New Media and the Development of Education Sector: Appraisal of Selected Schools

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Abstract
This study appraised the use of the new media by students in Obio/Akpor Local Government Area of Rivers State, Nigeria. The objectives of the study were to identify extent of use of new media and to find out challenges experienced while using new media for learning in schools in the Local Government Area. The study adopted survey and quasi experiment as research designs. The population of the study stood at 5,609 representing entire population of the students and heads of schools studied. Sample size of 568 was used in the study. Findings showed that some of the schools were truly new media based but under utilized by the students in learning. The challenges experienced by students differed from one school to another. It was recommended that teachers should be retrained. Adequate new media facilities should be made available in school curriculum to include new media practice in all subjects.

Keywords
communication, education, literacy, new media, school

Background
New media refer to a communication system whereby media platforms are accessed through the Internet and used for the purpose of creating content, modifying content, and sharing information through the use of a digital device. Content is essential in education, and Nigeria education policy makers took cognizance of the importance. As a result of virtual library relevance to the education sector in terms of content, the National Policy on Education (Federal Government of Nigeria, 2004) Section 11:100(e) noted that “the library is at the heart of education enterprise. The virtual library as a platform for sharing knowledge is aimed at rejuvenating Nigerian schools through the provision of current books, journal and other information resources using digital technology” (p. 36).

The beauty of the media is that different resources that would have been accessible through different devices could be accessed through a single digital device. Influence of the new media cannot be underrated although use and output of the media could be assessed based on users’ behavior. Digital communication is no longer new in some Nigerian schools but the new media still stand as a new entrant to Nigeria education sector generally. The use of the media at the nursery, primary, and secondary levels of education in Nigeria is still at the infancy stage.

Although the traditional education system was certainly a very good way of learning before, now to many, globalization has changed the ways of doing things in every area, and education sector is equally affected. This has made application of the new media in the learning and teaching process necessary. The learner now has a major part to play in the learning process.

The education world has come to a level whereby different parts, people, platform, and device connect for productive learning. The new media communication system is currently making waves through the introduction of new ways of learning. Its ability to ensure availability of content anywhere without inhibition of physical space and time has made it more useful in learning. In Nigeria, the use of the new media has opened up, especially in the area of social networking and organizational communication, but still tries to come into full use in teaching/learning process. In every part of the globe, the use of new media has introduced creativity, quality, speed, collaboration, and fun to learning. In Nigeria, there are indications that new media thrives more among students who informally use different digital devices

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at home to access social platforms. The use of the media in schools appears to be only emerging, perhaps as a result of using computer and smart boards to access data needed.

New media have spread tentacles around different huge human activities including education system through the gradual introduction of the media to some nursery, primary, and secondary schools. This is done, especially through Podcasts, Facebook, Twitter, YouTube, blogs, and so on. The advent of the media has broken the limitations associated with the traditional formal learning system which made the teachers solely in charge of affairs and students learning passively in the confines of the classrooms. The new media could be viewed as a means of introducing quality to the education sector especially in the area of enabling students and teachers to have access to content wherever they are found if digital device connected to the Internet is available. The unlimited access to content with the provision of generating and sharing of such content could boost availability of quality education.

Quality education sustains development in any society. The digital “village” status of the world where communication connects every part via the use of digital apparatus makes relevant educational information available across territorial borders of the world, no matter the source or culture. Teaching and learning are essentials of knowledge acquisition in formal and informal education all over the world. The use of the new media encourages communication system between teachers and learners but the issue of “digital divide” stands as a barrier to effective modern teaching and learning in schools. Every facet of Nigeria’s education sector needs the intervention of effective new media system to live up to what is done in other parts of the world. This will enhance quality learning process and hasten the development of the education sector.

The issue of development in any society is impossible without putting education of the people in proper perspective. When the people are educated, reasons behind development policies may become clearer and better. Communication is the bedrock of the education sector. It is basically what makes the existence of man meaningful and purposeful. Communication is a purposeful venture which could cause transformation. Introduction of technology to the education sector not only fosters development, but can also make the learning process fascinating, active, and knowledge based.

However, the oddities associated with the media have made some stakeholders to have contrary view, especially on the part of most parents and some teachers who feel that although the media are filled with certain rich contents, abuse of the contents on the part of users may at the end eclipse the huge benefits envisaged of the media. To those who are of this school of thought, the abuse could cause the learner irreparable damage. This opinion is based on the presumption that, as a result of the free access associated with the new media, students may access sites they ought not to visit and end up getting lured into pornography, wasting much of precious and useful time on damaging activities online. The involvement of some of the students getting involved in damaging sites could lead to widening the “knowledge gap” which the new media would have closed if properly channeled. The essence of education is cognitive development. When there is cognitive development, potentials would find expression and could work as a means of closing “knowledge gap.” Leaving the “knowledge gap” unclosed could serve as hindrance to the development of the education sector.

