Digital Competencies of Facilitators: A Panacea for effective instructional delivery in open and distance learning in Higher Education in the South-South Zone of Nigeria

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Abstract
This paper investigated digital competencies of facilitators: A panacea for effective instructional delivery in open and distance learning in higher education. Three objectives, three research questions and three hypotheses guided the study. The study adopted a descriptive survey design. The population of the study was 2,657. The sample size of the study was achieved by a multistage sampling technique with a sample size of 600 facilitators comprising 290 males and 310 females from the open university Port Harcourt center. The reliability of the instrument was established using test-retest method and the Pearson Product Moment Correlation Coefficient was adopted in calculating a reliability index of 0.81. Mean and standard deviation were used to answer the research questions while z-test was used in testing the formulated null-hypotheses at 0.05 level of significance. The instrument for data collection was a structured questionnaire titled "Digital Competencies of Facilitators for effective instructional delivery". The instrument was validated by two experts in the Department of Measurement and Evaluation of the Rivers State University of Port Harcourt. The findings of the study revealed that to a high extent facilitators are highly literate in digital devices, pedagogical skills, technological proficiencies, communication and collaboration tools, assessment and feedback in digital contexts. The findings also revealed that the use of digital information resources by the facilitators of National Open University of Nigeria (NOUN) in South-South Nigeria was accounted for by their digital competency level which has resulted to effective instructional delivery. It was recommended among others that government should engage more trained personnel and re-training of facilitators should be done regularly so as to enhance effective instructional delivery.

Key words: Digital Competencies, effective instructional delivery, digital content creation collaboration and communication facilitators and open and distance learning

INTRODUCTION

Open and distance learning, also called distance education, e-learning and online learning is a form of non-barrier education mode. Adebayo (2017) defined open and distance learning as the type of education that takes place outside the conventional school system. In the same vein, Alezi in Osunji and Umunakwe (2022), refer to open and distance learning as educational approaches and strategies that permit people to learn with no barriers in respect of time and space, age, sex, race, tribe and state of origin. According to Osuji and Bakpo (2022), open and distance learning is a learning situation where the learners are geographically separated from the facilitators. From these definitions, it can be deduced that open and distance learning provides educational opportunities needed by anyone, anywhere and at any time. Open and Distance Learning (ODL) provides flexible, learner-centered education that utilizes digital tools and platforms to facilitate instruction across geographical barriers (Jegede, 2018). ODL allows students to access course materials at their own pace, anytime and anywhere, promoting inclusivity and lifelong learning (Afolabi, 2019). The use of digital technologies, such as Learning Management Systems (LMS) and multimedia resources, enhances engagement and interaction among facilitators and learners, thus transforming the educational experience beyond the constraints of traditional learning environments (Ajadi, 2020).

Morayo (2013) opined that open and distance learning courses or learning materials include any of the following: teaching texts, study guides, course guides, videos, recordings, software and online information. Federal Republic of Nigeria in her National Policy on education (2013) detailed that the goals and objectives of open and distance education shall be to:

1) Provide access to quality education and equity on educational opportunities for those otherwise would have been denied; Osuji and Bakpo (2022)
2) Meet special needs of employees by offering special certificate courses for their employees at their work place;
3) Encourage internationalization especially of tertiary education curricula;
4) Ameliorate the effect of internal and external brain drain in tertiary institutions by utilizing Nigerian experts as teachers regardless of their locations or places of work.

The realization and accomplishment of these goals and objectives stated above depends solely on the facilitators who are mostly lecturers, head of departments, principals and vice principals (Mampane & Ogina in Osuji & Bakpo, 2022).

