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Potentials of Blended Learning in Changing the Delivery of Literacy Education and Skills Acquisition in Nigeria in the Digital Age

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Abstract

The potential for blended learning to change how literacy instruction and skill acquisition are delivered in Nigeria in the digital age, as well as its many advantages, are covered in the paper. Learning has become more appealing and efficient thanks to blended learning's flexibility and interactive features. Additionally, it has helped students access education and helped faculty members get ready for the digital age of employment. In essence, it improves teaching and learning opportunities, student academic accomplishment, and access to education for all. In order to strengthen our literacy education delivery in Nigeria in light of the Covid-19 pandemic's resurgence, blended learning must be included into the delivery of literacy education and the acquisition of skills. The concept of blended learning, a conceptual view of literacy in literature, a new construct of literacy and its recognition of its core values, a concept of skill acquisition, a theory of blended learning, roles of information and communication technology in blended learning effectiveness in the digital age, the challenges in integrating blended learning into Nigerian literacy education, and the conclusion are all explored in this paper. The report ends with suggestions for tactically implementing blended learning in Nigerian literacy and skill development.

Keywords: *Blended Learning Potentials, Literacy Education, Skill Acquisition Delivery, Digital Age*

Introduction

The Covid-19 problem has opened several doors into how we now go about organizing, planning, and delivering education in recent years. The Covid-19 epidemic gave modern educational practices a new dimension and created several chances for students and

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teachers at all levels. One of these possibilities is the better global educational delivery system and integrated learning in the digital age. The potentials of blended learning in the teaching and learning process are thoroughly discussed here.

Concept of Blended Learning

The combination of traditional classroom teaching techniques alongside online learning for the same students studying the same material in the same course is the most basic definition of blended learning. It combines in-person and online learning in a meaningful way (Garrison and Vaughan, 2008). There are also blended programs, where students take some classes in traditional classroom settings and others entirely online. In other words, the process of delivering instruction and learning experiences through a blend of face-to-face and technology-mediated learning is referred to as blended learning. Students are not required to be physically present in the same location for the technology-mediated portions of these learning activities, but they may connect virtually through online communities. For instance, in a blended learning course, students might attend a typical classroom lecture presented by an instructor while also independently completing online assignments on a platform for distance learning outside of the lecture hall.

Definition of blended learning in national and international contexts. "The idea that learning is a continual process rather than a one-time event is the foundation of the blended learning concept. Over adopting a single learning delivery method alone, blending offers a number of advantages. In a similar manner, educators across Australia define blended learning similarly. Blended learning is described as "a range of learning possibilities, e.g. online, face-to-face, community, and home to create curricular diversity and encourage student interest" by the Tasmanian Department of Education e-school (*2011*).

Australian blended learning was defined as "the integrated blending of traditional learning with web-based online methodologies" by the Australian National Training Authority (ANTA) in 2003. Eminent researchers who have defined blended learning as "basically traditional in-class learning supplemented by online activities and resources" (Downes, 2008) and "blended learning is currently conceived as the combination of technology and traditional

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face-to-face instruction" (Downes, 2008) support these straightforward, useful definitions (Stacey and Mackey, 2009).

Additionally, the International Association for K-12 Online Learning (2008) in the US defines blended learning in a manner that is similar to that of the aforementioned definition: "In general, blended learning combines online delivery of educational content with the best features of classroom interaction and live instruction to personalize learning, allow thoughtful reflection, and differentiate instruction from student to student across a range of learning environments." Or, to put it another way, "Blended learning should be viewed as a pedagogical approach that combines the efficiency and socialization opportunities of the classroom with the technologically enhanced active learning possibilities of the online environment, rather than a ratio of delivery modalities." Dziuban, Hartman and Moskal (2004). Hybrid or mixed-mode learning are other names for blended learning. Different teachers, programs, and schools have different designs and methods for implementing these instructional design systems, which make use of a variety of teaching and learning experiences. The potential permutations of mixed-mode learning are practically limitless; taking a look at a few examples can help you get an idea of the variety of options:

• A few teachers in one school implement mixed-mode delivery in each of their separate classrooms. In another, the entire program decides to use blended learning as the mode of instruction for all students, and all teachers collaborate to learn how to do so.

• A student's main instructional interactions with other students and the teacher may be through videotaped lectures, live video, and other digitally enabled learning options. Students may occasionally meet with teachers to discuss their work, ask questions, or receive help with challenging ideas while working independently on online classes, projects, and assignments at home or elsewhere. In other situations, students might spend their full day in a typical school facility, but they will spend more time working independently and online than they will taking classes from an instructor.