As a result of oddities associated with not using the media for academic development, especially on the side of learners, use of the media could produce certain disadvantages including academic failure. The disadvantages involve learners spending more time browsing unprofitable sites in place of using the new media judiciously for academic purpose. It has also been noted that online bullies use the ignorance of the young learners while using new media to bully them; this has made some young children fall victims to the nefarious activities of cyber criminals.

Although some observers have pointed out that the dangers associated with the new media could damage the future of young learners, the advantages associated with the use of the media should, by all standards, be seen as superseding the few shortcomings noticed. This indeed, is a turning point that drives its roots to the education sector. The Nigeria education sector can be a viable 21st-century education system with the application of the new media.

Formal education through the school system started in Nigeria with the arrival of the missionaries but it is no longer the same. The baseline of education then was to spread the gospel and possibly train people for clerical positions. With the arrival of education in Nigeria through the colonial masters, education policy inherited from the colonial masters accounted for what was used in the learning process. In 1969, a major step was taken through a conference held in Lagos. This eventually gave the country a policy different from the one produced by the colonial masters. It also gave the country an opportunity of designing policies and curriculum based on societal needs. Nigeria, from time to time, has its education policy revised to effectively respond to the challenges in the world.

The Nigerian National Policy for Information Technology (IT) Document and 2004 National Policy on Education placed importance on Information and Communication Technology. The Nigerian National Policy Document for Information Technology’s strategies include “making the use of IT mandatory at all levels of educational institutions through adequate financial provision for tools and resources” (p. 1). The National Policy on Education in Section 1:9(h) noted that “modern educational techniques shall be increasingly used and improved upon at all levels of the education system (p. 3). New media are modern educational technique and their use in schools in Nigeria will not only be in consonance with the country’s education policy but also a key
foundation for development. The policy is there to serve as a guide and many schools right from the nursery level to the secondary level in the country claim using the new media in their teaching/learning process. Many factors surround the use of the new media. The authentication of this claim becomes the subject of the investigation this study has carried out in Obio/Akpok Local Government Area of Rivers State.

Obio/Akpok is one of the local government areas in Rivers State, Nigeria. It shares boundaries with Port Harcourt, Emohua, and Ikwerre Local Government Areas. There are different institutions (including educational institutions) in the area. The educational institutions include nursery schools, primary schools, secondary schools, and two tertiary institutions. Different categories of people reside in the area, including stakeholders in education. The schools adopted different methods in the learning process.

Every method adopted for teaching and learning has its own advantages but there is no need to limit operations of the education sector to only traditional method of teaching and learning, especially now that digitalization has introduced ease and speed to learning. The world is now a “global village” and teachers and learners in Obio/Akpok Local Government Area are part of the village.

Statement of the Problem

The claim by some schools at all levels of education in Nigeria that they use new media for teaching and learning process is not new. Many nursery, primary, and secondary schools often display their dexterity in the use of the new media in learning by their students on television screens, especially when they carry out admission campaigns. Many nursery, primary, and secondary schools in Obio/Akpok Local Government Area of Rivers State also lay claim to their students’ ability to make use of new media in their learning process. This claim necessitated this study. As such, the concern of this study is to find out to what extent students in the nursery, primary, and secondary levels in Obio/Akpok Local Government of Rivers State, Nigeria, make use of the new media in their learning process.

Research Questions

The following research questions were raised to guide the study:

Research Question 1: What is the extent of the use of the new media by nursery, primary, and secondary schools in Obio/Akpok Local Government Area?
Research Question 2: How much relevant knowledge do students in nursery, primary, and secondary schools in Obio/Akpok Local Government Area have in using the new media in learning?

Research Question 3: What are the new media types used for learning by students in nursery, primary, and secondary schools in Obio/Akpok Local Government Area?
Research Question 4: What are the challenges experienced by students in nursery, primary, and secondary schools in Obio/Akpok Local Government Area while using the new media for learning?

Definition

The media: In this study, the term the media refers to the new media.

Conceptual Grounding/Literature Review

New media are useful means of making content available to teachers and learners. They aid communication in the process of learning. One of the major functions of communication is dissemination of information. Information technology began with the “Gutenberg’s Galaxy”; it went through stiff opposition and was subjected to censorship. The “Gutenberg Galaxy” made printed materials available to the students. Technology has been moving from a realm of improvement to another culminating in the present era of the “new media” which gives everyone opportunity of generating and using content. The content generated could be beneficial or otherwise. DeNoyelles (2013) noted that “if educators know which characteristics to identify, they can take advantage of the technologies promises, remove barriers before they are created, and design powerful instructions to support learners” (p. 5). The use of the new media for acquisition of knowledge rests solely on using a digital device connected to the Internet for the purpose of creating and accessing content. It goes far beyond buying computers but much more to getting the computers linked up to the Internet and using the computer for interacting, creating, and collaborating information which is very common with many students. Holmes and Gardner (2011) observed that today’s young people are growing up as a part of the internet generation and their ease with digital technologies and the access it gives to them . . . will undoubtedly result in them becoming a force for social transformation. (p. 61)

However, the transformation as observed by Holmes and Gardner (2011) would only be possible if the new media platform is used for the right purpose.

