



Appraisal of Technology Integration in Educational Planning and Administration of Secondary Schools in Nigeria.

Nnoruka, Ifeoma Rita

Department of Office Technology and Management, Federal Polytechnic, Oko, Anambra state, Nigeria

Corresponding Author's email: nnorukaifeomarita@gmail.com

Abstract

This paper seeks to integrate the opportunities of rapid advancement of technology into the management and administration of education institution as well as identifying and addressing the challenges that maybe encountered at the process. The paper adopted a qualitative technique which involves the use of documents like textbooks, journals, magazines, newspapers, government publications, NGO publications, internet materials and other documents. It reveals that integration of technology in educational management and administration has the potential to revolutionize education systems; technology integration enables educational managers and administrators to engage in continuous professional development, enhancing management capacity and promoting innovation in the field of educational management and administration. It recommends that a comprehensive technology integration plan that aligns with the educational goals and includes a clear implementation timeline should be adopted in management and administration of schools in Nigeria; provision of access to student information systems to keep parents informed about their child's progress and school activities; development of student portals that provide access to educational resources, grades, and feedback as well as professional development opportunities for educators and administrative staff to stay updated with the latest technological tools and educational methodologies.

Keywords: Technology Integration, Educational Planning, Management, Administration and Institution.

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Introduction

Technology is a term which dated back to the early 17th century that meant ‘Systematic Treatment’. Thus, technology is the application of systematic knowledge for practical goals especially in a reproducible way. Dexter (2023), defines “Technology as any systematized practical knowledge based on experimentation or scientific theory which enhances the capacity of a society to produce goods and services and which is embodied in productive skills, organization or machinery”. In this way, technology is the application of scientific knowledge for practical purposes that benefit our everyday lives. On the other hand, integration is the action or process of successfully joining or mixing with a different group or combining or adding various parts to make a unified whole.

Technology Integration refers to the process of incorporating technological tools and techniques such as computers, mobile devices like smart phones & tablets, digital cameras, social media platforms and networks, software applications, internet etc. into various aspects of education, business or other fields of practice (Dexter, 2023). It involves using technology effectively to enhance and support teaching, learning, communication, collaboration, problem-solving and decision-making process effectively. In education, technology integration can take many forms such as using digital devices like laptops or tablets in the classroom, utilizing online educational platforms and resources for better learning experiences and outcomes. Technology integration in educational management and administration refers to the incorporation and utilization of various technological tools and resources in the management and administration of educational institutions. It involves the use of digital platforms and software for various administrative tasks such as academic planning, student enrolment, student records, scheduling, grading, attendance tracking etc (Agarwal, 2003). The goal of technology integration in educational management and administration is to improve the efficiency, effectiveness and overall quality of administrative processes in the educational institutions. By using technology, educational managers and administrators can simplify administrative tasks, enhance communication between stakeholders, support data-driven decision-making and facilitate collaborative workflows in the educational institutions. Successful technology integration requires careful planning, professional development and ongoing support from educators, employees or users. It also requires considering the learning goals for selecting appropriate technologies and ensuring the indefectible integration

of technology into existing processes or workflows. In addition, technology integration enables the collection and analysis of data in educational management and administration and also allows administrators and stakeholders to generate reports, track student progress, identify areas for improvement and inform decision-making processes.

Technology integration in educational planning and administration has profoundly transformed the educational landscape. The impact can be analyzed from several perspectives, including efficiency, accessibility, student engagement, and data management. The benefit of using technological tools and techniques in bringing excellence in every sector including education management and administration necessitate this research. However, the key reasons for incorporating technology in educational management and administration is its ability to streamline administrative tasks. Administrative processes such as record-keeping, scheduling and resource management can be automated & digitized and reducing the time and efforts required for manual handling. This not only saves administrative personnel's time but also allows them to focus on more strategic and value-based tasks. Furthermore, technology has the potential to enhance administrative efficiency and improve decision-making processes in educational institutions. So, the need and significance for studying the impact of technology integration in educational management and administration is rooted in the increasing role of technology in our society and its potential to transform various sectors of management and administration.

