EXCELLENCIA
INTERNATIONAL MULTI-DISCIPLINARY JOURNAL OF EDUCATION
Volume 1, Issue 6, 2023 ISSN (E): 2994-9521

Curriculum Implementation and Instructional Technology in Nigerian Schools

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Abstract:

This study explore how instructional technology support curriculum implementation in the schools. The paper is a review paper that depend on secondary data. The secondary data were collected from print and online publications. The paper concluded that instructional technology aided curriculum implementation in the schools through provision of coordination and collaboration in learning, customization and adaptability in learning, fostering digital literacy in learners, aiding effective engagement and motivation of learners, aiding data-driven instruction in schools, support collaboration and communication in learning and support resource accessibility to learners. Based on this funding, the paper recommends that government should increase the funding of public schools to enable school administrators to procure the instruction technological facilities in their respective schools. The private institutions should support schools by providing technological facilities that will support effective deployment of instructional technology in the schools. Constantly training and retraining programme should be organized to the teachers by the government and private institutions.

Keywords: Curriculum Implementation, Instructional Technology, Schools

Introduction

Curriculum is defined as a series of planed learning experiences deliberately and purposefully organized to maximize the opportunities available for individuals to actualize their inherent genetic blue print in both formal and informal institutions. There are also wider social, cultural, economic and political contexts in which the curriculum can be viewed as primarily an ideological battleground

for a wide range of competing socioeconomic, cultural and political interest groups. These different groups compete to enlist their professional interests, values and attitudes on the curriculum. The curriculum thus becomes one of the instruments for implementing education policies and programs (Ikechukwu & George, 2022). Curriculum is an official document containing organized learning experiences meant for implementation in the school that focus on acquisition of skills, knowledge and improvement of skills towards socio-economic, political and technological development of the country.

Curriculum is the learning experiences organized and provided by a trainer (school, institution, persons, environment etc) within formal or informal settings which lead to the acquisition of knowledge, skills and attitudes for life. School exist in the society for the main purpose of transmitting and refining existing knowledge, culture and traditions of the society to her learners. This is important for the continuity of that society therefore; the totality of the learning experiences in the school is what is called curriculum (NTI, 2015; Akande, 2012). Curriculum as a legal public document that expresses the desires and aspiration of the people of a given period and articulates the desired experiences which the people planned for themselves and the younger generation; the sequence and method of attaining such experiences is usually spelt out as goals and objectives to be reached in a school process (Okorie (2010). Curriculum as the planned learning events provided by the school to assist the learner in attaining the designated learning outcomes to the best of their ability (Babarinde (2002). The attainment of curriculum objectives hinges on effective curriculum implementation in the schools.

Curriculum implementation is the act of carrying out planned learning experiences in the educational institutions. Ogunode, Akin-Ibidiran, & Ibidiran (2021) viewed curriculum implementation as the process of curriculum execution in the educational environment. Curriculum implementation makes teachers to prepare lesson notes, use reinforcement and motivational strategies, classroom control and creation of friendly relationship, application of theories and principles of learning, effective use of evaluation techniques and adequate consideration of learner's cognitive styles. This facilitates resolution of instructional challenges as well as achievement of overall goals of education, which is the vision of the 21st century (Okoro, (2010). Onyeachu (2008) defined curriculum implementation as the process of putting all that have been planned as a curriculum document into practice in the classroom through the combined efforts of teachers, learners, school administrators, parents as well as interaction with physical facilities, instructional materials, psychological and social environments.

Curriculum implementation according to Okebukola (2004) is the transition of the objectives of the curriculum from paper to practice while Obanya (2004) sees implementation of curriculum as day-to-day activities which school management and classroom teachers undertake in the pursuit of the objective of any given curriculum. Curriculum implementation is the translation of theory into practice, or proposal into action (Ivowi, 2004). Jamoh & Aminu, (2021) submit that putting the curriculum into operation requires an implementation agent. The teacher is identified as the agent in the curriculum implementation process. Curriculum implementation is the systematic arrangement that that leads to execution of planned curriculum. Isife, & Ogakwu, (2016) view curriculum implementation as the execution of the curriculum document. Curriculum implementation is putting into action the planned curriculum. This shows that it is the actual classroom teaching that the learners are expected to put in practice for the society to benefit from them.

