Incorporating Digital Literacy into the Curriculum for 21st Century: Nigerian Teachers Perception

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ABSTRACT

This study examines teacher's perception of incorporating digital literacy in Nigerian secondary classrooms as a key factor to future challenges of the 21st century, using eight secondary schools in Abia State (four private schools and four government schools). Questionnaires and interview were the instruments used to gather the information in this study, questionnaires were developed and administered to two hundred and fourty teachers in Abia state. The data were summarized in tables and further analyzed using percentage averaging. The result of this study shows that 80% of teachers are aware of the importance of incorporating digital literacy in the classroom and that digital literacy will improve students learning and performance in the classroom. Therefore, the findings of this study will draw the attention of curriculum planners, policy makers, ministry of education, principals amongst others on the need to integrate digital literacy into school's curriculum and suggest ways of transferring these 21st century skills to learners in order for them to be prepared for future work and life.

Key words: Digital literacy, digital tool, 21st century skills, Nigerian curriculum

INTRODUCTION

Technological development has greatly improved the global economic situation and the structure of labor force in this digital age of the 21st century, but many of our schools in Nigeria are yet to acknowledge its importance and implementation. Today, major works done are being carried out by machines and the traditional reading and writing are no longer meeting up with the needs of the economy, technology and employment. In order to meet up with this challenge, there is need for our educational institutions to develop and adopt new skills, teaching methods, learning resources and digital literacy. There is a big gap between students and digital equipment for learning in our schools in Nigeria. It is not enough for our students to learn only the core traditional subjects, but schools should create opportunities for them to also master how to use high order thinking skills to solve problems create new things, new services, new products and be ready for future work and life.

In developed countries when there are social and economic changes, it brings high competition for jobs and places at top universities. When people arrive to work not equipped, employers complain that they have been spoon fed in schools and colleges. There is need for developing countries like Nigeria to step up by incorporating digital literacy in the school curriculum in order to prepare our students for the future.

Purpose of the Study

This work aims at finding out if digital literacy could be incorporated in Nigerian curriculum for schools. The study further looks into the 21st century skills for the fast growing digital world, how these 21st century skills could be taught in schools, the importance and challenges of incorporating digital literacy in the

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curriculum is discussed extensively. Based on these our research questions are thus:

- How do teachers perceive the use of digital literacy in the classroom?
- How effective are this digital literacy in the classroom?
- How effective are these 21st century skills in the classroom?

The significance of this work is to majorly draw the attention of curriculum planners and policy makers to the need of incorporating digital literacy into school's curriculum and also to enlighten teachers and students on the need to innovate ways of transferring these 21st century skills to learners in order for them to be prepared for future work and life.

Limitation of the Study

This research is carried out in eight schools in Abia State, Nigeria. The questionnaire papers were given to teachers teaching from 9th grade to 12th grade. Only two hundred and forty teachers participated in responding to this questionnaire.

LITERATURE REVIEW

Digital Literacy was first introduced by Paul Glister in the year 1997, this is seen in his book titled "Digital Literacy", thus described digital literacy as the ability to understand and use multiple formats of information in a wide range of sources when presented through computers or other forms of digital technological tools. According to Glister (1997) the most important thing is for students through digital literacy being taught the basic skills and core competencies to perform tasks in an engaging and interactive environment.

The term digital literacy is very broad and hard to come up with one definition. One could argue that digital literacy is the savviness that helps young learners participate meaningfully and improve their own learning, Hague and Payton (2010). Digital literacy goes a long way to give young learners the advantage of using new technologies to create knowledge, engage with one another and enhance teaching and learning. Digital literacy goes far beyond the use of technology, rather it is the ability of a person to effectively and critically function in a digitally enhanced environment, the use of transferable skills across platforms, applications and contexts; most importantly the ability to behave professionally, ethically and with all understanding of the digital environment, Coldwell-Nelson (2018).