A facilitator in open and distance learning is “an individual who guides, supports, and encourages learners through the learning process, primarily using digital tools and resources to promote active participation, collaboration, and critical thinking among geographically dispersed students” (Adejumo, 2017). They are at the heart of the implementation of open and distance learning curriculum. According to Adedoyin and Soykan (2022), a facilitator in open and distance learning is “a professional who helps bridge the gap between content and learners by providing feedback, moderating discussions, and utilizing various online platforms and strategies to ensure effective communication, understanding, and application of knowledge”. They also act as mentors and advisers, helping students navigate both the content and the online learning environment. Ademola and Nwafor (2019) stated that the mood of providing flexible learning opportunities for learners using varieties of media including electronic print, online printing, e-learning platforms, study guides, course guides, videos, software, recordings and online information have brought the need for facilitators to develop capabilities and digital

competencies in order to perform effectively and efficiently. Vygotsky's Zone of Proximal Development (ZPD) Theory suggests that learners can achieve higher understanding when assisted by a more knowledgeable entity such as a teacher or tool (Vygotsky, 1978). The 21st Century education has seen quite a number of innovations in pedagogical methods, instructional materials, classroom management and so on. For facilitators to be able to keep up with these changes and remain relevant in their field, they need to be regularly involved in capacity building programmes for knowledge updates and improvement in their digital competencies for effective instructional delivery.

Instructional delivery in open and distance learning refers to the way educators present and organize learning materials and interactions when they are not in the same physical space as their students (Tait, 2018). In open and distance learning, teachers use various technologies like online platforms, multimedia resources, and communication tools to ensure that students can access and engage with the content no matter where they are (Siemens et al., 2015). This method of teaching is designed to bridge the gap created by distance, offering a flexible way for learners to study at their own pace. The key goal of instructional delivery in open and distance learning is to create a learning environment that is both engaging and accessible to all students, regardless of their location or schedule (Moore and Kearsley, 2015). This is done by combining different methods such as video lectures, discussion boards, live sessions, and self-assessments, which help students stay connected to their learning journey. The aim is to give learners more control over their education, promote independent learning, and open up oppurtunities for people who might not have access to traditional, in-person classes (Tait, 2018). Instructional deliverary can only be effective when facilitators possess core competencies such as Technological proficiency, pedagogical skills in digital learning environments, communication and collaboration tools, assessment and feedback in digital context, and adaptability and lifelong learning.

In Technological Proficiency, facilitators should be skilled in using a range of digital tools, platfforms, and software for creating content, facilitating communication, and promoting collaboration. This includes familiarity with Learning Management Systems (LMS) like Moodle, Blackboard, or Google Classrooms, and video conferencing tools such as Zoom or Microsoft Teams. Institutions should offer training programs to ensure facilitators are proficient in using these technologies to create a smooth learning experience. They should also equip facilitators with basic troubleshooting skills for common technical issues.

Facilitators must also possess pedagogical skills in digital learning environments. Digital literacy encompasses more than just technological skills; it requires adapting teaching methods to the online environment. Facilitators need to understand how to engage students, provide interactive experiences, and personalize learning pathways, fostering an active, student-centered learning environment is critical in digital settings. Offering digital pedagogy workshops and instructional design training can enhance facilitators' abilities to deliver content effectively, maintain engagement, and develop students critical thinking skills.

Effective communication using digital tools is vital in distance learning. Facilitators should be adept at utilizing discussion forums, collaborative documents (e.g Google Docs, Microsoft Office 265), and synchronous/asynchronous communication methods. Regular training on the use of digital communication tools is essential. Facilitators should also be encouraged to participate in commun8ties of practice (CoPs) to exchange strategies and, learn from best practices

In the case of Assessments and feedback in digital contexts, facilitators need to be skilled in conducting both formative and summative assessments in digital environments. This involves designing online quizzes, projects, and discussions, and providing timely, constructive feedback. Training on diverse digital assessment strategies, such as peer assessments, e-portfolios, and automated quizzes, can enhance the accuracy of assessments and the quality of feedback

The digital landscape is constantly evolving, requiring facilitators to be adaptable and committed to lifelong learning. Facilitators need to stay updated on emerging technologies, digital teaching trends, and evolving pedagogical practices to remain effective (Falloon, 2020). This flexibility allows them to continuously improve their digital competencies and instructional delivery methods

Statement of the Problem

The rapid digital transformation in education, especially in open and distance learning has created a new set of expectations for facilitators. In today,s digital age, these educators are expected to effectively use digital tools and platforms to deliver high-quality instruction and engage learners across diverse and often remote locations. Yet, there is a growing concern that many facilitators lack the necessary digital competencies to meet these expectations, which affects the quality of instructional delivery in open and distance learning settings (Redecker and Punie, 2017).

