Chapter 4

Conceptualizing Digital Literation on Academic Development

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Introduction

Digital literacy according to **Agim and Azolo (2019)** is the set of attitudes, understanding and skills to handle and communicate information and knowledge effectively, in a variety of media and formats. A person also can perform tasks effectively in a digital environment. Digital literacy includes the ability to read and interpret media, reproduce data and images through digital manipulation, and evaluate and apply new knowledge gained from digital environments. Digital literacy involves more than the mere ability to use software or operate a digital device; it includes a large variety of complex cognitive, motor, sociological, and emotional skills, which users (senior secondary school students) need to function effectively in digital environments.

Digital literacy such as Information and Communication Technology (ICT) skills, collaborative skills and problem-solving skills are a set of competencies required to be inculcated in secondary school students as pre-requisite skills for full participation in a knowledge society. Laar, Deursen and Dijk (2020) posited that Information and communication technology (ICT) is pervasive in the workplace and there is a high demand for ICT-proficient employees, It includes knowledge, skills, and behaviours involving the effective use of digital devices such as smartphones, tablets, laptops and desktop PCs for purposes of communication, expression, collaboration, and advocacy. To study differences in digital skills and to develop interventions for skill improvements, in the past years, several skill frameworks and definitions have been introduced such as 21st-century skills, digital skills, digital competence, digital literacy, e-skills and internet skills (Laar, Deursen & Dijk, 2020).

The vision and mission for National Digital Economy Policy and strategy of 2020-2030 in Nigeria is 'To transform Nigeria into a leading digital economy providing quality life and digital economies for all' and to build a nation where digital innovation and entrepreneurship are used to create value and prosperity for all' The National digital economy Policy and strategy have been developed to reposition the Nigeria economy in order to take advantage of the many opportunities that digital technologies provide. In spite of digital literacy skills recognized potentials, its integrate in teaching and learning process will be dependent on the secondary school students' knowledge, skills and their willingness.

Digital literacy does not replace traditional forms of literacy, instead it is building upon the skills that form the foundation of traditional forms of literacy. People use digital media for a range of activities: exploring, connecting, creating, and learning. Microsoft says digital

literacy helps learners develop an essential understanding of sophisticated equipment like personal computers. It helps them to use technology in complementing their daily routine and become more productive. Technology proficiency includes social, ethical, and insightful practices inherent in education, work, leisure, and everyday routine. The International Society for Technology in Education (ISTE) maintains parameters for digital literacy around six benchmarks. These consist of innovation, communication and cooperation, research and information, critical thinking, problem-solving and decision-making, digital citizenship, and technology concepts and operations.

Spires and Bartlett (2012), have divided the various intellectual processes associated with digital literacy into three categories: (a) locating and consuming digital content, (b) creating digital content, and (c) communicating digital content. However, these three cannot be achieved maximally if the ability to use digital devices is lacking (Digital Literacy Skills). See figure 2.1.