Digital literacy is such an important tool for our young learners in this increasing digital world. Being digitally literate is the ability to know when these digital tools and technologies are appropriate and useful to the task and contents of your lesson; it is the ability to access a broad range of practices, resources, that will be applied in the classroom; it is the ability to communicate and collaborate effectively, understanding how and when digital technologies can be used effectively. Digital literacy goes a long way to give learners the advantage of using new technologies to create knowledge, engage with one another and enhance teaching and learning, Hague and Payton (2010).

Digital literacy skills

Ensuring that people are employable is one of the reasons people go to school, as employers look out for high academic standards they also want more. They look out for people who can adapt, innovate, communicate effectively, see connections, and think critically. Developing these skills in school is very vital, hence digital literacy requires some skills, digital tools, knowledge and social engagements.

Christodoulou (2016) listed six important 21st century skills to be: creativity, problem solving, critical thinking, collaboration, communication and empathy. Fadel (2008) in partnership with 21st century skills,

sponsored by multinational companies analyzed three important skills sections to include:

1) Learning and Innovation skills, which incorporates: critical thinking and problem solving; creativity and innovation; communication and collaboration;

2) Information, media and Technology skills, which incorporates: information, media and ICT literacy; 3) Life and Career skills which incorporates: flexibility and adaptability; initiative and self direct, leadership and responsible and much more. This is very daisy seeing that different authors have their perceived skills that is interrelated and very important to our students.

There is no doubt that these skills are not new, going by the fact that people before the year 2000 have been thinking critically, innovating things, communicating effectively and solving different problems, but the world is getting more digitally connected and technologically advanced now than before, thus these skills are needed more now than before. These skills are very important because of the changes in the economy and new technological innovations springing up daily, these skills matter and will only get more important daily. The world is becoming digitally interconnected; hence learners from an early age need new skills and knowledge in other to be successful. These skills do not only provide a framework for successful learning in our classrooms, but goes beyond that to ensure that all students thrive in a society where change is constant and learning never ends. Our economy and business community need a workforce with these skills for a competitive global economy.

The major aim of education today is preparing students for work and social life. This is a big challenge that is facing this century. Learning for work and life is to apply these 21st century skills by helping our children apply this knowledge in the school and in the society at large. The 21st century skills provide a framework for learning and present the necessary skills to live in a complex society of global awareness, environmental development and constant economic development. Thus, schools today should teach students these 21st century skills for them to understand and apply them in solving real world problems.

This 21st century learning framework is being adopted by institutions and educators all around the world and it is a great solution which combine learning, life, work and people's needs. This framework highlights skills, knowledge, experience and literacy, thereby providing a broad definition of career preparation and university life. In developed countries such as UK, this 21st century learning framework of schools provide a good model of curriculum, teaching strategies, career development, learning environment and teaching assessment, which helps students learning to improve.

The Dubai's Global Education and skills forum held for the first time in 2019, they announced the world's first global standard for digital literacy. This is seen in the DQ Global standard Reports of 2019. This presented a framework for digital literacy, skills and the preparation. This framework is aimed at building a global digital intelligence called DQ. This includes all the definitions of digital literacy, skills, understanding, readiness and language. To implement this 21st century learning strategy, there is need for students understanding of the core academic developments. In the context of this core academic teaching, students are required to acquire the basic skills for them to succeed in the world today. This is called the 4cs: Communication, Critical thinking, creativity and collaboration. Schools are to prepare students for learning, life and work by bringing together the necessary support standards, courses, learning environment, assessments and professional development.

In UK, the British "Industry Strategy: Action in the field of Artificial Intelligence", in 2018, had a proposal to ensure UK is in the leading position in the artificial intelligence industry. They invested 406 million pounds for skills development, with high emphasis on literacy, mathematics, technical and digital education. The career development of the 21st century skills encourages school administrators and teachers to incorporate the 21st century skills in the classrooms as part of their teaching. This actually includes the 21st

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century learning standards, assessments, and curriculum. A good career development starts with the 21st century skills, which requires teachers to use any given opportunity to incorporate the teaching strategies, skills and digital tools for classroom practice, in order to improve instruction.