Research shows that many facilitators struggle with the technological proficiency and digital pedagogical skills needed to create interactive and engaging online learning experiences (Bond et al., 2018). This gap is particularly pronounced in countries like Nigeria where facilitators often do not receive sufficient training or support to integrate digital tools effectively into their teaching (Oluwatosin, 2021). Consequently, the delivery of instruction in many open and distance learning centers remain inadequate, resulting in decreased student engagement and poor learning outcomes.

The COVID-19 pandemic highlighted the urgency of addressing these digital competency gaps. As education rapidly shifted online, the limitations of facilitators' digital skills become more apparent, revealing a lack of preparedness to adapt to new digital environments (Adedoyin and Soykan, 2020). Moreover, the scarcity of continuous professional development opportunities focused on enhancing digital skills has left many facilitators unable to keep up with the demands of evolving digital tools and teaching methods (Kebritichi et al., 2017).

Without targeted efforts to improve the digital competencies of facilitators, the potential of open and distance learning to provide accessible and equitable education remains underutilized. This research seeks to explore the specific digital skills needed by facilitators to deliver effective instruction in open and distance learning settings, identify the barriers they face in developing these competencies, and propose strategies for empowering them with the necessary tools and knowledge to enhance learning outcomes

Purpose of the Study

The main purpose for the study is to access the digital competencies of facilitators for effective instructional delivery in national open and distance learning in universities in South-South Zone of Nigeria. specifically, the study will seek to:

1) Identify the digital literacy skills of the facilitators of National Open Universities for effective instructional delivery in open and distance learning.

2) Determine how content creation skills of facilitators of National Open Universities influences effective instructional delivery in open and distance learning
3) Examine how communication and collaboration skills of facilitators promotes effective instructional delivery in National Open Universities

Research Questions

The following research questions were posed to guide the study

1) What are the digital literacy skills of the facilitators in promoting effective instructional delivery in National Open Universities?
2) What are the content creation skills of the facilitators in promoting effective instructional delivery in National Open Universities?
3) What are the communication and collaborative skills of facilitators in promoting effective instructional delivery in National Open Universities?

Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significance

1) There is no significant difference in the mean ratings of male and female facilitators on digital literacy in promoting effective instructional delivery in the National Open Universities
2) There is no significant difference in the mean ratings of male and female facilitators on the content creation skills in promoting effective instructional delivery in National Open University
3) There is no significant difference in the mean ratings of male and female facilitators in communication and collaboration skills in promoting effective instructional delivery in National Open Universities

Methodology

The study adopted a descriptive survey design method. The population of the study was 2,657 comprising 1,043 males and 1,614 females from the thirty-five study centres of the National Open Universities in the South-South Zone. The sample size of the study was achieved by multi-staged sampling technique, a sample size of six hundred (600) facilitators were selected out of which 290 were males while 310 were females. The instrument used for the data collection was a structured questionnaire titled “Digital Competencies of facilitators for effective instructional delivery questionnaire (DCFEIDQ)”. The instrument was sub-divided into two sections: A and B. Section A was concerned with the demographic data of the Respondents while Section B was concerned with the items drawn from the research questions of the study. Responses to the questionnaire items were designed on a rating scale of Strongly Agreed (SA) Agreed (A), Disagreed (D) and Strongly Disagreed (SD), with ratings at 4, 3, 2 and 1 respectively. The instrument was administered to 10 facilitators in the Port Harcourt Centre of the Open University. The instrument was validated by the researchers’ supervisor and experts in the Department of Measurement and Evaluation of Ignatius Ajuru University of Education (IAUE). The reliability of the instrument was obtained using test related method: Pearson Product Moment Correlation in calculating a reliability index of 0.81. The instrument was administered by the researcher by hand and online to the respondents out of the 600 copies of the questionnaire administered 460 copies were retrieved and were properly filled: 200 males and 260 females from the 35 study centers of the Open Universities in the South-South Zone. The data collected were computed using the mean and standard deviation to answer the research questions and hypotheses were tested with the use of z-statistics at 0.05 level of significance.