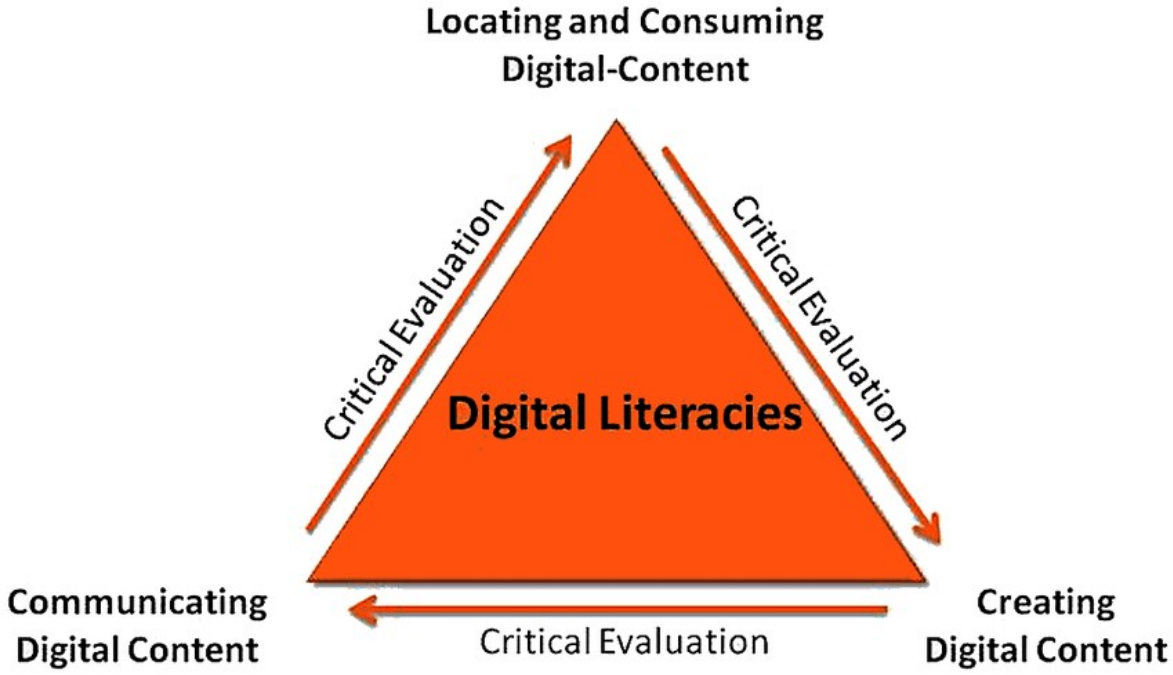

Fig. 1 Digital Literacy Intellectual Processes Framework
Source: https://www.researchgate.net/figure/Digital-literacy-practices-involve-the-ability-to-locate-and-consume-create

(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.

The provided benefits are as follows:

1. Digital literacy boosts student engagement: this explained that when students use powerful content-creation tools for their assignments and projects, they engage

more deeply with the content, which helps them better understand information and communicate their knowledge in visually and digitally compelling ways. Therefore, digital literacy skills have the potential to generate more excitement around learning for students, especially as their growing fluency enables deeper connections with others and equips them with a new lens to critically evaluate the world around them.

2. Digital literacy improves academic performance: this is crucial to note that when students use the available digital literacy skills for their assignments, they understand it more deeply and retain it longer. This enables them to communicate their ideas, discoveries, and arguments in more innovative ways often exceeding expectations in classes across all disciplines.
3. Competitive Advantage: this explains that students who are proficient with digital tools can more easily differentiate themselves during the class work and class performance and they can demonstrate their ability to learn and apply new technology skills. Therefore, they acquire complex problem solving, critical thinking, and creativity by being digital literate.
4. Academic Success: the academic success implies that students today need digital literacy skills for academic success and their career. Communicating ideas in visually engaging ways is important for all senior students.

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).

Dimensions of Academic Development

I. Self-development

Simply stated, self-development or growth is a desire to become a better version of oneself every day. A timeless pursuit, self growth refers to a life-long process to improve one's own performance through formal and informal approaches. These approaches include various tools, techniques, processes, and practices involving self-reflection, assessment, and establishment of a life-vision plan with personal and professional growth goals. Together, these will lead to an improved performance in self-growth. As a sustained commitment to a life-long mindset focused toward self-improvement, self-growth necessitates the incorporation of specifi c and decisive actions and processes toward desired growth outcomes. Although self-growth is an individualistic concept and process, it requires sensitive listening and collaboration skills in order for self-change to be successful.

I. Goal Attainment

Goals are predetermined and described future results towards which present efforts are directed. Organization goals are the ends that an organization seeks to achieve by its existence and operation. Andoh, (2012) sees goals as statement of what the organization or sub-unit of the organization wishes to do. He continues that they are usually a reflection of an organisational problem or a device to capture an opportunity to improve or advance the organization and that they should be specific, measurable and time bounded.
Goal attainment is the process through which human and other resources are mobilized for the attainment of collective goals and purposes. In a social system, the goal attainment functions are met through political activities and mobilization occurs through the generation and exercise of power.

I. Knowledge Retention

Retention could be referred to as repeated performance by a learner of the behaviour that an acquired piece of knowledge is always intended to elicit in the learner after an interval of time. Savage and Stemy(2003) maintained that retention is the learning that lasts beyond the initial unit or lesson and it is assessed with test administered two or more weeks after the information have been taught and tested . This implies that a learner who repeats an acquired piece of knowledge with less error is said to have retain the material taught. Haynie (2003) explained that retention of learning is measured with two tests ; 'the initial test' and the 'delayed retention test'. In the same vein, Savage and Sterry (2003) ascertained that the initial is the pre-test is the one used at the time of the instruction or immediately thereafter the delayed or post-test are those administered two or more weeks after the initial testing to measure knowledge . It could be observed that retention falls with time because several factors affect it such as the degree of the original learning, the method of measuring it and the time at which retention is measured after learning. Riding,Grimely,Dahrael and Banner (2003) identified an individual's working memory capacity and cognitive styles as other factors affecting retention of learning.

SUMMARY

In secondary schools; 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.

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