How should we Teach these 21st Century Skills?

In Nigeria, there has been need for our formal education and curriculum to include these skills as well as our traditional academic subjects. These skills are being acknowledged all over the world, but the biggest challenge facing our policy makers and academic planners is how to support and teach these skills in schools and in the classrooms. There is no well established approach on how to teach these skills, although different countries are coming up with various ways and strategies of integrating these skills in their curriculum. These skills should not be taught as a subject, but could be spread across all curriculum, they should also form a major part of every lesson. These skills can be fostered on students using some classroom strategies and activities to promote effective learning.

One great way we could transfer these skills on students is to promote collaborative learning. This can be achieved by encouraging students to work in groups. Group learning helps students to construct their own knowledge and learning. It helps students discover deeper meanings in content and at the same time improve their thinking skills. Group work gives students more time to speak, and allows them to mix with everyone in the group and make meaningful contributions. This will help learners in the following ways: negotiate, listen attentively, exchange ideas, make presentations, appreciate others opinion and much more, thus improving their communication, collaboration and critical thinking skills.

The integration of various Classroom activities is another great way of promoting these skills on learners. Teachers are encouraged to use various classroom activities one of such is open ended questions, this can be achieved when thought provoking questions are asked that will inspire students to think for themselves and become independent learners. This will help students to express their unique views about a concept, hence when students ask questions and investigate their thought it helps to foster problem solving skills and critical thinking skills. Other classroom activities that could be used in the class are: think pair share, quiz, clicker questions, one minute reflection writing, and much more. Problem based inquiry and open-ended learning are great ways of fostering these skills on learners. The problem based learning is making the students to pose a problem that can be solved through active learning. Here, students are required to investigate problems and identify areas of interest that may arise; the aim is for students and teachers to collaborate with the teacher as the facilitator.

The use of technology in the classroom is a great way of fostering these skills on students. Mobile devices can be used in the class to foster communication and collaboration. Mobile devices such as smart phones, iPad, tablets are mainly used for class projects, class games, science dissections, creating blogs, networked learning and much more. The use of games in the classroom is another great way of fostering these skills on learners. Playing games is a great way of developing student's creative minds. Literarily, playing games is a good way of fostering creative thinking. Brain games help in enhancing the cognitive development and increases the level of students engagement in learning. Gee (2003) asserts that when people learn to play video games, they are learning new literacy. This helps in fostering ways of solving problems, creativity and improves students thinking skills.

Project based learning has the potentials of enhancing learners 21st century skills and also engage students in real world tasks, Aksela (2019). Project based learning is a teaching and learning approach designed to engage students when investigating real –world problems. This is a good approach used in schools to engage learners effectively. Project based learning are focused on teaching our learners important skills and knowledge, such as collaborative, communication, critical thinking, problem solving, creativity and innovation. Thus, project based learning is a good pedagogical approach that could be used in schools to

build competencies that is valuable in the world today.

The Importance of Digital Literacy

Digital Literacy goes beyond the traditional classrooms to creating new ways teachers can teach and learners can learn within the classroom. Students' are now discovering new ways they can interact, collaborate and engage with their mates using technologies and digital media. They are no longer comfortable being confined to physical texts when it comes to reading. As young people gain access to technological tools, they discover new ways they can interact with the content they like. This is why curriculum designers and policy makers should focus on incorporating digital literacy in the classroom.

