

Educational Management and Information Communication Technology in Nigerian Schools

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ABSTRACT

This paper critically looked at the impact of information communication technology on educational management in Nigerian' schools. This paper among other things looked at the concept of educational management, information communication technology and impact of information communication technology on educational management in schools in Nigeria. Role theory was employed in the study. The paper is a position that depends on secondary data to establish its facts. The secondary data were collected from government documents, print resources and online publication. Inclusion and exclusion criteria were used to narrow the literature to the theme of the study. The paper concluded that information communication technology has impacted positively on Nigerian educational management. Specifically, the paper discovered that ICT has aided the school administration, teaching and learning processes and has improved teachers' job performance and students' academic performance in schools. Based on this findings, the paper recommends more funding in education to enable school administrators to procure more ICT infrastructure facilities in schools. Government should ensure constant training and retraining programme for teachers and schools administrators on ICT skills. Government and private institutions should subsidize ICT facilities for teachers and students to enable them access the facilities for the implementation of teaching and learning in schools.

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Introduction

Management is the process of planning, coordinating, controlling, leading and organizing the efforts of organizational staff and using the organizational resources to achieve the set goals. Management is the act of getting people together to accomplish desired goals and objective using the resources efficiently and effectively. Management comprises planning, organizing, staffing, directing and controlling an organization (a group of three or more people) effort for the purpose of accomplishing a goal (Elujekwute, Shehu, Oigoche & Nnome, 2021).

Management in education implies the management of human and material resources available in education and using them systematically for the achievement of educational objectives. From the above definitions, one can see that management in education culminates in attainment of goals through coordination of human and material resources. Scientifically, management can be defined as the coordination of all the resources of an organization through the process of planning, organizing, directing and controlling activities in the organization in order to attain organizational goals (Obi,

2004). Educational management as the various approaches used to provide educational resources, facilities and other related services in schools to make teaching and learning effective (Agun 1988).

Educational management is the ability of educational managers to judiciously use human, material, time and financial resources towards achieving the goals of education (Akpakwu 2012). Peretomode (1991) defines educational management as a social or interactional process involving a sequence of coordinated events such as planning, organizing, coordinating and controlling human and material resources in order to achieve desired outcomes in the fastest and most efficient ways. Management of education consists of planning, organizing, coordinating, procuring and maintaining the available educational resources with the sole aim of achieving educational objectives. The educational goals of any nation can be attained through congenial school management which includes proper planning, organizing, coordinating, staffing, budgeting, controlling, maintenance of sound school discipline among staff and students in the secondary schools, administrators are charged with the management of finance, time human and material resources in order to achieve the aims and objectives of their institutions (Elujekwute, et al 2021).

School managers are appointed to manage the school' human and materials resources. The function of the school managers include; planning, financial allocation, supervision and community relationship. According to Selwood (2005), other functions of school managers includes; (decision making, planning, communication, influencing, coordinating and evaluation) are applied in the areas of curriculum development, instructional supervision, staff and student personnel administration, guidance, finance, community relations, construction and maintenance of facilities and special services. Also, Fasasi (2005) outlines the following managerial duties that are performed by the educational administrators and managers in schools to include; resources, programme planning and policy making, provision and maintenance of funds and facilities, obtaining and development of personnel; improvement of instructional programmes, students' personnel services and maintenance of effective interrelationship with community and external agencies.

ICT in educational management encompasses a great range of rapidly evolving technologies such as desktops, digital cameras, local area networking, the internet and the world wide web; simulations; electronic mails; digital libraries; computer mediated conferencing; video conferencing; and virtual reality (Ugwu and Oboegbulem, 2010; Elujekwute, et al., 2021; Olatunde-Aiyedun, Daniels & Olamoyegun, 2024).

Concept of Information Communication Technologies

ICT is processing and sharing of information using all kinds of electronic device, an umbrella that includes all technologies for the manipulation and communication of information. In the classroom situation, communication process influences learner's behaviors through interaction. It is an integral component of school curriculum activities since some of the curricular activities, tasks, teachers and students undertake involve the use of communication skills both oral and written formation (Elujekwute, et al 2021). ICT involves the use of combination of technologies in generating information required for effective teaching and learning process (Aribisala, 2006). Obanya (2009), ICT is a broad term that has to do with the harnessing of process, the methods and the product of electronic communication related technologies and other related resources in today's' knowledge driven society, for enhancing the productivity, the spread and efficiency of set programme activities geared towards the achievement of clearly defined goals.

