ASSESSMENT OF SCHOOL LEADERS' ROLE TOWARDS DIGITAL ADVANCEMENT OF PUBLIC SENIOR SECONDARY SCHOOL IN ABUJA, FCT.

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Abstract

This study examined assessment of school leaders' role towards digital advancement of public senior secondary school in Abuja, FCT. The study adopted descriptive research design, two research questions and hypotheses were developed; descriptive research design was used. The population was 4,171 stakeholders while the sample size of 357 was determined by research advisors sampling table (2006). The study adopted simple random sampling technique in selecting 24 public senior secondary schools in six area councils in Abuja, FCT. The instrument used for the collection of data was a self-structured questionnaire titled, School Leaders' Role Digital Advancement Questionnaire (SLRDAQ). The two instruments were made on a four-point rating scale of Strongly Agreed, Agreed, Disagreed and Strongly Disagreed, and were scored 4,3,2 and1 respectively. The reliability coefficient index of 0.85 was used. Data were analysed using frequency and percentage for the demographic variables. The hypotheses were tested using One-Way Analysis of Variance (ANOVA) at 0.05 mean score. Findings of the study revealed that, school leaders' effective communication and supervision have relatively advanced digital skills in the performance of staff and students in teaching and learning process in public senior secondary schools in Abuja, FCT. It was recommended that; government should invest heavily in providing current technology like; AI-powered learning environments, Augmented Reality (AR) and Virtual Reality (VR), and Adaptive Learning (AL) for advancement of digitalization in public senior secondary schools in Abuja. Also, school leaders should collaborate with non-governmental organizations to organize workshops and seminars on the use of modern technologies and digitalized system of teaching and learning in public senior secondary schools in Abuja, FCT.

Key Words: *school leaders, digital advancement, public senior secondary.*

Introduction

Education is seen as a springboard that triggers positive development of human potentials, talents, intellects, attitudes and skills for productive living. This explains the relevant of establishing secondary education which is to give adequate training and skills for students that have finished basic education and to live useful in the society (Ntuno and Igbinovia 2021). This implies that secondary education especially public senior secondary schools provides opportunity for higher education, develop human capacity and talents to advance digital skills as well as live a purposeful life in the society.

However, the development, progress and advancement of digital technologies in secondary school system cannot effectively take place without suitable directive, guidance and control of operation by school leaders. According to Ntuno, et'al (2022) school leadership in secondary education is meant to guide, conduct, persuade and direct the affairs of teachers and students in order to achieve its set goals. This implies that school leaders possess certain digital potentials to enhance service delivery in educational system. In other words, technological empowered school leaders or digital leadership encourages advancement of digital learning culture for the achievement of educational objectives in secondary school system.

According to Gonzales (2019), digital leadership is a new form of leadership that enables the school leaders use technology, particularly social media to empower the staff and students to achieve set goals in a school system. However, Sagbas and Erdogan (2022) argue that digital school leaders are those that prioritize the methodical growth of a digital learning culture in an enterprise. This supported the fact that digital leaders are visionary, motivators of change, capable of combining ideas and digital skills in transforming school system. It further suggest that school leaders must adopt a collective mindset that focuses on employing digital tools for the advancement of digitalization in secondary school system.

However, to ensure the proper usage of schools' technological equipment, communicating with teachers and parents using email, electronic tools and customized web forms for achievement of educational goals is the administrative responsibility of school leaders (Raptis, et'al 2024). This supposes that digital leadership enables teachers and students to embrace technology, improve digital literacy, support pedagogical innovations, develop teamwork, and create an encouraging digital culture in secondary school system. Little wonder Power and Heavin (2018) maintain that the prerequisites for strategic planning, systematic integration of new technologies for digital development in educational system depend on effective leadership. This implies that school leadership is responsible for the effectiveness of digital empowerment and advancement of secondary school system.