Digital literacy helps in deeper learning. Deeper learning is a way of transferring learning; it allows students to take what is learned in one situation and then apply it in another. When teachers use different strategies and learning resources to foster students understanding, it leads to deeper learning. Hence, when students deeply understand the content of the instruction, they can think critically, communicate and effectively work with others. Bitter and Loney (2015), in their research found that despite the high demand of the workplace, very few American students are graduating from high school with content knowledge and analytical skills. This is not enough for the workforce and civic life in the 21st century. They also observed that those born in the 80's have weaker skills in literacy, numeracy and problem solving because they find it difficult to apply their knowledge to new situations. Hence, there is need to deepen students understanding of these skills as success in the world today demands more. Students really need to communicate their own ideas in class to a variety of audiences, work with others in solving problems, think critically, be creative and manage their own learning, Bitter and Loney (2015).

Presently, technology plays an important role in scaffolding teaching and learning experiences in schools. The 21st century social networks, software applications, blogs, wikis, and platforms have formed a great catalyst in the teaching and learning process. For learning to be effective, there is need for new educational technologies which is supported by innovative pedagogical approaches that enable collaboration, mobility and communication, (Websters and Murphy, 2008). Enhancing our teaching and learning with technology helps in improving students learning, it also gives teachers the opportunity to choose the right tool to achieve students learning goals.

Digital tool and technology helps in building collaboration among students in the classroom. Learners can share ideas and learn from one another easily with internet on their phone and mobile devices. Students can work together outside the classroom; collaborative learning facilitates learning, giving students the opportunity for their voices to be heard. This can be done using Apps, group chats, Facebook, twitter, instagram, and hashtags. Apps like twiducate (this is a social networking for schools), it encourages deeper engagements of students outside the classroom. It helps even the shy students benefit from the lesson. It helps teachers and students to collaborate online in real time, projects, share documents, images and texts. Using mobile devices, teachers and students can communicate through texts, videos etc. The lecture capture tool also helps teachers to record their lessons directly from their computers and upload for students to watch. Hence, MCNeely (2005) posits that using technology in the classroom during lesson will increase students' participation and inclusion of all students in the learning process. Digital tools and technology therefore helps teachers create and present their instruction in an interesting way that is relevant and individualized to students.

Digital literacy also helps teachers to be creative and innovative. When they create instructional materials in class, innovate new ways students can learn, device ways of fostering instruction, they are innovative teachers. Digital literacy helps teachers to get better, learn new skills and professionally updating their own knowledge. Gerberg (2000) posits that technology helps teachers to improve their skills, making students to feel comfortable; this is a great way to help them to be successful in their future career. Teachers in the 21st

century are facilitators of students learning and innovates productive classroom environment where students can develop these skills that are needed in the place of work.

Challenges of Incorporating Digital Literacy in the Curriculum

There are some major challenges facing the integration of digital literacy and digital technology in Nigeria, one of which is outdated policies. Our curriculum designers and educational policy makers have not come up with changes that will support 21st century skills and integration of digital literacy into the curriculum. There is lack of support for teachers, which has prioritized traditional literacy, thereby creating little room for technological resources (Leu and Kinzer, 2010). We need policies that will support the use of digital literacy and its resources in the classroom. Nigerian curriculum was last revised September 2014; this actually is a long time as many countries do a five-year review of their curriculum in order not to be outdated. Integrating digital technology in the classroom is a bit complicated when the present educational policy still clings so much to the traditional curriculum. When teachers desire to incorporate digital literacy in the classroom, the policies should be there to back them up. This will help them feel comfortable using the technological tools that are available to them. Schools are really tired of outdated policies and curriculum in this constantly developing digital world. Hence, our educational policy makers should innovate ways of improving the curriculum every 5 years.

Teacher's lack of training is a major setback. Both in service and pre-service teachers should be trained and educated on the importance of digital literacy in the classroom. Another major factor affecting the implementation of curriculum innovation is lack of government funding. The government should make funds available to schools for them to implement an innovative curriculum. Leu and Kinzer (2010) asserts that more funding is necessary to be made available in order to support technological teaching and learning in the classroom. Government should also help in providing sufficient technological tools and materials in our schools. . In a country where technological tools are just emerging, digital tools are majorly used in capital cities and private schools. . Schweb (2018) in his report on global competitiveness, Nigeria is ranked 115^{th} country out of 140 countries of the world. This is a proof that Nigeria is highly hit by digital divide. It will therefore be vague to assume that most schools in Nigeria have digital tools in their classrooms and incorporate digital literacy. Hamajoda, in (2018) came up with a topology on integrating e-learning into some government and rural schools in Nigeria. This will go a long way to bridge the gap between children in government schools and private schools in Nigerian.