Methods

Concept of Instructional technology

Instructional technology is the theory and practice of using technology for education. Encompassing the design, development, use, management, and evaluation of technology in education, instructional technology can take many forms (Isu.edu 2020). All instructional technology shares one main purpose: to create engaging and effective learning experiences. And many applications of instructional technology have proved effective at achieving this goal. Instructional technology

provides many benefits to the education process, including better access to information, more opportunities for collaboration, and better capabilities for meeting diverse learners' needs (Isu.edu 2020). Instructional technology is both the theory and practice of developing, managing and then evaluating the combination of tools, hardware, software and resources to facilitate learning in a variety of environments. "Instructional technology" is sometimes used as shorthand for the actual tools used by those that work in education, for our purposes we specify those as instructional technology tools. These tools enhance teaching and learning in K-12 and college or university environments, and enhance learning solutions in corporate, government, and nonprofit settings (Evans, 2024). Instructional designers specifically:

1. Design and develop technology-driven instructional solutions to foster learning.
2. Make use of software, apps, and web-based tools to facilitate the delivery of that instruction.
3. Research and integrate new ideas, approaches and technologies to enhance the learning process.

Instructional technology] is concerned with improving the effectiveness and efficiency of learning in educational contexts, regardless of the nature or substance of that learning. …Solutions to instructional problems might entail social as well as machine technologies (Cassidy,1982). Instructional Technology is the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning (Seels, & Richey,1994) – *Association for Educational Communications and Technology (AECT).* Instructional technology includes practical techniques of instructional delivery that systematically aim for effective learning, whether or not they involve the use of media. It is a basic purpose of the field of instructional technology to promote and aid the application of these known and validated procedures in the design and delivery of instruction (Gagne, 2013).

Results and Discussion

A) Support more coordination and collaboration

Instructional technology support curriculum implementation in the schools. Ohibime and Mohammed, (2022) and Udebu, Ogunode, and Sarafadeen, (2021) noted that instructional technology have helped teachers and learning to collaborate via online teaching and learning. Evans, (2024) observed that the new ways to collaborate through online interaction is real-time technology like video chat or asynchronous communication through messaging boards and email. Also, Editorial Team Teach-floor (2024) opined that instructional technology also plays a vital role in breaking down barriers to education. This includes not only geographical barriers allowing students from remote areas to access quality education, but also barriers related to physical disabilities. Assistive technologies enable learners with disabilities to engage fully with their education, offering them autonomy and opportunities that were previously difficult to achieve. Isu.edu (2020) observed that instructional technology provides unparalleled opportunities for collaborative learning. Advances in technology have made sharing information easier than ever before. Today, educators have access to digital tools that allow students to work collaboratively outside of the classroom, discussing ideas or completing projects remotely and eliminating constraints such as standard classroom hours or geographic location. Instructional technology also provides opportunities for students to work collaboratively with teachers, discussing ideas or asking questions outside of the physical classroom. For example, teachers could hold digital office hours, making themselves available via instant messaging or video chat to support students as they tackle the day's homework.

B) Customization and Adaptability

One of the key reasons for the importance of instructional technology is its ability to customize and adapt learning experiences to meet individual learner needs Traditional one-size-fits-all approaches often fail to address the unique learning styles and paces of each student. Instructional technology, through adaptive learning systems and personalized learning paths, can tailor content to challenge learners appropriately and support them where they struggle, significantly enhancing the learning

experience (Editorial Team Teach-floor 2024). More support for instructors to create their own lessons, design curriculum and develop resources. The digital maker space allows instructors to customize an open environment where students are encouraged to engage, communicate and interact (Evans, 2024).

C) Fostering Digital Literacy

In an era where digital literacy is as crucial as traditional literacy, instructional technology integrates the acquisition of these skills into the learning process. By engaging with digital tools and platforms, students not only learn subject matter but also acquire digital navigation skills, critical thinking in digital contexts, and an understanding of digital citizenship, preparing them for a technology-driven world (Editorial Team Teach-floor 2024). Greater opportunity for personalized instruction, since students have more tools to learn at their own pace, to draw upon additional resources or receive assistance when needed (Evans, 2024).

D) Aid Effective Engagement and Motivation

Digital tools and interactive content have been shown to significantly increase student engagement and motivation. Through gamified learning experiences, virtual reality explorations, and interactive simulations, students find joy and excitement in learning, which drives deeper engagement with the subject matter. This heightened engagement not only improves immediate learning outcomes but also instills a lifelong love for learning (Editorial Team Teach-floor 2024). Evans (2024) noted that IT create more opportunities to improve student engagement through different techniques like gamification and virtual interaction. Isu.edu (2020) noted that virtual classrooms can be a useful tool at every level of education. One common challenge of the traditional classroom environment is that students learn at their own pace, so teachers need to find a way to tailor their lesson plans to the average learner, rather than addressing each student's unique needs. Online courses level the playing field and provide students with the time and resources to develop the skills they need. For example, students could listen to a lecture for a second time if they didn't immediately grasp the subject matter or move ahead to the next one if they grasp a particular subject quickly. On top of this, online learning provides access to a wider array of topics, giving students opportunities to enrich their education by taking courses that their schools might not offer.