In the context of this study, new media are media tools connected to the Internet and used for teaching and learning. It is a communication system used for creating, modifying, and sharing information. Emails, Facebook, Twitter, instant messaging, YouTube, blogs, Wiki, Podcast, Search engines, and so on are new media platforms used in schools. The media is basically convergence of technology. New media enables interactivity in a learning process.
Gauntlet (2008) explained that “media and communication are cultural elements of modern life” (p. 1). The effectiveness of any communication system is the medium adopted to make the process effective. Miekle and Young (2012) observed that “the media are no longer what we watch, listen or read—the media are now what we do” (p. 2). New media are part of daily activities. The new media in education sector facilitate easy learning and the essence of learning is basically cognitive development. The process of learning is made possible through the use of the brain and senses.

**Cognitive Development Theory**

Fisher (2005) observed that “Piaget took logical reasoning to be the central factor of intelligence. He regarded the development of logical intelligence as occurring in certain key stages through the child’s operation in the world” (p. 12). Fisher’s (2005) observation gave the work of Sampath, Panneerselvam, and Santhanam (2006) a foundation and they explained that there is an explosion of knowledge, and students have few opportunities to explore the curriculum in depth. They suggested that to handle the challenges, teacher needs to make use of new and improved communication devices in the classroom. The stimulus factor of the new media did not place limitation on the media. The accessibility of the media anywhere could also place it as a vital stimulus. Fisher (2005) submitted that “creative thinking does not occur in a vacuum: it needs some stimulus, some content to work on” (p. 31). The new media have stimulating contents that could prod cognitive development of the learner. In entrenching the work of Fisher (2005), Renzuilli and Reiz (2009) observed that “action information grows out of what intrigues a child, grabs her attention. That spark may occur when she is influenced by a person, an idea, a piece of information or an area of activity or occupation” (p. 67). New media could cause a spark in the learning process but the users’ behavior could make the spark to be either positive or negative. The positivity or the negativity of new media could be assessed through “nature and nurture.”

Piaget’s position on nature and nurture cannot be ignored in cognitive development of children. Lightfoot, Cole, and Cole (2013) stated that “nature refers to children’s innate motivation to learn and explore, as well as to maturation of their brain and body. Nurture refers to all the experiences that children learn from” (p. 19). In as much as the biological makeup of the child contributes to cognitive development, the impact of right help and support are also important. Vygotsky’s Zone of Proximal Development entrenches Piaget’s Cognitive Development.

**Zone of Proximal Development**

Kozulin, Gindis, Ageyev, and Miller (2007) observed that “Vygotsky theory stipulates that the development of the child’s higher mental processes depends on the presence of mediating agents in the child’s interaction with the environment” (p. 17). When right environment is made available in the process of learning, the child will perform better than a child without help or support. Fisher (2005) in relation to Vygotsky’s Zone of Proximal Development (ZPD) pointed out that “the difference between a child’s actual mental age and the level he reaches in solving problems with some help indicates his potential (ZPD). With assistance every child can do more than he can himself” (p. 112). The ability of the learner might not come to bear except right help and support are provided.

Based on the right provision of help, Vassing (2011) observed that it “can be used to describe the difference between what a child can do independently and what this child can do in cooperation with others, sometimes illustrated by the use of some cultural artefacts such as a calculator” (p. 113). Active participation of the learner gives opportunity to beneficial learning experience especially when media are used. The new media are designed to suit purposes; if they are adapted to the learning process because of their interactive nature, they can result to beneficial/desired learning outcome. Vygotsky’s ZPD based on interaction and exposure will aid learning. Media could serve as aids to education, especially when the right one is adopted. Media in education is there to communicate knowledge.

No society or system can exist without communication. Communication is what keeps the wheel of any society in motion; the media thus facilitate communication. One of the primary aims of the media is education and education aids development. Lightfoot et al. (2013) submitted that “the ability to use technology is considered key to success in an increasingly wired world” (p. 378). The world activities now thrive on the use of technology and recent impact of the new media in activities could aid development of the education sector.

**New Media**

New media in learning is a means of collaboration and interactivity whereby teaching and learning could be interesting and fun filled. Lightfoot et al. (2013) had stated that “the new media are appealing to children because of both their form and their content” (p. 378). New media give room to creativity and widen learning horizon. New media brings the world closer to the learner faster than it would have been with the traditional method of learning. They make information available. They are easy and convenient ways of visiting the library through the use of Internet connected device. Aside from providing information, the media also come with a platform of giving learners from every part of the world equal opportunity of learning as a result of the rich contents of the media. New media can effectively be used by the learners if there is a good understanding of the media language used for the operation of the media. The linguistic expression used for the operation of the media is unique to the media.
New Media and Use of Language

