers and related technologies efficiently, with some range of skills. Another valuable component of digital literacy skill is related with how the computer works, how to operate the computer and to solve problems with it.

Okeji, Nwankwo, Anene and Olorunfemi (2020) observed that the phrase, digital literacy exceeds the normal information technology skills, it explains a richer set of digital practices, identities and behaviours. The idea of digital literacy changes as time changes. Consequently, digital literacy is defined as a set of professional and academic practices triggered by the changes in modern technologies". ICT proficiency was in any case situated at the heart, thus, linking together, data, information, media literacy's, digital creation, digital communication, problem solving and innovation, participation and collaboration, digital learning and development, all these are encompassed by digital identity and general wellbeing (Okeji, Nwankwo, Anene & Olorunfemi, 2020). School administrators and media specialists, educators and other stake holders in the education industries are focusing more and more on the benefits of digital literacy skills in schools because today's students are seeing the Internet as a key source of information. It is also true that students who are digitally literate know how to find and consume digital content. They know how to create, communicate, and share digital content. The capability of individuals to use technology to create, navigate, disseminate, evaluate and store information is basically described as digital literacy. It is just a set of necessary competencies needed for adequate participation in a society that is knowledge based. Digital literacy has to do with skills, knowledge, and behaviors that involve effective and efficient use of digital devices like smartphones, tablets, iphones, laptops, ipads and desktop PCs for purposes of collaboration, communication, expression, advocacy and even decision making.

(a). Locating and Consuming Digital Content

It is very important to develop the skills to locate, comprehend and consume digital content online. The challenge on how to incorporate this into effective teaching and learning process and development of Web search skills in the classroom cannot be overemphasized. Nevertheless, some important skills are considered necessary for locating and using digital content: domain knowledge, a working knowledge of how to use search engines, basic literacy skills, and a general knowledge of resources available on the Web. In addition to building on the ability to craft productive Web search terms, search lessons should involve direct modelling of the use of search techniques, differentiating between domain names, and querying sites for accuracy and transparency.

(b). Creating Digital Content

Digital content is easily created by teachers and students alike through multiple media and a variety of Web 2.0 tools. The implementation of digital content may be an important and effective method of enhancing teaching and learning (Bakkenes, Vermunt, & Wubbles, 2010). It also enables teachers to embrace the 21st century skills that students are expected to master. Digital resources can also free up teachers, allowing them to spend more time facilitating student learning and less time lecturing. Allowing students to create and consume digital content in the classroom may increase engagement while also encouraging the development of skills needed for a technological society.

(c). Communicating Digital Content

Digital content must be communicated effectively in order to be a useful educational medium. Using social networking sites like Facebook, Twitter, and Instagram requires users to understand and manipulate information in multiple formats. Web 2.0 tools are social, participatory, collaborative, easy to use, and facilitate the creation of online communities. Being able to communicate digital content using mobile devices such as iPads, tablets, smartphones, laptops and others provides convenience and immediacy to the communication process for teachers and learners. Digital literacy is an essential skill for enhancing university learning in a digital-based, global economic environment. Graduates must be knowledgeable workers, and therefore must have digital literacy skills to accomplish job tasks efficiently. Students have realized that digital literacy is the fluent use of computers and Internet to produce projects or create content from digital media. This involves a range of skills such as utilizing technology in daily life with awareness, understanding security and participating in the digital world.

Importance of Digital Literacy

The importance of digital literacy cannot be over emphasized as it equips people with critical thinking skills and ability to evaluate, understand and interpret information from the internet without which is very detrimental. Digital literacy enables individuals to make informed use of digital technology and media as it offers opportunity to participate in new kinds of social activities (Hague & Williamson, 2009). It enhances employability with recruitment being increasingly undertaken online and provides skills needed for people to gain access to work places. According to Obineli, (2012) digital literacy have beneficial effects on learning skills and competencies because it broadens the scope of potential knowledge. Ocho, (2016), observed that digital literacy serves as a tool for collaborative, creative and recordable communicative techniques essential for the next generation. In addition, it empowers individual with the 21st century skills of creation, capacity to communicate, collaborate and to protect one's privacy. In order to fully participate and be active in this modern era one needs to be digitally literated to meet global competitiveness (Ocho, 2016). However, Olaitan, (2012) concluded that digital literacy goes beyond skills needed to use or operate technological devices, rather survival skills needed in this digital era. For one to survive in a fast growing digital age, Digital Literacy skills becomes imperative. Digital literacy gives undergraduates the ability to take advantage of the wealth of new and emerging opportunities associated with digital technologies while also remaining alert to the various challenges technology can present. Furthermore, digital literacy is the skill that allows students to participate meaningfully and safely as digital technology becomes ever more pervasive in society.

