

# Chapter 3

## Virtual Learning: An Innovative Approach in Expanding Literacy Level in Nigeria

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### ABSTRACT

This paper investigates the role of virtual learning as a revolutionary method to improve literacy rates in Nigeria. It focuses on the integration of information and communication technologies (ICTs) in education, particularly e-learning, to modernize conventional instructional techniques. The discussion covers various forms of virtual learning, such as online courses and collaborative platforms, underlining the adaptability these methods offer to students. It also shines a light on the National Policy on Education's acknowledgement of ICT's crucial role in the enactment of the curriculum, underscoring virtual learning's capacity to engage underserved populations, diminish illiteracy, and facilitate tailored feedback. Despite recognizing obstacles like infrastructural deficits and limited ICT proficiency among the populace, the paper concludes with a call for deliberate policy measures to maximize the significant potential of virtual learning in elevating literacy levels in Nigeria.

### INTRODUCTION

Virtual learning, sometimes known as e-learning, is not a recent development in the global advancement of education. It is now used by a few Nigerian universities to offer online courses, remote learning, online education, and lifelong learning. An unstoppable trend in education has been sparked by the emergence of new information and communication technologies (ICTs), particularly in the fields of teaching and learning.

Virtual learning is centred on computer based learning. Presently, Computer learning is essentially the process of studying something online or offline using a CD ROM, flash drive, USB drive), while using an internet browser, such as Chrome, Opera, Mozilla, Firefox, or Uc Browser. It may be presented visually, audibly, or both.

According to Hedge and Hayward (2004) opines that e-learning as a new approach to creating interactive, well-designed, interactive learning and interactive e-learning and learning environments for everyone, anytime, anywhere, using the internet and digital technologies, taking into account the principles of instructional design. Virtual learning making use of CD-ROM, a set of course notes that the learner is free to read. Additionally, conferencing apps and social media platforms like Google Classroom, Zoom, WhatsApp, and Telegram are used. E-learning or virtual In the educational system of Nigeria, the use of ICT for learning is still relatively new. It differs from the traditional method of implementing curricula. The primary aim of e-learning is to revolutionize the conventional techniques and strategies for curriculum implementation, rather than to muffle, eradicate, or destroy the curriculum's contents. E-learning is primarily guided by the curriculum. The early 20th-century correspondence schools laid the foundation for the concepts of distant learning. Online, computer-based, or virtual learning is the application of internet technologies to educational activities that do not require the presence of the teacher and student at the same time and location.

## **THE IDEA OF ONLINE EDUCATION**

Classroom-based learning is a traditional approach that involves in-person group instruction led by a teacher. In contrast, online education allows students to engage with instructional resources, their teachers, and peers from various locations, often utilizing internet technology at different times. Online learning offers significant flexibility in terms of when and how learning occurs. E-learning includes a range of learning strategies, such as collaborative, facilitated, or independent learning. The term "e-learning" refers to the use of the internet and information and

communication technology (ICT) to enhance and support learning, regardless of the instructional method. It provides diverse training options through the use of internet and wireless technology. E-learners may access their learning materials using a computer, an intranet, the internet, or mobile devices such as smartphones or tablets.

E-learning affords students the freedom to decide when, how quickly, and how much they learn. It enables communication with teachers through forums or emails, eliminating the need for accommodation or transportation costs since there is no requirement to attend a physical campus. Thus, e-learning removes geographical and temporal barriers while offering more affordable learning environments. According to Arbaugh and Duray (2002), e-learning is particularly appealing to adult learners due to its flexibility, allowing learners to be independent from their peers and instructors. However, this does not mean that students lack access to additional resources, such as coaches or facilitators; rather, they can choose if and when to contact them.

Collaborative learning in an online environment involves working with fellow students. Examples include email discussions on a particular subject or posting in a course room or forum to debate a specific topic. Facilitated learning requires interaction with coaches or teachers, which can be achieved in various ways, such as completing an online module and then discussing key points via email with the instructor or classmates.

Virtual learning can be synchronous (occurring simultaneously) or asynchronous (happening at different times), or a combination of both. Self-directed learning typically happens asynchronously, whereas both synchronous and asynchronous methods can be used for collaborative learning. Rosenberg (2001) defines e-learning as web-centered teaching and learning. The Europe encouraging literacy program describes it as “the use of new multimedia technologies and the internet to improve the quality of learning by facilitating access to resources and services, as well as remote collaborations and exchanges.”