In general, there are three (3) main models for blended learning:

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Classroom engagement is the main component of the first model, blended presentation and interaction, which is supported by outside-of-class, online assignments. This concept is frequently used in the flipped classroom or flipped curriculum method, in which students first independently view podcasts or other online materials before participating in group tutorials or seminars in the classroom that are based on these resources.

The second is the mixed block model (sometimes referred to as a program flow model), in which a series of tasks, or "blocks," is organized to include both in-person instruction and online study, typically taking into account both pedagogical objectives and practical considerations. For instance, a course for students who are geographically dispersed or who are working professionals may not have many opportunities for classroom-based instruction. As a result, the course may start with a block of intensive face-to-face sessions, followed by blocks of online study and collaboration through online tutorials, which may be followed by another block of face-to-face instruction or group presentations.

The third approach is entirely online, but it could still be referred to as blended learning if it includes both synchronous learning (like online tutorials, for instance) and asynchronous activities (for example, discussion forums). Therefore, one or more of the following three circumstances are covered by blended learning:

• Using many educational methods (or delivery media).

• combining different teaching techniques.

• combining in-person and online education.

In order to secure the integration of blended learning and the quality delivery of literacy education and the development of skills for the digital age in Nigeria, it is necessary to find solutions to the questions listed below.

(i) How can blended learning be successful in Nigeria?

(ii)What efforts must be performed in order to successfully integrate blended learning in Nigeria's new normal society?

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(iii)What are the advantages of integrating mixed learning?

(iv) What role does blended learning play in students' success?

(v) How does blended learning in Nigeria ensure the delivery of quality literacy instruction?

Blended learning must be integrated in order to address the aforementioned issues and strike a balance between the learning styles of students and their preferences for when, how, and what they should learn. Although higher education institutions in Nigeria have recently begun integrating distant learning, their use is still restricted and does not include the delivery of skills development and literacy programs. The delivery of literacy education and skill acquisition in Nigeria is therefore in need of the implementation of blended learning in the digital age.

Conceptual Views of Literacy in Literature

In the beginning, the world did not begin with literacy, at least not with the tradition of literacy as linguistics and written elements. Living a qualitative life was never a problem as indigenous communities in Africa had literacy of their own. These practices were undervalued and marginalized by the introduction of formal literacy. The communities were not 'tabula raza' waiting for the Gutenberg printed material as some scholars assume. However, the traditional system had inadequacies (Omolewa 1981 and Aderinoye 1997). Even though there is no controversy as regards "literacy as the significant step in building a better life "(Majasan 1989, p. 12), the question "what is literacy?" though deceptively simple, opens a world of complexities. The conceptual history of literacy dated back to its universal conception as reading, writing and numeracy (Aderinoye 2018, p. 3). Street (1984) referred to this view of literacy as autonomous literacy. Incidentally, this was the view subscribed to by UNESCO in its first definition of literacy thus: "a person is literate who can read, with understanding, both read a short simple statement on his or her everyday life" (UNESCO 1978 cited in Aderinoye, 2018, p. 8). This view of literacy is perceived as an outcome-driven approach of skill acquisition. It is seen as an end in itself rather than as a means to an end. This perception is globally used as

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the basis of computation of literacy rate for a population aged 15 years and older is usually calculated on the basis of reading and writing ability (Aderinoye 2018, p. 3).

An expanded vision of literacy was captured in the Draft Proposal and Plan for The United Nations Literacy Decade (UNLD, 2002) thus:

Literacy policies and programmes today require going beyond the limited view of literacy that has dominated in the past. Literacy for all require a renewed vision of literacy, which will foster cultural identity, democratic participation and citizenship, tolerance and respect for others, social development, peace and progress. It must admit that literacy is not confined to any particular age (childhood and adulthood), institution such as the school system), or sector (such as education); that is related to various dimensions of personal and social life and development, and that it is a life-learning process. Such renewed vision toward literacy for all, calls for renewed modalities operations, monitoring, and accountability procedures and mechanisms (UNLD 2002, p. 3).