Shobowale, (2019) information and communication technology is a process of giving and getting information through the use of technologies like computers, internets, mobile phones and other communication networks. It includes all the technologies that help in disseminating and using information by individuals and institutions. ICT involves the use of a wide range of technologies such as computers, mobile telephones, satellite, World Wide Web, among others in collection, storage, retrieval and transfer of information for human use (Ajayi 2008). According to Timiyu (2003), Information and Communication Technology (ICT) includes electronic technologies for creating, acquiring, storing, processing, communicating and using information. Timiyu classified ICT along two broad dimensions: the content-conduit facet and the service product dimension. Content-oriented ICT consist of the digital creation and publishing of information or content (e.g. database products, electronic books, and websites).

Conduit- oriented ICT offers the guide or media for storing and transmitting of this information (e.g. telephone network). The product-oriented approach, on the other hand, embraces all physical objects or equipment used for information processing or transmissions like computers, cellular phones, and TV transmitters.

Information and Communication Technology (ICT) is the range of technologies that are applied in the process of collecting, storing, editing, retrieving and transfer of information in various forms (UNESCO 2011). Ogunode, Somadina, Yahaya and Olatunde-Aiyedun (2021) noted that ICT as a broad term that has to do with the harnessing process, the methods and the product of electronic and communication related technologies (and other related sources in today's knowledge driven society), for enhancing the productivity, the spread and efficiency of a set of programmed activities geared towards the achievement of clearly determined goals.

Impact of Information Communication Technologies on Educational Management

There are many impact of ICT on educational management in Nigeria. Some of the impact includes educational management, school administration, implementation of teaching and learning, teachers job performance and students; academic performance.

Impact of ICT on Educational Management

Information and Communication Technology (ICT) has helped to aid educational management effectiveness in Nigerian schools. For instance, Elujekwute, et al (2021) noted that Information and Communication Technology (ICT) in educational management has aided educational policy makers, school administrators and practitioners with systematic process to formulate, plan and evaluate education development programmes. Makewa, Meremo, Role, and Role, (2013) did a study and found out that ICT usage in student administration, Okon, Ekaette, and Ameh, (2018) findings of ICT use in records keeping. Also, Oyedemi (2015 and Dada, Olowonefa and Ogunode (2022) discovered that ICT assisted in school planning and other administrative duties.

ICT has helped in educational management in schools, Nakpodia (2006) remarked that computer is used for adequate storage, manipulation, utilization, and retrieval of records. The use of computer technology thus reduces the manual task of managing records. In the same vein, Morley (2006) posits that computers are great resources for school administrators, teacher and students. They can find suggestions, practical support and materials on the internet that can boost or enhance their performance. Therefore, computers are great resources for educational administrators', teachers and students. Elujekwute (2019) noted that the use of computer facilities plays a vital role in supporting powerful efficient management and administration in the education sector. When school records are properly and effectively kept and maintained, it provides information for teachers, counselors, curriculum planners and instructional supervisors for planning and implementing instructional and administrative activities. The use of computer facilities has greatly influenced the methods used by most educational institutions in creating, transmitting, disseminating, storing, retrieving and keeping of information. Effective and efficient records keeping system is vital to a well-functioning educational organization. Records can be stored in two forms namely manual and electronic method.

Computers according to Aduwa-Ogiegbaen and Iyam (2005) could help in facilitating management functions by replacing laborious paper work in the filing of school records accumulated over a long period of time. It can further facilitate budgeting and accounting on expenditure and correspondences by reducing so much paper work in schools. Osakwu (2011) maintained that record keeping enhances management effectiveness in school. This is because the administrative task of keeping staff, students, financial and academic records cannot be effectively carried out without proper electronic record keeping facilities. The use of computer guarantee effective management practices in record keeping, information management, personnel administration and resources allocation. Effective educational management is highly enhanced by ICT Use. ICT use increased school efficiency and reduced unnecessary bureaucracy in school administration (Angie and Ugwu, 2013), increased productivity (Olayemi and Omotayo, 2012), made communication to be cheap, fast and reliable as well as enabled easier retrieval of information (Singh and Munianchi, 2012), enhanced accountability and reduced workloads in management of school accounts (Makwara, 2014; Olatunde-Aiyedun & Ayo, 2023).