Digital Literacy Resources in the Classroom

Digital literacy resources are learning resources that support the processing of information by helping students to develop mental representations through the media elements and other educational resources presented to them, (Eady and Lockey, 2013). These are materials that are added to an instruction, used by the teacher to support learner's achievement of a desired learning goal. They are made up of multimedia elements which include: video, images, texts, audio and photos used in the class to enhance information. Over the years, research carried out shows a positive outcome for learners who learn from resources that combine words, videos and pictures effectively, rather than those that have words alone.

Digital tools such as interactive white boards are used in the classroom to enhance students understanding of an instruction. It helps to integrate various learning styles into the learning experience; hence students can see, hear and interact with the white board through touching. It helps to display various media types using projector on the laptop. This ranges from video, photos, graphs, maps, illustrations; this helps to keep students engaged in class and improves their understanding of the concept. Other digital tools that can be used in the classroom to improve instruction are; laptops, mobile phones, tablets, computers etc.

Educational Applications are digital resources used in the classroom to foster students learning and aid

instructions. This is mostly seen in mathematics and science classes, teachers use these apps to enhance learning and help students be in control of their own learning. Some educational apps like: google classroom, khanacademy, edmodo, kahot, wise.barleley.edu, padlet.com etc they keep students engaged and make learning fun.

The use of educational materials in the classroom provides our students with multiple ways of engagement, representations and expressions. It is great for teachers to select materials that will help students retain information they are learning, because learning is not meaningful when students forget what they have learned. Voltz et al(2010) citing Rief (1993) accerts that students retain 10% of what they read, 20% of what they hear, 30% of what they see, 50% of what they see and hear, 70% of what they say and 90% of what they say and do. Hence, this statistics brings to mind the importance of multisensory materials in the classroom. A teacher should vary how they present their instructions in order to engage learners in the learning process. Printed materials, objects, posters, diagrams, worksheets, photos, pictures are great ways of incorporating educational materials in the classroom. It is the teacher's responsibility to determine which material is appropriate for the lesson.

The internet plays a vital role in our classrooms and the society in general. It is a combination of technologies, platforms and applications that impact teaching and learning. The internet improves the quality of teaching and learning, improves teacher's quality of teaching and improves student's learning ability. The internet is a powerful teaching aid, with the aim of transmitting audio, visual and audio-visual teaching and learning resources to students in class. Students through browsing the internet can come across views and thoughts to develop their ideas, topics, assignments, tasks and projects. Teachers can through the internet create quiz, worksheets, tasks and more to check students understanding of the content taught in class.

The Changing Curriculum in this Digital Age

Digital literacy is the main focus of the 21st century and there is need to incorporate it into the curriculum. Students today need to learn far beyond the core subjects, to master these skills with the 4C that will help them in future. For us to meet up with the challenges facing us in terms of digital technology, we have to adjust our educational policies in order promote the digital transformation in our educational sector. One of such policies is to integrate digital literacy training into our curriculum both at the primary and secondary schools. Digital literacy is therefore the ability to use digital learning resources to foster teaching and learning and participate effectively in the new technology driven environment.

Finland promotes the implementation of curriculum reform for the year 2030 at the national level. In 2012, the Finland's government presented their educational goal; which states that by 2030 Finland will have one of the best educational systems in the world. That same year, the Finland Education Board initiated the development of their curriculum for pre-school and basic education. By August 2016, the new design of their core curriculum was accomplished and they began to implement the new curriculum all across the country. The Finnish National board, every 10 years will conduct curriculum reform, in order to be current and meet up with their target come 2030. The Finnish National board of Education used the Finland's Phenomenon Based learning approach this has attracted the attention of so many researchers and educators. Finland has endorsed Phenomenon Based Learning as a progressive approach to their curriculum which they have found suitable for the 21st century learners.