## TYPES OF E-LEARNING

E-Learning is defined as teaching and learning centered around the web (Rosenberg, 2001). Below, we explore a few types of e-learning for our discussion:

### One-to-one e-learning

This is designed for students who wish to learn a specific subject at a time convenient for them. This e-learning approach allows students to prepare specialized lesson plans tailored to their individual needs. Platforms like Verbaling and Lesson Face exemplify one-to-one e-learning. Verbaling facilitates personal interaction between instructors and students through video conversations, enhancing the teaching/learning experience. Lesson Face, on the other hand, provides a platform for music instructors and students to connect via a computer interface.

### Video-Based Learning

Experiencing unprecedented growth and popularity, video-based learning is effective in reducing the time and effort required from tutors and ensures consistency. The increasing use of videos in e-learning courses is unsurprising. This method improves student engagement by providing visual examples, enabling students to relate to, apply, and understand the content at their own pace. Platforms like Udemy and MasterClass are notable examples of e-learning interfaces that utilize videos, offering courses through recorded videos, slides, and interactive assignments

### Online Group Learning

While one-to-one learning is a preferred eLearning method for many, collaborative learning offers significant benefits across various subjects. It proves particularly beneficial as it allows students to learn while interacting with other learners, fostering cooperation and facilitating interactions between all participants. In this setting, tutors and students can engage in sessions where students are encouraged to share their thoughts and ideas on specific topics. Universities and colleges can provide personalized and cost-effective learning experiences by

connecting students with suitable lecturers and sharing the costs among students.

## Massive Open Online Courses (MOOCs)

MOOCs are gaining popularity among learners and professionals as they offer affordable and accessible distance learning opportunities to students worldwide. Most MOOCs are available for free, although some platforms may charge a fee for issuing a certificate upon completion. These courses are designed to be self-paced, allowing students to learn from pre-recorded videos and webinars. Prominent providers of such massive open e-learning courses, including Coursera and edX, offer solitary and unsupervised learning opportunities with no entry restrictions and also provide certifications at undergraduate, graduate, and postgraduate levels.

These diverse e-learning methods highlight the flexibility and adaptability of online education, catering to individual learning styles and preferences while leveraging technology to facilitate effective learning experiences.

According to Yucel (2006), the advantages of e-learning, as compared to traditional classroom education, include:

1. **Flexibility:** Students have the opportunity to decide the duration and intensity of their studies. E-learning enables each learner to design and initiate their own education program, taking responsibility for their learning.
2. **Personalized Learning:** E-learning allows learners to tailor their approach to education, considering the material, objectives, existing knowledge, and personal skills.
3. **Cost Efficiency:** Learners do not require transportation or accommodation since online platforms provide a forum for discussion, where problems are addressed collaboratively within chat rooms.
4. In support of Yucel (2006), Lynch (2008) noted that with the decreasing costs of implementing e-learning tools, governments, businesses, and educational institutions are increasingly incorporating online courses and other forms of distance learning into their

offerings. This integration further democratizes education, making learning more accessible to a broader audience.

## Literacy Level

The Nigeria National Policy on Education acknowledges the crucial role of ICT in curriculum implementation, stating that "the government shall provide facilities and necessary infrastructures for the promotion of ICT and e-learning." The National Policy on Education (NPE) (2004) outlines several key areas where ICT and e-learning could significantly contribute:

- i. **Engagement:** Virtual learning's interactivity and customization potential make it a powerful tool for reaching out to those currently disengaged from education, by catering to individual learning needs.
- ii. **Support for At-Risk Learners:** It aids learners at risk by facilitating connections between them and public services as well as careers through online knowledge communities and support networks.
- iii. **Literacy Improvement:** E-learning offers a strategy to reduce illiteracy levels by providing personalized, confidential feedback on learners' ICT, literacy, and numeracy skills.
- iv. **Overcoming Educational Barriers:** It introduces innovative ways to motivate and excite learners of all abilities, breaking down barriers to success and enabling everyone to achieve their educational potential.
- v. **Accessibility for Disabled Learners:** E-learning increases learning opportunities for disabled and handicapped individuals by utilizing smart devices and internet resources, thereby reducing feelings of isolation.
- vi. **Enhanced Educational Standards:** By providing interactive resources for personalized support, e-learning has the potential to raise educational standards and improve learner attainment as they progress.
- vii. **Learner Autonomy:** E-learning often affords learners greater choice and responsibility over their education, empowering them to take charge of their learning journey (Collis, 2008; Oye, 2011).

These strategic priorities highlight the transformative potential of ICT and e-learning in education, aiming to make learning more accessible, inclusive, and effective for all segments of the Nigerian population.