Impact of ICT on Schools Administration

ICT facilities in school administration according to Jegede, Ebio, and Iroegbu (2019) refer to the effective and efficient utilization of ICT facilities to achieve the objectives of the school. It is the systematic process of utilizing ICT facilities to attain the aims and objectives of teaching and learning in the educational system. Effective administration of ICT facilities depends on the availability of the ICT facilities in the educational institutions. Many investigations has shown that ICT has aided schools administration in Nigeria. Study by Oyedemi, (2015) discovered that school administrators have a positive perspective towards the use of ICT tools as bringing effectiveness into school administration by solving the problem of poor communication. It also helps a great deal in effective planning thereby helping the managers of schools to achieve their set goals by reducing complexity in school administration. Also, findings from the study of Akinwumi, Babalola, and Alegbeleye, (2021) showed ICT use has a significant positive influence on the effective administrations of public senior secondary schools in Lagos state. Additionally, the study found that the level of ICT use for administrative purposes in public senior secondary schools in Lagos State was moderate. The ICT devices highly utilized were photocopiers and mobile telephones. While printer, computer systems, social media, e-mails services, internet, and scanners were moderately utilized. However, ICT devices like projectors and smart boards were rarely utilized. ICT aided effective schools planning and schools administration (Ogunode, Abubakar, Abashi, Ireogbu & Longdet, 2021; Dada, Ishaya, &Ogunode, 2021).

Impact of ICT on Teaching and Learning Programme

ICT has played a great role in the implementation of teaching and learning process in the Nigerian schools. Elujekwute, et al (2021) noted that teachers utilized ICT in teaching and learning when they are brought to bear in passing information to learners by the teachers. By introducing ICT to teaching and learning, students are exposed to and interact with other expert learners and other novice learners to develop understanding and further their knowledge. They do not have to rely on the limitations of one teacher; they can interact with peers and other experts to gain new information and to intensify their knowledge base. It helps the students study independently and experience discovery learning. The students' learning is made more robust and their knowledge and understanding increases where ICT is used in ways that promotes learners to work together and where the teacher is less high minded (Selinger, 2005; Elujekwute, et al 2021). The findings of Elujekwute, et al (2021) revealed that e-mail have significant influence on communication and computer facilities have significant influence on keeping of records while overhead projector have significant influence on teaching and learning in public secondary schools management. The findings also revealed the overhead projectors have significant on teaching and learning in schools.

Overhead projector is another ICT facility may have a great influence on teaching and learning in secondary schools in the study area. The use of the overhead project (OP) as a teaching aid has spread very rapidly and widely and is recommended by educators and favorable attitudes towards the use of overhead projectors were expressed by students and teachers in secondary schools (Elujekwute, et al 2021; Ogunode, Jeged, & Musa, 2020; Ogunode 2020). Idowu and Esere (2013) stated that overhead projector has become a popular audio visual aid in secondary schools. Some have found it to be a suitable teaching and learning device while other teachers do not care to make use of this machine. It has become quite popular with those who present the same material term after term. This is probably due to two primary reasons. First of all it saves time in the preparation of classroom material and secondly a better quality of material can be presented. The overhead projector is simple and easy to use. Overhead projector according Morley (2006) and Ogunode, Okwelogu, and Olatunde-Aiyedun, (2021) is an effective teaching device the teacher controls the projector and easily integrates his visual and verbal presentation. Morley further found that the overhead projector was as effective as chalkboard in large-group instruction.