The hypotheses were accepted when the critical value of 1.96 is greater than the computed or calculated value.

RESULTS

Research question 1: What are the digital skills of the facilitators in promoting effective instructional delivery in National Open universities in South – South Zone?

Table 1: Mean and Standard Deviation of Respondents on Perception of facilitators digital skills in promoting effective instructional delivery in National Open Universities in South –South Zone (N =460)

		Male Facilitators = 200			Female Facilitators = 260		
S/NO	**Digital skills item:**	**X1**	**SD1**	**Remarks**	**X2**	**SD2**	**Remarks**
1	I can download and install software ona computer hard disk	3.2	0.90	Agreed	3.5	0.74	Agreed
2	I understand the concepts and basicfunctions of computer system (e.g. DOS, windows)	3.2	0.62	Agreed	3.4	0.47	Agreed
3	I can use excel spreadsheet software to organize information	3.5	0.60	Agreed	3.5	0.69	Agreed
4	I can handle e-mail programme andcompose email mesas using MS outlook, Gmail or yahoo	3.3	0.73	Agreed	3.3	0.73	Agreed
5	I can use web browsers and search effectively	3.5	0.77	Agreed	3.4	0.83	Agreed
	GRAND MEAN & SD =	**10.1**	**2.28**		**10.1**	**2.01**	

The result in table 1 shows the responses of the male and female facilitators on the perception of facilitators' digital skills in promoting effective administration in National Open Universities in the South – South Zone of Nigeria. The result in table 1 revealed that male facilitators had mean and standard deviation of 10.1 and 2.28 while their female counter part had 10.1 and 2.01 respectively. The closeness in the grand mean and standard deviation shows that the facilitators in proficient in using data safety software.

Research Question 2: What are the content creation skills of the facilitators in promoting effective instructional delivery in National Open Universities?

Table 2: Mean and Standard Deviation on Perception of content creation skills of the facilitators in promoting effective instructional delivery in National Open Universities in the South – South Zone of Nigeria. (N= 460)

		Male Facilitators = 200			Female Facilitators = 260		
S/N	**Purpose**	**X1**	**SD1**	**Remarks**	**X2**	**SD2**	**Remarks**
1	Teaching/administrative	3.5	0.84	Agreed	3.4	0.66	Agreed
2	Project/research	3.6	0.90	Agreed	3.5	0.84	Agreed
3	Collaboration and communication	3.4	0.67	Agreed	3.4	0.67	Agreed
4	I can use power point software to present information	3.3	0.64	Agreed	3.4	0.67	Agreed
	GRAND MEAN & SD	**3.45**	**0.76**		**3.43**	**0.71**	

Source: Field Survey, 2023

Table 2 revealed that the respondents use digital information resources for various administrative purposes. The respondents use digital information resources (DIRs) more for the purpose of administrative/ teaching, assignment and collaboration. The table revealed that the male facilitators had an average mean and standard deviation of 3.45 and 0.76 whereas the female respondents had 3.43 and 0.71 respectively.

Test of hypotheses

Hypothesis 1: There is no significant difference in the mean ratings of male and female Facilitators on the perceived digital skills as tool for effective administration in National open Universities in South – South Zone of Nigeria.

Table 3: z-test analysis of the difference between mean ratings of male and female Facilitators on the perceived Digital skills as tool for effective instructional delivery in open and distance learning in National Open Universities.

Respondents	**N**	**X**	**SD**	**Std Error**	**DF**	**P**	**z-cal.**	**z-crit.**	**Decision**
Male	200	10.1	2.28	0.001	458	0.05	0.861	1.96	Accepted
Female	260	10.1	2.01						

Source: Field Survey 2023.

From the analysed table above, z-calculated, 0.861 is less than the value of Z- critical value of 1.96, therefore the decision is accepted. This shows that there is significant difference between male and female facilitators on the perceived digital skills as a tool Universities in South – South Zone.