Conversely, limited professional technological development, organizational resistance, insufficient resources, bureaucracy and financial constraints to upgrade current technology infrastructure appears to pose serious challenges in advancement of digital skills by school leaders in secondary schools. Therefore, to encourage school leaders to embrace their digital role requires a deliberate attention of education stakeholders to invest heavily in providing current technology, cultivate new opportunities to support and learn about new technologies to advance digitalization in secondary school system. This study therefore, focused on assessing school leaders' role towards digital advancement in public senior secondary schools.

One of the roles of school leaders that is very necessary towards digital advancement in public senior secondary schools is effective use of digital communication. According to Sienna (2023) digital communication is the process of exchanging information, messages, and ideas using digital technologies and platforms. It involves the transmission and reception of data through electronic devices and networks. This entails that digital communication enables the school leaders have real-time interaction, instant messaging, video conferencing, and sharing of multimedia content amongst staff, students and parents for achievement of set goals in the school system. Digital communication therefore is the deployment or use of digital technologies to communicate between people and electronic equipment. In the views of Abubakar, et'al (2023), digital communication presupposes the use of digital technology devices like mobile phone, computer, or other digital devices to communicate over a digital network with other people or another computer/digital machine. This buttressed the fact that Information and communication Technology (ICT) has become a panacea for effective use of digital gadgets like; smartphone, computer, radio, television, digital camera, fax machine, remote control, DVD and flash drive, dispensing machine and MP3 player for effective teaching and learning in secondary schools.

According to Ukpoma (2019) ICT is a term that covers all forms of computer and communication equipment and software used to create, store, transmit, interpret, manipulate and manage information for achievement of educational goals. This enlighten the fact that ICT is used for effective teaching and learning processes in the school system. There is no gainsaying that school leaders' skill in Information and communication Technology (ICT) is very crucial in secondary school system because it helps learners to develop their individual intellectual and creative endowments by providing higher interactive potentials. According to Ihieonyemolor (2021) ICT enhances efficiency and effectiveness in teaching and learning; it helps the teachers to get the students do more task; and computers used during lesson motivates students to continue learning. This entails that ICT encourages team work among teachers and learners making teaching and learning more visible for achievement of educational goals. In the views of Nlem, et'at (n.d), ICT literacy reflects the need for students to develop learning skills that enable them think critically, analyze information, communicate, and collaborate the essential role that technology plays in realizing these skills in today's knowledge-based society. In the same vein, Dauda (2019) averred that ICT provides teachers and students the opportunities to quickly adapt learning, teaching and managing the individual needs to bring about the expected change in education. This clearly attest to the fact that teaching and learning process has taking paradigm shifts from the teacher-centered and talk method of teaching, to a student-centered method. It

therefore the place of school leaders to collaborate the stake holders in education in the advancement of information and communication technology for achievement of set goals in secondary schools.

Another role of school leaders that is essential towards digital advancement in public senior secondary schools is effective supervision. According to Ntuno, et'al (2021), school supervision is one basic technique that is used for the assessment of performance and effectiveness of teachers and students in schools. This explain that school supervision is a necessary tool for proper monitoring, guidance, direction and integration of available human and material resources towards advancement of digital skills for the achievement of standard in secondary school system.

In their views, Gidado and Daramola (2022) contend that the major concern of school supervision is the enhancement of quality of teaching and learning in schools. It focuses on monitoring of activities of both teaching and nonteaching staff in the school system in order to minimize their weaknesses and take advantage of the strengths so as to improve the quality of instruction in the schools. It further implies that school supervision is used to describe those activities which are primarily and directly concerned with studying and improving the conditions which surround the learning and growth of pupils and teachers. It is seen as a cycle of activities between a supervisor and a teacher with the main aim of improving classroom performance and to advance digital skills for the achievement of educational goals.

However, Hasibuan and Siburian(2019) maintain that educational supervisors contributes to diagnosing the reality of the educational process, in terms of inputs and outputs, and works to improve and develop them in order to meet the needs and requirements of society to improve the level of the educational process, from a technical and administrative point of view as appropriate with the recent developments. This means that school leaders' role as a supervisor enhanced high productivity in educational system as it enables advancement of digital skills for the efficient and effective utilization of the available resources to achieving the goals and objectives of secondary education system.