E) Aids Data-Driven Instruction

Instructional technology provides educators with actionable data on student performance and engagement. Tools equipped with analytics can track progress, highlight areas of strength and weakness, and suggest interventions tailored to each student's needs. This capability enables educators to make informed decisions, personalize their teaching strategies, and provide targeted support, ultimately fostering a more effective learning environment (Editorial Team Teach-floor 2024). Better means of gathering feedback and encouraging direct responses through applications like live polls, quizzes and automatically generated word clouds (Evans, 2024). Instructional technology according to Isu.edu (2020) provides better capabilities for gathering or providing feedback compared with more traditional methods. Teachers can use a variety of digital tools to gauge where their students are in a particular lesson. For example, teachers might conduct an online survey of students' current understanding of a topic to gain insight into where they should focus the next lesson. Or they might opt for using digital education software so they can provide immediate feedback to students on lessons and homework, which could help keep students on track with learning objectives. Some schools have even been piloting virtual reality classrooms, where teachers can rehearse lessons or work through professional challenges in an artificial environment, helping them hone their abilities without negatively impacting real students.

F) Support Collaboration and Communication in learning

Modern instructional technologies facilitate a level of collaboration and communication among students and between students and teachers that was previously unattainable. Platforms that support project based learning, peer reviews, and group discussions like Teach-floor LMS, encourage students

to work together, share ideas, and learn from one another, fostering a community of learners. Additionally, these tools can help maintain a strong teacher-student connection, crucial for emotional and social support, especially in remote or hybrid learning environments (Editorial Team Teach-floor 2024).

G) Support resource accessibility to learners

With instructional technology, learning resources are more accessible than ever before. Digital libraries, online databases, and multimedia content can be accessed anytime and from anywhere, providing learners with a wealth of information at their fingertips. This ease of access support self-paced learning and encourages curiosity, allowing students to explore subjects in depth, at their own pace.

H) Type of Instructional Technology Tools

The types of instructional technology tools according Evans (2024)

1) Adobe Captivate

An authoring tool that allows users to create eLearning content through the use of out-of-the-box assets and templates. Users can design their own screencasts, virtual tours, quizzes, branching courses and more.

2) Aha Slides

This web-based application allows you to create presentation slides with interactive elements like polls, quizzes and Q & A sessions. Students follow links or scan a QR code to reply or answer, and the results are tallied and displayed in real time.

3) Answer Garden

A free to use online word cloud application where you can ask a question and the results are automatically generated based on responses. You can use it as a standalone application or embed it into a website or presentation.

4) Articulate Storyline 360

One of the most popular tools for creating eLearning courses, Storyline 360 is part of the Articulate 360 platform. Featuring a large library of assets, including templates, videos, icons and more, it allows for the creation of interactive training that works across both desktop, tablets, and mobile devices.

5) Crowd signal

A tool designed to quickly create polls and surveys that you can integrate within multiple applications or share via email. You can export results to spreadsheet applications such as Google Sheets and Excel.

6) Google Applications

Google provides a host of different applications with different features and functions to facilitate learning and instruction. Docs, Slides, Workspace and Classroom are high-profile examples of Google tools used in instructional technology.

7) H5P – Short for HTML 5 Package, H5P

H5P is a free, open-source platform for creating collaborative web-based content. Developers can create mobile friendly interactive videos, presentations and games that easily integrate with Learning Management Systems (LMS) like Blackboard, Canvas or Moodle.

8) Poll Everywhere

An online engagement tool that makes use of surveys, quizzes, word clouds and live polling. You can use these polling features as a stand-alone tool or within different virtual meeting platforms. Its customizable content structure can be made to fit different workflows.

9) Slack

A business communication platform from Salesforce that allows for distance learning collaboration through channels, virtual presentations, instant updates and announcements. As a platform, Slack is able to integrate with applications from Google, Microsoft and other third-party developers.

10) Sli.do

Designed to allow interaction within hybrid meetings, this application features live polls, quizzes and word clouds that can be used across a host of different applications, including PowerPoint, YouTube and Google Slides.

I) Findings

The paper discovered that instructional technology aided curriculum implementation in the schools through provision of coordination and collaboration in learning, customization and adaptability in learning, fostering digital literacy in learners, aiding effective engagement and motivation of learners, aiding data-driven instruction in schools, support collaboration and communication in learning and support resource accessibility to learners.

Conclusion

This study explore how instructional technology support curriculum implementation in the schools. The paper concluded that instructional technology aided curriculum implementation in the schools through provision of coordination and collaboration in learning, customization and adaptability in learning, fostering digital literacy in learners, aiding effective engagement and motivation of learners, aiding data-driven instruction in schools, support collaboration and communication in learning and support resource accessibility to learners.

Based on this funding, the paper recommends that government should increase the funding of public schools to enable school administrators to procure the instruction technological facilities in their respective schools. The private institutions should support schools by providing technological facilities that will support effective deployment of instructional technology in the schools. Constantly training and retraining programme should be organized to the teachers by the government and private institutions.

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