Bada, Adewole & Olaleka (2009) observed that ICT provides the possibilities to solve teaching and learning problems even more rapidly and accurately than hitherto conceived. ICT via e-mail services in education institutions is very important in terms of efficiency of teachers, prevention of time loss and

continuity of work (Hennessy & Wamakote 2010). Hennessy et al (2010) further maintained that, the use of e-mail in the classroom instructions provides teachers and students to work together with more education and instruction. The e-mail application enables students to communicate more easily with each other in the classroom and can also keep track of the progress of the lesson. Oviawe and Oshio (2011), Mike (2003) and Ogunode, Hammadu, Ahmed, & Ojo, (2021), in their findings of their studies revealed that ICT facilities aided effective implementation of teaching and learning in schools.

Impact of ICT on Teachers' job performance

ICT has positively influenced teachers' job performance in schools in Nigeria. Studied revealed that teachers that are computer literate excel more in academic services delivery. Teachers' job performance is critical to the development of schools (Ogunode, ThankGod, & Olatunde-Aiyedun, 2022). The findings of Ogundele, and Etejere (2013) revealed that computer literacy encourages appreciation and utilization of computers during teaching learning processes which invariably aid teachers' job effectiveness, such as job performance, record keeping, school discipline, and supports students' academic performance. It also revealed that computer literate teachers perform better in the schools than non-computer literate teachers in the schools by making use of computers during their teaching, the use of computers arouse students' interest in the teachings which supports effective student academic performance. Those schools with non-computer literate teachers were never exposed to computers' usage which detracted from effective teaching and learning in the schools. Nnamdi (2008) and Ogunode, Babayo, Jegede and Abubakar (2021) opined that the relevance of the computer technology to academic work to include: Computer aided teaching; Audio – visual learning software and compact disk; Automation; Multimedia and hypermedia; Computerized grade books; Database management system; Simulation etc. Danies (2009) and Ogunode, Adamu and Ajape (2022) posited that teachers use ICT to prepare for lessons, to deliver lesson in class and supervises lessons. For lesson preparation, the following are the common pattern of ICT use. Teachers search the internet: download relevant materials; design practice activities with word processing, prepare presentations with Microsoft Powerpoint. However, Olatunde-Aiyedun (2024) noted that for classroom teaching, Powerpoint presentation is popular. Teachers use the internet to supplement teaching points. Word processing is also used especially for writing classes, while voice recording is sometimes used for recording students' presentation or for pronunciation practice. Ogunode, Jegede & Musa, (2020) and Makwara, (2014) concluded that ICT has aided teachers' job performance in Nigerian schools.

Impact of ICT on Students Academic Performance

Students' academic performance can be improved by with different educational resources Ogunode and Inemesit (2023). Information communication and technology is one of the educational resources available for students to support their academic work (Abara Ogunode, & Olatunde-Aiyedun 2022). Mbaeze, Ukwandu and Anugu (2010), posited that there is influence of information and communication technology (ICT) on students' academic performance. Students ought to have been exposed to technology in the class room daily to have computer knowledge. It is the job of all educators to facilitate computer literacy for no society can grow to its fullest without computer literacy in the whole world today. Oseghale, and John (2014) did a study and discovered that computer literate students perform better than non-computer literate; computer literate female students perform better than male students who are also computer literate; computer literate students who are not addicted to the use of computer facilities perform better than those who are addicted; computer literate students in co-educational secondary schools perform slightly better than those in single sex schools. ICT assisted students to carry out their academic work (Ogunode, 2020; Olatunde-Aiyedun & Hamma, 2023).

Findings

The paper revealed that information communication technology has impacted positively on Nigerian educational management. Also, the paper showed that ICT has aided the school administration, teaching and learning processes and has improved teachers' job performance students' academic performance in schools.

Conclusion and Recommendations

This paper critically looked at the impact of information communication technology on educational management in Nigerian' schools. The paper concluded that information communication technology has impacted positively on Nigerian educational management. Specifically, the paper discovered that ICT has aided the school administration, teaching and learning processes and has improved teachers' job performance and students' academic performance in schools.

Based on this findings, the paper recommends

1. Government should increase the funding of education to enable school administrators to procure more ICT infrastructure facilities in schools.
2. Government should ensure constant training and retraining programme for teachers and schools administrators on ICT skills.
3. Government and private institutions should subsidize ICT facilities for teachers and students to enable them access the facilities for the implementation of teaching and learning in schools.

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