Similarly, Ogunode and Ajape(2021) argue that the role of supervision is to improve teaching and learning through a deliberate emphasis on ways and means of instilling excellence in the quality instruction. This implies that school supervision strives to stimulate teachers towards effectiveness or productivity in secondary school system with the use of digital skills. Conversely, Ogunode and Adanna (2022) opine that supervisors are faced with a lot of obstacles due to insufficient materials, inadequate funding, shortage of personnel, inadequate transportation facilities, insecurity and limited offices are some of the problems that hinders supervision as a role of school leaders towards advancement of digital technologies in secondary schools system. The government, school leaders and education stakeholders have to sit up to their responsibilities. Thus, the study is aimed at assessing school leaders' role towards digital advancement of public senior secondary schools in Abuja FCT.

Statement of the Problem

Researchers and personal experience have shown that the current trend on the use of new technologies in educational settings particularly within secondary school system, has posed a challenge for school leaders. It has been observed that school leaders do not know how to use email, electronic documents to effectively supervise contemporary pedagogical practices, and communicate with students, staff and parents in the achievement of educational goals.

More so, it discovered that some school leaders have limited opportunities to implement digital leadership in most public senior secondary schools due to limited professional development and training; lack of technological infrastructure and financial control. Moreover, most teachers and students are not well develop to harness the power of new technologies to create meaningful, inspiring, and engaging digital culture in public schools. Thus, the need to assess school leaders' role towards digital advancement of public senior secondary schools in Abuja, FCT.

Objectives of the Study

The study sought to:
1. find out school leaders communication role towards digital advancement of public senior secondary schools in Abuja, FCT;
2. ascertain school leaders supervisory role towards digital advancement of public senior secondary schools in Abuja, FCT.

Research Questions.

The following research questions guided the study:

1. How do school leaders communication role influence digital advancement of public senior secondary schools in Abuja, FCT?
2. How do school leaders supervisory role impact digital advancement of public senior secondary schools in Abuja, FCT?

Research Hypotheses.

The following null hypotheses guided the study and tested at 0.05 levels of significance.

Ho_1. There is no significant difference in the opinions of Principals, Vice Principals Administration (VP Admin), Vice Principal Academic (VP Acad.) and Teachers on assessment of school leaders' communication role towards digital advancement of public senior secondary schools in Abuja, FCT;

Ho_2. There is no significant difference in the opinions of Principals, Vice Principals Administration (VP Admin), Vice Principal Academic (VP Acad.) and Teachers on assessment of school leaders' supervisory role towards digital advancement of public senior secondary schools in Abuja, FCT;

Methodology

The descriptive survey research design was adopted for this study. The population of the study was 4,171, consisted of 88 Principals, 176 Vice Principals Admin/Acad., 3907 Teachers of Public Senior Secondary Schools in Abuja, FCT. Based on the statistics made available by the Department of School Services, FCT Secondary Education Board (SEB), (Teachers & Principals Statistics on Public Secondary Schools in Abuja FCT 2023). The sample of the study was selected amongst the public senior secondary schools in the six Area Councils in Abuja FCT. This was to ensure geographical spread across the Area Councils in Abuja FCT. 24 public senior secondary schools were selected in the six Area Councils in Abuja FCT. In addition, simple random sampling technique was adopted in selecting the exact public senior secondary schools for the study.

The instrument used for data collection was a structured twenty item questionnaire titled, School Leaders' Role Digital Advancement Questionnaire (SLRDAQ). The instrument was subjected to face validity of three experts who scrutinized the items to ensure suitability and language clarity. Also, the reliability of the instrument was assured. Section A of the instrument concerned bio-data of the respondent, while sections B and C comprises of 20 item statements on Assessment of School Leaders' Role towards Digital Advancement of Public Senior Secondary school in Abuja, FCT.

Accordingly, four (4) points likert scale was used in rating respondents' opinion. These include strongly agree (4), agree (3), disagree (2), strongly disagree (1). The instrument was administered and retrieved by the researcher. Data were analysed using frequency count and percentage for the demographic variables. Also, the hypotheses were tested using One-Way Analysis of Variance (ANOVA) at 0.05 mean score.