Concept of Academic Development

Academic development is the outcome of education (Annie, Howard, Mildred 2006). They added that academic development is commonly measured be examinations or continuous assessment but there is no general agreement on how it is best tested or which aspects are most important-procedural knowledge such as skills or declarative knowledge such as facts. Alelissa in Mkpaoro (2006) stated that in educational institutions, success is measured by academic development or how well a student meets standards set out by local government and institution itself. He added that as career competition grows ever fiercer in the working world, the importance or students doing well in school have caught the attention of parents, legislators and government education departments alike. Academic development according to Iroegbu in Mkpaoro (2006), is the level of performance that is exhibited by an individual. In other words, it can be conceived as the degree or level of success attained by at the end of an academic endeavor (Iwundu, 1995).

So many researchers have touched various aspects of academic development; they are summarized under conceptual framework of academic performance. Although education is not the only road to success in the working world, much effort is made to identify, evaluate, track and encourage the progress of students in schools. Mellisa in Mkpaoro (2006) said that in the past, academic development was often measured more by ear than today. Teachers' observation made up the bulk of the assessment, and today's summation or numerical method of determining how well a student is performing is a fairly recent invention. He added that the tracking of academic performance fulfils a number of purposes. Areas of development and failure in a students' academic career need to be evaluated in order to foster improvement and make full use of the learning process.

Iwundu (1995) emphasized that the yardstick for measuring ones academic development is assessing the academic performance of the individual through test and systematic observation. The results of the test provide a framework for talking about how students fare in school, and a constant standard to which all students are held. Performance result also allow students to be ranked and sorted on a scale that is numerically obvious, minimizing complaints by holding teachers and schools accountable for the components of each and every grade. Academic development level is said to be high when a child is able to excel in his academic activities and performed extra- ordinarily well (scoring high marks) it is also low when a child performs poorly in academic activities and scores very low marks in examinations. The two major factors that can affect academic development as mentioned in Iwundu (1995) are the will to achieve and the ability to achieve. With the above statement of Iwundu (1995) it means that at any point in time a student is to embark on a test, his state of mind that is whether the student is anxious or comported may likely affect his performance. This is because the academic development of this student is determined by the score of this test.

Academic development refers to knowledge and skills attained by a student in school subjects. Olaitan and Nwoke (1999), noted that academic development is always denoted by a score, which represent the amount of learning acquired, knowledge gained or skills and competencies developed in the school subject. Academic development is hinged on several factors including teaching methods, intelligence, background, organization, opportunity, motivation, instructional procedures, teaching materials, interest of the learner and other environmental variable. (Artherton, 2003) Others include learner's mental ability, his goals and purposes, his identification with learning, his maturation, and methods of guidance, availability of facilities and methods of testing. Lowmen (2006) wrote that studies have been conducted to articulate the characteristics of a good teaching and how it relates to students' academic development . One can be confident that the methods and tools employed by a teacher to impact the lesson could lead to students' learning and academic development.

Concept of School Environment

According to Mick (2011), School Environment means the extent to which school settings promote student safety and student health, which may include topics such as the physical plant, the

academic environment, available physical and mental health supports and services, and the fairness and adequacy of disciplinary procedures, as supported by relevant research and an assessment of validity. Okoro (2014) posited that environment could be described as a system within which living organisms interact with the physical elements, while school environment is a place where the learners learn to interact with learning facilities in order to be socialized and face the challenges in the society. Zais (2011) considered the school environment can be seen to include material and human resources, a learning place which consists of the entire interactive setting like classroom, workshop, library, field and offices. Miller, Davis, Tomporowski,and Naglieri (2008) asserted that school environment is the sum of both human and materials resources that the learners interact with. These include students, teachers, instructors, workshop attendants, administrators and all facilities available in the school setting which may influence learning and academic performance.