The Digital Technology Industry Association BIMA, in the UK has called on the government to incorporate digital literacy all through the school curriculum. BIMA has discovered that more than one third of learners are of the view that they did not get the level of digital learning they had wanted. Computer literacy has only covered limited areas of students' digital skills. BIMA has warned that limiting digital literacy education to a narrow aspect of computer literacy is really going to damage UK's economy in the near future. In the

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United States, curriculum reform is still under discussion and at local practice for the year 2030.

RESEARCH METHODS

In this section, the method used in analyzing the data was simple percentage and the data was gathered from secondary school teachers using questionnaires and interviewing method. A total of two hundred and forty teachers were randomly selected from eight secondary schools used in this study, since eight schools were used, thirty teachers were randomly selected from each school. The questionnaires were distributed by hand to teachers who were randomly selected and collected within ten minutes of filling it. The information gathered for the study were summarized in the following tables as follows:

Table 1: Showing analysis on teachers from school

Schools	Number of teachers	Percentage (%)
Government schools	120	50
Private schools	120	50
Total	240	100

From table 1, it is discovered that 50% of the sample size are from government schools while 50% are from private school.

Table 2: showing age distribution of the teachers

Age	Number of students	Percentage (%)
20-25 years	12	5%
26-34 years	100	41.7%
35-45 years	128	53.3%
46-60 years	–	–

Table 2 above shows the age distribution of the teachers who participated in the study. From the table, majority of the teachers falls between 35 – 45 years followed by 26 -34 years, only 5% of the teachers falls under 20 – 25 years. ·

Table 3: Showing Digital tools found and used in schools

Digital tools	Number of teachers	Percentage (%)
Computer/laptop	195	25.3%
Projector	110	14.3%
Electronic board	100	13%
Smart phone	240	31.1%
Audio/visual /clips	98	12.7%
Educational apps	28	3.6%
Educational games	–	–
Total	771	100%

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From table 3 above, all the teachers that took part in the study have smart phone, this represents 31.1% ofthe entire device used in schools. Computer/laptop constitutes 25.3% of the device used in school. The leastof them is educational apps (3.6%). Educational games are not used by any teacher represented in this study.

Table 4: showing how often these devices are used

Digital tools	Never	%	Once a week	%	Three times a week	%	Every day	%
Computer	20	8.7	50	21.7	120	52.2	40	17.4
Projector	110	45.8	90	37.5	40	16.7	–	–
Electronic board	140	58.3	60	25	40	16.7	–	–
Mobile devices	–	0	–	0	–	0	240	100
Educational apps	212	88.3	8	3.3	20		0	0
Audio/visual clip	112	80	18	7.5	20	8.3	10	4.2
Educational games	240	100	–	0	–	0	–	0

From table 4 above, mobile device is used more often than others. It is also discovered, that the students (43.3%) will always make use of computer/laptop every week – 11.7% once a week, 25% three times a week and 16.7% every day. It is also discovered that 100% of the students have never used the wifi in the respective school.

Table 5: showing major setback to the application of digital literacy in schools.

Set back	Number of students	Percentage (%)
Insufficient digital tools and materials	180	19.9%
Poor power supply	185	24.4%
Outdated curriculum/policy	240	20.4%
Lack of internet (wifi) in the school	195	21.5%
Lack of training for teachers	150	13.8%
Total	905	100%

From table 5, it is discovered that the major setback to the use of digital tools and digital literacy materials in schools is out dated curriculum and policies, 24.4% responses confirms this. This is followed by lack of internet (wifi) in schools which was confirmed by 21.5% of teachers. It is also observed that insufficient digital tools and poor power supply are other factors mentioned by teachers that limit the integration of digital literacy in the classroom, these received 19.9% and 20.4% responses respectively.