Table 1: Sample of the study

S/N	Public Senior Sec. Schools	Principals	V.P Adm/ Acad	Teachers	Total
1	Abaji GDSS	1	2	10	13
2	Agyana GSS	1	2	5	8
3	Yaba GSS	1	2	5	8
4	Naharati GSS	1	2	5	8
5	Airport GSS	1	2	20	23
6	Garki GSS	1	2	25	28
7	Gwarinpa GSS	1	2	25	28
8	Karu GDSS	1	2	20	23
9	Byazhin GDSS	1	2	5	8
10	Dei Dei GSS	1	2	15	18
11	Kubwa GSS	1	2	20	23
12	Mpape GSS	1	2	10	13

13	Anagada GSS	1	2	10	13
14	Paikon GSS	1	2	5	8
15	Ibwa GSS	1	2	5	8
16	Gwagwalada GDSS	1	2	25	28
17	Pegi GSS	1	2	5	8
18	Kuje GSS	1	2	25	28
19	Kwaku GSS	1	2	5	8
20	Rubuchi GSS	1	2	5	8
21	Kwali GSS	1	2	20	23
22	Yangoji GSS	1	2	5	8
23	Yebu GSS	1	2	5	8
24	Pai GSS	1	2	5	8
	Total	**24**	**48**	**285**	**357**

The breakdown of the sample of the study in table 1 shows that Principals were 24, Vice Principals Administration and Academic were 48 and Teachers were 285; making the total 357 sample of the study.

Results

Research Question 1: How do school leaders' communication role influence digital advancement of public senior secondary schools in Abuja, FCT?

This section relates to items 1-10 in the questionnaire and the views of Principals, Vice Principals Administration and Academic and Teachers on influence of school leaders communication role towards digital advancement of public senior secondary schools in Abuja, FCT.

Table 2: Mean Scores of Respondents on impact of school leaders' communication role towards digital advancement of public senior secondary schools in Abuja, FCT.

S/N	Item statement	Respondent	N	Mean	Remarks
1	School leaders encourages the use of digital communication devices in the school	Principals	24	3.5	Agreed
		Teachers	285	3.0	Agreed
		V.P Adm/Acad	48	3.9	Agreed
2	Digital communication is useful in the school.	Principals	24	3.5	Agreed
		Teachers	285	3.7	Agreed
		V.P Adm/Acad	48	3.0	Agreed
3	The use of digital devices enhances effective communication in the school	Principals	24	3.5	Agreed
		Teachers	285	3.8	Agreed
		V.P Adm/Acad	48	3.3	Agreed
4	Teaching and learning is enhance when digital devices are used	Principals	24	3.4	Agreed
		Teachers	285	3.8	Agreed
		V.P Adm/Acad	48	3.2	Agreed
5	Staff and students are encourage to be ICT compliance	Principals	24	2.5	Agreed
		Teachers	285	2.6	Agreed
		V.P Adm/Acad	48	3.0	Agreed
6	ICT enhances effective teaching and learning in the school	Principals	24	3.7	Agreed
		Teachers	285	3.2	Agreed
		V.P Adm/Acad	48	3.6	Agreed
7	ICT enhances collaboration and efficiency amongst staff and students	Principals	24	3.5	Agreed
		Teachers	285	3.9	Agreed
		V.P Adm/Acad	48	3.8	Agreed
8	Internet cafe is provided in the school for effective service delivery	Principals	24	3.0	Agreed
		Teachers	285	3.9	Agreed
		V.P Adm/Acad	48	3.5	Agreed

S/N	Item statement	Respondent	N	Mean	Remarks
9	With ICT students develop new learning skills	Principals	24	3.8	Agreed
		Teachers	285	3.5	Agreed
		V.P Adm/Acad	48	3.6	Agreed
10	Digital communication encourages proficiency on current pedagogy in the school	Principals	24	3.6	Agreed
		Teachers	285	3.3	Agreed
		V.P Adm/Acad	48	2.9	Agreed

Table 2 revealed the views of Principals, Vice Principals Administration and Academic and Teachers on impact of school leaders' communication role towards digital advancement of public senior secondary schools in Abuja, FCT. From the responses of the respondents, items have mean ratings in the region of 2.50 to 3.00. This shows respondents agreed to all the items stated. The result further shows that school leaders made relative efforts in advancing digital communication and ICT in administration of secondary schools in Abuja, FCT.