Empirical review

Educational Management and Administration:

The origin of the concept of 'Educational Management' as a field of study may be traced back to the 1880's with the publication of "*Practical Handbook of School Management by Teachers*" authored by Harding. According to Abolade & Yusuf (2005), the development of educational management as a field of study began in the United States in early part of 20th century while, in India, the concept of management of education matured in a significant way with the establishment of the four Indian Institutes of Management and five IIT's. The word management is originated from Italian word '**maneggiare**' which means 'to handle' especially tools (Dexter, 2023). Management is the art and science of planning, organizing, directing and controlling human efforts in order to achieve predetermined objectives. Educational Management is a field which is concerned with the operation, administration and organization of educational institutions,

programs and resources to promote effective teaching and learning. It involves the planning, coordinating and implementing of policies, procedures and strategies to ensure the smooth operation of educational institutions and the achievement of desired educational outcomes (McLeod, 2015). Administration refers to the overall determination of policies, setting up of major aims & objectives and laying out broad programmes. Educational Administration is the dynamic side of education. Educational philosophy sets the goals, educational psychology explains the principles of teaching and educational administration deals with the principle and practices of administration of the educational enterprise for achieving the goals. Thus, it refers to the process of managing and leading educational institutions and also involves in planning, organizing, coordinating and supervising various aspects of educational institutions such as schools, colleges, universities and education departments. The principles of educational administration are:

- i. Principle of Sharing Responsibility
- ii. Principle of Equality
- iii. Principle of Freedom
- iv. Principle of Cooperation
- v. Principle of Justice
- vi. Principle of Recognition of Individual worth
- vii. Principle of Leadership

Thus, we can say that educational administration is largely determinative while educational management is essentially executive in nature. Administration means the overall determination of policies and setting up of major aims & objectives while management is the executive function involving actual direction of human efforts for achieving predetermined goals.

Impact of Technology Integration in Educational Management and Administration:

Technology integration in educational management and administration has revolutionized the way in which schools, colleges and universities operate to transform the traditional educational practices into more efficient and effective models. There are several key areas where technology integration plays a significant role in educational management and administration:

Administrative Automation: Technology integration simplifies the administrative processes by automating routine tasks such as scheduling, attendance tracking, report generation and resource

management. Automation reduces manual workload, minimizes errors and increases efficiency of the work process. It also allows educational managers or administrators to focus more on core educational activities.

Efficient Resource Allocation and Budgeting: Technology-based systems help administrators with budgeting and resource management in an effective and easiest way. They can monitor and track financial data inventory and resource utilization which can enable efficient allocation of funds and resources to enhance educational initiatives.

Enhanced Communication and collaboration: Technology provides various communication and collaboration tools such as email, instant messaging apps, discussion forums and virtual meeting platforms. These tools help administrators to communicate with staff, students, parents and other stakeholders effectively for fostering collaboration and enhancing information sharing. They can easily and update documents and resources leading to faster decision-making and improved transparency.

Data-driven Decision-making: Technology integration allows educational managers and administrators to collect and analyze data to make informed and meaningful decisions. Data analytics tools help administrators to understand student performance trends, identify areas for improvement and develop evidence-based strategies for enhancing teaching and learning process.

Professional Development and Training: Technology integration facilitates professional development and training opportunities for educational administrators and staff. Educators and administrators need continuous training and support to effectively integrate technology into their roles. Online platforms, webinars, virtual conferences and online professional development programmes can help educators to enhance their teaching skills and stay updated with the latest educational trends and ensure that all stakeholders are equipped with the necessary skills.

Student Information Systems: Technology allows educational institutions to manage and store student data securely including enrolment information, attendance records, grades and academic progress. Student information systems enable administrators to access and analyze data easily, generate reports and communicate important information to parents and other stakeholders.

Learning Management Systems: Technology integration includes the use of Learning Management Systems (LMS) to manage and deliver educational content. LMS platforms enable

administrators to create, organize, distribute and track course materials, assignments, assessments and grades. These systems also facilitate online learning and distance education programs.

Individualized Learning: Technology integration supports personalized learning by providing students with access to interactive educational software, virtual learning environments and digital resources that cater to individual needs and learning styles. This enables students to progress at their own pace and ensuring more active engagement and self-directed learning.