There is no society without a language. Packer and Croft Wiley (2012) argued that communication manifests through technology. Communication is all about language. The knowledge of language is what can allow effective use of the new media. There are some words that are peculiar to the media. Ejele (2003) observed that “the meaning of a linguistic expression is precisely that knowledge which enables us to use it appropriately in linguistic communication, whether in everyday or specialized context” (p. 69). The new media participatory nature enables appropriate linguistic use because of the multifaceted and specialized nature of the media. The nature of the media gives room to synchronous and asynchronous conversation. Irrespective of the timing of the message, purpose and content are clearly stated. Crystal (2010) observed that “an instant messaging service allows electronic conversations between people who know each other to take place in real time” (p. 14). The instant messaging is ongoing with immediate feedback and participants are known. Crystal’s (2010) observation was entrenched in Tindall’s (2013) statement that “aside from only student-to-student interaction, social media provide a variety of media for instructor review and feedback” (p. 47). This is a beneficial experience for children in the same school having opportunity of discussing coursework/homework and effectively collaborate group assignment. Net speak is a language unique to the Internet for the purpose of interaction electronically; examples are @, e-prefix, online, offline, hypertext, download, multitasking, wired, mjt.org, dot-com, www, .com, and so on. To effectively use the media and have a good understanding of the content, good usage of the language is essential and stands as part of generating content. Generation of content and having a good understanding of the media use requires functional brain and the senses.

New Media and Brain/Sensory Approach to Learning

Mangal (2003) submitted that human senses are the windows to the world. Human senses are the gateways of all information that the brain receives by interacting with the stimuli present inside and outside the body. Communication depends on the five senses, all connected to the brain. Yul-Ifode (2007) observed that “the ability to communicate depends on the proper bodily functioning of the brain and the various vital parts of the body” (p. 1). Every step in the learning process even with the use of the new media entails thinking. These are activities which necessitate the use of the brain and sensory organs. Yul-Ifode’s (2007) observation on the function of brain and senses received further explanation through Tindall (2013), who explained that “multiple sensory inputs are part of our daily experience and remembrance of those artifacts of our perceptions, which are bound to our understanding of the world” (p. 49). The functionality of the brain and senses could aid media use especially in the education sector.

Education Sector and the New Media

Sidney Pressey in 1924 designed teaching machine based on “programmed learning”; it was the new media in the incubator getting ready to become a reality in the education sector. He was the pioneer of “teaching machine.” This claim has been authenticated by Kochhar (1985) who reported that “programmed instruction in an advanced form was initiated by Prof. L. Pressey’s use of teaching machine” (p. 212). Although Kochhar (1985) called it teaching machine, Holmes and Gardner (2011) called it the testing machine. Holmes and Gardner (2011) also observed that “The story begins in 1920s with Sydney Pressey’s testing machine” (p. 35). Pressey’s teaching machine was followed 40 years later by McLuhan’s “medium is the message” forecast. McLuhan pointed to the fact that the medium used for a communication function determines the output of the message. New media are a communication system with different sites which could foster education. Cabiria (2011) explained that sites provide access to a wide range of educational opportunities for students of all ages. The explanation of Cabiria is in line with the view of Holmes and Gardner (2011), which implies that, in e-learning contexts, the learners are placed “squarely at the centre of the learning activity with assistance in ZPD either from software prompts or a more knowledgeable tutor or peer” (p. 83).

The new media stand as motivator of the learning process because of all the knowledge acquisition functions available to the learner. Podcast, blogs, Twitter, emails, Wiki, Search engines, and YouTube are new media tools that could be used for instruction and learning. Highley and Seo (2013) explained that these tools have the potential to enhance literacy and learning across diverse student populations. The presence of the new media has changed ways of doing things. Scannell (2010) reported that McLuhan found out that “the new electronic interdependence recreates the world in the image of a global village” (p. 135). The interdependence gives learners the opportunity of using various media through one platform to access contents and other parts of the world.

Palmer (2007) submitted that “facts are readily available on the Internet and that graphics can brighten dull educational chores” (p. 210). The media expose the learner to a broader view of a topic which makes room for clearer view of the topic at his convenience. The change in the traditional media forms contributed to the convenience of the use of the new media. Croteau, Hoynes, and Milan (2012) observed that traditional media forms have changed from being separate media and are now all delivered in digital form over the Internet which has blurred the distinction between them. New media made the functions of traditional media better because of the access to different media through one device. The convergence nature of the media enhances practices in the “global village.”

Emenajo (2005) defined globalization as the ability of many people, ideas, and technology to move from country to
country. From the definition, globalization fosters relationship, education, and development. There is no distance barrier in the interaction of man when it comes to globalization. Fostering education under globalization involves the use of digital-based mediated instruction. In Nigerian schools, the widely used device in connecting the new media is the computer, although there could be opportunities of using other digital devices in some schools as a result of communicative action of the media. Researches have been carried out on the use of mediated learning and teaching.