Table 6: showing the digital literacy materials used by teachers in class

Digital literacy mat.	Number of teachers	Percentage (%)
Images and objects	205	34%
Photo and pictures	195	32.9%
Online books	105	17.8%
Articles and journals	90	15.3%
Total	595	100%

Table 6 above shows the digital literacy materials used more often by teachers in the class. Hence, 34% of teachers confirmed that they use real images and object in class to demonstrate to learners, while 32.9% of

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teachers confirm that they use pictures and photos in class to engage students and demonstrate the concept. The use of online books and journals in school received very low turn up (17.8% and 15.3% respectively) as teachers confirmed that there is no internet or wifi made available in school.

Table 7: showing classroom activities teachers carry out in class

Classroom activities	Number of teachers	Percentage (%)
Open ended questions	145	28.5%
Group work/discussion	125	24.5%
Enquiry based questions	190	37.2%
Clicker question	–	–
Quiz	50	9.8%
Others	–	–
Total	510	100

Table 7 above show the classroom activities teachers often use to engage students in order to promote these 21st century skills. It is observed that 37.5% of teachers use inquiry based question in class, followed by open ended question which received 28.5% response. The use of clicker question received no response at all, while group work/discussion received a poor response of 24.5%. In all, teachers mainly use inquiry based instruction and open ended questions, teachers are not use to group work/discussion which will help learners in the following ways: negotiate, listen attentively, exchange ideas, make presentations, appreciate others opinion and much more, thus improving their communication, collaboration and critical thinking skills.

Table 8: Showing Teachers' perception on the use of Digital literacy

s/n	Questionnaire item	SA	%	A	%	D	%	SD	%	Total	Total %
1	digital tools should be used in day to day activities in the classroom	240	100	–	–	–	–	–	–	240	100
2	Students learn better and faster using digital tools	240	100	–	–	–	–	–	–	240	100
3	Digital literacy has improved students learning and performance	110	45.8	80	33.3	42	17.5	8	3.3	240	100
4	The use of digital literacy materials has increased students engagements and concentration	98	40.8	126	52.8	9	3.8	7	2.9	240	100
5	There are functional ICT and internet facilities for staff and students in my school	90	37.5	50	20.8	60	25.0	40	16.7	240	100
6	The use of technological tools in class has increased collaboration, effective communication and effective engagement of students in the class.	141	58.8	99	41.3	–	–	–	–	240	100
7	Nigerian curriculum/policy encourages digital literacy in the classroom	–	–	–	–	38	15.8	202	84.2	240	100

Based on the data collected and presented on table 8, it is discovered that items 1, 2, 3, 4 and 5 were agreed upon as shown from more than 80% for strongly agree and agree. For item 7, it is discovered that they

disagreed to it. This explains that;

1. The technological tools are very important in the day to day activities in the classroom as they;

- Increase students' engagements and concentration in class
- Make concepts clearer and better understood
- Increase collaboration, effective communication and effective engagement of the students in the classroom
- Increase students' learning and performances.

2. Nigerian curriculum and policy does not promote digital literacy. It is observed that the schools where digital literacy and digital tools were seen and encouraged are private schools. These private schools are seen as high profile schools because of the fees paid in such schools.