Remote learning and Distance Education: In recent times, technology has played a crucial role in enabling remote learning and distance education. Learning management systems, video conferencing platforms and online collaboration tools have allowed educators to deliver lessons and engage with students virtually and ensuring continuous education during disruptions like pandemics or natural disasters.

Parent and Community Engagement: Technology has opened up opportunities for parents and the community to actively participate in their child's education. Online portals and mobile applications provide parents with real-time access to student grades, attendance records and assignments. It also allows for parent-teacher conferences to be conducted virtually with increasing accessibility and flexibility.

Overall technology integration in educational management and administration empowers educational managers and administrators to manage administrative tasks efficiently, improve collaboration & communication, make data-based decisions and create a more effective learning environment for students. It contributes to the overall growth and development of educational institutions. By using technology, educational institutions can enhance work efficiency, improve student outcomes and prepare students for the digital age. Although, technology integration in educational management and administration brings numerous benefits but there are some challenges also like infrastructure limitations, privacy concerns, the digital divide etc. It is important for administrators to provide necessary training and support to staff, ensure data security and privacy measures and bridge the digital divide to ensure equity in access to technology for all irrespective of their caste, creed, geographical background etc.

Impacts of Technology Integration in Teaching and Learning

Adedokun-Shittu (2012), opined that education technology has been confirmed to have great potentials that impact on teaching and learning, it motivates and engages students to learn and

helps broaden their skills, helps to simulate the workplace experiences thereby preparing students for the challenges of the labor market. This revolutionizes the school environment, facilitates teaching by providing resourceful teaching aids for teachers and connects the school to the outside world. Trucano (2005) ascertained that technology empowers teachers and learners and promotes the growth of skills necessary for the 21st century workplace. Wright, Stanford, and Beedle (2007) describe ICTs as giving opportunities for students to explore, discover, create, communicate effectively and freely with instructors, complete and receive assignments and feedback online, initiate and participate in online discussions.

An empirical study by Jimoh, Shittu & Kawu (2012), reveals that both lecturers and students in the study of discourse agrees on the significant impact ICT has on students, learning and teaching/teaching styles. Among the impacts of ICT in teaching and learning reported were; learning aid and resourcefulness, comfort with ICT, psychoanalytical and psychosocial aid, task enabler, interdependence with ICT and learning collaboration (Jimoh, Shittu & Kawu, 2012).

Spector (2008) advocates how student collaboration is achieved through technology-mediated communication such as e-mail and teleconferencing across space and time in local and wider communities. Kozma, 2003; Kozma & McGhee, 2003), illustrated a student learning approach in which students collaborate with their peers in given projects. He named this approach the Student Collaborative Research Cluster. These classroom practices support the development of skills needed by a society focused on sustained economic development and social transformation: information management skills, communication and collaboration skills, interpersonal and self-directional skills, and ability to create and innovatively apply new knowledge to solve complex problems. Similarly, King (2005) and Simonson, Smaldino, Albright, and Zvacek (2003) ascertained that ICTs foster collaborative learning.

Considering teachers' professional development cannot be achieved in isolation, Kozma (2003) also exemplified how teachers collaborated with students, colleagues in the school and others outside the school such that ideas on solving classroom problems could be shared and disseminated. Collaboration among lecturers as a benefit of ICT use in teaching is also found in Abolade and Yusuf (2005); they found that ICT allows for networking with other teachers, thus connecting teachers and allowing them to exchange ideas, share resources, and improve teaching practices.

The psychoanalytical and psychosocial impacts described in both lecturers and students' findings in this study have a backing in the work of Lajbcyier and Spratt (2007). They argue that the social presence develop critical thinking and cognitive skills and promote higher order learning in a community of learners. Some of these impacts of ICT in teaching and learning such as interaction and social negotiation of meaning were also affirmed in Madden, BaptistaNunes, McPherson, Ford, and Miller (2008).