When utilized wisely and comprehensively, e-learning resources can:

- **Reduce Costs:** Significantly lower or even eliminate the costs associated with tutoring and educational materials.
- **Support Diverse Learning Paces:** Enable learners who may find the pace of conventional classrooms challenging to progress at their own speed, thus alleviating their frustrations with the material, other students, and themselves.
- **Facilitate Document Management:** Assist in the generation, access, viewing, editing, printing, and delivery of educational documents.
- **Ease Multimedia Usage:** Simplify the application of multimedia in practice and assessment, tailored to the learner's abilities.
- **Prevent Redundancy:** Allow previous learners to advance at their own pace in any course, thereby avoiding repetition of content they already know.
- **Enhance Accessibility and Retention:** Enable learning to occur anytime and anywhere, significantly improving knowledge retention.

According to Vrasidas and Mclsaac (2000), e-learning has the potential to transform learning methodologies and can surmount the barriers of time, distance, and economics. This highlights the transformative power of e-learning in making education more accessible and effective for a wider audience, breaking down traditional barriers that have historically limited educational opportunities.

## The Value and Advantages of Online Education

The benefits and value of online education are manifold. Omolo (2001) highlighted several key advantages, including cost-effectiveness, enhanced adaptability to change, consistency, timely content delivery, flexible accessibility, and providing significant value to learners.

- a. **Personalized Support:** E-learning provides tailored assistance, guidance, and information to enhance the learning experience.
- b. **Customized Learning Experiences:** It enables personalized learning journeys for all students, accommodating their unique circumstances, capabilities, and any disabilities they may have.
- c. **Collaborative and Creative Learning:** E-learning facilitates engagement with others through methods such as role-playing,

online master courses, or partnerships with other educational entities, encouraging innovative and cooperative learning approaches.

- d. **Increased Participation and Accessibility:** By allowing learners to initiate their studies and choose courses and support tailored to their needs, e-learning fosters greater involvement and ensures more equitable access to higher education.

These attributes of e-learning underscore its transformative potential in education, offering learners more control over their educational pathways and ensuring that learning opportunities are more inclusive and accessible to a broader audience.

### For Education Sector

- E-learning is crucial for education as it holds the potential to elevate teaching standards and expand the reach of educators.
- By introducing novel and engaging methods, e-learning can help overcome barriers to educational achievement, enabling learners of all abilities to realize their full academic potential.
- E-learning supports differentiated instruction, catering specifically to the needs of students who require additional help with ICT, literacy, and numeracy skills.
- It fosters the creation of online communities of practice, providing a platform for collaborative learning and knowledge sharing.
- The wealth of resources available through e-learning empowers both educators and students to be innovative, creative, and resourceful in their educational pursuits.

These aspects highlight the transformative impact of e-learning on the educational landscape, providing enhanced opportunities for teaching and learning that are accessible and adaptable to the needs of diverse learners.

### Prospects of Online Education

There's undeniable evidence that e-learning can elevate and enhance the quality of education. Garrison and Anderson (2003) have confirmed that e-



learning fosters motivation, eagerness to learn, and creativity among learners. Here are some of the potential benefits and prospects of e-learning in advancing the literacy level in Nigeria:

- **Empowerment of Learners:** E-learning aligns with the Nigerian educational system's primary goal of cultivating independent citizens capable of contributing positively to their communities, their country, and the nation at large.
- **Creative and Innovative Teaching and Learning:** E-learning introduces novel and inventive approaches to education, stimulating both teachers and students to explore new ways of learning and teaching.
- **Flexibility:** E-learning offers unparalleled flexibility, allowing students to learn at their own pace, in their preferred environment, and at times that suit them best.
- **Enhanced Outcomes:** The targeted and personalized nature of e-learning can lead to better educational results, with students achieving a deeper understanding and retention of the material.
- **Professional Workforce Development:** E-learning plays a crucial role in generating a professional workforce by providing accessible, continuous professional development opportunities, thus leading to fulfilled citizens who are better prepared for the challenges of the modern world.

## Challenges of E-Learning in Literacy Level in Nigeria

Sharma and Ekundayo (2009) highlights the importance of students being more focused and disciplined in online learning than in traditional face-to-face instruction.

To every noble course and worthwhile programme there is always some hurdles and impediment that may crop up against such programme and e-learning is not left out despite its usefulness. Some of these challenges are:

- Poor state of telecommunication infrastructure
- Low literacy level in ICT among personnel
- Poor finance in purchasing and installation of e-learning equipment.
- Lack of well furnish e-learning centers
- Erratic power supply

- According to Aduke (2008), inadequate or insufficient skilled personnel is a problem that confronts the Nigerian higher institutions in the use of ICT.
- High cost of circulation and distribution.
- Due to unreliable local ISPS. Internet access there is dependence on foreign ISPS
- High hardware costs for additional accessories like smart boards and higher bandwidth.

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