The study of Warren and Wakefield (2013) on “Learning and Teaching as Communicative Actions: Social Media as Educational Tool” looked into the use of the new media in the learning environment. The objective of the study was to examine how the use of the social media can aid teaching and learning by using certain types of communicative actions. The researchers used the survey method. Twelve students of a higher education institution in South Western United States were used as population of the study during 2011 spring. Data were collected from the students blogs based on social media experience. The reflective questions were focused on use of Twitter, blogging tools, and connection with peers and instructor. The researchers used constant comparative analytic process for examining the data. The method was used for sorting similarities and differences.

Finding showed that social media as educational tool enable learners to be part of 21st-century community that makes use of technology for learning and remains interconnected. Findings also showed that positive and negative lessons were learnt while making use of the social media as educational tool. For the technology to work well, the study stated five lessons that could aid learning. The first lesson was to give students choices while learning interactively; the second lesson was meant to give the students support while connected in the hybrid classroom to achieve social presence. The third lesson emphasized on making good use of face-to-face interaction. While the fourth lesson dwelt on having meaningful learning experience through the use of new media. The fifth lesson stated that the connection to Twitter in a social space would add value to the learning experience. The researcher concluded that using the new media experiences can provide educational experiences that would achieve learning.

Sinnappan and Zutshi (2013) also carried out a research on “A Framework to Enrich Student Interaction via Cross-Institutional Microblogging.” The objectives of the study examined how microblogging can enrich students and enhance learning. The work is a presentation on the findings of the work of Sinnappan and Zutshi (2011a,b) in Sinnappan and Zutshi (2013) on how microblogging can facilitate learning activities. For methodology, Sinnappan and Zutshi (2013) used the experimental setting which involves the use of online support and face-to-face communication mode. The experiment method adopted gave students opportunity of posting thoughts and questions as tweets. The data set analyzed in the study is the list of tweets tagged with relevancy to the curriculum discussion posted by students and staff over a period of 4 weeks.

The researchers used three phases and a case study. Under the planning phase, topics, duration, and collaboration; platform and tools; and learning activity design were considered. For the implementation phase, students and staff engaged in class activities and posted microblogs. The monitoring phase ensures collaboration. The case study was based on a Trans-Pacific experience where Twitter and microblogging based on certain topics were used to encourage dialogue. Two coders coded and came up with an initial agreement of approximately 77%. After negotiation between the coders, agreement was 98.5%. Findings showed that Twitter usage indicated cognitive presence above social presence. The findings also show that Twitter has more than social interaction. The study encourages participation in the process of learning.

The two research studies empirically reviewed have similarities with this current study. Although the two studies empirically reviewed were carried out in higher institutions of learning, current research was carried out in nursery, primary, and secondary schools. The similarity is that the study was based on the effects of technology on learning. Each of the studies reviewed here looked at mediated learning and the impact from different dimensions but all arrived at the point of highlighting the impact of the mediated learning on the learners. Overall stand of the studies points to the fact that if new media are used appropriately in the learning process, it would leave beneficial impact on the learners.

Method

The research designs used in the study were survey and quasiexperiment. The study used guided test, observation, and interview as instruments. The quasiexperiment used the guided test as instrument. The study was conducted in eight selected primary and secondary schools in Ohio/Akpor Local Government Area, Rivers State, Nigeria. The schools are Federal Government College, Rumuokoro; Faith International College, Rumuomasi; Jephthah Comprehensive Secondary School, Ozuoba; Government Girls Secondary School, Rumuokwuta; The Gifted Hands School, Rumuodomaya; Faith Education Centre, Rumuomasi; Staff Nursery and Primary School, Rumuokoro; and State Primary School, Rukpokwu. The students and heads of schools in the eight schools formed the entire population of the study. As a result, the population of the study stood at 5,609. The sample size of the study was 568 including all the heads of the eight schools. Nonprobability sample procedure and purposive sampling method were used.

The number of students in Federal Government College, Rumuokoro, as at the time of this study was 1,707 (31%), while the students in Faith International College, Rumuomasi, were 231 (4%). Government Girls Secondary School, Rumuokwuta, had 1,233 (22%) students, Jephthah Comprehensive Secondary
School, Ozuoba, had 470 (8%) students; Faith Education Centre, Rumuomasi, had 204 (4%) students; Staff Nursery and Primary School, Rumuokoro, had 1,026 students (18%) students; The Gifted Hands School, Rumuodumaya, had 334 (6%) students while State Model Primary School, Rukpokwu, had 396 (7%) students. The total number of students was 5,601. Heads of the eight schools were added to arrive at 5,609 being the total number of the population of the study.

