

OPEN EDUCATION RESOURCES FOR SUSTAINING AND MAINTAINING E-LEARNING IN AWKA SOUTH LOCAL GOVERNMENT EDUCATION AUTHORITY, ANAMBRA STATE, NIGERIA.

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Abstract

This study examines open education resources for sustaining and maintaining learning in Awka South LGEA, Anambra state, Nigeria. The study aims to find out the level of awareness in-service primary school teachers have concerning OER, the benefits they can derive from using OER and how OER sustains and maintains e-learning for in-service teachers of primary school. Three research questions were developed for the study. 2,520 teachers from 43 government primary schools formed the population of the study. Systematic sampling technique was used to select the sample of the study. The study sample consisted of 175 primary school teachers. Based on the data collected via a questionnaire, the analysis resulted in the following finding: that public primary school teachers in Awka LGEA are fully aware of Open Education Resources and how it can be utilised for sustaining and maintaining E-learning in Awka LGEA. Factors like greater access to information, increased interest in teaching and experimentation, more collaboration and more communication with teachers, administrators and parents are the benefits in-service teachers of primary school derive from using OER. Also opportunities for teachers to identify how OER can sustain and maintain e-learning in primary school can be increased by more access to ICT, affordability of available technology by schools, providing them with technical support and sufficient time. Based on the findings, the researchers recommended that technical support should be available in schools and teachers should use the right approach in solving problems involving the use of OER.

Keywords: Education, Open Education Resources, Information Communication Technology and E-learning

Introduction

Education with the right resources brings and sustains all-round development in children, physically, intellectually, morally and spiritually. Development through e-learning has expanded education beyond a lifelong process confined to formal schooling instruction. The form of development envisioned by the National policy on education is expected to produce a free and democratic society; a just and egalitarian society; a united, strong and self-reliant nation; a great and dynamic economy; and a land full of bright opportunities for all citizens, as the national educational goals (FGN, 2013). Moreover, any society set to reach and supersede the goals of National Policy on Education is likely to recognise that primary education is the right of every child who is of school age, from 6 to 11 years (FRN, 2013).

To achieve the goals of NPE, the use of ICT is inevitable. The objectives of ICT in education, according to Frances and Agbu (2017) include: to facilitate teaching and learning processes; promote lifelong learning; enhance the teaching and learning strategies required to meet Nigerians' needs; foster research and development; support effective and efficient education administration; enhance universal access to education; and widen access to education in a range of instructional

options and opportunities for anywhere, anytime, any pace and any path learning. Teaching and learning can successfully take place using technology and this stimulates hope on the use of ICT, meaning that more learners can be reached at a more appropriate pace (Athanasius, 2018). Pupils acquire advanced skills using Information communication and technology for better listening, speaking, reading and writing skills (Frances & Agbu, 2017). Information communication and technology has transformed virtually all domains of life, turned the world into a global village and activated transformations in the world economy. Olakulehin (2007) explained that ICT for education refers to the adoption of general components of technologies in the teaching process (more specifically, often for the training of teachers in the use of technology for teaching. ICT also plays a critical role in the attainment of sustainable development and competitiveness, it offers special opportunities to stimulate growth and increase innovation in every local setting (Kelles-Viitanen, 2013). Microsoft Corporation (2017) report in Africa recognized that technology alone does not drive development but empowers it (FME, 2013). ICT offers wide range of opportunity including e-learning.