Research Question 2: Does how do school leaders' supervisory role impact digital advancement of public senior secondary schools in Abuja, FCT?
This section relates to items 11-20 in the questionnaire and the views of Principals, Vice Principals Administration and Academic and Teachers on school leaders supervisory role impact digital advancement of public senior secondary schools in Abuja, FCT?

Table 3: Mean Scores Respondents on influence of school leaders supervisory role impact digital advancement of public senior secondary schools in Abuja, FCT.

S/N	Item statement	Respondent	N	Mean	Remarks
11	School leaders encourages supervision for achievement school goals	Principals	24	3.8	Agreed
		Teachers	28	3.0	Agreed
		V.P Adm/Acad	5 48	3.4	Agreed
12	Digital supervision enhances quality of teaching and learning skills	Principals	24	3.5	Agreed
		Teachers	28	3.0	Agreed
		V.P Adm/Acad	5 48	3.5	Agreed
13	Teaching and learning is improved when digital supervision is conducted in school	Principals	24	3.7	Agreed
		Teachers	28	3.8	Agreed
		V.P Adm/Acad	5 48	3.0	Agreed
14	Teachers performed better when digital supervision is carried out	Principals	24	3.6	Agreed
		Teachers	28	3.9	Agreed
		V.P Adm/Acad	5 48	3.4	Agreed
15	Digital supervision develops favourable climate for effective teaching and learning.	Principals	24	3.7	Agreed
		Teachers	28	3.6	Agreed
		V.P Adm/Acad	5 48	3.6	Agreed
16	Digital supervision promotes self-confident of students and teachers interaction	Principals	24	3.1	Agreed
		Teachers	28	3.7	Agreed
		V.P Adm/Acad	5 48	3.8	Agreed
17	Teachers special qualities are discovered when digital supervision is conducted	Principals	24	3.6	Agreed
		Teachers	28	3.8	Agreed
		V.P Adm/Acad	5 48	3.7	Agreed

18	Classroom management is enhanced when digital supervision is carried out	Principals	24	3.8	Agreed
		Teachers	28	3.9	Agreed
		V.P Adm/Acad	5	2.6	Agreed
			48		
19	Digital supervision provides guide to staff development	Principals	24	2.8	Agreed
		Teachers	28	2.5	Agreed
		V.P Adm/Acad	5	2.7	Agreed
			48		
20	Digital supervision enhances quality of teaching and learning in schools	Principals	24	3.2	Agreed
		Teachers	28	3.0	Agreed
		V.P Adm/Acad	5	3.5	Agreed
			48		

Table 3 revealed the views of Principals, Vice Principals Administration and Academic and Teachers on impact of school leaders' supervisory role towards digital advancement of public senior secondary schools in Abuja, FCT. From the responses of the respondents, items have mean ratings in the region of 2.50 to 3.00. This shows respondents agreed to all the items stated. The result further confirmed that school leaders made significant efforts in advancing digital supervision to ensure staff confidence and effective service delivery in administration of secondary schools in Abuja, FCT.

Hypotheses Testing
Hypothesis One (HO$_1$): There is no significant difference in the opinions of respondent on influence of school leaders role towards in public senior secondary schools in Abuja, FCT. Items covering this section were collected from items 1-10 in the questionnaire. Details are captured in table 4.

Table 4: Summary of Analysis of Variance (ANOVA) on influence of school leaders communication role towards digital advancement of public senior secondary schools in Abuja,FCT.