The above UNLD view of literacy takes political, social and economic transformations into account and recognizes that people acquire and use literacy for different purposes. It also acknowledges that practices of literacy are embedded in different cultural processes, individual circumstances and collective structures (Omolewa, 2001). This 'plural' vision sees literacy as culturally, linguistically and temporally diverse. Since literacy is shaped by cultural, educational and state institutions constraints on achieving literacy do not lie only with the individual but are also embedded in broader social relations (Fasokun, 2005). Arising from the UNLD expanded vision of literacy, the Hamburg Declaration and the Agenda for the Future of Literacy (UNESCO, 1997) conceptualizes literacy though a broad lens, referring to it as "the basic knowledge and skills needed by all in a rapidly changing world" p5. In 2009, UNESCO submitted to the United Nation General Assembly, the international plan of Action for the United Nations Literacy Decade, which noted that across the globe, many authorities recognize the multiple dimensions and evolving nature of literacy, with new literacies emerging as well as changing patterns of learning, including the use of digital technology.

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New Constructs on Literacy Perception and Its Core Values

Based on the new construct toward the perception of literacy, it is no longer debatable that literacy is a prerequisite for most forms of learning. As stated in the preamble of the UN General Assembly resolution which proclaimed the United Nation Literacy Decade (UNLD):

Literacy is crucial to the acquisition, by every child, youth and adult, of essential life skills that enable them to address the challenges they can face in life and represents an essential step in basic education, which is an indispensable means for effective participation in the societies and economies of the twenty-first century (UNLD, 2002, p. 7).

Therefore, some of the values commonly associated with literacy, as documented, are:

(i) literacy is prerequisite for most forms of learning, whatever the age group;

(ii) literacy provides a solid foundation for poverty reduction and sustainable development in pursuit of a democratic and stable society;

(iii) literacy provides a basis for the respect for human rights, the universalization of basic education, conflict resolution. nutritional sufficiency, and for an overall improved quality of life (Omolewa 1983; Aderinoye 1997 and Laoye 1999);

(iv) literacy is an indispensable means for effective social and economic participation, contributing to human development and poverty reduction. It empowers and nurtures inclusive societies and contributes to the fair implementation of human rights (Adedokun, 2018)

(v) literacy is a key to communication and learning, and fundamental for active participation in today's knowledge-based societies. Without literacy, people are excluded from access to, and the use of, knowledge, and even from the most of basic information they may need for daily living (Akintayo 2018);

(vi) literacy skills are essential in today's societies, conferring benefits on individuals, communities and nations (Education for All Global Monitoring Report, 2006).

(vii) Being literate adds value to a person's life. Literacy can be instrumental in the pursuit of development- at personal, family and

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community levels; effective participation in electoral process, as well as at micro-levels of nations, regions, and the world (Omolewa 2001; Aderinoye 2018 and Adedokun 2018).

(viii) Literacy is an indispensable foundation that enables young people and adults to engage in learning opportunities at all levels of the learning continuum (Egunyomi, 2015).

(ix) It involves a continuum of learning and proficiency levels which allows citizens to engage in lifelong learning and participate fully in community, workplace and the wider society.

(x) It is an essential means of building people's knowledge, skills and competencies to cope with the evolving challenges and complexities of life, culture, economy and societal development (UNESCO and UIL 2016).

Concept of Skills Acquisition

The world 'skill' is an essential concept in many fields of study including sociology, psychology, human resources management, economics and education. Unlike concepts and constructs in the natural sciences, skill is one of those Social Science words in parlance with many meanings, numerous synonyms such as "ability"; "competence"; "knack"; "aptitude" and "talent", varied imprecise translations in other languages (Green, 2011). Widely regarded as a focus for analytical research and a core object for policy interventions in the modern global high-technology era, scholars in various disciplinary field ascribe high importance to 'skill' but they appear to be talking about different things when they converse (Green, 2011). For instance, while some (Beardwell and Holden, 2011, p.745) construe it as 'the ability that has been acquired by training and ability to complete a task and find solution in some problem domain'.

According to Pitan and Adedeji (2012) skills are often categorized into two types: transferable and generic skills. They can be used across large numbers of different occupations and vocations in which specific occupational or technical skills are needed to work within an occupation or occupational group. In the same vein, Winterton (2006) averred that a distinction should be made between the general skills, which are essential irrespective of any of occupational context or so fundamental as to be considered basic life skills, and skills that are specific to a sector or a particular group of occupations which are

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only likely to be useful in a specified context or job. This conception of skills is better captured by Kechagias (2011) who emphasized that all skills are learned, or are capable of being learnt and developed, and necessarily involve the appropriate (and observable) performance of particular types of activity and task. Skills are behaviours that are carried out when knowledge, aptitudes and personality traits are put into practice. They constitute the corpus of knowledge, procedures, competences, aptitudes that are needed to carry out various activities to a certain degree of quality and effectiveness, and in an independent and flexible manner.