In the same vein, Tope (2012) asserted that school environment is an essential aspect of that unless schools are well suited, buildings adequately constructed and equipment adequately utilized and maintained much teaching and learning may not take place. Okwelle (2016) refers to environment as the facilities available for instruction and it possesses a strong influence in teaching-learning process. He added that there is need for adequate classroom buildings with good sitting arrangements for classroom instruction. He went further to state that availability of well-equipped school workshops and laboratories with modern machines, tools and materials for practices are necessary. Modern instructional materials (non-projected and audio-visual equipment) should be adequately provided.

The school environments, which include the classroom, libraries, technical workshops, laboratories, teachers' quality, school management, teaching methods, peer groups among others are factors that affect students' academic achievement (Von-Stumm, Hell, & Chamorro-Premuzic, 2011). Hence, the school environment remains an important area that should be studied and well managed to enhance students' academic performance. Fayose (2016) stated that there is need for standard library should be equipped with relevant books, journals, periodically and many others. It is also important to provide stable electricity supply, good lightening and ventilation, maintain tidiness of learning environment (Puyate, 2016).

According to Karemera, Reuben and Sillan (2013) the environmental difference and the difference in the quality of instruction from one school to another, can as well create differences in the level of knowledge acquisition of the children. This implied therefore, that the learning facilities in the school will expose the children to socio-economic influence which can affect their academic performance. Therefore, there is no doubt that the school environment contributes to children academic performance which is usually measured in terms of cognitive, psychomotor and affective achievement (Akaninwor, 2016). Byoung-suk, (2012) stated that children need safe, healthy and stimulating environment in which to grow and learn. During the school year, children can spend 6 to 8 hours at the school where the environment plays a significant/critical role in child development. More of the time is spent in the school yard or travelling to and from school. This condition requires careful planning and designing to optimize experiences that support education, health and stewardship. Therefore, the school environment is of paramount importance in shaping and reshaping intellectual ability. However, supportive and favourable school environment enriched with enough learning facilities, and favourable climate makes students more comfortable, more concentrated on their academic activities that resulted in high academic performance

Empirical Review

Several scholars have investigated empirically, into various areas of digital literacy skill and secondary school students' academic development and even in tertiary institutions.

Okeji, Nwankwo, Anene and Olorunfemi (2020) assessed digital literacy skills of 21st century librarians in private university libraries in Anambra State. The study adopted descriptive survey design. The population of the study comprised all the 23 practicing librarians in the three private university libraries in Anambra State. The questionnaire was the research instruments used for

data collection. The major findings of the study includes that academic librarians in private universities in Anambra State possess digital literacy skills. The study recommends among others that academic librarians working in private universities in Anambra State should endeavor to acquire all the digital literacy skills required for perfect service delivery; the management of private university libraries in Anambra State should provide financial sponsorship to the academic librarians for digital literacy skill acquisition and professional development in general; librarians should attend trainings on digital literacy skills more often, standby power generating source and strong internet bandwidth should be provided for the libraries.

Chiraz (2016) measured the impact of Information and Communication Technologies (ICTs) in Tunisia. A multilevel analysis was conducted to measure the impact of ICT access and use besides other student, university and teacher attributes that may affect academic performance. a survey data involving 377 college students and teachers, The results provided evidence for a distinctive though negative effect of ICT on performance which questions the effectiveness of educational policies in Tunisia. The findings suggest also that, overall university support is essential in increasing ICT learning impacts.

Kathryn and Lynn (2013) investigated influence of students' ICT skills and their adoption of mobile learning. The study adopted survey research. The population of the study comprised of 446 students from three tertiary institutions. The study found that students' intention to adopt mobile learning was influenced by specific types of ICT skills and that the perceived ease of use and usefulness of mobile technology would mediate the relationship between ICT skills and the intention of students to adopt mobile learning. In particular, it was found that advanced skill in mobile technology and basic ICT skills both played significant roles in the intention to adopt mobile learning.