Interview, observation, and guided test were used as research instruments. As a result of the ethnographic nature of the study, notes were taken based on activities observed. Activities observed were those that are related to the research questions of the study. Guided test administered to students was based on the school curriculum and IT policy but in response to the research questions drawn to guide the researchers in the interview. Five questions were used in guided test. Items 1 and 2 were structured based on Research Question 1. Item 3 of the guided test was based on Research Question 2. Item 4 was based on Research Question 3 while Item 5 was based on Research Question 4. Each correct response of the guided test was awarded 20 marks. The interview schedule used the open-ended questions. Transcription of data was carried out based on the answers provided. Questions asked were to give answers to the research questions. As such, Questions 2, 3, and 5 were to respond to Research Question 1; Questions 3, 4, and 6 were to respond to Research Question 2; Questions 2, 3, 4, and 6 responded to Research Question 3 while Question 1 responded to Research Question 4.

Five questions on media-based learning were tested on students in Junior Secondary School Class 2, Junior Secondary School Class 3, Senior Secondary School Class 1, Senior Secondary School Class 2, and Senior Secondary School Class 3 in the secondary schools. The questions were administered to Primary 2, 3, 4, 5, and 6 students. Fourteen students represented each of the classes selected as sample of the study. Thirty minutes were allotted to each class within which the test was carried out. At the expiration of the allotted period, the researchers with the aid of four assistants collected the question papers from the students. Eight days were used to administer the test in the schools where the facilities were available. On interview, the researchers personally conducted the interview on one-on-one basis with the interviewees. One head of school was not interviewed. It took the researchers 14 days to conduct the interview.

**Interview Presentation**

The interviews aimed at gathering data on new media–based learning in selected schools in Obio/Akpor Local Government Area schools. Interviewees responded to the interview questions.

**Question 1: What do you understand by the new media?** On the understanding of the new media, the interview showed that the understanding of the new media by the heads of schools hinged on recent technology with a clear cut for the Internet as a means of getting the new media operated. Six of the eight schools were Internet connected, although with different levels of use as a result of challenges of the new media. Responses from the interview highlighted the fact that there was an understanding of the new media. Responses from the interview also showed that the respondents might not have a deep understanding of the new media especially in the area of types and functionality of the new media.

**Question 2: Is your school Internet connected?** On Internet connection, Federal Government College, Rumuokoro; Faith International College, Rumuomasi; Jephthah Comprehensive Secondary School, Rumuomasi; Faith Education Centre, Rumuomasi; The Gifted Hands School, Rumuodumaya; and State Model Primary School, Rukpokwu, were connected to the Internet but differed in respect of functionality. In Federal Government College, Rumuokoro, the representative of the principal said that the Internet tools were undergoing repairs. Jephthah Comprehensive Secondary School, Ozuoba, and The Gifted Hands School, Rumuodumaya, were fully connected to the Internet while Faith International College, Rumuomasi, and Faith Education Centre, Rumuomasi, were partially connected. State Model Primary School, Rukpokwu, lacked electric power to access Internet connectivity at the time of study. Government Girls Secondary School, Rukpokwu, was not connected to the Internet.

**Question 3: What is your evaluation of your students’ performance using the new media–based learning?** On evaluating the students’ performance on new media–based learning, Federal Government College, Rumuokoro; Faith International College, Rumuomasi; Jephthah Comprehensive Secondary School, Ozuoba; and The Gifted Hands School, Rumuodumaya, agreed and rated the performance as being good while the Head of Faith Education Centre, Rumuomasi, stated that the school only engaged in computer studies and not new media–based learning. Government Girls Secondary School, Rukpokwu, could not talk of performance because of lack of Internet use at the time of the study. Where the students had opportunity of accessing the new media, their performance was rated good. Where there was inaccessibility, students experienced limitations especially in the area of electronic-based learning.

**Question 4: Could you identify the challenges of the use of the new media among students in Obio/Akpor Local Government Area?** On challenges of the use of the new media, the responses from the interview showed that the challenges were many. Digital divide, lack of manpower, promoting the use of the new media for social networking, restricting the use of the new media to Information Communication Technology (ICT) classes, network problems, maintenance cost, and epileptic electricity supply were some of the challenges identified by the interview respondents.
Question 5: In your own opinion, is the use of the new media by students in Obio/Akpor Local Government Area in line with the curriculum? On aligning the use of the new media with the curriculum, interview respondents came up with different answers. Respondent from Federal Government College, Rumuokoro, explained that the new media were in line with the curriculum. This was supported by respondents from Jephthah Comprehensive Secondary School, Ozuoba; The Gifted Hands School, Rumuodomaya; Faith Education Centre, Rumuomasi; and State Model Primary School, Rukpokwu. The Administrator of Jephthah Comprehensive Secondary School, Ozuoba, added that new media could enable transferring of paperwork into the Internet whereas the Administrator of The Gifted Hands School, Rumuodomaya, looked at it from the angle of the school using the new media to work topically with the curriculum. The assertion of the Administrator of The Gifted Hands School, Rumuodomaya, was supported by the Headmaster of State Model Primary School, Rukpokwu. He was of the view that teachers could research on the Internet in line with the curriculum whereas the Head of Faith Education Centre was of the opinion that the new media could be used for information acquisition. The principal of Faith International College, Rumuomasi, also stated that it would be relevant with innovation of teachers. The representative of Government Girls Secondary School, Rumuokwuta, was of the view that new media were not in line with the curriculum.