Theories of Blended Learning Examined

Wang, Han and Yang (2015) provide an important overview of all major blended learning theoretical frameworks available. But major two frameworks will be examined that is the Complex Adaptive Blended Learning System and the Community of Inquiry.

These two models take a comprehensive view of the design and implementation of blended learning. They are applicable to blended learning in any segment of education, with appropriate adjustments as necessary based on learners' needs and characteristics, whether you are a teacher or instructor in K–12 schools, colleges and universities, the military, the industrial workplace or the corporate world.

The Complex Adaptive Blended Learning System

In all the components of the Complex Adaptive Blended Learning System, or CABLS framework, the learner sits at the centre of the model, but all components impact each other. There are six elements in the system, all with their own sub-systems. These six elements are:

- The learner
- The teacher
- The technology
- The content
- The learning support
- The institution

Not only does each element have its own character and subsystem, but each acts in relationship to all the others. As in any complex system, the relationships are dynamic and integrative. This adaptive system of blended learning emerges from the relationships and the effects of each element acting with and on the other elements. The CABLS framework is

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designed to "facilitate a deeper, more accurate understanding of the dynamic and adaptive nature of blended learning" (Wang et al., 2015, p. 390). This systems approach allows someone new to blended learning to consider key interacting components at work as they create and offer a blended learning course or programme. Teachers will be most interested in the relationship between content, learners and technology. For more on designing with interacting components, see (Richardson, Arbaugh, Cleveland-Innes, Ice, Swan and Garrison, 2012).

The Community of Inquiry Theoretical Framework in Blended Learning

In 2000, Garrison, Anderson and Archer published a theoretical framework developed to structure the process of learning in an online or blended environment. The Community of Inquiry (CoI), a model of inquiry-based teaching and learning, is based on the work of John Dewey and constructivist views of experiential learning. The CoI framework describes the necessary elements to create deep and meaningful learning. The original framework identifies the education experience as occurring at the convergence of three presences: cognitive, teaching and social. In our application of this model, presence is defined as a state of alert awareness, receptivity and connectedness to the social, cognitive, emotional and physical workings of both the individual and the group in the context of their learning environments (adapted from a definition by Rodgers and Raider-Roth, 2006, p. 1).

Inquiry-based teaching and learning is more important now than ever before, as both a process for learning and a subject for learning to learn. Inquiry-based teaching and learning has its roots in the new learning movement of the 1960s, the time of the so-called "me generation." This call for more active learning drew insight from foundational thinkers in education like Dewey (1938) and Vygotsky (1997), who saw the use of individual experience and the construction of one's own knowledge structures as key to engagement and learning outcomes. Now called inquiry-based learning by way of contrast to content-based learning, learning through cognitive engagement allows students more control over the way they develop a knowledge base. Beyond content acquisition, inquiry-based learning is seen as a key opportunity for developing competence in higher-order thinking skills (Garrison, 2016). Passive, amateur learners are not part of inquiry-based learning. Inquiry-based teaching, then, requires

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a focus on providing meaningful engagement opportunities rather than direct instruction about content; the latter supports and fosters passive learning.

Inquiry-based teaching also requires making the learning process explicit. Building on the early work of Schwab (1966), this teaching practice offers structure to move learners through active inquiry processes. For Schwab, the active inquiry process starts by using questions, problems and material to invite learners to identify relationships between concepts or variables. As learners advance, questions or problems are presented and the learners discover the path to answers themselves. As a third and final stage, a topic is presented, and learners themselves identify questions, problems, methods and answers while the teacher provides guidance and facilitates learning.

The Blended Learning of Literacy Education and Skills Acquisition Delivery in Nigeria in the Digital Age: Information and Communication Technology's Roles

Information and Communication technologies (ICTs) are diverse set of tools and resources used to communicate, create, disseminate, store and manage information. Ratheeswari (2018) reported in his work that "ICT stands for "Information and communication technology". It refers to technologies that provide access to information through telecommunication". "He said it is similar to Information Technology (IT) but focuses primarily on communication technologies". He also observed that the rapid development in technology has made creatively changes in the way we live, as well as the demands of the society. Recognizing the impact of new technologies on the workplace and everyday life, today's teacher education institutions try to restructure their education programs and classroom facilities, in order to minimize the teaching and learning technology gap between today and the future. ICTs are making dynamic changes in society. They are influencing all aspects of life. The influences are felt more and more at schools. Because ICTs provide both students and teachers with more opportunities in adapting learning and teaching to individual needs, society is, forcing schools aptly respond to this technical innovation. (Ratheeswari, 2018, p. 1)