Recently, there has been enormous technological advancement in teaching and learning processes. The use of technology has affected learning experience, positively and one of the tools used to enhance primary education is the e-learning services. Okonkwo (2012) posited that E-learning is a learning process in which learners communicate with their teachers and their peers, and has access to learning materials, over the internet or other computer networks. Furthermore, E-learning is an innovative approach for delivering electronically, well designed learner-centred environments to anyone, anyplace, and anytime by making use of the internet and digital technologies (Ibezim, 2013). In primary schools ICT is an avenue through which e-learning is achieved and open education resource tools that can assist teachers improve the modules of study, enhancing teaching and learning especially in primary education in Awka LGEA, Anambra state. OER is the material source through which e-learning exercise can be carried out from. Open education resource is an instrument that can be employed for the actualisation of the goals of any nation. OER is an online education for social change, economic turn-around, political and technological development. UNESCO (2012) defined OER as teaching, learning and research materials in any medium, digital or otherwise, that resides in the public domain or has been released under an open license. OER permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. OER comprises the fundamental components of education and tools for teaching, learning and research (Geser, 2012). According to Mossley (2013) OER can be smaller or detached resources, combined to form larger pieces of content. Various forms of OER includes course materials, modules, learning objects, open textbooks, openly licensed (often streamed) videos, tests, software, and other tools, materials or techniques used to support access to knowledge. The availability of Open Education resources provides teachers with education open to anyone free of charge, Flexible study times, work at their own pace, resources made available from anywhere and not restricted by access to school or college, huge amount of study materials (Hodgkinson-Williams, 2010).

Nigerian National Policy on Open Education Resources (2007) for teaching and learning stated that educators, teachers, learners and researchers shall be encouraged to harness the potentials of OER to improve learning outcomes. The availability of OER shall require teachers to

adopt new methods of teaching and learning to facilitate more interactive learning processes, to facilitate the updating of curricula with the most recent developments in a given field. However, the acquisition of skills by teachers for OER, require training on best ways to utilise the tool (Frances & Agbu, 2017).

Although the concept of sustainability is reasonably a new idea, it has basis in platforms like Millennium Development Goals which transformed in the call for 'sustainable development.' In 2010, the Academic Advisory Committee defined sustainability as the process of living within the limits of available physical, natural and social resources in ways that allow the living systems in which humans are embedded to thrive in perpetuity. Successively, universal human rights and basic necessities are attainable by all people, who have access to enough resources in order (Agyeman, 2007). According to National Planning Commission (2017) ICT connectivity in Nigeria has been growing rapidly in recent years. Some public schools in Awka LGEA have computer and laptop as learning resources. The National Policy on ICT in Education guides the development and disposition of ICT in education in Nigeria. This same policy identifies the serious role of ICT in attaining the nationwide vision, the Sustainable Development Goals (SDGs) and education for all (FME, 2016–2019). The policy provides the necessary guidance on what is likely for all stakeholders in the entire process of ICT integration in education. The policy's vision is anchored on ICT-furthered education that is engaging, enriching, empowering and enabling, whilst its mission seeks to meet the human resource necessities of Nigeria by attaining and enhancing sustainable socio-economic development and global competitiveness FME (2016–2019). Access to knowledge and information resources is even more essential for participation in the global information society. Thus, scholarly interest in the way knowledge is sought, found, created, disseminated, and used has also increased. According to World Bank (2010) access to quality and affordable educational resources is, in many cases, limited for many pupils and educators. One of the problems encountered by teachers in primary education is that OER is not as common as it is in many developing countries where government funding of education is somehow adequate.

Some of the challenges faced in Anambra state on OER in the state include poor funding of ICT in education, an obsolete ICT in education policy, a dearth of critical ICT infrastructure, including bandwidth, insufficient ICT resources for teaching and learning (Okonkwo, 2012). There is high level of insufficient ICT professionals, especially at the school level, low capacity of teachers/staff to deploy the existing ICT infrastructure and to transform education delivery, intermittent and unpredictable power supply, inadequacy of requisite training for professional ICT staff. These barriers lead to desperate approach to ICT deployment in the sector, thereby resulting to high costs, wasted resources and inability to cope with high dynamism of ICT curriculum. These challenges bring about inequities in ICT distribution between urban and rural schools and between public and private schools, poor research on ICT in education (FME, 2013).