Question 6: The Information Technology Policy Document stipulates that ICT should be used at all levels, is it a reality or a farce? On the policy of ICT at all levels, opinions of respondents differed. Some viewed it as a reality whereas others considered it as farce. Representatives of the principal of Federal Government College, Rumuokoro; Jephthah Comprehensive College, Ozuoba; and The Gifted Hands School, Rumuodomaya, considered it as a reality with the right tools in place. Those in Faith International College, Rumuomasi; State Model Primary School, Rukpokwu; and Government Girls Secondary School, Rukpokwu, were all of the view that it is a farce. The respondent from Faith Education Centre, Rumuomasi, in her own view stated that it might be a reality in the nearest future.

Guided Test

Students/pupils guided test analysis, Question 1: Key in the new media types you know (knowledge of new media types). Out of the 560 students tested, 33 (6%) students scored 1 mark (progressing grade), 78 (14%) students scored 2 marks (fair grade) while 353 (63%) students scored 1 mark (progressing grade).

Students/pupils guided test analysis, Question 2: Search the information term student on the website, save or print. Out of the 560 students tested on searching information on the website, 78 (14%) students scored 20 marks (excellent grade), 57 (10%) students scored 15 marks (very good grade), 60 (11%) students scored 10 marks (good grade), 57 (10%) students got 4 marks (fair grade) while 165 (29%) students scored 3 marks (fair grade) and 350 (62%) students scored 1 mark (progressing grade).

Students/pupils guided test analysis, Question 3: Key in the new media types you know (knowledge of new media types). Out of the 560 students tested, 114 (21%) students scored 20 marks (excellent grade), 141 (25%) students scored 15 marks (very good grade), 83 (15%) students scored 10 marks (good grade), 57 (10%) students got 4 marks (fair grade) while 165 (29%) students scored 1 mark (progressing grade).

Students/pupils guided test analysis, Question 4: State four main challenges of the new media. Out of the 560, 280 (50%) students got 2 marks (excellent grade), 45 (8%) students got 15 marks (very good grade), 15 (3%) students got 10 marks (good grade), 52 (9%) students got 4 marks (fair grade) while 168 (30%) students got 1 mark (progressing grade).

Researchers’ Observation

The researchers observed that learners outside the classroom setting were conversant with the use of the new media, especially in cases where they were not given adequate opportunity of making use of new media for learning in the classroom as pointed out by the principal of Faith International College, Rumuomasi. Aside from the use of the new media in schools, some of the students had digital devices. They used the new media for social networking with a good example of smartphones that can carry out new media activities that some computer sets will need special application before carrying out such. The researchers also observed that there was a wide gap between the teachers and the learners in the use of the new media. Some of the teachers operated from the 20th-Century analogue angle while the students operated from the 21st-Century digital mode. The students could multitask and still do very well. The knowledge of the new media was evident in almost all the schools but the issue of synchronizing knowledge with learning experience was still not in operation in many of the schools. The researchers observed that activities in some of the classrooms were not actually designed for the e-learning
experience; most of the activities were done with traditional classroom board in some of the schools. The classrooms were designed in line with the paper-based learning experience. It was observed that students easily blend into digital use when they were enabled. The students are active learners in a passive environment. It was observed that students preferred graphics to text in learning. Researchers’ observation also showed that students were more in love with fun-filled learning activities. Manpower was another issue that stood as a problem in some of the schools. In some schools, as observed by the researchers, the ICT instructors were not fully employed but rather enlisted on the school role on part-time basis. Observation showed that in such schools, if the part-time instructors are not available, ICT learning could not take place at all.

The researchers observed that Jephthah Comprehensive Secondary School, Ozuoba, is a centre for Test of English as a Foreign Language and Scholastic Aptitude Test examinations which warranted having a standard digital device laboratory designed for the examinations. Aside from the laboratory for examinations, the school had another laboratory used for ICT classes by the students. Observation showed that the new media tools were available and the students used them for ICT classes. Faith Education Centre, Rumuomasi, is a nursery and primary school. The school was partially Internet connected and the researchers observed that the computer sets were used for administrative purpose. New media–based learning was yet to take off. In Staff Nursery and Primary School, Rumuokoro, new media learning was based on ICT classes. The Gifted Hands School, Rumuodumaya, is connected to the Internet and the new media were used for many things ranging from administrative purpose, ICT classes, and updating students’ knowledge on current beneficial educational issues. The new media tools were available and the students were good at using them. The State Model Primary School, Rukpokwu, was fully equipped with the new media tools but the researchers observed that they were not in use. The challenges were lack of ICT manpower and power shortage.

**Discussion of Findings**

**Research Question 1:** What is the extent of the use of the new media by students in learning by nursery, primary, and secondary schools in Obio/Akpor Local Government Area?