Besides, the increased importance of ICTs in the developmental process has made it expedient for everybody in all sectors to have a firm knowledge of ICT. Consequently, in

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order to compete globally, everyone needs to enhance themselves in the skills of ICTs knowing how to use it to work and communicate effectively and efficiently. Conclusively, ICT is the driving force for effective and efficient education delivery and operation of trade and commerce as well as human capital development. (Ospina, 2013)

Blended Learning's Effects on Literacy Education and Skill Acquisition Delivery in Nigeria in the Digital Age

A number of investigators have assembled a comprehensive agenda of transformative and innovative research issues for blended learning that have the potential to enhance effectiveness (Garrison and Kanuka 2004; Picciano 2009). Generally, research has found that BL results in improvement in student success and satisfaction, (Dziuban and Moskal, 2011; Means, Toyama, Murphy and Baki, 2013) as well as an improvement in students' sense of community (Rovai and Jordan 2004) when compared with face-to-face courses. Those who have been most successful at blended learning initiatives stress the importance of institutional support for course redesign and planning (Moskal, Dziuban and Hartman, 2013; Dringus and Seagull 2015; Picciano 2009; Tynan et al. 2015). The evolving research questions found in the literature are long and demanding, with varied definitions of what constitutes "blended learning," facilitating the need for continued and in-depth research on instructional models and support needed to maximize achievement and success (Dringus and Seagull 2015; Bloemer and Swan 2015).

Challenges of Blended Learning Integration in the Delivery of Skills Acquisition in Nigeria's Literacy Education in the Digital Age

Anene, Imam and Odumuh (2014), reported that "the prospect of Nigeria's literacy education and skills acquisition delivery in the near future relies on educational technologies". Recently, technology enhanced learning, including flexible, distance and online instruction, is being recognised as a viable tool necessary for preparing citizens to participate in the technologically driven global environment. However, research evidence has shown that Nigerian Universities are still lagging behind in the current information technology move. The environment necessary for the achievement and development of the ICT for blended learning in Higher Institution, corporate and other areas of the economy are yet untapped. While there is growing demand for e-learning and the use blended learning in the delivery of content for learners. There are also many challenges in the

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effective utilisation of blended learning which includes lack of knowledge in the use of computer by both learners and tutors while some are just beginning to know how to access their e-mail and some do not even have an email address. The technical infrastructure in developing countries is not highly developed, which means that phone-lines and Internet connections are unreliable or slow due to narrow bandwidth. Low literacy level in computer technology among personnel as well as inadequate training of staff in institutions especially related to educational technology are serious problems yet to be tackled. Again, there is deficit of well-furnished/equipped e-learning centres, dearth of skilled manpower for implementation and management and incessant interruption of power supply (Anene, et al. 2014).

Reasons for Blended Learning's Integration into the Delivery of Literacy Education and Skill Acquisition in Nigeria in the Digital Age

Blended learning (BL), or the integration of face-to-face and online instruction (Graham 2013), is widely adopted across higher education with some scholars referring to it as the "new traditional model" (Ross and Gage 2006, p. 167) or the "new normal" in course delivery (Norberg, Dziuban and Moskal, 2011, p. 207). However, tracking the accurate extent of its growth has been challenging because of definitional ambiguity (Oliver and Trigwell 2005), combined with institutions' inability to track an innovative practice, that in many instances has emerged organically. One early nationwide study sponsored by the Sloan Consortium (now the Online Learning Consortium) found that 65.2% of participating institutions of higher education (IHEs) offered blended (also termed hybrid) courses. A 2008 study, commissioned by the U.S. Department of Education to explore distance education in the U.S., defined BL as "a combination of online and in-class instruction with reduced in-class seat time for students" (Lewis and Parsad 2008, p. 1, emphasis added). Using this definition, the study found that 35% of higher education institutions offered blended courses, and that 12% of the 12.2 million documented distance education enrollments were in blended courses. The 2017 New Media Consortium Horizon Report found that blended learning designs were one of the short-term forces driving technology adoption in higher education in the next 1–2 years (Adams, Cummins, Davis, Freeman, Hall and Ananthanarayanan, 2017). Also, blended learning is one of the key issues in teaching and learning in the EDUCAUSE Learning Initiative's 2017 annual survey of higher education (EDUCAUSE 2017). As institutions begin to examine BL instruction,