Hypothesis 2: There is no significant difference in the mean ratings of male and female facilitators on the purpose of digital information resources and effective administration of facilitators in National open universities in South – South Zone.

Table 4: Z-test Analysis on the mean ratings of male and female facilitators on Digital Information Resources on Effective instructional delivery in the open and distance learning in National Open Universities in South – South Zone.

Respondents	N	X	SD	Std Error	df	p	z-cal.	Z-Crit.	Decision
MALE	200	3.45	0.78	0.001	458	0.05	0.361	1.96	Accepted
FEMALE	260	3.4	0.71						

Source: Field Survey 2023.

The analyzed data in table 4 revealed that the value of Z-calculated is 0.361 and the Z- critical value is 1.96 with a degree of freedom of 458 at 0.05 level of significance. Since the Z-calculated (0.361) is less than the Z- critical value (1.96), the Null hypotheses was not rejected indicating that there is no significance difference in the mean responses of male and female facilitators in National open universities on the effect of digital information resources process and its effectiveness on the administration in open and distance learning.

Discussion of Findings

The findings of this study align with those of Adedoyin and Soykan (2020), Kebritchi et al. (2017), Oluwatosin (2021), Bond et al. (2018), and Redecker and Punie (2017), suggesting that while facilitators in open and distance learning (ODL) environments are generally familiar with digital devices, there remains a significant need for targeted training to fully harness the potential of these tools for effective instructional delivery.

Adedoyin and Soykan (2020) highlight that although the COVID-19 pandemic has accelerated the adoption of digital tools in education, many facilitators are still underprepared to use these tools effectively, primarily due to inadequate training. Similarly, Kebritchi et al. (2017) emphasize that a lack of structured professional development opportunities leaves facilitators unable to adapt their teaching strategies to online environments, even when they have access to the necessary digital devices. Again, Nwuke and Ucheju (2021) revealed that Public institutions in Nigeria lack adequate ICT facilities. Moreover, Oluwatosin (2021) found that while facilitators in Nigerian universities are equipped with basic digital literacy, their ability to implement these tools for student engagement, assessment, and feedback is often limited. This aligns with Bond et al. (2018), who argue that having access to digital devices does not necessarily translate into effective use unless facilitators receive specific training on digital pedagogy and instructional design for online learning environments.

Furthermore, Redecker and Punie (2017) suggest that the digital competence framework for educators require a more comprehensive approach, emphasizing not just familiarity with technology but also an understanding of how to apply it pedagogically. The current study corroborates these findings by revealing that while facilitators are acquainted with essential digital devices such as computers, tablets, and software applications, many lack the necessary training to use them to their fullest potential for creating interactive, engaging, and student-centered online learning experiences.

These findings underscore the need for ongoing professional development and tailored training programs to enhance the digital pedagogical skills of facilitators, ensuring they can leverage

technology effectively to improve instructional delivery and student outcomes in open and distance learning settings.

CONCLUSION

Digital literacy of facilitators has indeed become very important to open and distance learning most especially in accessing up-to-date information as it gives access to quality information irrespective of place, time and space. However, there cannot be effective use of digital devices or resources without facilitators possession of digital skills. Consequently, this study has revealed that facilitators in NOUN South-South Nigeria are highly skilled in digital information resources as a result their digital literacy level has reflected to the effective administration by exhibiting their literate capacity in digital resource. In spite of the great benefits digital information resources hold for the facilitators and researchers, erratic power supply, poor internet connectivity and financial constraint are impediments to their effective use for administrative purpose in the open and distance learning in National open universities in the South –South zone of Nigeria.

RECOMMENDATIONS

The following recommendations were made in line with the findings of the study:

1. The National Open University of Nigeria study centres, should have well equipped information resource centres to benefit the facilitators and the students for effective administration and learning.
2. There should be adequate investment by government in the digital information facilities such as computers, the internet, virtual/e-library, mobile digital devices to match the trends in the globalization of education
3. Facilitate access to digital sources and support network

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