Other impacts in the findings such as learning aid and resourcefulness, task enabler, comfort with ICT are supported in Abolade and Yusuf (2005) having described ICT as essential tools in any educational system which has the potential of being used to meet the learning needs of individual students, promote equality of educational opportunities; offer high quality learning materials, increase self-efficacy and independence of learning among students, and improve teachers' professional development. They also affirmed that ICT provides opportunity for connecting schools to the world, as learning is expanded beyond the classroom; that allows students and teachers to access information and resources.

Issues in Evaluating Technology Impact in Teaching and Learning

Evaluating technology impact in teaching and learning requires a broad range of issues which are often undermined when ICT impact researches are being carried out. Thus, the task in this part of the article is to carefully consider some of them and make recommendations for further researches on technology impact in teaching and learning. The impact of ICT in education is often difficult to establish especially when other factors that can affect achievement are isolated.

Critical to evaluating ICT impact in teaching and learning are issues such as: the environment in which teaching and learning will take place, the status of technology integration in the learning environment, the students' and teachers' technology proficiencies, and their disposition towards technology, access to technology and training facilities, teachers' teaching methodology, and students' learning approach. Researchers must focus on each of these issues to determine if the adoption of technology in teaching and learning produces the desired and maximum impact or otherwise what factors hinder realization of expected outcomes (Adedokun-Shittu&Shittu, 2011; Newby, Stepich, Lehman, Russell, &Leftwich, 2011).

A study by Yilmaz (2021), reveals that technology impact in teaching and learning can be generated through examining teachers' and students' perception of technology use in teaching and learning, assessing their level of technology integration, determining the motivating factors that propel them and ascertaining the challenges that restrain them. This is supported by the suggestions given by Kankaanranta (2005) on technology evaluation in schools such as justifying investment returns by examining if the desired impacts are achieved, assessing technology infusion in the curriculum to analyze whether the intended curriculum is implemented and ultimately attained and determining if the pedagogical uses of ICT emphasize how it is employed in the class by the teachers and how it is received by the students.

Technology changes the nature of student/lecturer interaction, improves higher-order and critical thinking, improves quality education, transforms the learning environment into a learner-centered one, increases students' motivation and engagement, increases students' positive effects on learning, enhances students' assessment and independent learning, reduces both students and lecturers' burden, facilitates learning and enhances performance (Yilmaz, 2021). It is also seen as a tool for increased access to resourceful information, improved research output, resource sharing and student/lecturer collaboration (Adedokun-Shittu, Shittu&Adeyemo, 2013; Jimoh, Shittu&Kawu, 2012).

Adedokun-Shittu et al (2013); Kozma (2005); McNamara (2003; UNESCO (2002), also agrees ICT is a way to promote educational change, improve learners' skills and prepare them for the global economy and the information society. However, these positive effects do not magically occur without proper policy considerations on how to integrate technology in the learning environment. As such, it is practically crucial to establish how technology is implemented in the learning institution, while conducting technology impact studies (Adedokun-Shittu&Shittu, 2011).

Conclusion:

The integration of technology in educational management and administration has the potential to revolutionize education systems worldwide. All technological resources are meant to extend our abilities to perform better in the sector of educational management and administration. The benefits of technology integration such as improved work-efficiency, enhanced communication among all the stakeholders, data-driven decision-making etc are remarkable. Additionally,

technology integration enables educational managers and administrators to engage in continuous professional development, enhancing management capacity and promoting innovation in the field of educational management and administration. However, challenges such as infrastructure limitations, training needs and data security concerns need to be addressed. With careful planning, investment and support from educational institutions can harness the full potential of technology to improve educational management and administration processes and ultimately enhance student outcomes. The integration of technology in educational planning and administration offers numerous benefits, including increased efficiency, enhanced accessibility, and improved student engagement. However, it also presents challenges that need to be addressed to ensure equitable and secure implementation. Overall, technology has the potential to significantly improve educational outcomes and streamline administrative processes, making education more effective and inclusive

Recommendations

A comprehensive technology integration plan that aligns with the educational goals and a clear implementation timeline should be adopted in management and administration of schools in Abakaliki.

Provision of access to student information systems to keep parents informed about their child's progress and school activities.

Development of student portals that provide access to educational resources, grades, and feedback as well as professional development opportunities for educators and administrative staff to stay updated with the latest technological tools and educational methodologies.

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