Kashif, Nor, Fadhilah, Adnan and Mustansar (2020) studied relation between the use of ICT with students and their academic development in public and private academia in Pakistan. The study adopted the use of questionnaire. The population of study consisted of 300 students. Pearson correlation coefficient and descriptive statistics was used. The results showed that most students had laptops, personal computers, and in universities, they have Internet access. Many students stated, they used ICTs in order to improve their essential skills and to carry out their learning effectively with much involvement. It has also been established that the productive use of ICTs has had a substantial significant impact on the students.

A study was carried out by Angib (2008) on the extent of utilization of cybercafé in teaching and learning in higher institutions in Cross-River State. The objectives of the study include to: determine extent of utilization of Cyber-café in lesson preparation, determine the extent of utilization of cyber café in instructions delivery, find out the extent to which cyber café is used in self –learning, find out the extent to which cyber café is used in collaborative learning and determine the extent of utilization of cyber café in evaluation. The population of the study comprised two hundred and sixty (260) lecturers of three higher institutions in the state. Questionnaires were used for data collection. Data collected were analyzed using mean, standard deviation, z-test and analysis of variance (ANOVA). The findings revealed that lecturers in higher institutions used cyber café in lesson preparation and self learning. The study further revealed that lecturers in higher institutions rarely use cyber café in instruction delivery, collaborative learning and evaluation of learning. The findings of the study show that lecturers in higher institutions use cyber-café in lesson preparation and rarely use in instructional delivery.

Digital Literacy and Academic Development of Students

The view of computer literacy in education implies the use of computer knowledge and skills in the teaching and learning process, especially in the classroom situation. This involves the use of computer and its application in the transmission of knowledge or information. Computers are parts of education; computers are used in schools for many applications such as writing papers, searching the internet (browsing) for information, multimedia in education etc. For education to improve; there is need for curriculum implementers (teachers) to be computer literates. Ali,

Haolader, and Muhammad (2013) stated that computer literacy involves understanding the computers and related systems. For the scholars, computer literacy meant having the ability to use a computer for practical purposes. Today, information technology is used every day; therefore, the IT literacy and ability to use information technology in proficient way are key skills in the modern world. It should be noted that the concept of computer literacy continuously changing due to progress in technology (Milić & Škorić, 2010). Knowledge that ten years ago was good enough to consider a person computer literate, today is almost not useful. The amount and type of required knowledge significantly changed. During the period of regular school, education system is trying through various forms of computer education to give students the necessary knowledge and make them computer literate. At the same time, students every day come into contact with computer technologies and learn about them in less formal ways outside the school.

Milić and Škorić (2010) stated that computers are now everywhere around us and every day we use them at work, at school, in our spare time. Milić and Škorić, posit that computers are used for various reasons and in different ways. Many areas of human interest today depend on computer. Computers are now with us and they are here to stay. Computers follow us in all phases of our life and it is a necessity for everyone today to be computer literate. The computer literacy also appears to be related to computer anxiety, which is characterized by an "aversion, fear or apprehension towards interacting with computers or thinking about computers", so every study of computer literacy must also take into account computer anxiety, and respondents attitude towards computers Milić & Škorić, 2010).

Most technologies today are socially oriented, and when students are invited to engage with these technologies responsibly and productively, they are better prepared to solve problems critically (uwa.edu/news).

Teaching Literacy skills in Secondary education" highlights how educators can make instructional delivery more engaging while promoting digital literacy. The librarians in the study rely on teaching reading with technology through a three-pronged approach:

1. Digital Texts: To sum up the importance of expanded access to literary texts, the researchers stated "Far from limiting themselves to dusty library shelves, current members of the literary community construct interpretive literary knowledge with many types of focal texts." These digital texts act as an umbrella that encompasses a wide range of literary text types, including electronic literature, literary artifacts that have been digitally archived, video or audio performances, online dictionaries and online literary criticism.
2. Digital Tools: As students are invited to consume literary texts in digital spaces, they must understand how to engage with these texts through appropriate digital tools. To this end, students can simultaneously develop digital skills as they refine their literary literacy when they can annotate literary texts using appropriate software, search for words using relevant search engines, and "investigate and visually represent patterns in texts."
3. Digital Spaces: Students can create commentary and consume other criticism on literary texts in digital spaces. Across an array of social media platforms, students are encouraged to "produce, read and review user-created literary" texts and analysis. From fan fiction and songs to graphics and performances, students can employ digital skills to embark on new learning endeavors in new digital environments.