SUMMARY OF FINDINGS

From the data gathered from teacher's response, the following are the findings:

1. The teacher's perception of digital literacy from the government schools prove to be low in the sense that there are no laptops/computers in their schools but rather they have smart phones which they use most times to show photos or clips to students in class rooms denying them the privilege to access the laptops/computer themselves. It is good to note that all the teachers use smart phones. The teacher's perception of digital literacy from the private schools prove to be high, it is confirmed that they use projectors and electronic boards in their schools but these are only 14.3% and 13% of the population. It is good to note that most of the teachers in the private schools do not use educational apps and are not aware of this. Only teachers from one private school use educational apps. Schools, both private and government are not aware of educational games, hence no response from any school.
2. It was observed that 52.2% of the teachers use computers/laptops three times a week, while 21.7% use it once a week in their schools. This shows that the highest digital tool used in most schools is computer/laptop, other digital tools like projectors, e-boards, educational apps are scantly used in schools which prove ineffective.
3. It shows that outdated curriculum from the government is the major setback to the use of 21st century skills in schools, this affects mostly the government schools that totally depend on the government policy and curriculum to move on. This is followed by poor power supply which received 20.4% response from teachers.
4. Shows the digital literacy materials that is mostly used by teachers, are real images and objects in the class to engage learners, this received 32.9% response. Online books and journals received low responses of 17.8% and 15.3% respectively. Hence, the use of multisensory materials in the classroom is very important, as teachers need to vary their materials in the classroom to engage students effectively in learning.

Discussion

The result of this study has shown that teachers are aware of the usefulness of incorporating digital literacy and digital tools as a teaching and learning tool in the classroom. The study found out that teachers want digital tools to be incorporated in their day to day activities in the classroom. This agrees with Websters and Murphy, (2008) who asserts that for learning to be effective, there is need for new educational technologies which is supported by innovative pedagogical approaches that enable collaboration, mobility and communication as equally backed up by, Eady and Lockey, (2013).

This study answers the second research question of how effective these digital literacy materials are in the

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classroom. The survey shows that digital literacy materials: improves students learning and performance; increased students engagement and concentration in the class; and help students learn better.

The effectiveness of the 21st century skills could be ascertained through incorporating various classrooms activities in the class. From the survey carried out, it could be seen that most schools lack knowledge of various classroom activities to use in class in engaging students effectively and promoting the 21st century skills. Collaborative learning which could be achieved through group work, group discussion, peer teaching etc received a very low response from teachers (24.5%). This shows that collaborative learning is not effective in these schools. Hence, Smith et al (1992) posit that collaborative learning motivates students by getting them actively engaged while focusing on student's discussion and active work with the course material thinking less of the teacher but on the intellectual experience of students as co-teachers of more emergent learning process. By implication, this study is an eye opener to the urgent need to inculcate digital literacy in our Curriculum and enhancing our teaching and learning with technology helps in improving students learning, it also gives teachers the opportunity to choose the right tool to achieve students learning goals.

CONCLUSION

Our traditional system of teaching and learning is difficult to develop these skills needed by students to be successful in a modern society as reported by teachers used in this research. Traditional method of teaching can only solve past problems and focus on complex problems but cannot solve future problems. ICT is not just an independent sector but the key enabler of all other sectors today. It enables opportunities in education, in health, in agriculture, in security, in defense, in manufacturing, in trade, in investment and in industry.

For us to get our students prepared for future work and life, there is need for new educational methods and pedagogical approaches which will help promote individual learning, collaboration and develop student's abilities. These new learning strategies are needed not only based on what is known but what can be done differently in the classroom to get a good result. This is leading towards a combination of complex thinking, perception, feelings and behavior. In order to achieve this, there is need for a clear, direct and comprehensive strategy to help students learn in the 21st century environment. In Nigeria, there is need to reduce the emphasis placed on core academic knowledge and adopt more of the 21st century skills so that students can learn and apply their knowledge outside the school. This will help Nigerian students even when they step into the society, they can make meaningful contributions and greater achievements

In a developing country like Nigeria, I think that there is need for improvement in our educational system. Incorporating digital literacy and 21st century skills into the curriculum will help students prepare for the future work that is not yet in existence. There have been some innovations in our educational system but whether the current curriculum will meet student's educational needs in this fast developing world is still a big question. The world after 2030 is really hard to predict, we as teachers have the responsibility to help our students and prepare them to face these challenges ahead by developing their flexible skills.

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