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there is a growing research interest in exploring the implications for both faculty and students. This modality is creating a community of practice built on a singular and pervasive research question, "How is blended learning impacting the teaching and learning environment?" That question continues to gain traction as investigators study the complexities of how BL interacts with cognitive, affective, and behavioral components of student behavior, and examine its transformation potential for the academy. Those issues are so compelling that several volumes have been dedicated to assembling the research on how blended learning can be better understood (Dziuban, Picciano, Graham and Moskal, 2016; Picciano and Graham, 2014; Bonk and Graham 2007; Kitchenham 2011; Jean-François 2013; Garrison and Vaughan 2013) and at least one organization, the Online Learning Consortium, sponsored an annual conference solely dedicated to blended learning at all levels of education and training (2004–2015). These initiatives address blended learning in a wide variety of situations. For instance, the contexts range over K-12 education, industrial and military training, conceptual frameworks, transformational potential, authentic assessment, and new research models. Further, many of these resources address students' access, success, withdrawal, and perception of the degree to which blended learning provides an effective learning environment.

Recommendations for the Implementation of Blended Learning for the Development of Literacy in Nigeria and the Acquisition of Digital Skills

It is essential to suggest the following blended learning options for Nigeria's literacy education and skill acquisition delivery in the digital age given the multiple benefits of the use of blended learning in higher education delivery:

- **Blended Face-to-Face Class:** Also sometimes called the "face-to-face driver model," the blended face-to-face class model is based in the classroom, although a significant amount of classroom time has been replaced by online activities. Seat time is required for this model, while online activities are used to supplement the in-person classes; readings, quizzes or other assessments are done online at home. This model allows students and faculty to share more high-value instructional time because class time is used for higher-order learning activities such as discussions and group projects.

- **Blended Online Class:** Sometimes referred to as the "online driver model," this class is the inverse of the blended face-to-face class. The

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class is mostly conducted online, but there are some required in-person activities such as lectures or labs.

• **The Flipped Classroom:** The flipped classroom reverses the traditional class structure of listening to a lecture in class and completing homework activities at home. Students in flipped classes watch a short lecture video online and come into the classroom to complete activities such as group work, projects or other exercises. The flipped classroom model can be seen as a sub-model of the blended face-to-face or blended online class.

• **The Rotation Model:** In this model, students in a course rotate between various modalities, one of which is online learning. There are various sub-models: station rotation, lab rotation and individual rotation. Some of these sub-models are better suited to K–12 educations; station rotation, for example, requires students to rotate between stations in the classroom at an instructor's discretion. Others work well on a college campus; the lab rotation model, for example, requires students in a course to rotate among locations on campus (at least one of which is an online learning lab). In the individual rotation model, a student rotates through learning modalities on a customised schedule.

• **The Self-Blend Model:** While many of the blended learning models on this list are at the course level, self-blending is a programme-level model and is familiar to many college students. Learners using this model are enrolled in a school but take online courses in addition to their traditional face-to-face courses. They are not directed by a faculty member and choose which courses they will take online and which they will take in person.

• **The Blended MOOC:** The blended MOOC is a form of flipped classroom using in-person class meetings to supplement a massive open online course. Students access MOOC materials — perhaps from another institution or instructor if the course is openly accessible — outside of class and then come to a class meeting for discussions or in-class activities. In 2012, according to Campus Technology, San Jose State University piloted a blended MOOC using MIT's Circuits and Electronics course, with students taking the MOOC out of class while face-to-face time was used for additional problem solving (LaMartina, 2012).

• **Flexible-Mode Courses:** Flexible-mode courses offer all instruction in multiple modes

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— in person and online — and students choose how to take their course. An example of this is San Francisco State University's hybrid flexible (HyFlex) model, which offers classroom-based and online options for all or most learning activities, allowing students the ability to choose how they will attend classes: online or in person (Beatly, 2016).

Conclusion

It is evident from the research and discussion above that blended learning has the capacity to suit everyone's educational needs. Therefore, it is crucial to promote the use of blended learning in the delivery of digital age literacy education and skill acquisition in Nigeria. This would lead to the desired changes in students' academic performance, tutors' and facilitators' productivity in the digital era, and an improvement of Nigeria's educational system in the twenty-first century.

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