Computer literacy has made positive impact to the Nigerian education system despite the challenges encountered in course of computer integration in the teaching and learning process in schools (Agim, & Azolo, 2019). The following are some of the benefits and impact of computer literacy in education:

1. Computer has increased teachers and students' interest and motivation in learning.
2. It has helped in the improvement and advancement of knowledge of the teacher and students through easy access to educational materials and research online.
3. It has helped the teacher and student in self-development and training through online programmes, training, etc.
4. It enables online resources like, e-mail, chat, discussion forum and video conferencing, to support collaborative learning and sharing of information.

5. It makes the teaching process easy and lively as well as enables independent learning.

Nwafor (2015) outlined the following as factors that affects computer literacy among teachers in Nigeria:

1. Lack of qualified ICT personnel's in the schools.
2. Lack of fund and high cost of computer ICT facilities.
3. Lack of basic amenities such as housing, ICT centers and electricity.
4. Environmental factors.

Competency can be seen as the requisite skills possessed by some people or expected to be possessed by them in the discharge of their professional duties, library and information science educators need to possess certain type of competency in ICT for optimal service delivery in this present information age. Indeed, current developments in the area of ICT, communication networks, the Internet and the World Wide Web (WWW) in addition to the digitization of information of all kinds have set the scene for changes in many spheres (Yu and Davis, 2007) including library and information science education. In addition, Ezeani (2003) in a study of relevance of library science education in Nigeria Universities to the world of work did remark that there is the urgent need for Nigerian universities to enhance flexibility and adaptability as desired institutional qualities and to impact these as professional values to their students if they are to fulfill the key responsibility for contributing skilled human resources to the national capacity building effort. Educators also by implication should be acquainted with the attributes of competence to enable them impart the knowledge to their students.

CONCLUSIONS

The paper examined the impact of digital literacy skills and senior secondary school students' academic development in Imo State. The paper draws its major conclusions based on the reviewed of literature, empirical review and theoretical review on digital literacy skills and senior secondary school students' academic development. it was concluded that the knowledge of digital literacy in this information-oriented society cannot be overemphasized. Digital literacy skill has the potential to transform the students form passive recipients of information to active participants in an ICT-rich learning process. The introduction of digital technologies or any other computer-based information technology in schools is not intended to substitute a teacher, but to provide the teachers with a powerful tool that can greatly enhance communication by delivering a multi-sensory experience. With digital technologies, a teacher can communicate with the students by means of presentation that becomes more than message—it becomes an active, exciting experience in a multi-sensory environment to create a multi-sensory experience. Thus, this new digital technology demands new interpretations of the instructional process and those changed with educating the next generation must engage in a continual cycle of education and re-evaluation in the light of technological influence at all levels if the academic development of students is to be positively influenced.

RECOMMENDATIONS

Considering the conclusion of this paper, the study recommended as follows:

1. The Ministry of Education should provide and facilitate the implementation of Computer Assisted Instruction by teachers in more public schools in Imo State, so that students can be self-dependent.
2. The Ministry of Education should allot more funds to provide adequate number of computer and its related infrastructure for the schools to enable student become digitally inclined.
3. Senior Secondary Schools in Imo State should be provided with adequate instructional materials by the Imo State Ministry of Education and Non-governmental Organization that are technologically related.
4. Training should be organized by the Imo State Ministry of Education for teachers on how to source for instructional materials through the web.

5. The Ministry of Education should limit the role of teacher in senior secondary schools to supervision to enable students participate actively in the teaching and learning process.
6. Teachers at the senior secondary school level should improve their competence by attending in-service training camps and also by writing research articles in the field of educational technology.