New media are new in most schools. The use of the media gives opportunity in virtual learning environment. The use of the new media by students in learning in nursery, primary, and secondary schools in Obio/Akpor Local Government Area could be assessed by looking at the eight schools studied. Out of the eight schools studied, new media tools were available in seven schools, and even at that, it was only Jephthah Comprehensive Secondary School, Ozuoba, and The Gifted Hands School, Rumuodumaya, that were fully connected to the Internet with their media tools in operation. Faith International College, Rumuomasi, and Faith Education Centre, Rumuomasi, were “partially connected” to the Internet. For Federal Government College, Rumuokoro, and Staff Nursery and Primary School, Rumuokoro, the Internet tools were undergoing repairs as at the time of the study. In State Model Primary School, Rukpokwu, new media tools were in good condition but could not be put to use because of lack of power (electricity) and ICT manpower.

Some of the schools studied had acquired digital tools as an indication that the need for new media–based learning is necessary. Maybe, in a couple of years to come, a greater number of schools in the Local Government Area would have up-to-date new media tools to link up to content available on new media platforms. This is perhaps why Palmer (2007) observed that “facts are readily available on the Internet and that graphics can brighten dull educational chores” (p. 210). The use of new media in almost all the schools was limited to ICT classes. The schools were yet to embrace new media as a means of teaching other subjects aside from ICT at the time of this study. There are so many new media types that can be beneficial to the learning situation but the schools only adopted limited number of the new media types. Observation showed that outside the class setting, students used different new media types for social networking. The students were able to multitask with the use of the new media. In some of the schools, strategic games and electronic-based drills are means of engaging in new media–based learning. The selected schools are new media–based only to an average extent.

**Research Question 2:** Are students in nursery, primary, and secondary schools in Obio/Akpor Local Government Area equipped with relevant knowledge of how to use the new media?

On “if students of Obio/Akpor Local Government Area are equipped with relevant knowledge of how to use the new media,” the major points rest on the availability of new media tools and students ability to operate the tools. Findings showed that there are inadequate uses of new media tools in the schools. Digital divide at home, lack of manpower, and inadequate new media tools in the school affect the relevant knowledge needed by the learner to operate the new media tools. It was found out that knowing how to use the media was not the problem but knowing how to apply the new media to learning was. In all the schools, aside from Government Girls Secondary School, Rumuokwuta, and State Model Primary School, Rukpokwu, the new media were, at least, used for ICT classes. Most of the students could use the new media although not in a learning situation. Wherever the new media tools were available, students were able to make good use of them.
Research Question 3: What are the challenges experienced by students in the selected nursery, primary, and secondary schools in the use of the new media for learning?

The challenges experienced by the students in the selected nursery, primary, and secondary schools in Obio/Akpor LGA in the use of the new media for learning differed from one school to another. Digital divide, network problems, restricting new media in learning to ICT classes, erratic electricity supply, inadequate manpower, software, and hardware were the challenges experienced by students in the use of the new media. Out of the eight schools studied, only two schools were able to operate the new media fully, irrespective of challenges. Even at that, there were occasions whereby network problem hampered the use of the new media in learning.

Research Question 4: What are the new media types used for learning by students in nursery, primary, and secondary schools in Obio/Akpor Local Government Area?

The students had the opportunity of accessing the web especially during ICT classes. Students had the opportunity of accessing the web in schools where the Internet was functional. Students had the opportunities of using graphics, educational games, wiki, and email themselves. In some cases, students visited blog spots and YouTube for relevant information. However, various new media types were under utilized in the learning process.

Conclusion

The Nigerian Government, through its National Policy on Education (Federal Government of Nigeria, 2004), has stressed on the use of digital technology for library use but has yet to embody the use of the new media in the country’s education policy. Notwithstanding this position, attempts made by some schools (both public and private) in Obio/Akpor Local Government of Rivers State, Nigeria, at using the new media in teaching-learning process has shown its emergent usefulness in the development of education.

All the eight schools studied have had some basic ideas of Internet use, but the majority of them are yet to apply the new media to teaching-learning process. The two schools ahead of others in the use of the new media technology in teaching-learning process are private schools. The conclusion is that private schools have the prospects of doing better.

In some public schools, especially the model school, Internet facilities are available but the functionality of the facilities is questioned. Using the new media as a means of developing education in the area is beset with a number of challenges, such as epileptic power supply, inadequate digital skills among teachers, existing digital divide among students, and inadequate digital facilities in schools. In spite of these shortcomings, prospects abound in the students. The future of the new media’s contribution to the development of education in Obio/Akpor Local Government Area of Rivers State, Nigeria, is bright, provided the challenges are properly tackled. This applies to the first three levels of education—nursery, primary, and secondary.

Recommendations

It is recommended that teachers should be retrained and schools should be provided with adequate new media facilities. There is a need for curriculum review to accommodate the use of the new media in teaching and learning of all subjects in primary and secondary schools in Nigeria. In this way, schools in Obio/Akpor Local Government Area will become more serious with the application of new media to teaching and learning.

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