Class Visitation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	23.932	3	5.867	6.054	0.072
Within Groups	338.421	354	0.788		
Total	362.353	357			

From Table 4, the F-value was 6.054 and the P-value is 0.072 at 0.05 levels of significance. Since the P-value was more than the level of significance set for the study, the hypothesis was therefore retained. Thus, there is no significant difference in the opinions of respondents on on influence of school leaders' communication role towards digital advancement of public senior secondary schools in Abuja, FCT.

Hypotheses 2 (HO$_2$): There is no significant difference in the opinions of respondents on influence of school leaders supervisory role towards digital advancement of public senior secondary schools in Abuja,FCT.
Items covering this section were collected from items 11-20 in the questionnaire. Details are captured in table 5.

Table 5: Summary of Analysis of Variance (ANOVA) on influence of school leaders supervisory role towards digital advancement of public senior secondary schools in Abuja, FCT.

Status	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.865	3	3.248	2.422	0.421
Within Groups	365.360	354	0.850		

Status	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.865	3	3.248	2.422	0.421
Within Groups	365.360	354	0.850		
Total	372.225	357			

From table 5, the F-value is 2.422 and the P-value is 0.421 at 0.05 levels of significance. Since the P-value was less than the level of significance set for the study, the hypothesis was therefore rejected, thus, There was significant different in the opinions of the respondents in the opinions of respondents on influence of school leaders' supervisory role towards digital advancement of public senior secondary schools in Abuja, FCT.

Discussions of findings.

The study revealed that school leaders made relative efforts in advancing digital communication in administration of secondary schools in Abuja, FCT. The responses of the respondents by and large show that; digital communication and ICT devices are encouraged by school leaders for effective communication, and teaching and learning process in FCT public senior secondary schools. This view is in conformity with views of Abubakar, et'al (2023) that digital communication presupposes the use of digital technology devices like mobile phone, computer, or other digital devices to communicate for achievement of educational goals. In the same vein, Ihieonyemolor (2021) averred that ICT enhances efficiency and effectiveness in teaching and learning; it helps the teachers to get the students do more task; and computers used during lesson motivates students to continue learning. This entails that ICT encourages team work among teachers and learners making teaching and learning more visible for achievement of educational goals. This further buttressed the fact that Information and communication Technology (ICT) has become a panacea for effective use of digital devices for effective teaching and learning in public secondary schools in Abuja, FCT.

The study also revealed that school leaders made relative efforts in advancing digital skills in supervision of school activities in public secondary schools in Abuja, FCT. The responses of the respondents in general show that; when digital supervision is encouraged by school leaders, quality teaching and learning become the hallmark and students performance becomes revealing.

This view is in agreement with the views of Gidado and Daramola (2022) who contend that the major concern of school supervision is the enhancement of quality of teaching and learning in schools. It focuses on monitoring of activities of both teaching and nonteaching staff in the school system in order to minimize their weaknesses and take advantage of the strengths so as to improve the quality of instruction for the achievement of the set goals in the schools. In the same vein, Ogunode and Ajape(2021) argue that the role of supervision is to improve teaching and learning through a deliberate emphasis on ways and means of instilling excellence in the quality instruction. This implies that school supervision strives to stimulate teachers towards effectiveness and productive outcome on students' academic performances in public secondary school in Abuja, FCT.

Conclusion:

Digital communication and ICT devices plays very important roles in modern pedagogies in teaching and learning in schools. School leaders encouragement of the use of digital communication and ICT devices in schools stimulates effective communication, and teaching and learning process and achievement of educational goals in FCT public senior secondary schools in FCT. Similarly, advancement of digital supervision in schools by school leaders encourages quality teaching and learning and students successful performances in public senior secondary schools in FCT, Abuja.

Recommendation:

Based on the findings of the study, the following recommendations were made:
1. Government should invest heavily in providing current technology like; AI-powered learning environments, Augmented Reality (AR) and Virtual Reality (VR), and Adaptive Learning (AL) for advancement of digitalization in public senior secondary schools in Abuja.

2.   School leaders should collaborate with non-governmental organizations to organize workshops and seminars on the use of modern technologies and digitalized system of teaching and learning in public senior secondary schools in Abuja, FCT.

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