Problems facing OER in the state includes lack of adequate knowledge in the use of OER (Okonkwo, 2012). There is need to train educators in the use of OER. The scholar agreed that development and use of OER is an extension of the digital learning culture (Onaifo, 2016). Many head teachers receive poor ICT-related knowledge of teachers as one of the main impediments to the realisation of their ICT-related goals (Ibezim, 2013).

National policies on open educational resources promisingly emphasise innovation and organisational change of educational institutions that are considered necessary to better align education and lifelong learning with the requirements of the knowledge society. However, new educational approaches are not easily found and their implementations are usually difficult if considerable transformations of current educational frameworks and practices are required (Geser, 2012). Steps have been taken to enhance ICT in Anambra but there is still, a severe shortage of ICT skills and personnel necessary for sustainable development and global competitiveness. The development and deployment of ICT in primary schools is very cost-intensive, but the value derivable from ICT is worth any investment. Nonetheless, funding of ICT in education has been very poor due to a lack of understanding about the intrinsic value of such investment (FME, 2013). It is on this note that Cape Town Open Education Declaration (2008) called on governments and publishers around the world to release education materials on the Internet for free.

Statement of the Problem

Primary education in developing countries has been recording observable success with OER. However, it is observed that many schools in Awka local government education authorities, Anambra state are far behind in the use of computer and other components unlike other developed countries. It is based on this observation that this research was carried out to determine the relevance of open educational resources for sustaining and maintaining e-learning in Awka Local government education authorities in Anambra State.

Purpose of the Study

Specifically, the study intends to find out:

1. Awareness of in-service primary school teachers of OER
2. Benefits in-service teachers can derive from using OER and
3. How OER sustains and maintains e-learning for in-service teachers of primary school.

Research Questions

The following questions were formulated to guide the study:

1. What is the level of awareness among primary school in-service teachers regarding Open Educational Resources (OER) in Awka LGEA?
2. What benefits do primary school in-service teachers derive from using OER?
3. How can OER sustain and maintain e-learning for in-service teachers of primary school?

Method

The study employed the survey design which was meant to determine the Utilisation of Open Education Resources for sustaining and maintaining E-learning in Awka LGEA. According to Nwaogu (2015), a survey design is one which a group of people is studied by collecting and analyzing data from only few people or items considered to be representatives of the entire group. This survey design is appropriate for this study because it provided appropriate method for opinion sampling. The study was carried out in Awka South local government Education Authority, Anambra State. This LGEA has five local government areas (LGA) under it, including: Anaocha LGA, Awka North LGA, Awka South LGA, Dunukofia LGA, and Njikoka LGA. The population is 2,520 teachers from 43 government primary schools according to the Anambra State Universal Basic Education

Board (ASUBEB) 2014 statistics. The researchers used systematic sampling technique because they believe that there are identifiable pattern to improve performance. Five public primary schools were selected from each of the five local government areas in Awka LGEA making a total of 25 selected primary schools. Seven teachers were selected from each of the 25 selected primary schools for a total number of 175 respondents.

The instrument used for data collection was questionnaire. The questionnaire comprised of 18 items in which the respondents were required to indicate their opinion on utilization of open education resources for sustaining and maintaining e-learning in Awka LGEA. The questionnaire used a 4-point Likert scale of Strongly Agreed SA (4), Agreed A (3), Disagreed D (2) and Strongly Disagreed SD (1). To ensure the validity of the instrument, clarity and relevance to the research, three copies of the questionnaire along with the purpose of study and research question were given to two lecturers from the Department of Early Childhood and Primary Education, and one lecturer from Measurement and Evaluation unit, all from Nnamdi Azikiwe University. These lecturers validate the instrument. Their comments and contributions were included before the final copies of the questionnaires were produced. Then 175 copies of the questionnaire were distributed and collected by the researcher. The data was analyzed using mean statistics and any item with a mean score of 3.0 and above was regarded as agreed, while any item with a mean less than 3.00 was regarded as disagreed.

