

# Practices and Barriers to Equitable Access to Digital Learning Resources among STEM Teachers in Selected Secondary Schools in Nigeria: A Situation Analysis Finding

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## INTRODUCTION

Studies in the Nigerian context have revealed a digital divide in Nigerian educational settings among teachers and students. Also, the level of integration of ICT into teaching and learning in Nigerian schools has been described as abysmal, as many teachers and teacher educators are yet to explore ICT fully and effectively in their teaching (Tayo, 2015; Shittu, Kareem & Tukura, 2019). However, the extent is not very well known. The students too have limited access to information and communication technologies (ICTs) due to their socio-economic background, school type, and school location. In addition, there is a lack of quality data about barriers, the state of infrastructure and technology use (Dele-Ajayi, Opeyami; Taddese, Abeba, 2020).

In this work – excerpt from a scoping study, we highlight the extent of ICT use by teachers, dimension of internet and social media use, and key barriers to digital learning resources used by 150 teachers in 30 schools.

## OBJECTIVES

- To determine the extent of ICT use for teaching and learning in schools
- To understand current dimension of use of internet and social media
- To identify key barriers to access to digital learning resources in secondary schools in Nigeria

## METHOD

- The study employs a mixed methods approach and combines the outcomes from previous research studies with data gathered from interviews with teachers
- Secondary Literature Sources
- Interview and Questionnaires

## RESULTS

S. No.	Item	Frequency	Percentage
1	Videos	55	35.7
2	Simulations	13	8.4
3	Google docs	12	7.7
4	Google drive	11	7.2
5	Google forms	2	1.2
6	Microsoft Word	28	18.1
7	Microsoft Excel	8	5.1
8	Microsoft PowerPoint	25	16.2
9	GeoGebra	0	0
10	PhET	0	0
11	Google classroom	0	0
12	Moodle	0	0
13	Others (Specify)	0	0
	Total	154	100

**Table 1: Digital applications often use by STEM teachers in classroom teaching, online classes, or professional development.**

## RESULTS (Contd)

S/NO	ITEM	FREQUENCY	PERCENTAGE
1	Get news updates	97	63
2	Stay connected with friends	12	7.8
3	Shop online	14	9.1
4	Watch news, movies etc	6	3.9
5	Share information with teachers / parents	18	11.6
6	Professional networking	7	4.5
7	Others (specify)	0	0
	TOTAL	154	100

**Table 2: internet and social media often use by STEM teachers**

**B. Barriers:** The following have been identified as key barriers to Digital Learning Resources Access:

- Gross inadequate qualified teachers to teach ICT in schools
- Many teachers do not have clarity about how ICT can be beneficial for the facilitation and enhancement of learning
- Lack of support from school management for internet subscription
- High cost of bandwidth
- ICT supports staff inadequacy
- Acute shortage of Computer sets and other devices
- Erratic Electricity supply (Erratic power outage)
- Cost of PC which impacts students of low socio-economic background
- Poor maintainability of ICT infrastructures, facilities and equipment
- Telecommunications infrastructures grossly inadequate in the country
- Poor Internet or slow connectivity
- Unaffordability of phone credit and internet data, and low access to ICT devices by teachers and students in schools

## CONCLUSION

All the schools visited for this study have ICT laboratory/hybrid library with available physical facilities and e-resources, but at different levels of functionality, usage and adequacy. Although, the ICT facilities are generally available they are reportedly being used more for acquiring ICT skills by both teachers and students but rarely used for instructional purposes (Field report, 2021). The finding reveals that videos are the most used ICT medium in the schools, whereas teachers have used their phones for news than professional networking. Thus, the extent of integration of ICT in education and in the classroom could be described as low.

## REFERENCES

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