REFERENCES

Agim, E. C. & Azolo, E. M. (2019). Digital literacy and job performance of 21st century library staff in Imo state. https://journals.unizik.edu.ng/

Akaninwor, G. I. K. (2016). *A handbook on research methods and statistics paradigms in education, science and technology*. Wilson Publishing Co. Ltd.

Angib, M. U. (2008). The family as a supportive agent computer education of a Nigerian child. *A Journal of the New Nigerian Educators, 1*(1), 86-94.

Annie J, Howard, W. S. & Mildred M. W. (2006). *Achievement and ability tests definition of the domain educational measurement*, 2, University Press of America.

Artherton, B. (2003). New pragmatism in nursing: The value of revisiting the age of popular science Nurse Education in Practice, 7(6) 355-357.

Bakkenes, I. Vermunt, J. D. & Wubbles, T. (2010). Teacher learning in the context of educational innovation: Learning activities and learning outcomes of experienced teacher https://www.researchgate.net/publication/48320894

Byoung-suk, K. (2012). Landscape performance research; School environment & students' performance, *Paper from Landscape Architecture Foundation*.

Ezeani, C. (2003). The relevance of library science education in Nigerian universities to the world of work. Research report submitted to association of African universities, Accra, Ghana, 17-30.

Ezeugbor, C. (2008). Information and communication technology (ICT) competence level of Nigerian tertiary institution teachers as a Challenge to harnessing the ICT gains in Education. *Proceeding of the first International Conference of the Faculty of Education*. University Press.

Hague, C. & Williamson, B. (2009). Digital participation, digital literacy and school subjects: A review of the policies, literature and evidence. https://www.nfer.ac.uk

Iwundu C.O. (1995). *Psychology for the education and the health profession*. Capic Publishers Nigeria Ltd.

Karemera, D., Reuben, L .J. & Sillah, M. R. (2013). The effects of academic environment and background characteristics on student satisfaction and performance: The Case of South Carolina State University's School of Business. *Journal of Environmental Psychology*, 4 (20), 91-97.

Kashif, I., Nor, A. M. Z., Fadhilah, R., Adnan, A., & Mustansar, I. (2020). The impact of ICT on students' academic performance in public private sector universities of Pakistan.

International Journal of Innovative Technology and Exploring Engineering, 9 (3), 1113-1121

Lowmen, H. B. (2006). Gender differences in spatial abilities and spatial activity among university students in egalitarian educational system. *Sex Roles, 38*(11/12). 1009-10023

Marcus, A., Weinelt, B., & Goutrobe, A. (2015). Expanding participation and boosting growth: The infrastructure needs of the digital economy. http://www3.weforum.org/docs/WEFUSA_DigitalInfrastructure_Report2015.pdf

Oduyemi, N. U. (2009). *Impact of environment on teachers' classroom management in secondary schools in Ikorodu education zone* of Lagos state. Unpublished M.Ed project. Department of Educational Foundations, University of Nigeria, Nsukka.

Okeji, C. C., Nwankwo, N. G., Anene, I. A. & Olorunfemi E. A. (2020). Assessment of digital literacy skills of 21st century librarians in private university libraries in Anambra State. *International Journal of Library and Information Science Studies*, 6(4), 34-47

Okoro, C. N. (2014). *School environment and teacher competency variable as correlates of learning outcomes of integrated science students with hearing impairment*. Published Ph.D. Thesis, University of Ibadan Press.

Okwelle, P. C. (2016). *Instructional strategies for technology education teacher*. Unpublished Monograph. Faculty of Technical and Science Education. RSU, Port Harcourt.

Puyate, S. T. (2016). *Facilities planning in industrial education*. Unpublished Monograph. Faculty of Technical Education and Science. RSU Port Harcourt

Roger, C. R. (1962). *On becoming a person.* Houghton Mifflin.

Von-Stumm, S., Hell, T., & Chamorro-Premuzic, T. (2011). The hungry mind: Intellectual curiosity is the third pillar of academic performance. *Perspective on Psychological Science,* 6 (6), 574-588.

Yu, H., & Davies, M. (2007). The case for curriculum reform in Australia information management and lis education. Part 1: *Technology and Digitization as Drivers. Information Research 12*(4), 1-20.