RESULTS

Research Question 1: Awareness of primary school in-service teachers of Open Education Resource?

Table 1.1: Showing frequency, mean and standard deviation on awareness of teachers of primary education.

| S/N | Questionnaire | \bar{X} | SD | DEC |
|-------------------|--|-------------|------|-----------|
| 1 | Information Communication Technology is an urgent national need by teachers | 3.33 | 0.56 | Agreed |
| 2 | Open education resources involves the use of internet technologies to create and deliver a rich learning | 3.09 | 0.76 | Agreed |
| 3 | OER require the knowledge of Information Communication Technology | 3.40 | 0.80 | Agreed |
| 4 | Open educational resources require more planning and energy. | 2.44 | 0.88 | Disagreed |
| 5 | The use of OER enhances individual and organizational performance | 3.21 | 0.78 | Agreed |
| GRAND MEAN | | 3.09 | | |

Table 1.1 shows that items 1, 2, 3, and 5 with the mean scores of 3.33, 3.09, 3.40 and 3.21 respectively, were all above cut off point and were accepted as the extent of awareness of primary school in-service teachers of OER for sustaining and maintaining e-learning in Awka LGEA. Only item 4 with the mean score of 2.44 were rejected.

Research Question 2: What benefits do primary school in-service teachers derive from using OER?

Table 1.2: Showing frequency, mean and standard deviation on benefits of using OER.

| S/N | Questionnaire | \bar{X} | SD | DEC |
|-------------------|--|-------------|------|-----------|
| 6 | Teachers have greater access to information, | 3.19 | 0.80 | Agreed |
| 7 | Teachers have increased interest in teaching and experimentation | 3.02 | 0.47 | Agreed |
| 8 | Open educational resources require more collaboration and more communication with teachers, administrators and parents | 3.21 | 0.64 | Agreed |
| 9 | Open educational resources provides teachers with chance for more time to engage with pupils leading to greater productivity | 3.33 | 0.56 | Agreed |
| 10 | Teachers improve their presentation skills. | 3.40 | 0.80 | Agreed |
| 11 | Pupils are easier to manage and direct towards tasks. | 2.08 | 0.88 | Disagreed |
| GRAND MEAN | | 3.03 | | |

In the Table 1.2 above, the respondents agreed that factors of items 6-10 are some benefits primary school in-service teachers derive from using OER while item 11 which claim that pupils are easier to manage and direct towards tasks are not accepted as item that benefits primary school in-service teachers.

Research Question 3: How can OER sustain and maintain e-learning for in-service teachers of primary school?

Table 1.3: Showing frequency, mean and standard deviation on sustenance and maintenance of E-learning for in-service teachers.

| S/N | Questionnaire | \bar{X} | SD | DEC |
|-------------------|---|-------------|------|-----------|
| 12 | Teachers do not have access to ICT | 3.34 | 0.66 | Agreed |
| 13 | Available technology needs to be affordable by schools | 3.30 | 0.55 | Agreed |
| 14 | Student-teachers may have different levels of access based on the subjects they opt for | 3.39 | 0.58 | Agreed |
| 15 | Pupils may learn outside the teacher's own area of expertise. | 3.08 | 0.80 | Agreed |
| 16 | More difficult to direct and manage pupils learning. | 3.21 | 0.78 | Agreed |
| 17 | Pupils may be distracted by the computer from the tasks the teacher has intended | 2.53 | 0.91 | Disagreed |
| 18 | Learning may not direct itself towards the teacher's objectives. | 3.40 | 0.69 | Agreed |
| GRAND MEAN | | 3.17 | | |

Table 1.3: above indicates that items 12, 13, 14, 15, 16 and 18 which have the mean score of 3.34, 3.30, 3.39, 3.08, 3.21 and 3.40 respectively, were all above cut off point of 3.0 and were accepted as ways OER can sustain and maintain e-learning for in-service teachers of primary school. Item 17 with a mean score of 2.53 which is far below the cut-off point was therefore rejected.

Discussion of Findings

From the three research questions in this study, the finding in Table 1.1 shows that the public primary school teachers in Awka LGEA are fully aware of Open Education Resources and how it can be utilised for sustaining and maintaining E-learning in Awka LGEA. This finding agrees with

Agyeman (2007) who observed that the Nigeria ICT policy on awareness for teachers, speaks for adequate accessibility both by the teachers and pupils. This implies that Nigeria ICT policy had long encouraged awareness for teachers on open education resources. So, teachers should be duly informed and re-trained on the innovation involved in using OER, so that they can incorporate it in their day-to-day activities. Furthermore, they also observed that teacher preparation demands that wide range of professional learning opportunities be made available to teachers and schools.

Table 1.2 showed that certain factors are the benefits in-service teachers of primary school derive from using OER. These factors include greater access to information, increased interest in teaching and experimentation, more collaboration and more communication with teachers, administrators and parents. These finding agreed with Okonkwo (2012) that for teachers in Nigeria to benefit from this laudable trend of OER offerings in education, they have to be knowledgeable enough about the issues involved to using them. It is only when primary school teachers have been trained that they can effectively contribute to the global discussion on OER and uses them meaningfully in the education system. However, the teachers disagreed that Pupils are easier to manage and direct towards tasks. This outcome did not agree with Okonkwo (2012a) who asserted that all pupils do not have access to computer, even in their respective homes.

In table 1.3: according to the finding, opportunities for teachers to identify how OER can sustain and maintain e-learning in primary school can be increased by more access to ICT, affordability of available technology by schools, providing them with technical support and sufficient time. Another issue that has to be raised, according to previous studies (Eyibe & Achusins, 2014) is student-teachers different levels of access based on the subjects, pupils learning outside teacher's own area of expertise, and direction of Learning towards the teacher's objectives. However, we should not overlook the provision of training, enough time, and technical support.

RECOMMENDATIONS

Based on the findings, the following recommendations were made:

1. Teachers need to be provided by school and the government with packages required for OER.
2. Technical support needs to be available in schools
3. Where support is lacking, teachers need to find ways to solve problems involving their use of OER.
4. Teachers themselves need to become lifelong learners, with conventional teacher training models being replaced by representations that allow teachers to learn independently, at their own pace.

CONCLUSION

From this study, it was revealed that public primary school teachers in Awka LGEA are fully aware of Open Education Resources and how it can be utilised for sustaining and maintaining E-learning in Awka LGEA. Equally, it was seen that Nigeria ICT policy had long encouraged awareness for teachers on open education resources. Thus, it was concluded that teachers ought be duly informed and re-trained on the innovation involved in using OER, so that they can incorporate it in their day to day activities. Furthermore, the researcher also observed that teacher preparation demands that wide range of professional learning opportunities be made available to teachers and schools. It is only when primary school teachers have been trained that they can effectively contribute to the global discussion on OER and uses them meaningfully in the education system. also, opportunities for teachers to identify how OER can sustain and maintain e-learning in primary

school can be increased by increased access to ICT, affordability of available technology by schools, providing them with technical support and sufficient time.

The aim of this paper was to provide information that will encourage Open Education Resources for sustaining and maintaining E-learning in Awka LGEA, Anambra state. The findings of this study indicated that teachers have adequate knowledge on the integration of OER for sustaining and maintaining E-learning. The major finding is that there is urgent national need by teachers Of Information Communication Technology as it enhances individual and organizational performance. Since the use of OER is encapsulated in the knowledge of Information Communication Technology, individual and organizational performance would be enhanced. No one component in itself is sufficient; therefore, teachers' greater access to information leads to increase interest in teaching and experimentation as OER require more collaboration and more communication with teachers, administrators and parents. However, the presence of all components increases the likelihood of excellent utilisation of OER in sustaining and maintaining E-learning.

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